UNIVERSIDADE CATÓLICA PORTUGUESA

Strategic Group Mapping and Strategy Canvas Analysis of the Environmental Consulting Sector

A project-based dissertation on the German Market – A public archival data web-content analysis

Trabalho Final na modalidade de Projeto
apresentado à Universidade Católica Portuguesa
para obtenção do grau de mestre em Gestão

por

Gonçalo Manuel Andrade Leal

Católica Porto Business School, Universidade Católica Portuguesa
Setembro 2019

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sob orientação de
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Resumo

Nesta dissertação na modalidade de projeto tive a oportunidade de entrar em contacto com uma Pequena Média empresa no setor de consultoria ambiental, onde me foi pedido para realizar uma análise à competição no mercado alemão, focando-me em mercados específicos em que a empresa se planeia especializar (Nanomateriais, Biocidas e Instrumentos Médicos). É possível observar que as leis ambientais mais restritivas, desenvolvimentos dentro da química e consciência ambiental estão a criar um grande potencial para crescimento e relevância deste setor. Gestão estratégica e categorização estratégica desenvolveram muitas correntes de pesquisa e no entanto, ferramentas estratégicas ainda não foram utilizadas para analisar o setor da Consultoria ambiental, que tem sido negligenciado na literatura. Através de uma análise de dados de arquivamento públicos (websites, páginas de LinkedIn, e relatórios anuais), foi possível aplicar ferramentas estratégicas (Mapeamento de grupos estratégicos e o Canvas estratégico) a uma amostra de 57 empresas de consultoria ambiental no mercado alemão assim como recolher sinais de competitividade e tamanho das empresas.

Nesta análise pode-se comprovar que a revolução digital, sustentabilidade e responsabilidade corporativa já se encontram presentes nesta indústria, que várias empresas oferecem tanto apoio ambiental com foco regulatório e de gestão como um apoio ambiental com foco cientifico, procurando eficiência ambiental e redução de desperdício, e que nanomateriais parecem ser o mercado menos presente em websites, comparativamente com o mercado dos biocidas e dos instrumentos médicos.

Este trabalho permitiu demonstrar o valor que ferramentas estratégicas podem ter, mesmo quando aplicado a informação publica, neste caso de websites, e também demonstrar as respetivas limitações, permitindo-nos ter uma melhor visão das nuances estratégicas e estrutura de um setor negligenciado. Para além disso, o contexto da análise estratégica também demonstra que o Brexit pode agir como um catalisador de expansão geográfica, o que é um impacto estratégico que ainda não tinha sido estudado previamente em empresas nesta indústria.

Palavras-chave: Grupos estratégicos ; Canvas estratégico ; Consultoria Ambiental; Consultoria; Análise de websites; Categorização estratégica; Brexit.

Abstract

In this project-based dissertation I had the chance to work with an environment consulting SME, where I was asked to do a competitor analysis of the German Market in particular sectors in which they will focus on (Nanomaterials, Biocides and Medical Devices).

It is possible to observe that the increasingly stringent environmental policies, chemistry developments and environmental consciousness are creating a great potential for the growth in size and relevance of this sector.

Strategic management and strategic categorization have developed into many streams of research, and however, strategic tools still haven't been used to describe the environmental consulting sector, which has been overlooked in the literature.

Through an analysis of public archival data (Company website, LinkedIn and annual reports), it was possible apply the Strategic group mapping and Strategy canvas frameworks to a sample of 57 environmental consulting companies in the German market, as well as to collect other signs of competitiveness and size.

In this analysis it was found that the digital revolution, sustainability and corporate responsibility are already present in this industry, it was found that many companies are providing not only environmental regulatory and managerial support but at the same time providing scientific support, focusing on environmental efficiency and waste management, and that nanomaterials seem to be the least featured market in companies websites comparatively to biocides and medical devices.

This paper allowed to demonstrate the value that strategic tools can have, even when applied to public website-content, as well as to demonstrate their limitations, allowing us to give a better overview of the strategic nuances and structure of an overlooked sector. Moreover, the context of this company's strategic analysis also showcases that Brexit can act as a catalyst of geographical expansion, which is a strategical impact in this industry that hasn't been studied before for companies in this industry.

Key-Words: Strategic Groups, Strategic Group mapping, Strategic Canvas, Strategic Canvas Framework, Environmental Consulting, Environment, Website analysis, Strategic Categorisation, Brexit.

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I Introduction

We are living in an era of disruption of the chemical market. Right now, it is growing at an alarming rate (Round table on Environmental Health Sciences Research and Medicine, 2014) while maintaining above average the performances (using TSR as a measure (Gocke et al., 2018)). Also, environmental Regulations are getting tighter, especially in OECD countries (Organisation for Economic Co-operation and Development) and BRIICS (Brazil, Russia, India, Indonesia, China, South Africa), requiring more difficult requirements and scientific expertise (Kozluk and Garsous, 2016). So, there are needs that are being created in this growing, profitable market, which means that there's an opportunity for companies to specialize in addressing these needs.

For my dissertation, I completed a company-based project with an environment consulting SME, where I was asked to do a competitor analysis of the German Market in particular sectors in which they will compete in.

The use of these Strategic tools has been criticized in the literature due conceptual and methodological issues. But in this dissertation my aim is to demonstrate how they multiple frameworks can complement each other and be used to organise website-content generated data and categorise competitors into more direct competitors and more indirect competitors, as well as to assess the change of our service offerings by constantly benchmarking these with the rest of the industry.

I was asked to conduct a strategic analysis, that could both be conducted in a short amount of time and at the same time, minimized the attention raised to the company by the competitors. So, in our analysis we combined multiple strategic frameworks (Strategic Mapping and Strategic Canvas) to organise public website content (including the display of data on the website). In this dissertation I also want to complement and expand the literature on this particular sector, and compare and contrast it with Management consulting industry, which is receiving a great focus in the literature due to its expansion and particular characteristics.

Finally, sometimes strategic moves are motivated by the Macro-environment. The context of our project-based dissertation will showcase a side effect of Brexit in this industry. Since it is important for the services in this industry to be based in the European Economic Area, Brexit will imply a quicker geographical expansion that otherwise it would be needed.

II Literature Review

The business environment is very complex and full of dynamics. Categorizing companies into different groups has allowed strategists and managers to include these structures and dynamics into strategic frameworks, creating "maps" that allow them to quickly get relevant information in order to make strategic decisions.

This chapter will be aimed first at giving an overview of the Categorisation Literature, in order to showcase where our analysis will be positioned, the new streams that are being created and showcasing how this dissertation will add value to the literature.

Since this analysis is meant to find out the characteristics of the Environmental Consulting industry in a particular market (Germany), we will also give an overview of how it has been studied before, showcasing how we will complement this research and tackle areas of the industry that have not been studied before.

Finally, since our company will focus in particular markets that have not been studied before from a strategic lens, we will also showcase the regulatory and scientific needs that environmental consulting aims to satisfy for these markets.

1. Categorization Strategic Tools

Placing firms into groups in a business context has been and continues to be extremely useful. Terms like "Macro-environment", "Industries", "sectors", "markets", all consist of categories of entities that interact with the firm. Categories have different levels of comparability, depending on established criteria (Cattani et al., 2017), so managers can focus on the most relevant factors for the firm.

Companies have started being categorized and analysed since the late 1970s, with the creation of industry categories (e.g. (Porter, 1980)).

Porter (1980) defines industries as groups of companies producing the same type of products or services. Industry structure and dynamics frameworks have evolved through time:

The original Porter's (1979a) 5 forces framework was used to describe a competitive relationship between the company and 5 groups of stakeholders.

Suppliers and buyers are 2 groups that can create pressure in our company's profitability margins because the company either buys or sells to these groups. The bigger the ability for these groups to negotiate a better price for themselves (bargaining power), the bigger the pressure to decrease profitability margins.

Competitors, potential entrants in the industry and companies with substitutes products are all potentially supplying our buyers which decreases our bargaining power in general, meaning that they create pressures for our profit margins to decrease.

Since this framework neglected cooperation, Brandenburger and Nalebuff (1995) developed the "value net" framework where different interdependencies between companies are included, meaning that they can be suppliers, customers, substitutors (selling to our customers or buying from our suppliers) or complementors (sell products that make ours more valuable or buy products that make suppliers more valuable). Sometimes they may take multiple roles at once giving room for phenomena like coopetition (substitutors and complementors simultaneously ((Walley, 2007))

Finally, networking effects (increase in value derived from the company having other customers using the same product or service) are also starting to get included into the literature as the number of network industries grow (McIntyre and Subramaniam, 2009).

These 2 developments to the framework (Complementors and networking effects) are important because can both create imperfections in the market that may not be obvious at first sight. They can make it more difficult for new companies to enter the industry (entry barriers) or make it more difficult for our buyers to switch to our competitors (switching costs), allowing companies to have these as a competitive advantage (ensuring sustainable long-term profits) (Johnson, 2017).

According to Johnson (2017), another limitation of this framework is that it depicts the industry as something static. Johnson (2017) suggests that industry dynamics should be described using the industry lifecycle theory (Klepper, 1997), in which an industry goes through 5 stages of development sequentially (Development, Growth, Shake-out, Maturity and Decline) or a 5-point radar plot to represent each of the 5 forcers in the framework created by Porter (1979a).

But the tools that we will be using in our framework originated in a different limitation of this framework. Caves and Porter (1977) identified that the categories identified by Porter were too broad to reflect the how the industry is organized (Cattani et al., 2017). Companies in the same industry could be categorized into sub-groups named Strategic Groups (McGee and Thomas, 1986) which presented different competition patterns and showed different levels of profitability (Cattani et al., 2017).

As heterogeneity is introduced inside the industry some companies will become more or less similar to others, which implies that some will pose bigger threats that others (Nightingale, 1978).

According to Cattani et al. (2017) strategic groups framework still have conceptual and methodological issues that are considered open questions in the literature and are causing strategic group literature to decrease in recent years.

According to Cattani et al. (2017) the issues that were raised during the mid-1990s are related to the methods used for mapping (e.g. (Ketchen and Shook, 1996; Nath and Gruca, 1997)), the fact that these may not reflect competition and cooperation patterns of the industry ((Más-Ruiz et al., 2005; Porac et al., 1995) and the unknown nature of the existence of these groups (they can be a supply-side, demand-side phenomenon or simply result of the statistical cluster methods used to identify them) (Nayyar, 1989).

So, the focus of the strategic management stream of research started to shift to intra-firms capabilities and resources (Cattani et al., 2017) with the rise of the resource-based view (Barney, 1991). These resources and capabilities would then be a way for firms

to position themselves differently in the market, assuring sustainable profits (competitive advantage) (Barney, 1991).

Categorization within industry analysis now has 2 additional main streams of research besides the strategic management (Cattani et al., 2017):
The "new empirical industrial economics", (e.g., (Berry et al., 1995; Berry et al., 2004; Nevo, 2001; Petrin, 2002) which aim to analyse product attributes, namely how they are interdependent from a competitive perspective and the value that they provide to the buyer and supplier.
The "organizational theorists", which focus on the categories that are created within organizational fields and how this category structure is related to firm outcomes such as revenues (e.g. (Hsu, 2006)), costs (e.g. (Ody-Brasier and Vermeulen, 2014)), capital inflows (e.g., (Pontikes, 2012; Smith, 2011) and stock prices (e.g., (Zuckerman, 1999)).
Finally, Business Studies are also giving a bigger focus to the cognitive School of strategic thought (Mintzberg, 1998), which defends that the way that strategy is formulated and the descriptions of the environment are, at least to a certain extent, a reflection of the strategists points of view and their perceptions.
Authors like Porac et al. (2011), for instance, are analysing strategic categorization from a neural-cognitive approach in a new stream of thought called "cognitive communities". This stream of research focuses on analysing why managers chose to strategically position themselves the way they did. The companies may be positioned in a certain way because they failed to translate their intentions into outcomes, because the environment changed or because they were reacting to their competitors' strategies (Porac et al., 2011).
This stream of research defends that top managers interact and analyse their competitors and instruct themselves through multiple publications and then create a mental map of how the industry is organised and create perceptions on what they should focus on strategically in order to compete and be successful in the industry.

In our analysis we will utilize the strategic group mapping tool, using critical success factors chosen by our company ("regulatory support" and "scientific support"), since these reflect the manager's mental map of how this new sector (environmental consulting) is structured.

This tool will be used to create a spectrum and allow the categorisation of companies serving specific markets (Nanomaterials, Biocides and Medical Devices) according to these critical success factors.
This tool will allow us not only to identify the competitors that are more likely to be addressing the same market as us, but also to verify if there is a clear division of the sector between 2 groups of companies, one group offering mainly regulatory-support and other group offering mainly scientific-support or if the companies have a really varied offering.
Moreover, our company will utilize a Strategy Canvas (which is usually associated with the Blue Oceans theory developed by Kim, (2005)) in order to assess how many specialized service categories value by the market (critical success factors) companies are offering.

In the following chapter I will focus on Strategic Groups and the Strategic canvas, which will be used in our analysis to help us understand how different groups of companies compete differently from our company, emphasize different strengths and provide different service offerings.

1.1. Strategic Groups, Competitor Identification and the Strategy Canvas

The firm's ability to make strategic decisions was first included into Porter's frameworks (Porter, 1980; Porter, 1985). Heterogeneity between firms in the same industry was possible inside this framework (McGee, 2006), and yet Caves and Porter (1977) observed that within this industry heterogeneity, companies can still be grouped up based on specific structural features (mobility barriers).
These intra-industry groups were first named by Hunt (1972) as "Strategic groups" their theory was then developed by McGee and Thomas (1986), which analysed how these groups had been analysed previously in different industries under different names.
They defined mobility barriers as the costs (absolute or operating) that must be incurred by a company in order to imitate their competitors and to move from one strategic group to another (McGee and Thomas, 1986). These reflect the business and corporate strategies and investments that companies choose to follow when they

compete in the industry (McGee and Thomas, 1986), and the way that they develop strategic assets and capabilities that can possibly grant them competitive advantage. McGee and Thomas (1986) in table 1 categorised these strategies based on their focus: how they address the market ("Market-related strategies"), how they invest in their supply chains ("Supply and Costs characteristics") and other characteristics of the firm such as their systems, structure, size ("Firms characteristics").

Table 1: List of Mobility Barriers Categorised by type

Market-related strategies	Supply and Costs characteristics	Firms' Characteristics
Product line	Economies of scale:	Ownership
User technologies	- Production	Organisation structure
Market segmentation	- Marketing	Control systems
Distribution Channels	- Administration	Management Skills
Brand names	Manufacturing Processes	Boundaries of Firms
Geographic coverage	R&D capability	- Diversification
Selling Systems	Marketing and Distribution systems	- Vertical Integration
		Firm Size
		Relationships with Influence Groups

Johnson (2017) suggested a different list of characteristics and strategic decisions on which companies can differ:

Within the choices in respect to their scope of activities, companies can have more or less diversity in their product or service portfolio, cover geographies more or less extensively, use more or less market segments and use different distribution channels (Johnson, 2017).

Within the choices in respect to the resource commitments that they make, they can differ on the extent to which they focus on branding and advertising and other marketing focused measures (such as size of salesforce), they can differ on how much they have vertically integrated their supply chain (internalize as opposed to outsource activities such as supplying and distributing), they can differ on the overall quality of their products and services, on the technological development compared to the competitors and finally it can differ on the size of the organisation (Johnson, 2017).

So companies are incurring in mobility costs, making strategic decisions in search for profits inside the industry, which means that there are strategic areas of the industry

that are more profitable than others, so McGee (2006) identified the factors that can influence profitability intensity and patterns in order to have a better prediction of the profitability distribution.
Strategic Groups profitability intensity and patterns will depend on the number of groups, their size and how much they differ in the strategic variables (as the distance between strategic groups gets bigger, their similarities decrease and rivalry increases in the industry) according to McGee (2006) and their degree of isolation from other groups (mobility barriers and customer targeting) according to Porter (1979b). However, elements from Porter's (1979a) framework can also explain this difference in profits among groups. These can reflect the difference in bargaining power against suppliers and buyers (different scale, vertical integration and product differentiation), the higher propensity to be substituted or due to patterns of competition inside the group (McGee, 2006).
The competition patterns within the group depend on the differences in scale of the firms inside the group, different mobility costs among firms (cost advantages derived from timing) or simply the firm's ability to execute strategy according to McGee (2006).

To proceed to the strategic mapping, McGee (2006) suggests that we follow the method used by Fiegenbaum and Thomas (1990) & Fiegenbaum et al. (1990):
First, we choose the industry to be analysed (using industry classification such as SIC), and the organisational levels to analyse (corporate, business or operational).
Then we identify variables that best reflect the company's strategies. To get the most realistic picture, it is suggested that an in-depth case study is developed. This should include the perception of the industry by its participants, peer-to-peer judgement of competitors strategies and a database to so that the analyst can confirm data. Other suggested technique is to first use statistical techniques (e.g. cluster analysis) and then to try to interpret the groupings with independent data. This mapping exercise should be done during a period where strategies are more or less stable (McGee, 2006).

Johnson (2017) suggests that the identification of these variables should be done by identifying top performers (growth and profitability) and low performers and identifying the characteristics that are shared by top performers but not by low performers.

According to Johnson (2017) this tool enables an understanding of the competition, identifying companies in the industry that are the most similar to ours (direct competitors) as well as strategic differences within the industry between strategic groups. It allows companies to find strategic opportunities in blank spaces (relatively less crowded strategic groups) in the strategic group map (which can be profitable or not) (Johnson, 2017). Finally, this tool should be complemented by an analysis of the mobility barriers, identifying the costs, resources and decisions that are needed in order for a company to move from a group to another (Johnson, 2017).
According to Johnson (2017) we shouldn't only analyse 2 variables. Critical success factors are the factors that are valued by strategic customers and are potential sources of differentiation and cost advantage that may determine if a company has competitive advantage or disadvantage. We can then design a value curve (strategy canvas) to represent how customers perceive the critical success factors relative performance. If a company tries to explore new critical success factors (haven't been offered by the competition before) this is called a value innovation. If the company is successful in their value innovation then, because there is no competition in that specific market space this means they are in a blue ocean.

So, companies, in order to position themselves in the market, are making choices regarding to their products, services, investments and practices (Johnson, 2017). The exercise of comparing these with the company's competitors is defined as "benchmarking" (Camp, 1989).
You can benchmark all the other companies in the industry based on performance indicators to get an idea of the industry standards or you can benchmark against only the companies with best-in-class performance in order to identify potential improvements in the company's resources and capabilities so as to not lose market share (Johnson, 2017).
Benchmarking, even though it is an extremely important tool, most times what is comparable are outputs or extremely surface and visible features and not the management systems, the human expertise and other intangibles (Johnson, 2017), which are more likely to be the source of sustainable competitive advantage according to Barney (1991) because they are more difficult to identify and to replicate (Inimitability).
Another limitation of this tool is that if we build our strategy on what competitors are doing, then the most we can achieve is the same performance as those on top

("competitive parity") (Johnson, 2017). If our company is focusing on being similar to other companies, it is not focusing on positioning itself differently on the market.

In our analysis we will then utilize both these frameworks as a way to categorise website-content data. Strategic group mapping will be used as a way to evaluate the 3 specific markets (Nanomaterials, Biocides and Medical Devices) and then the Strategic canvas will be used to evaluate potential differentiation strategies while comparing them with what is being offered by the rest of the companies (benchmarking).

The following chapter will be used to showcase the growing literature of the industry of our company (management consulting) as well as the lack of literature of the particular sector in which the company is competing (compliance consulting), emphasizing how this dissertation will contribute to fill the research gap.

2. Management Consulting

Consulting is an industry that had extreme growth especially in the 1990s (FEACO, 1998), starting to receive academic interest around this period (Glückler and Armbrüster, 2003).
The main reason for this, according to Glückler and Armbrüster (2003) was the fact that during this period companies started increasing their focus on improving their organizational and informational systems but didn't have the necessary expertise to do it internally.

That is how management consulting companies first came into play. Companies in the consulting industry use up-to-date management practices, market information and analysis tools to help companies and management solve business and management problems, making sure that companies are identifying opportunities and seizing them, promoting learning and implementing change in their clients (Werr et al., 1997; Werr, 1999 ; Armbrüster and Kipping, 2002; Ruef, 2002; Kubr, 2002).

Cerruti et al. (2019) identified that academics are publishing work mainly focused on the drivers of success in the industry, the client's perceptions of the role and

positioning of management consulting firms and the description, outcome and management of the relationship between the customer and the consultant.

Drivers of success consist not only on the consultant's education, skills and competences as it is expected but also their ability to create and sustain institutional capital (Reihlen et al., 2010; Cerruti et al., 2019). This notion of institutional capital refers to the companies' ability to manipulate the institutional environment (normative and social structures) using multiple strategies like Co-option, Lobbyism, Membership, Standardization and Influence, in order to acquire, create or improve superior competitive resources (legitimacy, reputation, or the client relationships) (Reihlen et al., 2010). According to Glückler and Armbrüster (2003) industry drivers of competitiveness like price and quality, while important, do not compare to experience-based trust (the company tried the consultants' services before and had a good experience) and "networked reputation" (asked for feedback to a trustworthy source from their social network). According to Bronnenmayer et al. (2016), the main success factors in this industry are how much the customers collaborate, the consultant's expertise, and how much the consultants' expectations and outcomes match the customers'.

In the literature, it is found that clients perceive consultants to be either change agents for innovation and transformation or to have a role dealing with ambiguity, acting as uncertainty managers and fashion setters (Cerruti et al., 2019).

Regarding the relationship between customer and consultant, the literature suggests that it will depend on the consultant's approach (act as insider (informal) or outsider(formal)), the customer's approach and previous experience with consultants (Cerruti et al., 2019). Consultants must develop relational and trust building capabilities while providing their services (Cerruti et al., 2019).

These streams of research can easily be justified by the 2 types of uncertainty associated with the management consulting industry which were identified by Glückler and Armbrüster (2003):
Institutional uncertainty which consists of the lack of educational or professional standards in this industry, which means that any person can label themselves an

independent consultant (lack of standards of licensing, qualification or codes of conduct).
Transactional uncertainty which consists of a combination of factors that come from being an independent Knowledge-intensive service.

Institutional Uncertainty has several implications from a strategic point of view (Glückler and Armbrüster, 2003):
It is difficult to distinguish qualified and unqualified consultants, which means that there is a higher risk that their performance will not meet their customers performance expectations. This industry has very low entry barriers, which means that it shows great variability as there is a high birth and death rate in this industry (Glückler and Armbrüster, 2003). Boundaries with other industries are not clear anymore since companies from different areas of expertise can all easily call themselves management consulting companies. Service Lines and Standards also vary greatly, which means that the categorisation of the consulting companies into different sectors (e.g. strategy consulting, IT consulting) will depend more on their public reputation than on which services they offer (great overlap of services).
Not only that but the number of areas of expertise is very extensive the main sectors and areas of expertise for management consulting companies identified by Kubr (2002) were *"general and strategic management, information technology, financial management, marketing and distribution management, e-business, operations management, human resource management, knowledge management, productivity and performance management, total quality management, company transformation (turnaround, downsizing, outsourcing, insourcing, re-engineering, M&A, joint ventures, privatization) and corporate social responsibility"*.

Transactional Uncertainty also has several implications (Glückler and Armbrüster, 2003):
A consulting company is an independent entity that will get access to confidential information about the companies that they work with , meaning that there will be a need for non-disclosure agreements, and still, if the consulting companies work with competitors, there is always the possibility that they utilize the confidential information to better advise the competitors. Furthermore, it is hard to measure service quality (Nayyar, 1990; Clark, 1993) since we can't observe a service quality before we experience it (Nayyar, 1990). Also, the own definition of service implies that

customers must provide inputs (Sampson and Froehle, 2006) so it will be difficult to prove to what extent the lack of quality is owed to the service provider (consultant) or the customer.

Cerruti et al. (2019) also referred to the digital revolution which has been affecting this industry, causing traditional consulting (based on social relationships) to decrease and IT-based consulting to increase (especially in legal consulting). Debates of these impacts are still lacking in academic journals.

FEACO (2018), in the most recent survey of the management consulting industry informs us that the German market (the one to be analysed) has had average yearly revenue growth of 7.4% from 2013 to 2018 (Turnover now at 31.5 billion €). In this survey Management consulting main service lines are *"Strategy"*, *"Operations"*, *"Sales and Marketing"*, *"Finance & Risk Management"*, *"People and Change"*, *"Technology"* and *"Other services"*.
In this survey (FEACO, 2018) Environment consulting is only mentioned as part of the *"Finance & risk management"*, as a way of managing environmental risk and regulations and the environmental consulting German Market is not described at all.

But Sustainable Business models number of publications have been growing since 2014 (Saeed et al., 2019) and corporate environmental responsibility initiatives such as the development of eco-friendly products and charitable donations and sponsorships have a positive effect on brand sustainability. Not only that but Murthy (2012) defends that having sustainability-related resources and capabilities should be the basis of a company's competitive advantage strategy in order to prevent the environment to undermine the company's chances to achieve sustainable competitive advantage.

Furthermore, environmental regulations have been becoming stricter since the end of the 20th century, especially for chemicals (Speight, 2017) (e.g. trade associations environmental programs (Hoffman, 2002). Both of these factors have both contributed to the growth of the environmental consulting industry (Hoffman, 2002), which still keeps growing globally (FEACO, 2018; Environment Analyst, 2019).

So that we've established the growing relevance of this industry, in the following chapter I will showcase the strategic literature on this sector (which is very limited),

to further emphasize the research gap that we are trying to fill as well as to find studies that will be complemented by our study.

2.1 Environmental Compliance Consulting

The studies of the environmental compliance consulting seem to be very recent:

Michelsen, (1989); Thomas, (2011) for instance, was one of the first to focus on this market and identified 60 important focus directions within this area (energy, horticulture, planning, etc).
BARNES (2010) later conducted a cross-sectional analysis of the environmental in different countries based in specific indicators: *"Establishments"*, *"Sales"*, *"Employment"* and *"Firm size"* and subindustries (*"Earth science services"*, *"Geological consultant"*, *"Geophysical consultant"*, *"Natural resource preservation"*) in order to compare the development of this sector in each country.

Thomas (2011) based on Michelsen's (1989) research and identified new emerging topics such as sustainability and corporate responsibility and developed a representation of how the environmental consulting industry is separated.

More recent literature includes studies of characteristics and dynamics in the mining market in Guatemala (Dougherty, 2019), critical success factors in the construction market in Ghana (Owusu-Manu et al., 2017) and the identification of KPIs using the case-study of a Canadian environmental consulting company (Sayed and Lento, 2018).

Thomas (2011) provided the most complete overview of the German Market. He first defined environmental consulting as a particular form of management consulting in which a company acts as an advisory institution and provides environmental sustainability information.

Thomas (2011) then suggested that this industry there are two major themes that can be pursued by environmental consulting companies: technology-oriented environmental consulting and management-oriented environmental consulting.

The technology-oriented environmental consulting, also referred to as expert advice in the literature, is more focused on technical issues of corporate environmental protection, making sure that companies are using resources efficiently and using the most cost-effective technology (Thomas, 2011). This division includes the sub-categories: Energy, Substances (Materials, Hazardous Substances, Waste), Water (Drinking water, Rain and Sewage water) and Emissions (Exhaust fumes, Noise emissions and Vibrations).

The management-oriented environmental consulting is more focused on organisation aspects of the company, aiming to create systems and processes to ensure that a company remains compliant, environmentally friendly and sustainable (Thomas, 2011). This division includes the sub-categories: Management systems and Audits, Instruments of Eco-control, Contracting and Revenue Management, Employee Environmental Awareness and Motivation, Environmental law and approval management, other management-oriented tasks.

Thomas (2011) identified trends such as the increase in both government incentives and environmental requirements which are leading to technical advancements, and an increase in consumer sensitivity regarding environmental protection all of which contribute to the growth of this market. Thomas (2011) predicts that this trend will continue in the future.

Dougherty (2019) describes organisation of roles of this sector. In Guatemala, he describes a sector in which consulting companies are not separated into 2 different strategic groups but where they need to both act as technicians and to help companies navigate environmental regulation and streamline any approval processes related to production in order to stay competitive. This is interpreted as resulting of market structure and dynamics (companies have no bargaining power with their customers (at least when the customers belong to the mining industry) and have low profit margins for their services which lead them to expand their service and product lines to more profitable ones).
According to Sayed and Lento (2018), the companies should focus on "*acquiring new skills/techniques*", "*increased customer value proposition*", "*personnel utilization*", "*new product solutions*" and "*start to end solutions*".

In our analysis, will confirm if the environmental consulting industry is in fact divided into management functions and scientific function or if they offer a combination of both (we will do this by analysing the presence of "environmental management" services.
We will also verify if companies are focusing on areas that require new capabilities such as "software" solutions and if they are offering "start to end solutions" or just partial aid in specific focus markets.

In the literature there hasn't been a focus on the particular markets that we will address but it is relevant to know which requirements and environmental concerns these may have, to better understand the role of environmental consulting firms when addressing these markets. The next chapter will then be aimed at giving an overview of the regulatory framework in place and the scientific needs for each of the market, in order to better understand the value that consultants can bring to this market.

3. Environmental Regulations and Scientific Concerns in Germany

The company will focus on particular markets (Nanomaterials, Medical devices and Biocides). Each of these markets has specific regulations and environmental concerns, it is important to review the literature on them (using government official sources), to be aware of specific activities that the customers might value. In the German Market, the regulatory framework seems to be the same followed by the rest of the European Economic Area (e.g. REACH regulation (EUROPA, 2019)).

According to ECHA (2019a), the main regulations in place regarding chemicals refer to the Registration, Evaluation, Authorisation and Restriction of Chemicals, the communication of possible dangers to the workers and consumers through Classification, Labelling and Packaging, Biocidal Products Regulation, Specific regulation for the imports and exports of hazardous chemicals (Prior Informed Consent Regulation), protection of workers health by minimizing their exposure to hazardous substances (Chemical Agents Directive / Carcinogens or Mutagens

Directive), *"waste management on greenhouse gas emissions, air pollution and littering"* (Waste Framework Directive), and the restriction and ban of Persistent Organic Pollutants (POPs).

In the following chapter I will focus and expand on particular regulations and environmental concerns that are connected to each specialization area.

3.1 Nanomaterials

According to the European Commission-Environment (2019) nanomaterials are chemicals or materials that are manufactured with extremely small dimensions in order to develop specific new properties *("increased strength, chemical reactivity or conductivity"*).
Some examples of nanomaterials are already in circulation (*"batteries, coatings, anti-bacterial clothing, etc")*, but these are expected to be implemented in several new sectors and consequently grow their market considerably.
Because these are new materials there is a certain degree of uncertainty regarding their health and safety.

In Europe these are regulated as if they were chemicals, following the REACH and CLP regulations, having provisions in food, biocides, cosmetics, medical devices and worker protection (EUON, 2019b).

This implies that if a company either manufactures or imports more than a ton of a nanomaterial a year they need to register it using a registration dossier, in which they must refer their properties, uses, assessing their hazards and potential risks, as well as classify and label them appropriately (European Commission-Environment, 2019).

Furthermore, Nanomaterials are included in both Biocides' and Medical Devices' Regulations:

If there is a nanoform (at least 50% of particles 1-100 nm in one of the dimensions), the biocide can't be approved with only one registration dossier. A separate dossier must be prepared must be prepared just for the nanomaterial. Also, the labelling should also add "(nano)" (EUON, 2019c).

For Medical Devices, a specific certification (CE marking) is needed to be on the market. From 2020 on, if the medical devices consist of nanomaterials or have them in its constitution it will mean that the Medical Device will be classified as high risk and go through a tighter evaluation process (EUON, 2019a). Medical devices are usually in very close proximity to the user, so it is crucial that the size and properties of the nanomaterials don't pose a risk.

3.2. Biocides

Biocides are defined by EU substances or mixtures, which may or may not contain active substances, that are used to protect humans, animals or articles from harmful organisms by any means other than physical or mechanical action (BPR, Regulation (EU) 528/2012)

Biocidal Products have a separate regulation from the rest of the chemicals (BPR, Regulation (EU) 528/2012) and a separate registration platform (R4BP 3) (ECHA, 2019c). In order to be placed on the market, biocides need to go through an authorisation process and any active substances that are included in the biocide should be approved.
In order to be approved, biocides shouldn't contain certain substances such as carcinogens or endocrine disruptors and if they do, they may apply for a substitution process in which they have a period to transition to a more appropriate alternative (ECHA, 2019c).

There are many authorisation processes depending on the geographical area where they will be marketed and the degree of novelty and potential hazard of the biocides. They can be authorised at a state level, at a European union level, follow a simplified authorisation if they follow certain criteria (don't contain potentially concerning materials (including nanomaterials) and are sufficiently efficient), or apply for the a biocidal product that is identical to another one that is already authorised. (ECHA, 2019c)

3.3 Medical Devices

Medical Devices are articles intended by the manufacturer to be used for medicinal purposes (diseases, disabilities, in vitro examination, etc), which don't include either conception aid products or cleaning products for medical devices (According to the Regulation (EU) 2017/745).

At the moment regulation is at a transition period from 93/42/EEC, 98/79/EC and 90/385/EEC regulations to the Regulation (EU) 2017/745 on Medical Devices (MDR) and Regulation (EU) 2017/746 on In-Vitro Diagnostic Devices (IVDR) (EMA, 2019).

Under both legislations, in order to get a medical device on the market manufacturers need to go through a conformity assessment which are conducted by organisations designated to do so by the EU Member States (notified bodies) (EMA, 2019).

These conformity assessments usually consist of an audit to test the manufacturers quality system and of a review of the technical documentation of the device to assess its safety and performance (EMA, 2019).

If the manufacturers pass conformity, they can then get a CE mark (Conformité Européenne) on their markets and start marketing them (EMA, 2019).

As products become more complex there is an increased difficulty in classifying them: Besides having many types of medical devices like "*medicinal products that include a medical device, medical devices with ancillary medicinal substance, companion diagnostics and medical devices made of substances that are systemically absorbed*", which require different approaches, some products, due to their characteristics, may also easily fall under the categorisation of "*medicinal products, medical devices, cosmetics, biocidal products, herbal medicines and food supplements*", which then require different regulations (EMA, 2019).

II Methodology

1. Context of the company

A crucial part of the services provided by environmental consulting companies is to take over the REACH regulations responsibilities of Foreign Chemical suppliers, making sure that they are compliant and that they can more easily get access to the market. This service offering is called *"Only-Representative"* (ECHA, 2019b).

To be an only-representative a company will need not only to have experience with handling substance and their information and to create an agreement with a formulator, manufacturer or article producer outside the European Economic Area (EEA) but they need to be established physically (have a subsidiary) in the EEA (ECHA, 2019b).

In this project-based dissertation, I am analysing an environmental consulting company based in the UK, and with offices in Canada and, since January 2019 (this year) a subsidiary in Germany.

The company provides both chemical compliance and scientific consulting, REACH and Only-representative services are a major part of what is offered by this company so in case of an hard Brexit this company could potentially need to stop offering this services (outsource them from a partner) had they not expanded to Germany (EEA).

The company already had intentions of expanding to Germany but when Brexit was announced, the company had to speed up the process.
Now that the subsidiary has been created, the company will start to compete in this market.
The company plans to focus on three main sectors in this geography: Nanomaterials, Biocides and Medical devices.
Since the company is not familiarized with this market, I was asked to do an industry analysis of the competition in this market, with particular focus on the three main sectors in which the company will focus on.

2. Research Design

Regarding our philosophy, we are doing a project-based dissertation so it's important that this analysis is useful for the company. We will be following a pragmatic philosophy, since the value of this research will be measured by how much it will help the company make better informed strategic decisions, supporting action (Kelemen, 2008).

Our research strategy will consist of applying existing frameworks (present in the literature) to our data, further validating these frameworks by using them to analyse a new sector, as well as to confirm how industries are organised (again, in comparison with the literature), confirming specific hypothesis. This means that will be using a deductive approach according to (Saunders, 2016).

Because the analysis will consist solely on the categorisation of website data (non-numerical), which can be categorized as a mono-method qualitative approach and classified as of exploratory nature (Saunders, 2016), as a cross-sectional archival data analysis.

In our analysis we will make use solely a content analysis, which can be categorized as a mono-method qualitative approach. According to Saunders (2016) this method, even though it is not reliable for causal relationships, it is very useful for the categorisation and coding of data. As we've demonstrated in the literature review, our frameworks are within the realm of strategic categorisation which suggests their validity.

Finally, this analysis of web-content using strategic frameworks has the main purpose to create a profile of the sector, creating a map of how it is organised, and trying to interpret and explore its strategic implications, which, according to Saunders (2016) will correspond to a descripto-explanatory study.

According to Kubr (2002) the methods used to analyse the management industry tend to be empirical (72%), using qualitative methods (62% of empirical papers, (mainly case studies and interviews). Website analysis was included into the "Other methods" (16%), along with desk research, participant observation and mixed methods.

So, this method seems underutilized in the literature of this industry, which seems unjustified because competitors are using their website to position their brands (e.g. (Nicolas and Sally, 2009)), referring the expertise of their personnel, their products and

services information, the sectors in which they focus on the most and other information that might signal their performance and degree of competitive threat.
This method for data collection brings value from a strategic standpoint since it is unobtrusive (Kolbe and Burnett, 1991). Collecting primary data (pricing, sales, profits), from competitors or customers even though would be of great value for the company, could have ethical implications as well as signal the entrance of this company into the German market, which is not desirable because aggressive strategic tactics could potentially be used to prevent the company from settling into the market (preventing suppliers or distributors to enter business relationships with the company). Additionally, collecting primary data would result in a smaller number of companies in the analysis, which goes against the requirements of the company.

According to (Gallego Álvarez et al., 2008) as a company's market power increases, so do political costs, which means that there's an increased need for the company's to disclose information on-line. This means that as a company starts taking up a bigger market share, the more its information will benefit our analysis.

3. Data collection

The data was generated from the content analysis of competitors' websites, annual reports and social media (LinkedIn), which can be categorized as archival data (Saunders, 2016). Most companies in this market will not be quoted so there won't be annual reports to analyse in most cases, in which I will focus on their websites and social media.
These were sampled from the period 24th of May until the 10th of August (the duration of the company project). It is important that these are sampled in a relatively short period because, as we've seen Strategic group mapping should be done in a period where big changes don't happen, in order for the results to continue to be valid.

The identification of competitors was done through filtering of databases and suggested websites (industry specific forums in which sector competitors are registered).
Additional Google searches, were suggested by the company to complement the list:
Keywords: *"REACH Beratung"* (suggested by the company).

The first layer of filtering regarded the companies' geographical market. In order for a company to be part of this study, the main indicator and filter to be considered a German company was the existence of at least one subsidiary in Germany.
The website filtering process consisted of going to the website, to the "contacts" "Locations" or "about us" tabs and searching through each subsidiary postal address.
After this filtering process there was a data extraction process from the websites:
The information extracted included a list of the Services offered, qualifications and experience of the personnel, a list of subsidiaries, number of employees, examples of customers, pricing, sales and profitability (usually in annual reports) and the descriptions given about the own company in the *"About Us"* Tab.

4. Data analysis

Once we have decided that the company is part of the analysis there are 3 layers of analysis.

The first one consisted of the Degree of competition. The company decided that the main markets that they will address and emphasize will be "Nanomaterials", "Biocides" and "Medical Devices" so the website analysis consisted of the categorisation of how these are displayed in the website.
The first step of this categorisation consisted on exploring the homepage and the different tabs and links accessible from the homepage in search for any sign of addressing these markets. If there was any mention of a keyword that suggested that the company was addressing these markets it would be categorised as *"high"*. These mentions would frequently be found through the use of the ctrl+f (find function) of the keyword's "nano", "biocid" and "Medic".
If there was no sign of these markets immediately there would be the need to explore the website in search for mention of these markets. If these sectors were mentioned in any other part of the website the focus would be categorised as "medium" and if there was no mention of the sector the focus would be categorised as "low".

In the Degree of Competition spreadsheet, we also included a *"Other signs of competition"* section where information such as the number of subsidiaries in Germany, number of employees, pricing, revenues and profits and the descriptions given about the own company in the *"About Us"* Tab would be added.

The second layer of analysis was an adaptation of the Strategic Groups framework.
Firstly, there was a collection of the different services offered by the companies and respective expertise associated with that service (e.g. *"Our team of experienced chemists provides complete REACH registration services"* would correspond to *"REACH registration services"* as the service and *"Experienced Chemists"* as the respective expertise)
The Key Success factors were asked by the company to be either a more Regulatory focus or a more scientific focus (which matches (Thomas, 2011) description of the industry themes).
This analysis was made separately for each of the markets (companies with at least "medium" or "high" categorisation in the first layer of analysis, in order to reflect their scientific support and regulatory support, specific for these markets (company request).

Regulatory focus was classified as the degree to which the consulting company would take over chemical regulatory process. A *"high"* category means that they offer end-to-end solutions including services like consulting, auditing, compliance and Management (including training, consortia, communication) (e.g. those required by REACH full support). In the case of Nanomaterials, it would be mentioning the complete registration of nanomaterials under REACH, for Biocides it would be mentioning the complete registration of biocides under BRP and for medical devices it would be mentioning that they are certified bodies that conduct Medical Devices Single Audit Programs and ensure CE marking. A "*medium"*, on the other hand would be offering services like advice and design of regulation strategy, or only partial offering of regulatory support for the particular focus industry. The *"low"* category would consist on not offering any sort of regulatory support.

Scientific focus was classified as the degree to which the consulting company makes use of scientific expertise in the particular sector to aid the company. A *"high"* category consists of mentioning a team of scientists specialised in the focus industry (nanomaterials, biocides or medical devices), ensuring services like substance characterisation, interpretation of testing results, expert opinion and dossier creation (in the case of medical devices dossier creation would be replaced by the mention of any medical device certification). A "*medium"*, category would consist on offering

safety or sustainability or other scientific advice for the types of materials or offer testing services with no interpretation. The *"low"* category would consist of not offering any sort of scientific support.

The third layer of analysis will be an adaptation of a strategic canvas. The company identified activities that are valued by the customer and usually offered in the industry and the Strategic Canvas exercise consisted of classifying these activities has either offered completely (*"1"*), partially (*"0,5"*) or not offered (*"0"*) (using the company's services as the terms of comparison). Any signs of outsourcing the activity would also result in classification as a partial offering (*"0,5"*).

For each company this exercise was based on the complete list of services used in the previous layer of analysis.

The categories chosen were *"regulatory support"*, *"scientific support"*, *"software"*, *"training"*, *"Product stewardship & sustainability"* and *"Other services"*.

For the first 2 categories, they are meant to reflect if companies, even if they are not focused in any of the 3 focus markets, if they are offering any sort of environmental regulatory support (e.g. REACH, CLP), and if they are offering any sort of scientific support (e.g. substance characterisation, interpretation of testing results and expert opinion).

"Training", classes and webinars are also another category of services that is valued in this industry. Companies might want to teach their personnel about safety considerations in order to deal with hazardous substances or to teach the in-house legal department about REACH, instead of outsourcing these services every time a registration needs to be done.

"Software" is also relevant to include because these solutions, according to Cerruti et al. (2019) are now taking over the management consulting industry (legal/compliance consulting). By identifying the companies that are investing in IT capabilities and monitoring their performance we can assess if we should focus more on investing in these capabilities in our company or in others.

"Product stewardship & sustainability" is another category that is not necessarily related to regulation. Michaelis (1995) defines product stewardship as the manufacturer's responsibility to recycle and dispose of the products they make as opposed to having customers take all the responsibility for managing waste. Here services like chemical policy management systems, sustainability audits and sustainability reporting ensure that the company is environmentally sustainable.

"Other services" would refer to other service lines that companies might be investing in. Here there would be included the technology-oriented environmental consulting that was identified by Thomas (2011) were companies would evaluate the efficiency of the technology or refer to the new techniques explored in the literature and areas like "*Environment Health and Safety"*, "Scientific *Research"*, "*Fire protection"*, etc.

This exercise would then be complemented by a description of the features of each category.

III Results

1. Nanomaterials

In our analysis, so far 3 companies have Nanomaterials displayed in their homepage or accessible through the main page directly through tabs, while the rest 8 companies either had nanomaterials in a redirected page or mentioned it somewhere in the website, these represent approximately 19,3% of the sample of 57 companies collected (11).

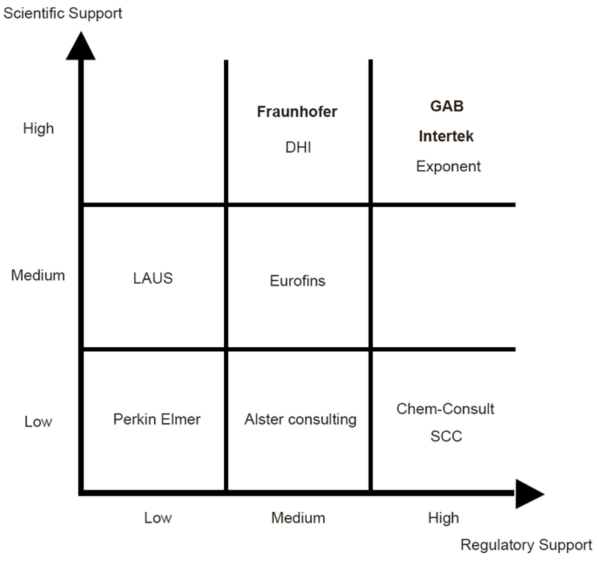
Companies that have a high website focus on nanomaterials in their website all provide high scientific support (e.g. Nanomaterials risk assessment interpretation), while the rest provides many different service offerings.

Table 2: List of companies that mention Nanomaterials on their website, categorised by Type of display (website focus)

Nanomaterials	High Website focus:	Medium Website Focus:
	Fraunhofer ITEM	Alster Consulting
	GAB consulting	Chem-Consult
	Intertek	DHI
		Eurofins
		Exponent
		LAUS GmbH
		Perkin Elmer
		SCC GmbH

We can see companies ranging from only scientific support services (LAUS providing testing services) to only providing regulatory support services (Chem-Consult and SCC) mentioning that they will provide REACH services while taking nanomaterials into consideration. The companies GAB, Intertek and Exponent, are the strategic group that provides the most complete solutions regarding nanomaterials.

Figure 1: Positioning of companies according to the regulatory support and scientific support offered in the Nanomaterials market (Strategic Group Mapping adaptation).



Companies in Bold font – High website focus
Companies in Regular font – Medium website focus

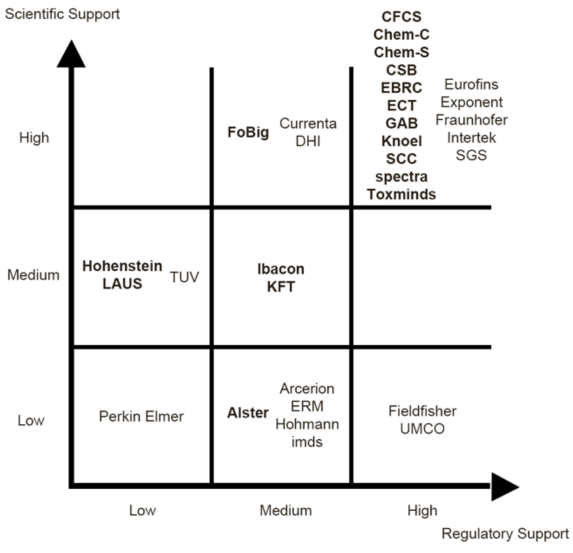
2. Biocides

Table 3: List of companies that mention Biocides on their website, categorised by Type of display (website focus)

Biocides	High Website focus:	Medium Website Focus:
	Alster Consulting	Arcerion
	CFCS-Consult GmbH	Currenta
	Chem-Consult	DHI
	Chem-Service Group	ERM
	CSB GmbH	Eurofins
	EBRC	Exponent
	ECT Oekotoxikologie GmbH	Fieldfisher
	FoBiG	Fraunhofer ITEM
	GAB consulting	Hohmann rechtsanwälte
	Hohenstein	imds Professional
	ibacon GmbH	Intertek
	KFT	Perkin Elmer
	Knoel	SGS
	LAUS GmbH	Tuv
	Prosacon	UMCO
	SCC GmbH	
	spectra Consult GmbH	
	ToxMinds	

In our analysis, so far only 18 companies have Biocides displayed in their homepage or accessible through the main page directly through tabs, while the rest 15 companies either had biocides in a redirected page or mentioned it somewhere in the website, these represent approximately 58% of the sample of 57 companies collected (33). This sector tends to have high visibility in the company's website.

Figure 2: Positioning of companies according to the regulatory support and scientific support offered in the Biocides Market (Strategic Group Mapping adaptation).



Again, analysing the Scientific-Regulatory Support Spectrum we can see companies focused on scientific support such as biocide testing (TUV, Hohenstein and LAUS) all the way to strictly regulatory support (Fieldfisher, UMCO).

We can see that the biggest strategic group of companies 48,48% of 33 (16) are well equipped with scientific and regulatory support. We can also observe that companies that are featuring Biocides in their homepage (bold) that are not offering complete support (e.g. Ibacon, KFT and Alster).

Companies in Bold font – High website focus
Companies in Regular font – Medium website focus

3. Medical Devices

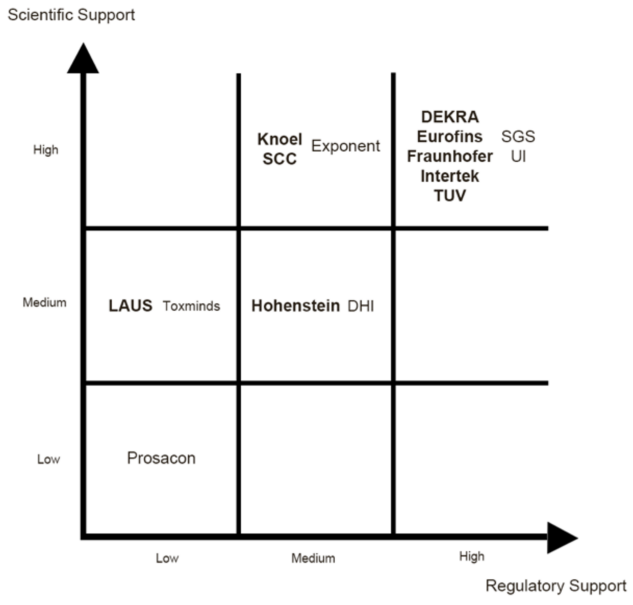
Table 4: List of companies that mention Medical Devices on their website, categorised by Type of display (website focus)

Medical Devices	High Website focus:	Medium Website Focus:
	DEKRA Insight	DHI
	Eurofins	Exponent
	Fraunhofer ITEM	Prosacon
	Hohenstein	SGS
	Intertek	ToxMinds
	Knoel	UI
	LAUS GmbH	
	SCC GmbH	
	Tuv	

For the Medical Devices Market, we see a smaller number of players comparatively to Biocides and a bigger number of players comparatively to Nanomaterials. In our analysis, so far 9 companies have Medical Devices displayed in their homepage or accessible through the main page directly through tabs, while the remaining 6 companies either had medical devices featured in a redirected page or mentioned it somewhere in the website, these represent approximately 26,32% of the sample of 57 companies collected (15).

For the medical device market, in order to help companies with compliance need the conformity assessment audits and certifications and being a notified body is the strategic equivalent to be an Only-Representative for the REACH regulations. Here we don't see players providing only regulatory advice with no scientific support, we can see players again providing solely medical testing (LAUS, Toxminds), a mix partial scientific support and partial regulatory support (Hohenstain and DHI), or really complete services.
We can see that being assigned as a notified body is difficult as there is a group of companies that are forced to have "communicate with notified bodies" as part of their service solutions (Knoel, SCC, Exponent).

Figure 3: Positioning of companies according to the regulatory support and scientific support offered in the Medical Devices Market (Strategic Group Mapping adaptation).



Companies in Bold font – High website focus
Companies in Regular font – Medium website focus

The strategic group with the most players is the one with complete regulatory and scientific support.

4. Benchmarking exercise/ Strategic Canvas Adaptation

Analysing the service categories offered by companies in our sample we can observe that the most offered service categories are regulatory support (51 out of 57 (89,47%)) and training (44 out of 57 (77,19%) and scientific support (42 out of 57 (73,68%)).

The least offered service categories are product stewardship and sustainability (22 out 57 and 38,60%).

We can see that the services that show signs of being outsourced or only partially offered are software (12/30), product stewardship (8/22, 36,36%) and regulatory support (7/42, 16,67%).

54,39% of the companies are offering other services focusing not only on safety and hazardous substances but also on environmental efficiency, waste management, water management, other environmental consulting.

Table 5: Service categories offered by the competitors (Strategic Canvas Adaptation)

Company	Regulatory Support	Scientific support	Software	Training	Product stewardship & sustainability	other services (e.g. environmental consulting etc.)
1cc GmbH	1	0	0,5	1	0,5	0,5
Alster Consulting	0,5	0,5	0	1	0	1
Anthesis	0,5	1	1	0,5	1	1
Arcerion	1	0,5	0	0	0	0
Asseso	1	0,5	0,5	1	0	0
Callaghan	0,5	1	0	1	0	0
CFCS	1	1	0,5	1	0	0
Chem-Consult	1	1	0	1	0	0,5
ChemGes	0,5	0	1	0	0	0
CSC	0,5	0	0,5	1	1	0
Chemservice	1	1	0	0	0	1
Conusbat	1	0	0	1	0	0
CSB GmbH	1	1	0	0	0	1
Currenta	0,5	1	0	1	0	1
DEKRA Insight	0,5	1	0	1	0,5	1
DHI	1	1	1	1	1	1
DR.MACH	1	0	0	0,5	0	0
EBRC	1	1	0,5	0	0	0
ECT	1	1	0	1	0	1
EDC	0,5	1	0	1	0	1
ERM	0,5	0	0,5	1	1	1
Eurofins	0,5	1	1	1	0,5	1
Exponent	1	1	0	1	1	1
Fieldfisher	1	0	0,5	1	0	0
FoBiG	1	0,5	0,5	0	0	0
Fraunhofer	1	1	0	1	0	1
GAB consulting	1	1	0,5	0	0	0
GBK	1	1	0,5	1	0	0,5
Granta	0,5	0,5	1	1	0	0
Hermes	0,5	1	0,5	1	0,5	1
Hohenstein	0	1	0	1	1	1
Hohmann	1	0	0	0	0	0
ibacon GmbH	0,5	0,5	0	1	0	0,5
IDRG	0,5	0	0	1	0	0
imds	0	1	1	1	0	0
Innoturn	0,5	0	0	1	0	0
Intertek	1	1	0	1	1	1
iPoint	0	1	1	1	1	0
KFT	1	0,5	1	1	0	0
Knoel	1	1	0	1	0,5	1
LAUS GmbH	0	1	0	0	0	1
Lisam Systems	1	0	1	1	0,5	0
Perkin Elmer	0	1	1	1	0	1
Prosacon	1	1	0	0	0	0
Qualisys	0,5	0	1	0	0	0
QUMSULT	1	0	1	0,5	0,5	1
REACH Advice	1	0	0	0	0	0
SCC GmbH	1	1	0,5	1	0	0
SGS	1	1	1	1	1	1
spectra Consult	1	1	0	0	0	0
tec4U	1	0	1	1	1	0
thinkstep	1	1	1	0,5	1	1
ToxMinds	1	1	0	1	1	0,5
TUV	1	1	1	1	1	1
UL	1	1	1	1	1	1
UMCO	1	1	1	1	0,5	1
Umwelt Consult	0	1	0	1	0	1

IV Discussion

1. Strategic Groups

For the Strategic Group mapping, through the first layer of analysis of the website we are able to identify the companies that are focusing on the same markets that our company aims to address through a keyword search of the website. So these companies are targeting the same markets as our company and, if they are in the same strategic group, we know that their regulatory and scientific support is relatively similar to ours, which suggests that these, according to this framework have a higher likelihood of being in direct competition with our company.

Not only that but our analysis also includes the categorization of how these markets are displayed on their websites (which will be an added benefit of using this method to analyse the sector). Here we can easily identify which companies are featuring the market on their website the most and compare these to how our company displays them on their website. And we can see that companies that feature these markets on their homepage tend to offer complete regulatory and scientific support, however many of times this support is partial (only providing advice on certain aspects and not taking over the whole process).

The Strategic Group mapping really showcases the institutional uncertainty identified by Glückler and Armbrüster (2003). The low entry barriers, unclear boundaries and variable industry standards make it possible for companies to call themselves environmental consultants, even though that they are specializing in different areas.

As we are using Strategic group mapping the main mobility barriers (Caves and Porter, 1977) would be the cost of hiring or firing specialized personnel as well as rebranding costs. These are not big compared to high mobility costs such as the manufacturing industry, which would need to buy specialized equipment that wouldn't be easily sold afterwards. This highlights a characteristic of the consulting industry, which relies mainly on the possession of expert knowledge and business networks, as opposed to tangible assets.

We can see that in all the focus sectors, strategic groups are not clear, and companies show different degrees of service offering.

2. Strategic Canvas (Benchmarking)

The benchmarking exercise allows the company to compare its service lines with other companies, identifying how specialized they are and the areas of differentiation they seem to be investing in.
This tool can be used in combination with the Strategic Group mapping tool. After we've identified the companies that are in direct competition with us (same strategic group), we can use the strategic canvas to compare our service offering with the competitors' and explore how we can differentiate ourselves from them (invest in specific activities, broadening our service range or divest some activities to specialize in specific services).

Not only that but, it allows to identify the companies that are offering services that are approximately as complete as the ones given by our company (ranked with *"1"*)and those that only offer these services partially (comparing to our company) or show signs of outsourcing them from other company (ranked with *"0,5"*).

So, for example, if we want to identify the companies with the best software capabilities, we would only need to analyse 18 companies instead of 57 (those ranked with *"1"*).

Additionally Sayed and Lento, (2018) mentioned that the critical success factors in the environmental consulting industry included "acquiring of new skills/techniques" and "new product solutions" so it is important that in order to ensure the sustainability of the consulting firm that companies keep increasing their offering by exploring new service offerings as they get bigger. This is consistent with our findings because if we analyse the companies with the broader range of services (SGS, TUV and UL) we can see that these tend to be extremely big, compared to the rest, according to their number of subsidiaries and number of employees (SGS has 40 out of 2,600 offices in Germany and more than 97000 employees in total, TUV has 331 out of more than 1000 offices in Germany and 3000 out of 24500 employees in Germany, and UL has 14 out of 230 subsidiaries in Germany, and a total of 14,000 employees).

Also, Thomas, (2011) first identified this thematic division of the environmental consulting industry into technology-oriented environmental consulting and management-oriented consulting. In our analysis we could observe that these are not exclusive and that in fact, companies that focus on providing regulatory support are also offering scientific support and *"Other services"* which consist mainly of these technology-focused environmental consulting with services related to energy, water and emissions.

Thomas, (2011) also identified sustainability and corporate responsibility as emerging topics, which were reflected in the "*Product stewardship & sustainability*". In our analysis we see that these service categories are already being offered but less than the software solutions.

(Cerruti et al., 2019) also described a digital revolution that is now changing the dynamics of consulting (especially legal consulting). In our analysis we could observe that these software solutions are in fact being offered in this sector. Companies are creating apps that use databases of substances with their properties and respective regulations and notify companies of new changes, or offering specialized training apps or other applications that allow communication across the supply chain.

This strategic canvas can be further developed by adding new categories of services that either our company wants to start offering or other companies have started offering.

For example, Reihlen et al. (2010) refer that management consulting companies depend on their ability to manipulate the institutional environment. During my analysis a service category that was offered was named "*Consortia management*", (e.g. (CHEMSERVICE, 2019)), in which companies take on administrative and financial roles for consortia (groups of companies), coordinating them. A further expansion of this study could be how these administrative tasks are correlated to the company's institutional capital (e.g. reputation), in order to assess if these should also be added to the strategic canvas.

Another improvement to the framework can be its division of each category into sub-categories: (e.g. for software: *Hazardous substances, Chemicals data properties, Chemicals*

regulations, etc.), in order to better compare the service offerings as opposed to only give a classification of *0*, *0,5* and *1*.

3. Other competition signs

When analysing the website of each of the companies there are many other characteristics that can be collected that are signs of competitive advantage and that are not included in the previous 2 frameworks, as described by Nicolas and Sally (2009).

We can easily showcase how additional information can enrich our analysis.

If we decide to analyse the Nanomaterials Strategic Group with high regulatory support and high scientific Support, we can see that GAB and Intertek are displaying this market in the homepage and Exponent is not. We can see that Intertek and Exponent offer every category of product apart from software and that GAB only offers software partially apart from providing regulatory and scientific support.

With the use of "Other competition Signs" we can verify that GAB seems to be much smaller than Intertek and Exponent. GAB has 50 staff and 2 of its 3 subsidiaries are based in Germany. Intertek has 13 subsidiaries in Germany out of 1000 and 44000 employees and Exponent has 1 out of 30 subsidiaries in Germany with 1075 employees and a total of revenue of $379.5 million in 2018

V Conclusions

With this dissertation we demonstrated the value that strategic frameworks can have in categorising website-content. Our analysis allowed us to visualize both the website display and visibility of 3 sectors within an industry, and to categorize them according to 2 critical success factors that are valued in the industry (regulatory support and scientific support), conducting a Strategic Group mapping. As expected, companies that tend to favour website visibility of the sectors tend to offer a very complete service with both regulatory and scientific support, but not always.

Additionally, our analysis consisted of combining them with a Strategic Canvas, which can be used as a way to identify new areas of investment, products and services for our company to pursue, as well as to compare its offerings with the competitors'.

Moreover, on their websites companies provide various signs that they are competitive such as their scientific expertise, their size (subsidiaries, number of employees, revenues (if they are quoted), and sometimes profitability (again if they are quoted) and pricing (most companies don't disclose it), which can also be collected and included in the analysis for in-depth comparisons.

Within the environmental consulting industry, Thomas (2011), referred that in the industry environmental consulting could be divided thematically into technological-focused or management-focused environmental consulting. In our analysis we have demonstrated that these are not exclusive as a big part of the companies in our analysis offered both.

Moreover, Thomas (2011) identified *"sustainability"* and *"corporate responsibility"* as trends within this industry and Cerruti et al. (2019) described a digital revolution in the legal consulting. Through our benchmarking exercise we first demonstrated how both these trends are impacting this sector by analysing which companies are offering IT solutions, product stewardship and sustainability to meet environmental needs.

Our analysis also allowed us to demonstrate the complexity of environmental consulting and to highlight how specialized these companies are, as different areas of focus have really different scientific and regulatory needs and have different government agencies representing them (Nanomaterials and Biocides are represented by ECHA and Medical devices by EMA).

Regarding the industry organisation, we've seen that there are not very clear strategic groups as companies, but as they grow tend to offer a bigger range of services.

The combined use of these 2 tools should allow the companies to identify their closest competitors (the ones with similar service offerings and addressing similar markets), identify possible service offerings that might have not been considered previously and finally identify if particular sectors are being focused on by an industry or sector based on the website display of those sectors or reference to them.

Finally, this dissertation allowed us to highlight one side-effect of Brexit and its strategic impact on companies in this sector. The *Only-Representative* services have as a requirement having a subsidiary in the European Economic Area which means that companies based in the UK will have to expand geographically if they want to continue to offer this services without outsourcing them.

VI Limitations

As we are doing a project-based dissertation the main priority was to get the necessary information for the company and to categorise it in an appropriate way. The samples of companies that was provided might be biased as it intended to identify this company's particular closest competitors. Also, the strategic frameworks had to be adapted in order to adjust to the information provided by the companies on their websites.

Website content analysis also poses its challenges: Wording options, different choices of display, vague descriptions of services make this analysis more difficult. A company addressing biocides can refer to them as "biocidal products", "pesticides", sometimes "agrochemicals", which may or may not incorporate the focus market, depending on the regulation that they are trying to address. These issues leave room for interpretation, which can create a bias on the analysis.

Also, companies might offer a particular set of services but on their website, these are almost inaccessible (only through keyword search on search tool bar). For larger companies (Ul or SGS), their list of services is so extensive that comparing them to other companies posed a major challenge.

Companies sizes and profitability are not imputed into the models either due to lack of information or because there's no particular framework that allows us to do so, which is why this analysis had to be done on a separate table, for consultation purposes.

Within management consulting in the literature it says that having a Networking Reputation is a critical factor. The fact that a company has 331 subsidiaries spread across Germany like TUV might affect the branding power of the company and the ease of creating business networks, comparatively to a company with only one subsidiary and a small team.

We can also not tell if the companies are being profitable or not in these sectors (except for those that are publicly listed). For those that are listed and have to report their profits, regulatory services usually are part of a bigger report segment (e.g. EHS), which means that we can never have a clear idea if this this particular sector is being profitable. Moreover, the strategic group mapping is based on the idea that different groups have different levels of performance and profitability so that the company can

assess the mobility barriers to change from one group to another. Because most companies don't publish their profitability or revenue, this exercise is not possible.
Not only that but in this analysis, there weren't major strategic groups identified, either because we focused on particular markets or because the critical success factors weren't the main differentiator factors in this industry.
Whoever designs the website might not be the same person that creates the strategy or contains scientific expertise which might translate into errors in the website (incorrect information) or vague description of these.
Companies might also not have a subsidiary in Germany and still be a competitive threat (especially for software solutions).
Also, nanomaterials don't have regulations exclusive to them. They are either treated as chemicals (REACH) or are under provisions for other areas (food, biocides, cosmetics, medical devices and worker protection), which may imply that referring to them in the website may not be necessary (e.g. "*Offering full registration services under REACH*" would also include nanomaterials even thought this regulation is mainly aimed at chemicals).This could be an explanation why companies are not featuring them or mentioning them in their websites.

VII Future research

For further study, the method used in this project-based dissertation for website-content categorisation utilizing strategic frameworks could be applied to different industries and geographies especially for project-based dissertations as it allows for a more extensive (quantity of data analysed), unobtrusive analysis in a short amount of time.
Even though we have studied Environmental consulting at a sector level, other strategic frameworks such as the Porter's Framework could be applied, perhaps using survey's as data collection tool. Furthermore, another stream that could be pursued to analyse this sector could be the existence of cognitive communities (strategic groups) which would be identified through the interview of management to get a more in-depth understanding of this sector.

An analysis of the market (as opposed to an industry analysis) would allow the estimation of features like the "*total addressable market"* for the consulting industry and each of the focus markets and pricing. It would also allow the identification of consumer trends that could possibly allow them to predict which service categories to invest the most (strategic canvas).

During my analysis I was faced with multiple companies in which their European subsidiary is UK based. A possible stream of future research could be an extensive analysis of the effects of Brexit on environmental consulting industries that had UK as their European subsidiary (Necessary investments, costs of outsourcing "*Only-representative"* services, Effects on sales, profitability or other performance indicators).

Since no clear strategic groups were identified using regulatory support and scientific support as critical success factors within each focus market perhaps a different analysis could be conducted utilizing different critical success factors such as Networked Reputation (Survey of the target market).

VIII Appendices

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Appendix 1 Website Focus on Target Markets:

Analysis of degree of competitive focus in each market			This analysis is meant to be used to categorize the main competitors according to the level of strategic importance for each market (Nanomaterials, Biocides and Medical Devices).				
		Degrees of focus on Nanomaterials		Degrees of focus on Biocides		Degrees of focus on Medical Devices	
		High	Showcased in homepage or main tab as one of main markets "Nanomaterials"	High	Showcased in homepage or main tab as one of main markets "Biocides or BRP"	High	Showcased in homepage or main tab as one of main markets "Medical Devices" or "Medical Equipment"
		Medium	Mentioned not as main area (no specific dedicated page for)	Medium	Mentioned not as main area (no specific dedicated page for)	Medium	Mentioned not as main area (no specific dedicated page for)
		Low	No mention of Nanomaterials	Low	No mention of Biocides or BRP	Low	No mention of Medical Devices
Company	**Website**	Degree of focus on Nanomaterials	Notes about service	Degree of focus on Biocides	Notes about service	Degree of focus on Medical Devices	Notes about service
1cc GmbH	https://1cc-consulting.com/en/	Low	REACH	Low	REACH	Low	mention of ROHS, WEEE but related to batteries
Alster Consulting	http://alster-consulting.eu/	Medium	Mention within biocides	High		Low	
Anthesis	https://www.anthesisgroup.com/	Low		Low		Low	
Arcerion	http://www.arcerion.com/	Low		Medium	One sentence directed to biocides: No title/area Compliance assessment: *"Based on this information we will provide an analysis and individual evaluation of obligations under REACH, CLP, Seveso, Biocide or WEEE/RoHS regulations and directives."*	Low	
Asseso	https://www.asseso.eu/de	Low		Low		Low	
Callaghan Consulting International	https://www.ccintl.eu/index.html https://www.linkedin.com/in/tmcallaghan/	Low	Cosmetics	Low		Low	
CFCS-Consult GmbH	http://www.cfcs-consult.de/?lang=em	Low	REACH, biocides, cosmetics	High		Low	
Chem-Consult	https://www.reach-chemconsult.com/	Medium	Mention of nanomaterials cosmetics *"detailed information on nanomaterials"*	High	One of main tabs in homepage	Low	
Chem-Ges	http://www.dr-software.com/	Low		Low		Low	
Chemical Safety Consulting	https://www.chemicalsafetyconsulting.com/	Low		Low		Low	
Chem-Service Group	http://chemservice-group.com/	Low		High		Low	
Conusbat Regulatory Services	http://www.conusbat.com/en/services.php	Low	Cosmetics	Low		Low	
CSB GmbH	https://www.csb-online.de/en/index.html	Low		High		Low	
Currenta	https://www.currenta.com/home-en.html	Low		Medium	Within consulting REACH and Biocides is one of the titles: THey offer advice and regulatory studies.	Low	
DEKRA Insight	https://www.dekra.us/en/home-page/	Low		Low		High	Product Testing: -Medical Device Regulatory Services

DHI	https://www.dhigroup.com/?_ga=2.131205574.838961747.1562243418-2105586935.1562243418	Medium	E-REACHNANO: FREE WEB TOOL WITH INFORMATION FOR REGISTRATION OF NANOMATERIALS Mapping of products containing nanoparticles or based on nanotechnology' for the Danish Environmental Protection Agency. PRODUCT SAFETY AND ENVIRONMENTAL RISK: CHALLENGES: Assessing the effect of new technologies such as nanotechnology TOXICOLOGICAL IMPACT OF NANOMATERIALS – A NEW PROJECT in 2010	Medium	BIOCIDES — NOTIFICATION AND DOCUMENTATION Placing your biocide products on the market is a complex and lengthy process. We can ease the process by supporting you at every step, so that you can concentrate on your core business. We can help you manoeuver within the legislative framework and maintain regulatory compliance over time. We offer: strategic advice on regulatory demands tests in order to assure the needed documentation registrations and authorisations leverage in the communication with authorities	Medium	Based on decades of experience working with medical device manufacturers, suppliers of materials as well as regulatory bodies, DHI offers expert consultancy in this area.
DR.MACH	https://www.mach-chemguide.com/en/services/	Low		Low		Low	
EBRC	https://www.ebrc.de/	Low		High		Low	
Ecomole	https://www.ecomole.com/#6	Low		Low		Low	
ECT Oekotoxikologie GmbH	https://ect.de/	Low		High		Low	
EDC - Chemical Consulting	http://edc-com.de	Low		Low		Low	
EBRC	https://www.ebrc.de/	Low	Focus on chemical, biocidal and agrochemical industries	High		Low	
EDC - Chemical Consulting	http://edc-com.de	Low		Low		Low	
ERM	https://www.erm.com/	Low	only a few news of events (not organised by them) in which Nanomaterials are one of the topics	Medium	In history it says that they provide exoer assessment advice in the area of biocides but it never specifies or focuses on these services.	Low	
Eurofins	https://www.eurofins.com/contact-us/worldwide-interactive-map/	medium	Nano material testing in the Food and Feed Testing service	Medium	Eurofins >> Consumer Product Testing >> Industries >> Detergents, Maintenance Chemicals, Biocides	High	Medical Devices one of the options within the Our services drop down tab (accessible directly)
Exponent	https://www.exponent.com/	medium	**Biocompatibility**: "The new generation of implantable and tissue engineered medical devices control biological interactions by use of pharmacological agents, bioactive coatings or **nano-enabled materials** to improve safety and efficacy." **Nanotechnology** : "With more than 50 years of experience in solving complex scientific and engineering problems, Exponent is uniquely qualified to assist in the area of NMs. In addition to our recent project experience in assessing various aspects of NMs in products, Exponent's scientists have many years of industry experience in nano-scale product manufacturing settings, including manufacturing yield enhancement, process development, materials degradation, process tooling, clean-room science and micro-contamination, defect reduction, and root cause and corrective action analysis." **Ecological & Environmental Risk Assessment**: Experience: "Nanomaterials, including nonmetallic materials such as nano-silver" Many professionals with experience in Nano -tech or Nanomaterials	Medium	Chemical Regulation & Food Safety: Chemical & Regulatory Support Services: Biocides	Medium	Medical Devices Medical Devices & EMI / EMC Medical Device Equipment, Electrical Safety & Compliance Assessment
Fieldfisher	https://www.fieldfisher.com/	Medium	Publications on Nano-technologies	Medium	Mention of biocides in the same place as nano-technologies even though it is not a category or sub-category. It is used to describe Paris environmental practice, which may signal that Germany is not main market. Key contact "Marie-Léonie Vergnerie, Partner, Environment" has french name.	Low	
FoBiG	https://www.fobig.de/en/	Low		High	One of main categories within services	Low	
Fraunhofer ITEM	https://www.item.fraunhofer.de/en.html	High	**Focuses of Research > Chemical Safety and Assessment > Toxicity of fibers, particles, and nanomaterials (accessble through tabs directly)** **Non-animal toxicology testing: from cell cultures to the isolated organ:** *This is why we use the P.R.I.T.® ExpoCube® system to study airborne substances. It allows also substances to be tested which, due to their physicochemical properties such as high vapor pressure or low water solubility, normally cannot be studied in cell-based in-vitro test systems. Furthermore, we use this system for in-vitro investigation of (nano)particles and dusts.* Services and Expertise > Chemical	Medium	**Services and Expertise > Chemical safety and assessment > Regulatory research and risk assessment > Biocides (Not accessible through tabs directly)** **Services and Expertise > Chemical safety and assessment > Toxicology testing > Chemicals, pesticides, and biocides (Not accessible through tabs directly)**	High	**Services and Expertise > Translational Biomedical Engineering (accessible directly through main page)** **Services and expertise in Translational Biomedical Engineering: from idea to safe medical device**

			safety and assessment > Regulatory research and risk assessment > Scientific basic principles *Scientific basic principles of risk assessment:* *Enhancement and improvement of TTC concepts including inhalation, extrapolation factors, and concepts for (nano-)particles* *Toxicological databases:* *We develop databases and perform database analyses, for example, with regard to repeated-dose toxicity (RepDose), reproductive and developmental toxicity (FeDTex), and inhalation studies with nanoparticles (PaFTox); we furthermore develop ontologies for databases to enable uniform description of effects* Exposure characterization: *Physical and chemical measurement of aerosol and vapor emissions:* *aerosols include dusts, (nano-)particles, sprays, oil mists and vapors, and microorganisms; gases include volatile and semi-volatile organic compounds.* *Development of custom measurement and process technology:* *measurement technology for dusts and aerosols (PM10, PM2.5, exhaust gases, nanoparticles), aerosol generation methods (calibration aerosols, nebulization methods, dry powder dispersion), process development (Method development and customized analyses)* Focuses of research in Chemical Safety and Assessment - Multiple articles of nanomaterials				
GAB consulting	http://www.gabconsulting.de/home.html	High	Nano Materials in the front page with picture dedicated to it	High	Biocides, biopesticides and agrochemicals in main business areas in homepage all with pictures	Low	No mention in the whole website
GBK Global Regulatory Compliance	https://www.gbk-ingelheim.de/en/	Low		Low		Low	
Granta (Part of engineering simulation company ANSYS)	https://grantadesign.com/	Low		Low		Low	
Hermes Hansecontrol Group	https://www.hermesworld.com/de/	Low		Low		Low	
Hohenstein	https://www.hohenstein.com/en/	Low		High	Home > Expertise > Performance > Biocides (accessible through homepage directly) Neutral efficacy tests	High	Home > Expertise > Health > Medical products (accessible through homepage directly) Hohenstein is an accredited testing laboratory for medical products by the German Accreditation Body (Deutsche Akkreditierungsstelle (DAkkS)).
Hohmann rechtsanwälte	https://www.hohmann-rechtsanwaelte.de/	Low		Medium		Low	
ibacon GmbH	https://www.ibacon.com/	Low		High		Low	
IDRG (International Development of Regulatory Globalization)	https://www.idrgplantprotection.eu	Low		Low		Low	
imds Professional	https://www.imds-professional.com/	Low		Medium	Biocides as one of the training topics they offer.	Low	
Innoturn	https://www.innoturn.de/	Low		Low		Low	
Intertek	https://www.intertek.com/	High	Nanomaterials one of main sub-categories in the especialized industries	Medium	Within Agrochemicals & Pesticides they offer *"Registration of Biocides"* *"European Union Biocides Regulation Services"*	High	Medical Devices one of main sub-categories in the especialized industries
iPoint	https://www.ipoint-systems.com/	Low		Low		Low	
KFT	https://de.kft.de/	low		High	Biocidal products as main subcategory under compliance	low	
Knoel	https://www.knoellconsult.com/en/business-units-4	Low	Mention of cosmetics, biocides product safety (Many areas suggest indirect connection to nanomaterials)	High		High	
LAUS GmbH	https://www.laus.group/en/	Medium	Chemicals > Chemical Testing according REACH > Nanoparticles	High		High	
Lisam Systems	https://www.lisam.com/en-us/	Low		Low		Low	
Perkin Elmer	https://www.perkinelmer.com/	Medium	They have software (Syngistix for ICP-MS Nano Application Software Module) and binding kits (analyze nano particles and their properties).	Medium	2 of their products can analyze biocides:*"Analysis of Biocides with the PerkinElmer Flexar FX-15 UHPLC System Equipped with a PDA Detector"* & *"Analysis of Biocides with the PerkinElmer Flexar FX-15 UHPLC System Equipped with a PDA Detector"*	Low	They sell actual medical equipment, but no services connected to these or their analysis
Prosacon	https://www.prosacon.de/	Low		High	Biocidal one of main tabs in homepage	Medium	*Industries of our clients: Medical Devices*
Qualisys	http://qualisys.eu/index.php?id=home&L=sfnzfqcwnsjbyef	Low		Low		Low	
QUMSULT	https://qumsult.de	Low		Low		Low	

REACH Advice GmbH	https://www.reach-advice.com/	Low		Low		Low	
SCC GmbH (Scientific Consulting Company)	https://www.scc-gmbh.de/	Medium	Within cosmetics: *During the last decades, we prepared more than 60 safety dossiers for a wide variety of challenging cosmetics ingredients ending up with favorable opinions. Amongst UV-filters, preservatives and hair dyes also nanomaterials, products of botanical origin and CMR categorized substances were successfully defended.* Within Medical Devices: *New classification rules for material-based medical devices, additional rules for products with nanomaterials and software*	High	One of main business units in Homepage	High	One of main business units in Homepage
SGS	https://www.sgs.com/	Low	They have multiple testing equipment that can potentially deals with nanomaterials. They also mention nanomaterials when describing the cosmetic and biocides regulation (which means that they take this into consideration) However there are no specific services aimed at Nanomaterials	Medium	Home › Chemical › Finished Product Services > Agrochemicals › Pesticides Home › Chemical › Finished Product Services > Agrochemicals › Herbicides	Medium	*SGS Germany is a trusted partner for all major industries and our laboratories are among Europe's leading providers of non-medical analysis.* *Home › Consumer Goods and Retail › Medical Devices*
spectra Consult GmbH	https://www.spectra-consult.de/	Low		High	Even though website is really incomplete biocides is identified as one of the 2 (other is chemical) that the company focuses on	Low	
tec4U	https://www.tec4u-solutions.com/	Low		Low		Low	
thinkstep	https://www.thinkstep.com/de	Low		Low		Low	
ToxMinds	https://toxminds.com/	Low		High	One of main categories in homepage	Medium	The industry "Pharma" is dedicated towards *"pharmaceutical, veterinary medicines or medical device sector"*
Tuv	https://www.tuvsud.com/en	Low	Only mention of nanotechnology within real estate Home>Industries>Real Estate>Buildings>Clean room technology	Medium	Home > Services > Testing > Chemical Analysis & Testing Mention only as part of testing services *"Our testing services span the complete range of chemical testing required for product acceptance in the U.S., the EU, and other jurisdictions worldwide. It includes testing of hazardous substances like Azo dyes, biocides, chemical residues, chlorinated phenols and more.."*	High	One of main industries served in main industry tab *"For over 30 years, TÜV SÜD has provided market access solutions and expert partnership for manufacturers and suppliers of medical devices and in vitro diagnostics. Our services put your product through its paces and ensure medical device market approval and acceptance. We have in-depth knowledge of the medical devices and IVD market and our dedicated team of over 700 experts, engineers, and medical doctors provide assessments that cover the full life cycle of your products. We are global, multilingual and have experts in all major markets who provide tailored advice for ensuring your medical devices are approved and accepted."*
UI	https://www.ul.com/testing https://www.linkedin.com/company/ul-	Low		Low	Materials and Chemicals: -Household Chemicals -Personal Care -Plastics -Specialty and Industrial Chemicals	Medium	
UMCO	https://www.umco.de/en/pages/about-us.html	Low		Medium	*Not even a header was dedicated to biocides: Only one sentence* *"We can offer you the complete registration or authorization process of substances under the REACH Regulation as well as biocidal products and biocide approval in the EU."*	Low	
Umwelt Consult	http://umwelt-consult.com/index.php/home.html#intro	Low		Low		Low	

Appendix 2 Signs of size and competitiveness:

	Context of Market Entry						
	Competing in the market						
	Likely entrance	Opening an office/ German speaking countries/ UK subsidiary and no european one					
	NOT likely to enter						
	Present but not competing						
		Indications of Size and competitiveness information					
	Context of Market entry in Germany	Number of subsidiaries in Germany	Number of employees	Customers	Sales and Profitability	Price	Notes
1cc GmbH	Competing in the market	1 of 4	11-50 employees	Bechtle AG/BITKOM Servicegesellschaft/DICOM International AG/Digital River/Hewlett Packard Enterprise/HP Inc./IdeaPaint, Inc./Imation Europe B.V./kabeltec GmbH/Lenovo/National Instruments/Nikon Europe B.V./ RHIEM Services GmbH/Rimage Europe GmbH/Rosenberger GmbH/Rudolf Riester GmbH/Sony Europe Limited/STRONG GmbH/Varta Microbattery GmbH			Other subsidiaries 2 in US and 1 in Shanghai (China). Employees number based on LinkedIn Profile Information. Customers refer to reference list. Partnerships AGC (marketing), eurofins (labs), Fraunhofer Institute , Studio Arpano (public accounting firm), ZIV (bycicles) ***Areas of expertise:*** *Consulting services, product compliance, registration (electrical and electronic equipment, batteries, REACH, copyright levies)* ***Fields of activity:*** *Electrical and electronic equipment/WEEE, batteries, packaging, chemicals/REACH, substance bans/RoHs, energy efficiency/ErP, copyright levies on electical and electronic equipment, trans-border waste transporation* **Bottom Line:** Strong competitor in Regulatory activities with no focus in any of focus sectors.
Alster Consulting	Competing in the market	1 of 1					ALSTER Consulting supports the chemical industry, in the best possible way, to comply with the complicated requirements of the chemical regulations within the European Economic Area, as well as within markets around the Globe. To ensure that high-level technical, scientific and local expertise is available to its clients, ALSTER Consulting cooperates with reliable partners around the world. Since 2014
Anthesis	Competing in the market	1 of 19 Linkedin says 13 (different from website)	201-500 employees Linkedin 262 registered	WITH TESTIMONIES: CISCO, NorthFace, Target, Alliance Data,UNITESTUDENTS, J&J, GUESS, BDR Thermea, Belu Water, NESTE, ARITZIA, TESCO, FIRA, INCPEN, BASF, 3M, Whirpool, Network Homes, Network Rail, RB, Stanley Black and Decker. Without Testimonies: AkzoNobel, amcor, avaya, Baxter, CaixaBank, Chemours, COLAS United Kingdom, COSTA COFFEE; COVERIS High performance Packaging, Gallifordtry, DANONE, Desigual ELOPAK, GAP, HermanMiller, JM, Kingfisher, MANGO, PAPER CUP, SCJohnson, Shire, F&F, Unilever, United Technologies, Huhtamaki, Sustainable Apparel Coalition			*"Through our operations in Germany, we provide sustainability, Environmental, Health & Safety (EHS) and Environmental, Social & Governance (ESG) support at a strategic and operational level. "* *Our experienced team specializes in designing and delivering EHS/ESG compliance and assurance programs, management system implementation aligned with established international standards, transaction services (Environmental Due Diligence) and selected managed services, underpinned by bespoke software and systems solutions.* Subsidiaries: England-4 Republic of Ireland-1 Sweden-1 Finland-1 Italy-1 Spain-1 Andorra 3 Colombia 1 United Emirate States 2 USA 1 Canada 1 Philipines 1 China 1 Past Acquisitions: Made-by, Goodbrand, lavola, mosaic, enveco, sustain, m4c sustainability, LRS, UrbanMines, TEP, Caleb, UMR, SecondNature and BESTFOOTFORWARD **Bottom Line:** Company is really strong on stamdards, sustainability and environmental consulting but doesn't seem to have scientific expertise in tbe market areas (no mention of regulation or specific services). More scientific than regulatory but not in any of the sector of focus
Arcerion	Competing in the market	1 of 1 (Munchen)	17 (11 chemical focused) - According to Chemwatch Report				*Arcerion provides the complete range of services to assist companies in complying with European chemical control legislation. We support the industry along the complete value chain – from manufacturers, users, importers to exporters. Our regulatory consulting is aimed to support our clients through*

							the regulatory obligations of chemical control legislation and enable them to market their products internationally.
Asseso	Competing in the market	1 of 1 (Frohsinnstraße)	At least 10 (website)				*The associates of asseso AG, almost exclusively engineers, have been supporting companies in these questions and in the legally compliant introduction of new products since 2005 .* *Our team consists of technically highly qualified and regularly trained engineers and chemists.*
Callaghan Consulting International	Competing in the market	1 of 1					1 experienced biochemist doing independent consulting. Only one subsidiary in Hamburg
CFCS-Consult GmbH	Competing in the market		1				Our team consists of experienced toxicologists, chemists, ecotoxicologists, biologists, biochemists and environmental chemists.
Chem-Consult	Competing in the market	1 of 1 (Dresden)	9 people in website (might be incomplete)		*The employees of REACh ChemConsult GmbH have many years of experience in the field of chemical assessment, development, implementation and monitoring of toxicity tests as well as in risk management and process / plant safety audits by working in public authorities and in the large-scale chemical-pharmaceutical industry: Registration and registration procedure national existing material program Participation in the development and implementation of toxicity tests and bioaccumulation studies for sediment organisms:*		*The REACh ChemConsult GmbH - your partner in questions of chemical law. We offer individually tailored services in the areas of chemical assessment, safety, occupational safety and operational safety. For REACh ChemConsult GmbH, experienced toxicologists, ecotoxicologists, environmental chemists and occupational health and safety experts are working. We specialize in the implementation of REACH , Biocidal Product Regulation , CLP Regulation , HAZOP / PAAG, LOPA, LOPA / Functional Safety, Regulation on medicinal products for human and veterinary use, Cosmetics Regulation, Occupational health and environmental protection laws, industrial safety regulations, waste legislation (Waste Framework Directive and KrWG) and international dangerous goods law.*
Chem-Ges	Competing in the market	1 of 6		With more than 1800 customers in 69 countries	Our company is leading in the development of software for the creation and management of Safety Data Sheets, Internal Plant Instructions and labels		Software company that specialized in making Safety Datasheets Database with about 25,000 substances with all classifications Automatic classification for UN-GHS, US- and Canadian GHS and European CLP SDS in 38 Languages 30 years on the market
Chemical Safety Consulting	Competing in the market	1 of 1	One freelancer and sma expert team (no mention of how many at the moment)		*Freelance writer, specialized in global regulations, sustainability, science & technology, food & health, and travel & nature* *Services surprisingly complete. It seems as if the number of employees has grown. Strong sustainability services (similar)*		Freelance writer, specialized in global regulations, sustainability, science & technology, food & health, and travel & nature.
Chem-Service Group	Competing in the market	3 of 11		Main areas of customers Germany Luxemburg and South Korea			We are an interdisciplinary team of scientists from the fields of chemistry, biology, toxicology and environmental sciences. We work with our partners from the fields of health and safety, consortia management, representation of interests and socio-economic evaluation to give you comprehensive advice, even beyond the bounds of chemical regulations.
Conusbat Regulatory Services	Competing in the market	1 of 1					Focus on Cosmetics, Personal Care Products, Fine Chemicals and the Borderline Product Industries
CSB GmbH	Competing in the market	1 of 1 (Düsseldorfer)	20 employees				Originally founded in 1993 Consult our clients mainly in the fields of safety data sheets, REACH and Biocides, besides various adjacent regulatory areas.

Currenta	Competing in the market	3 of 3	*its workforce of 3,200*		generate around EUR 1.2 billion in sales annually		*CURRENTA is a joint venture between Bayer AG and LANXESS Deutschland GmbH* *The service company operates CHEMPARK sites in Leverkusen, Dormagen and Krefeld-Uerdingen. More than 70 production companies and service providers currently enjoy the benefits of being located in Germany's largest chemical park.* *CURRENTA offers services for the chemical industry. These include utilities, waste management, infrastructure, safety and security, analytics and training.* *CURRENTA subsidiaries* *CHEMION, logistics services including the handling of dangerous goods* *TECTRION, specialist for technical services*
DEKRA Insight	Competing in the market	1 of 13	"the expert organization has a workforce of more than 45,000 people working in over 50 countries on five continents." Germany 59% of sales 22130 employees				Focus on Automotive (example DEKRA insight MOIA
DHI	Competing in the market	4 of 51			2018 Revenue: SLightly less than 120 million euros 2018 Operating Profit Margin: SLightly less than 6%.		Claim to be the experts in water environments (suggestion of main market) With offices in more than 30 countries across the globe, we deliver locally relevant solutions tailored to meet your specific needs
DR.MACH	Competing in the market						Suggests really small company with no focus of specific market. Regulation focus but general (REACH and CLP) Mention of Intermediates perhaps as way to attract this market Membership section only refers to the expertise of a single person, which may suggest either small team or team with no expertise.
EBRC	Competing in the market	1 of 1					*EBRC is a privately-owned consulting organisation based in Hannover, Germany, providing consulting services with a focus on chemical, biocidal and agrochemical industries. Specialised scientific experience is available in all key discisplines relevant for product safety with respect to human health and environment. Task force management and coordination of industry consortia is another important aspect of our work.*
Ecomole	NOT likely to enter	0 of 1 (Subsidiary in UK)	Team 10 experts on team (total 2-10 experts on linkedin suggests that all are experts) (chemistry, chemical informatics and professional programming)	Evonik (Germany) DEKRA (many countries) Prague Airport (Czech Republic) Austin Powder (USA)			Small UK company. Asked the customer service on the website: "So, as a UK company. Do you have a mitigation plan for your REACH consultancy? Do you expect an increase or decrease in business (for example because of UK registrations)?" Response: We expect increase of business because of Brexit .(...) we have subsidiary in EU as well. We will be able to provide services on two markets. Founded in 2015 support the industry in the field of EU chemicals legislation (REACH, CLP, ADR, Biocides, ...) - But no mention of biocides Founder is czech so european subsidiary is probably Czech.
ECT Oekotoxikologie GmbH	Competing in the market	1 of 1	30 permanent staff				Founded in 1993 *In compliance with Good Laboratory Practice (GLP), we conduct a broad range of ecotoxicity tests with aquatic and terrestrial organisms, bioaccumulation and environmental fate studies. Our consultancy team supports the preparation of dossiers for the environmental risk assessment of industrial chemicals, biocides, plant protection products and pharmaceuticals. In addition, ECT is continuously active in ecotoxicological and ecological research, and contributes to the development, standardisation and validation of ecotoxicological test methods.*

EDC - Chemical Consulting	Competing in the market	1 of 1		calvatis calgonit industrial Ciba BASF KARCHER LW (Zweckverband Landeswasserversorgung) CHEMCON FoBiG			EDC = Evaluation and Design of Chemicals EDC can quickly provide data of high quality (e.g. for REACH, EMA, U.S. FDA) of chemicals, active pharmaceuticals, adjuvants as well as their impurities, metabolites and degradation products, therein for good value for retrospective and prospective purpose: Evaluation and registration of existing compounds Improvement and optimization of existing compounds Targeted design starting from both existing lead structures and de novo-design EDC focuses on up to date and powerful computer-based (i.e. "in-silico") methods. The founder of EDC and co-workers of EDC have since long experience in the experimental side of the offered expertise. TOOLS EDC applies computer-based methods for the targeted calculation of substance properties such as Physical chemical properties (e.g. water solubility, volatility, octanol water partitition coefficient) Toxicicty (e.g. mutagenicity, genotoxicity Ecotoxicicty (e.g. fish, bacteria) Fate in the environment (e.g. biodegradability) What other expertise does EDC offer? EDC has long experience in Literature survey Hazardous waste materials Hazardous material ordinance Evaluation of chemical analysis (procedures and results) Does EDC offer experimental worK? EDC has no laboratry facilities. Expermental work is conducted in cooperation with experienced partners. EDC will be happy to co-operate with partners recomended by its costumers.
EBRC	Competing in the market	1 of 1					Under BPD, EBRC has been entrusted with the preparation of a large number of dossiers in support of existing substances from all four priority list, such as: Wood preservatives (PT 08) and rodenticides (PT 14), submitted until March 2004 Insecticides (PT 18), submitted until April 2006 Disinfectants (PTs 1, 2, 3 and 4), submitted until July 2007 Preservatives and other biocidal product types (PTs acc. to BPD: 7, 9, 10, 11, 12, 15, 17, 20, 22 and 23), submitted until October 2008
EDC - Chemical Consulting	Competing in the market	1 of 1 (Kenzingen)					*Evaluation and Design of Chemicals.* *How can EDC assist you?* *EDC can quickly provide data of high quality (e.g. for REACH, EMA, U.S. FDA) of chemicals, active pharmaceuticals, adjuvants as well as their impurities, metabolites and degradation products, therein for good value for retrospective and prospective purpose:* *Evaluation and registration of existing compounds* *Improvement and optimization of existing compounds* *Targeted design starting from both existing lead structures and de novo-design* *Which tools does EDC use?* *EDC applies computer-based methods for the targeted calculation of substance properties such as* *Physical chemical properties (e.g. water solubility, volatility, octanol water partitition coefficient)* *Toxicicty (e.g. mutagenicity, genotoxicity* *Ecotoxicicty (e.g. fish, bacteria)* *Fate in the environment (e.g. biodegradability)* *What other expertise does EDC offer?* *Experience* *Literature survey* *Hazardous waste materials* *Hazardous material ordinance* *Evaluation of chemical analysis (procedures and results)* *Does EDC offer experimental worK?* *EDC has no laboratry facilities. Expermental work is conducted in cooperation with experienced partners. EDC will be happy to co-operate with partners recomended by its costumers.* *EDC focuses on up to date and powerful computer-based (i.e. "in-silico") methods. The founder of EDC and co-workers of EDC have since long experience in the experimental side of the offered expertise. This is a specific feature of EDC and lays a sound basis for the application of the chemoinformatical methods, as data of high quality are a prerequisite to build good predictive models.* *People within EDC are member of international und national committees, e.g. the Management Board of the European technology platform SusChem, the German Science Foundatioen (DFG) as well as member of the board of the Division of Sustainable Chemistry within the German Chemical Societey.*

ERM	Competing in the market	5 of 160+ officesi (40+ countries)	ERM 5,500+ employees worldwide ERM Germany Employs over 150 people	ERM Germany: clients throughout the Central European region including Germany, Switzerland, Austria, Poland, Hungary, Czech Republic, Slovakia, Romania, the Baltic States and the former Yugoslavian countries. **Main Industries they serve:** Oil & Gas Mining & Metals Power Chemical Manufacturing & Pharmaceutical Technology, Media & Telecommunications **Others:** Aerospace Automotive Consumer Products and Retailers Financial Services Food and Drink Government Legal Pulp and Paper Real Estate and Land Development Textiles and Apparel Transportation	**ERM TOTAL SALES 2011-2018** Europe Middle East and Africa: 112-145 Asia Pacific: 98-92 Latin America and Caribbean: 28-33 North America: 219-343 Global Businesses 20-30		ERM is a leading global provider of environmental, health, safety, risk, social and sustainability-related consulting services. Nearly 50 years of experience environmental, health, safety, risk and social impacts Integrated Management System for quality, environment and health & safety and are certified according to ISO 9001 and ISO 14001 standards Owns JSC since 2016 (UK competitor 150 years of experience and regulatory focus
Eurofins	Competing in the market	100 of 800 (37 environme nt testing	45,000 staff (in total)				*Eurofins Scientific is an international life sciences company which provides a unique range of analytical testing services to clients across multiple industries. The Group believes it is the world leader in food, environment, pharmaceutical and cosmetics products testing and in agroscience CRO services. It is also one of the global independent market leaders in certain testing and laboratory services for genomics, discovery pharmacology, forensics, advanced material sciences and for supporting clinical studies. In addition, Eurofins is one of the leading global emerging players in specialty clinical diagnostic testing.*
Exponent	Competing in the market	1 of 30 (5 in Europe and 2 in Asia)	As of December 29, 2017, we employed 1,075 fulltime, part-time and hourly employees, including 848 engineering and scientific staff, 61 technical support staff and 166 administrative and support staff.	Industries: -Chemical -Construction & Infrastructure -Consumer Electronics -Consumer Products -Defense -Electronics, Security & Information Technology -Food & Beverage -Life Sciences & Healthcare -Manufacturing Technology & Industrial Equipment -Oil & Gas -Transportation -Utilities	Total Revenue 2018: $379.5 million 2017: Engineering and Other Scientific: $ 277,603 Environmental and Health $70,196 Total revenues $ 347,799 Net income 2018: $72.3 million ($1.33 per diluted share) OPERATING INCOME 2017: Engineering and Other Scientific:$ 93,451 Environmental and Health $22,340 Total Operating Income: $115,791		With its roots in Silicon Valley, Exponent has offices located in the United States, Europe and China. For over 50 years we have provided engineering, scientific, environmental and health consulting services to corporations, insurance carriers, government agencies, law firms and individuals. The firm has been best known for analyzing accidents and failures to determine their causes, but in recent years it has become more active in assisting clients with human health, environmental, engineering and regulatory issues associated with new products or processes to help prevent problems in the future. THe quality management system at Exponent successfully complies with the ISO 9001:2015 standard; the ISO 17025:2005 standard; US Code of Federal Regulations, Title 10, Part 50, Appendix B; US Code of Federal Regulations, Title 10, Part 21; and the respective advertising policy for each registration, accreditation, approval, etc. Our Industrial Structures Practice, based in Düsseldorf, Germany with offices in Hamburg and Berlin, provides specialized engineering expertise required for industrial structures subject to extreme conditions. (Perhaps not competing in sustainability services in Germany). The subsidiaries in Europe are UK, Switzerland and Germany so Germany would be the remaining country belonging to the EEA.

Fieldfisher	Competing in the market	4 of 25	"Over 722 legal professionals make up the firm" **1-Advanced Media and Technology**- help structure, launch, finance, grow and sustain, 2-**Artificial Intelligence, 3-Asset Management, 4-Banks , 5-Blockchain, 6-Commercial and Technology, 7-Commissioners, Communications, 8-Corporate, 9-Data Privacy and Information, 10-Employment and Pensions, 11-Energy and Natural Resources**-Disputes/Regulatory, **12-Finance, 13-Financial Services, 14-Fintech, 15-Government and Public Services, 16-Healthcare, 17-Hotels and Leisure, 18-Interconnectors, 19-Investors, 20-Life Sciences, 21--Healthcare, 22-Manufacturing, 23-Maritime and Shipping, 24-Media-**Asset Financing, Corporate Finance, IP Disputes, Publishing, Trade Mark and Brand Protection, 25-**Mining and Metals, 26-Mutualisation, 27-New Commercial Models, 28-Oil and Gas, 29-Providers -**Corporate, 30-**Rail and Infrastructure, 31-Real Estate, 32-Regulatory and Public Law, 33-Renewable Energy, 34Retail-**Anti-Counterfeiting and Anti-Piracy Services**,** Corporate and Commercial, Dispute Resolution, Employment, Expansion Structures for Retailers, Fashion, Real Estate, Technology and Outsourcing, Trade Mark and Brand Protection, **Service Providers, Sport-**Media, **Technology**				
FoBiG	Competing in the market						FoBiG was founded in 1986 privately owned company specialised in chemical safety and (eco-)toxicological risk assessment Our work aims at performing risk assessments objectively and in a transparent manner at a high scientific and methodological level.
Fraunhofer ITEM	Competing in the market	3 of 3 (Hannover, Braunschweig and Regensburg)	approximately 300 (320 in 2017)		Internal Budget (2017): 26.3 million € Operating Budget + 1.7 million € Investments External/Sponsor Budget: 11.7 Million € Industry and commercial associations 4.5 € Million Public Sector 0.5 € Million EU 0.7€ Million Other		*"The Fraunhofer Institute for Toxicology and Experimental Medicine ITEM is one of approximately 70 institutions of the Fraunhofer-Gesellschaft, Europe's leading organization for applied research.. Protecting man from health hazards in our industrialized world and contributing to the development of novel therapeutic approaches are the aims Fraunhofer ITEM is pursuing with its contract research. With a focus on airway research, our R&D portfolio includes three thematic areas: drug development, chemical safety, and translational biomedical engineering. In addition, our scientists in Regensburg do research in the field of personalized tumor therapy."* *The institute cooperates with industry, service providers, and public authorities in projects that drive economic development and serve the wider benefit of society."* *Seems like a really strong competitor with more scientific focus than in regulatory (with extremely high focus, both services and research on the 3 focus sectors* *Fraunhofer ITEM is one of about 70 institutions of the Fraunhofer-Gesellschaft, Europe's leading organization for applied research.*
GAB consulting	Competing in the market	2 of 3	"Our staff has continuously increased and now consists of 50 regulatory scientists and documentation assistants, all offering expertise in the development, assessment and registration of new active ingredients and support of existing compounds."		Indications of size: 75 chemical and 30 microbial active substances for EU Annex-I inclusion / re-inclusion Directive 91/414/EEC Over 20 dossiers for biocidal		GAB has 2 subsidiaries in Germany (Stade and Heildel) and one in Spain (Valencia). The Departments in the company are: -Physical Chemistry and Analytical Methods -Toxicology -Residues -E-fate -Ecotox -Biopesticide -Administration and Finance -Documentation -Quality Assurance GAB Consulting has more than 15 years of experience in the

					product authorization In the market for 15 years		fields of environmental fate and ecotoxicology of plant protection and biocidal products.
GBK Global Regulatory Compliance	Competing in the market	1 of 1 (Ingelheim)		over 750 customers worldwide			The GBK GmbH Global Regulatory Compliance was founded in 1986 For more than 30 years, GBK has been your competent partner for consulting in the field of environment, health and safety.
Granta (Part of engineering simulation company ANSYS)	Competing in the market	1 of 5 (headquarters in UK)		Our customers are leaders in their fields – enterprises like Airbus, Boeing, Emerson Electric, General Motors, Johnson & Johnson, NASA, and Rolls-Royce; universities like Cambridge, Delft, ETH, Imperial College, MIT, Ohio State, and Princeton.			*Granta Design was founded in 1994 as a spin-out company from the University of Cambridge by Professors Mike Ashby and David Cebon.* *Today, we are the leader in the materials information technology market.* *We apply information technology to the world of materials. We help materials educators to teach the next generation of engineers, scientists, and designers, and materials engineers to optimize the performance of materials and processes. And we enable design and development to make smart decisions about their products. To date, we've helped hundreds of engineering enterprises to embrace 'material intelligence'. The results: accessible data, time savings, slashed costs, reduced risk, better products, and happy engineers.* *We're the largest team and R&D effort dedicated to the topic of materials information technology, with unrivalled experience of implementing materials information solutions, from hundreds of industry projects and work with over a thousand universities.*
Hermes Hansecontrol Group	Competing in the market	4 of 7	201-500 employees (83 on Linkedin)				*Founded in Hamburg in 1982* *today an international testing and certification company* *Offers comprehensive range of accredited testing and tailored consulting services, from product development to product protection and risk management.* *Hermes Hansecontrol advises its customers on all aspects of quality assurance: from the creation of requirement profiles and workflows, product testing during production to sampling prior to market launch. Individual risk minimization concepts identify potential vulnerabilities and identify solutions. With personal customer service representatives, Hermes Hansecontrol offers manufacturers tailor-made solutions for the quality assurance of goods.* Headquarters (Germany/Hamburg) Hermes Hansecontrol Hamburg - testing and consulting services Hermes Hansecontrol-Cert - certification services (private test marks in addition to the GS mark since 2009) Data protection officer Other offices in Dongguan, hong Kong and Shanghai. Hermes Ecolaboratories in Mumbai
Hohenstein	Competing in the market	1 of more than 40 (HQ in Bönnigheim Germany)	approx. 1,000 employees work at our headquarters in Bönnigheim				*We are a family-owned company that has specialised for over 70 years in the testing, certification and research of all kinds of textile products.* *Hohenstein is one of the leading independent and accredited testing and research institutes in the textile sector.* *Core competence is the textile testing and certification, with focus on harmful substances and textile technological testing. Long standing expertise consists also in fabric care, fit testing and pattern development.* *The knowledge linking of experts from various sciences enables successful, interdisciplinary collaboration with other research institutions in fields of medicine, electronics and microsystems technology.* *Bottom line: All the services related to textiles in some way. Really strong focus on testing and not scientific expertise. Competitive in Product stewardship and sustainability services but solely for textiles*
Hohmann rechtsanwälte	Competing in the market	1 of 1	9 people on Linkedin				Law firm that also includes Chemical compliance (including biocides) Partners: Washington DC etc - Law firm specializing in US embargoes, EAR and ITAR Miami USA etc a law firm for US customs and US export law as well as international commercial law (especially for custom duties, preferences, transfer prices, etc) Tokyo: a law firm for japanese business law Various firms in Bangkok, Brussels, London, New York, New Delphi, Paris, Beijing and Shanghai.

ibacon GmbH	Competing in the market	2 of 2	*150 qualified employees* *mainly scientists and technical staff.*				Founded in 1994, is an independent contract research institute serving the global chemical and pharmaceutical industry. The testing facility is certified as conforming to Good Laboratory Practice (GLP) standards and offers a wide range of aquatic and terrestrial ecotoxicology studies (laboratory and field tests), physical and chemical parameters and environmental fate analyses. All studies are performed in accordance with internationally valid guidelines (e.g. OECD) for the registration and approval of plant protection products, industrial chemicals, biocides, and products for human and veterinary medicine. ibacon is offering standardised test series as well as tailor-made study designs. In addition, ibacon regularly takes part in ring tests to establish new testing procedures and guidelines.
IDRG (International Development of Regulatory	Competing in the market	1 of 1	*2 people PhD in Biology and Masters in Insect Population Biology and a PhD in Biology, respectively*	COACHING: They might be processors or traders who need to coordinate plant protection in terms of producing country and importing country. Or they might be governments that need to access data to conduct risk assessments and reach regulatory decisions.		Our most commonly requested consulting offers are as follows: Offer A: 10 hours for 1,000 € (+ local tax) Offer B: 20 hours for 2,000 € (+ local tax)	*Our work circles around the Global Harmonization of the Authorization and Use of Plant Protection Products. We work with all stakeholder groups (farmers, processors, plant protection industry, research organizations and government), cover biological and chemical products, deal with all crops and pests, address all data requirements, and go to all countries in the world. Our clients are always at one of the 13 stepping stones that lead them from plant protection problem to plant protection solution.* *Bottom line: really bad competitor*
imds Professional	Competing in the market	1 of 1	11-50 employees according to linkedin (16)				Founded in 2000 IMDS (International MaterialDataSystem) - Automotive industry specific regulations We provide our customers - automotive manufacturers and their suppliers - services and consulting, and as authorised training partner of HPE for IMDS and CDX we offer global trainings. As leading IMDS service provider in Europe, we are always up-to-date on the latest IMDS requirements. This is also because imds professional is in permanent contact and exchange with the IMDS developpers at HPE. As complexity and content of the current legal framework keep growing and new legislation is constantly being added in the area of Material Compliance - REACH, RoHS, WEEE, ELV, Conflict Minerals, etc. -, products need to be checked and monitored. We are happy to support you in these tasks. Bottom line (not a great competitor), espcially in the focus markets
Innoturn	Competing in the market	1 of 1	1				Dr. Cornelia Boberski 30 years of experience REACH regulation, RoHS directive and conflict minerals Gives Seminars on REACH Connected to REACH-net Expert Network of the State of North Rhine-Westphalia (NRW) www.reach-net.com Environmental companies of the Deutscher Industrie- und Handelskammertag eV (DIHK) www.umfis.de

Intertek	Competing in the market	13 companies in Germany in multiple sectors (see notes) out of 1,000 locations in over 100 countries	44,000 employees		2018 Revenue: 2801 million £ (Excluding mining Products 1680) 2018 Organic Revenue 2770 million £ PRODUCTS SEGMENT: REVENUE £1,680m ADJUSTED OPERATING PROFIT £371m STATUTORY OPERATING PROFIT £345m Trade Segment REVENUE £642m ADJUSTED OPERATING PROFIT £83m STATUTORY Resources segment REVENUE £479m ADJUSTED OPERATING PROFIT £28m STATUTORY OPERATING PROFIT £13m Adjusted Operating Profit 482 m£ Adjusted Operating Margin 17,2% Free Cash FLow351milion £		<u>Companies extra details:</u> Intertek Holding Deutschland GmbH (1 Company) Division: Intertek Holding Intertek Caleb Brett Germany GmbH (2 companies) Division: Commodities Intertek Caleb Brett Germany GmbH (1 Company) Division: Commodities Intertek Consumer Goods GmbH Division: Consumer Goods Intertek Deutschland GmbH (3 companies) Division: Commercial & Electrical Intertek Food Services GmbH (4 companies) Division: Food Services Intertek Industrial Services GmbH Division: Industry & Assurance Intertek Certification GmbH Division: Industry & Assurance 130 years Focus on Quality assurance
iPoint	Competing in the market	3 of 14	with more than 170 employees at 14 local offices across the world				Locations: GERMANY 3 + 1 Innovation Hub /AUSTRIA 1 / FRANCE & BENELUX 1 /NORDICS & BALTICS 1 / UK 1/ US 2/ Japan 1/ China 1 / Korea 1/ Australia 1 Innovation Hub iPoint is your reliable partner for product compliance and sustainability. Create value with our market-leading software solutions and services for business processes and sustainable products.
KFT	Competing in the market	1 of 1	Linkedin Company size 11-50 employees (20)				Open since 1995 Partners with laboratory test facilities (outsource), Translators (not focused only in Germany), Korean Testing and Research Institute (focus on Korea), CRAD (Focus on Turkey)
Knoel	Competing in the market	3 of 17	Almost 600 employees		Our turnover is in excess of £207m		Couldn't find any IT solution
LAUS GmbH	Competing in the market	1 of 4 Germany place of foundation and headquarters	51-200 employees According to linkeding (12 registered)				founded in 1989 *LAUS is today an internationally recognized GLP certified testing facility (CRO) working in five areas of expertise: Analytical Chemistry, Physico-Chemistry, in vitro–Toxicology, Ecotoxicology, and Environmental Fate.* *LAUS provides a strong portfolio of studies in all five areas for a great variety of products like chemicals, pesticides, biocides, medical devices, medicinal products for veterinary and human use, cosmetics, food additives, and novel food.* *These tests are crucial for 1. registration purposes (e.g. REACH, BPR), 2. classification (e.g. GHS, CLP, Water Hazard Classes), 3. application for labeling (e.g. Ecolabel), 4. assessment of potential health hazards (e.g. endocrine properties), and many more. Together with qualified partner laboratories LAUS can provide all necessary tests for a successful application and registration.* *LAUS was originally founded in 1989. Since 2012 Dietmar Kuhn is the CEO and sole owner of the private and independent company.* Our philosophy is to communicate with our clients, to understand their needs and provide the highest possible support relying on our competency and expertise. This helps you to find the best test strategy for your product and to avoid extra costs.

Lisam Systems	Competing in the market	1 of 21	51-200 employees 95 employees on linkedin				Created in 1999 Big focus on GHS, Development of IT solutions Partners: CEBECON - Integrated management software Microsoft - Certified gold partner Trasys ALTEC AVERY BRADY Content partners: BIG Chemadvisor JCDB Distributors TRM ReachSpektrum Syska consultng ITekem Asysco DLAC Maitree Consultants ESSEQ consulting ApoChem EMORI DC Consult Trade Wind Essenticon servireach adifosoftware more than 1,200 customers Acquired Lycos Limited
Perkin Elmer	Competing in the market	4 offices in Germany They are in 180 countries 215 locations. 3,347,929 square feet US 75% of area (2,458,302 square feet)	*As of December 30, 2018, we employed approximately 12,500 employees.*				*"PerkinElmer enables scientists, researchers and clinicians to address their most critical challenges across science and healthcare. With a mission focused on innovating for a healthier world, we deliver unique solutions to serve the diagnostics, life sciences, food and applied markets. We strategically partner with customers to enable earlier and more accurate insights supported by deep market knowledge and technical expertise. Our dedicated team of 12,500 employees worldwide is passionate about helping customers work to create healthier families, improve the quality of life, and sustain the well-being and longevity of people globally."* *Number of Patents: 3,500* *2018 Revenue: Approximately $2.8 billion*
Prosacon	Competing in the market	1 of 1					*Prosacon - Product safety consulting* *Expertise - Toxicology, Eco-toxicology, REACH, Industrial processes, Biocides, Regulatory affairs, Chemistry, Biology, Exposure, Uses and Markets*
Qualisys	Competing in the market	1 of 1 (Langenfeld)					*Your Qualisys Hazardous Backoffice has the expertise to test marketability, SDS, and chemical supply chain communication. Risk limitation, quality improvement and efficiency improvement are the goals. We do not reduce your knowledge, but inform you specifically and individually.* *The collection of supplier safety data sheets and the compilation of safety data sheets and labels helps manufacturers, importers or traders of hazardous substances . For software systems Qualisys provides Phrase Libraries , regulatory lists , material data and program components that enable leading-edge solutions for the management of hazardous substances.* *Rely on 25 years of experience and one of the largest private legal and substance databases and find your individual, cost-effective hazardous substance management solution with Qualisys!* *Your Hazmat Backoffice™ specialises in worldwide safety data sheet authoring, hazmat systems integration and content packages for software vendors since 1993.* *Bottom line: Strong software tool for reach and CLP (indications that they compete on price)*
QUMSULT	Competing in the market	1 of 1	2-10 employees (7 on linkedin and 9 on website)			Examples of prices: (only software) Number of employees in the company Fee * 1-10 245, - EUR per year 11-50 368, - EUR per year 51-500 490, - EUR per year 501-1000 735, - EUR per year 1001-3000 980, - EUR per year from 3001 Price on request SOFIA 1-10 250, - EUR per year 11-50 490, - EUR per year 51-250 980, - EUR per year 251-500 1.450, - EUR per year	*QUMsult is a consulting company and software developer based in Freiburg, Germany, with 7 employees. We come from different disciplines such as chemistry, process engineering, biology, physics and mechanical engineering. Our customers are predominantly electronics, mechanical engineering, automotive and health care. We advise our customers on the introduction of environmental, quality and occupational safety management systems and develop software tools for the customer in the areas mentioned above.* *More focused in energy management, occupational safety* *Overall really strong software, product stewardship and sustainability (environmental management system and reporting)*

						501-1000 1.950, - EUR per year from 1.001 Price on request UTA 1-10 199, - per year 11-50 490, - per year 51-250 1,490, - per year 251-500 2.490, - per year 501-1000 3,950, - per year from 1001 Price on request QM plan for 250 EUR Operating database SARA - for substances, plants, law, waste, processes and measures 1890, - SARA maintenance service: Software updates for new and changed functionalities (eg reports), contents (eg signs), adaptations to changed legal requirements 480, - per year Standard update service for the legal overview 320, - per year for one federal state every other federal state + 30, - per year all 16 federal states 490, - per year Premium Update Service Offer on request	
REACH Advice GmbH	Competing in the market	1 of 1 (Kall)					*REACH Advice GmbH was founded in 2008 in order to assist trading houses in fulfilling the REACH requirements.* *Bottom Line:* *Small competitor with complete REACH servies and regulatory support*
SCC GmbH	Competing in the market	2 of 3 (headquarters in Bad Kreuznach, one office in Berlin and one office in Japan)	More than 130 employees				Founded in 1989 They show great emphasis on BREXIT even though they don't have any subsidiary (threat) Bottom line:
SGS	Competing in the market	40 of 2,600 offices	With more than 97,000 employees 3000 in Germany ("*Today, around 3,000 employees, located at 40 branches offer more safety, efficiency, and quality throughout the entire value chain*")		REVENUE/OPERATING PRIFIT (6706 bil /946 bil CHF (swiss franks)) Agriculture Food and Life 1063/162 Minerals 750/118 Oil gas and chemical 1220/111 Consumer and Retail 1025/261 Certification and business enhancement 366/69 Industrial 940/22 Environmental Health and Safety 517/50 Transportation 541/73 Governmentas and institutions 284/80		Founded in 1878. Offering agricultural inspection services. The Company was registered in Geneva as Société Générale de Surveillance in 1919. *Agriculture and food, aviation and aerospace, the pharmaceutical industry, or the energy sector:* *We have an excellent reputation, especially when it comes to the safety and quality of food, beverages, and consumer products.* Wherever you are in the world, in whatever industry, you can rely on our international teams of experts to provide specialized solutions to make your business faster, simpler and more efficient. We partner with you to offer independent services that will help you reduce risk, streamline your processes and operate in a more sustainable manner. SGS is the world's leading inspection, verification, testing and certification company. We are recognized as the global benchmark for quality and integrity. With more than 97,000 employees, we operate a network of more than 2,600 offices and laboratories around the world. **Inspection:** our comprehensive range of world-leading inspection and verification services, such as checking the condition and weight of traded goods at transshipment, help you to control quantity and quality, and meet all relevant regulatory requirements across different regions and markets **Testing:** our global network of testing facilities, staffed by knowledgeable and experienced personnel, enable you to reduce risks, shorten time to market and test the quality, safety and performance of your products against relevant health, safety and regulatory standards **Certification:** we enable you to demonstrate that your products, processes, systems or services are compliant with either national or international standards and regulations or customer defined standards, through certification **Verification:** we ensure that products and services comply with global standards and local regulations. Combining global coverage with local knowledge, unrivalled experience and expertise in virtually every industry, SGS covers the entire supply chain from raw materials to final consumption. As the leader in providing specialized business solutions that improve quality, safety and productivity and reduce risk, we help customers navigate an increasingly regulated world. Our independent services add significant value to our customers' operations and ensure business sustainability. Acquisitions: DMW ENVIRONMENTAL SAFETY LTD (UK) / ASSETS AND OPERATIONS OF FORENSIC ANALYTICAL LABORATORIES, INC (USA) / VIRCON LIMITED (20% OF OUTSTANDING SHARES) (Hong Kong) / MAINE POINTE LLC (MAJORITY STAKE) (USA)/ I2I INFINITY LTD (UK) / CHEMICAL SOLUTIONS LTD. (USA) PT WLN INDONESIA/ TESTING, ENGINEERING AND CONSULTING SERVICES, INC. (USA)/ FLORIAAN B.V. (Netherlands)/ LEANSIS PRODUCTIVIDAD (Spain) Bottom Line: Great competitor, especially in the Medical Devices sector. Offers an extremely big range of solutions.

							Not especialized in the areas of focus (not their main expertise). EHS not the main source of sales or profit (Didn't include some sub-categories of services because the worksheet would double the size)
spectra Consult GmbH	Competing in the market	1 of 1 (Bad Kreuznach)					*Spectra is a young independent consulting company for the chemical and biocidal industry.*
tec4U	Competing in the market	1 of 1 (Saarbrücken)					Founded 1999 (tec4U network) Employee 30 (in the tec4U network) Who are we? Service, software and training providers What do we do? Consulting, Services, Training & Software Development Thematic priorities Material Compliance, Hazardous Substance Management & Sustainability Customer alignment Manufacturing and trade International
thinkstep	Competing in the market	1 of 20 Locations (Headquarters)	266 employees on linkedin	more than 8,000 customers, including 45 percent of Fortune 100 companies, including BASF, Hewlett-Packard, Interface, Siemens, Unilever, and Renault.			Compliance consulting only conflict minerals, RoHS2 and REACH using bomcheck.net. No mention of any of the specialized areas. Founded in 1991
ToxMinds	Competing in the market	1 of 3	11-50 employees (13 on Linkedin)				Our team is composed of experienced toxicology, environmental and regulatory affairs specialists supported by a scalable group of motivated research analysts. If needed, our internal expertise is complemented by collaborations with scientific experts and professionals in legal, public and governmental affairs. foundation in 2007 Passionate about applying new risk assessment methodologies to ensure product safety and regulatory compliance Headquarters in Brussels ToxMinds BVBA is a product safety and regulatory affairs firm located in Brussels, Belgium. Our passion and motivation is the use of good science, but we also understand the reality of our tightly regulated chemicals world. We provide the following types of services - Chemical and Product Safety - Regulatory Strategy & Compliance - Product Stewardship
Tuv	Competing in the market	331 of more than 1000 including Headquarters	More than 24500 Employees		Employees Revenue/Operating Profit 2017: Industry Segment 8,033 employees/ 961.3/ € 78.1 million (wind energy, real estate, material testing) Industry Service Division 61% Real Estate & Infrastructure Division 38.8% Mobility Segment: (automotive focused) 5,736 employees /772.4 million/ 64.8 million Certification Segment: 6,375 / € 714.3 million / 81.1 million Product Service division: 66% Business Assurance Division NOW INVESTING IN SOFTWARE		Over the last 150 years, we have added value to our partners and customers through a comprehensive portfolio of testing, certification, auditing and advisory services. Big focus on Germany (almost one third of subsidiaries are in Germany)
UI	Competing in the market	14 out of 230	14,000 employees				
UMCO	Competing in the market	3 of 3 (Hamburg, Rottweil, Cologne)		we serve around 1,000 companies worldwide			Since our foundation in 1982, the distribution of chemicals and the permanent maintenance of legal compliance in the operations of our customers has been the focus of all our services. In Hamburg, we also co-founded the engineering company more than 15 years ago . A competence center of specialized engineering companies under one roof. Our team consists of toxicologists, chemists and biologists who optimally combine top quality with strong customer communication.
Umwelt Consult	Competing in the market	1 of 1	1 expert toxicologist and "several employees" working in the sampling division				Seems to be a toxicologist that has worked in several Institutes and areas (medical, food, drinking water and environment, trying to do independent consulting by himself and hiring a small team for more specialized tasks

Appendix 3 Services offered (and respective expertise):

Analysis of positioning within the spectrum Regulatory and business advisory to Scientific consulting in each market			
This analysis is meant to be used to categorize the main competitors in this market according to how much they promote their capabilities more on the administrative and legal and scientific services			
Analysis of companies with at least medium degree of competition that are competing in Germany			
Company	**Website**	**List of Services**	**Notes and Expertise areas**
1cc GmbH	https://1cc-consulting.com/en/	**Regulatory Monitoring** Gaining an overview about (upcoming) legislation Knowing your local producer responsibilities in all relevant geographies Clarifying open questions related to your products and your company	
		Management and Admin Services Registration Take-back and Recycling Reporting/Data Management Auditing Compliance Check	
		Auditing **Environmental audits:** **For producers** **For recycling partners – examination in terms of proper disposal, technical procedures and environmental performance** **Within the framework of takeovers**	
		Business Services • The improvement of a business's green image • Expansion of sales programs • Optimization of the usage of secondary raw materials • The development of new markets	
		Compliance Check Evaluation of sales models and products to identify actual legal obligations Evaluation of service providers, such as recycling companies, disposal systems, test laboratories, certification authorities and possible alternatives Examination as to whether legally binding take-back solutions for waste electrical and electronic equipment, batteries and packaging can be combined with voluntary solutions Evaluation of quantity reports (e.g. which categories are used, weights definitions, etc.) Examination as to whether due diligence has been complied with, particularly in terms of obligations that apply to the supply chain (e.g. REACH, RoHS)	
Alster Consulting	http://alster-consulting.eu/	**Chemical Internet Trade** -Compliance advice regarding the EU and national legal requirements for trading chemicals via the Internet (to professional users, as well as to the general public, as applicable). Focus for national requirements: Germany and Romania. -Feasibility advice for selling your substances and mixtures via the Internet (e.g. depending on the type and number of substances and mixtures, your customers, the delivery regions) -Compliance check for existing websites -Advice for correctly advertising your chemical products via the Internet -Advice regarding best practices for chemical Internet trade and advertising -Propose solutions for online ordering depending on your needs -Elaboration of documentation to be provided to the customers, depending on the legal requirements for each product traded -Support to put in place appropriate internal processes and workflows -Training **Technical and scientific services** are provided in cooperation with partners, including: Support to determine the C&L for substances and mixtures Implementation of your online solution for handling orders from customers (legal aspects, web design and programming) Advice on website usability and product presentation Visualisation of processes (design and programming), including 3D models, interactive models, films. This is useful, for example, if you would like to explain graphically how your substances and mixtures serve their purpose	
		REACH -Strategic and general compliance advice -SIEF related services: SIEF communication advice on the conditions of the SIEF agreements purchase of Letters of Access (LoA) advice on data and cost sharing advice on SIEF formation advice on measures in case there is no lead registrant within the SIEF -Consortia support support for establishing REACH Consortia manage the Secretariat of REACH Consortia	

		-Advice on the general requirements for SDSs -Support to elaborate the registration strategy and planning -Advice for downstream users (DU) -Basic advice for managing nanomaterials under REACH -REACH-IT monitoring -Representation to meetings (e.g. EU associations, consortia, ECHA) -Support to determine the company size according to Commission Recommendation 2003/361/EC (relevant when claiming reduced fees for SMEs under REACH) -Training	
		CLP General compliance advice Research on available C&L data for substances Submission of notifications to the C&L Inventory Advice on best option for submitting C&L notifications Manage groups of manufacturers / importers for C&L notifications Support to reach C&L agreements with other notifiers Basic advice for managing nanomaterials under CLP Representation to meetings (e.g. EU associations) Support to determine the company size according to Commission Recommendation 2003/361/EC (relevant when claiming reduced fees for SMEs under CLP) Further technical and scientific services are provided in cooperation with partners, including: Advice on determining the C&L for your substances and mixtures.	
		Consumer Products Advice on consumer products compliance with various chemical regulation Compliance check of consumer products placed on the market via the Internet or conventional market places Compliance stamp for checked products	
		Biocides General compliance advice Advise on data and cost sharing Basic advice for managing nanomaterials under BPR Representation to meetings Support to determine the company size according to Commission Recommendation 2003/361/EC (relevant when requesting ECHA to check the SME status of your company, in order to benefit from reduced fees under BPR)	
		Around the Globe -Romania -Turkey	
Anthesis	https://www.anthesisgroup.com/		
		ENERGY + RESOURCE EFFICIENCY: Energy & Carbon Management Waste & Resource Sustainability Apparel & Textiles Built Environment Circular Economy Food Waste Packaging Plastic Sustainability	
		PRODUCT + SUPPLY CHAIN: Conflict Minerals Materials Recovery Product Compliance Product Innovation Product Portfolio Footprinting Supply Chain Design & Implementation Supply Chain Planning Sustainable Chemistry Sustainable Procurement Value Chain Sustainability	
		SOFTWARE + SYSTEMS Business Process Transformation Big Data SCATTER Carbon Footprint Tool Software Tools Systems Architecture & Integration Systems Implementation	
		TRANSACTION + CORPORATE SERVICES Desktop studies and data room reviews Phase I EDD & Technical Due Diligence Assessments Further quantification of risks and liabilities e.g. Phase II subsurface investigations, building contaminants surveys, radon risk assessment and mitigation recommendations Comprehensive EHS compliance and conformance assessments ESG reviews, gap analysis, benchmarking and opportunity identification Strategic advice during negotiations and facilitation of post-acquisition process Permitting and regulatory authority management Design and management of complete EHS programs to facilitate business divesture plans, including identification and rectification of liability issues prior to disclosure and sale **Due Diligence Software (EDD) - RiskHorizon™** **Environmental planning** Environmental Impact Assessment (EIA) Environment & Social Impact Assessment (ESIA) Strategic Environmental Assessment (SEA) Site selection and feasibility studies Opportunities and constraints analysis Environmental management and monitoring plans Environmental monitoring and audits	
Arcerion	http://www.arcerion.com/	COMPLIANCE ASSESSMENT Substance inventory and identification (CAS, EINECS, IUPAC naming, etc.) Review of all chemicals placed on the market, or substances used in products (or in the production process), Gather information on its properties, Assess volumes, specific uses, and concentrations, Determine substance regulatory status. Analysis and individual evaluation of obligations under REACH, CLP, Seveso, Biocide or WEEE/RoHS regulations and directives.	
		REACH REGISTRATION SERVICE Design the registration strategy to achieve full compliance for our client's REACH (EC/1907/2006 regulation) obligations. Assess all data requirements, Evaluate data Prepare IUCLID registration dossiers. Non-EU manufacturers - Only-Representative EU manufacturers - Third-Party Representative Join the Substance Information Exchange Fora (SIEF) and collect existing data Information for REACH registration will be brought together in IUCLID, Registration dossier will be created, and submitted to ECHA via REACH-IT.	
		CLP IMPLEMENTATION Full service for the legal classification of products according to CLP CLP notifications to ECHA.	

		REACH ONLY REPRESENTATIVE SERVICE Tsks and responsibilities of importers for complying with REACH	
		SVHC DUTIES • Full substance inventory • Periodic SVHC identification • Generation of templates for formal communication letters to EU clients • Authoring of CLP compliant safety data sheets (MSDS)	
		CERTIFICATE OF COMPLIANCE -Certificates of compliance for specific products – whether it is a preparation, a substance, or an article – with regard to European chemical control legislation like REACH, CLP, Seveso or Biocide directives and regulations.	The certificates provide assurance and traceability to customers that a product has been reviewed by a competent third party for compliance.
		MSDS AUTHORING	compliant to art. 31 of regulation (EC) No 1907/2006 (REACH)
		SUPPLY CHAIN SERVICES Communication along the supply chain of products' requirments of relevant chemical control legislation. Communication with suppliers Communication with customers: -Safety data sheets (SDSs) - communicating information on the safe use of hazardous substances and mixtures to downstream users and distributors. -Exposure scenarios (ESs) - how the exposure of workers, consumers and the environment to substances can be controlled to ensure their safe use.	
Asseso	https://www.asseso.eu/de	**EU Safety** - We classify your substances and mixtures and derive all other content from them. -Entire process of creating the SDS -Internal Training	Regulation (EC) 1907/2006 (REACH) as well as the latest amending Regulation (EU) No. 2015/830 *asseso manages several thousand customer safety data sheets in a database . With specialized software and trained personnel,*
		Hazardous substance registration Substitution test in order to reduce the number of hazardous substances in operation and to replace hazardous substances with less hazardous or non-hazardous substances	
		Poison emergency number Compile the necessary information for section 1.4 of the SDS, Conclude corresponding contracts Communication with the respective national authority.	
		Product labeling	CE regulations (e.g. product standards, WEEE and RoHS, Packaging Ordinance Chemical products - GHS / CLP or special legal regulations, such as eg. B. for biocides or detergents and cleaners.
		Legal product notifications (CLP Regulation / REACH/ Battery Act (BattG as implementing RL 06/66 / EC))	
		Supplier and customer communication	
		Test concepts / Laboratory management -Based on a risk-based test matrix, we develop a recommendation for our clients regarding the necessary scope of the audit and the parameters of the audit.	
		Food conformity	
		CE conformity (whole process or subproject)	
		Risk assessment expert on-site assessment, gathering of various information, definition of corrective measures and writing the risk assessment.	
		Operating Instructions (and employee training)	
		Timber Trade Regulation	
		Electrical appliance registration / notification registering, defining the categories of equipment, the credibility of the company's status and labeling of the equipment **CUSTOMER:** Administrative activities, such B. notification and guarantees.	*In Germany sale and disposal of electrical and electronic equipment in the complex Electrical and Electronic Equipment Act (ElektroG as implementing the WEEE Directive 2012/19 / EU)* *As a foreign market player without its own establishment, a representative must be appointed in Germany, who will take over all German legal obligations for the foreign company.*
		REACH registration	
		FOCUS INDUSTRIES: Consumer Goods Chemical Products Toys Electrical Appliances Construction Products	
		Chemical Products: The rules (excerpt) Regulation (EC) 1907/2006 - REACH Regulation (EC) 1272/2008 - CLP Our activities EU Safety Legal product notifications product labeling REACH registration Supplier and customer communication	
		Electronic equipment (Partially Medical Devices) The rules (excerpt) RL 2001/95 / EC - Product Safety Regulation (EC) 1907/2006 - REACH Directive 2009/125 / EC - Ecodesign Directive 2011/65 / EU - RoHS	

		Directive 2014/35 / EU - Low Voltage Directive Directive 2014/30 / EU - EMC RL 2012/19 / EU - WEEE RL 2006/66 / EC - Batteries Our activities product labeling CE conformity Supplier and customer communication WEEE registration / -meldung	
Callaghan Consulting International	https://www.ccintl.eu/index.html https://www.linkedin.com/in/tmcallaghan/	**Technology Development & Regulatory Compliance** > Delivery of strategic intelligence and scientific facts for enhanced innovation to help you improve your competitiveness in the marketplace. > Technology development and scouting for enhancing product innovations and your market success.	
		Claims Development & Substantiation > Regulatory - Respect and understanding for the governance and regulatory compliance authorities are paramount to your success, moving you through the new EU Claims Requirements. > Examining best practices to leverage new technologies through well developed, and defined study designs for unique claim support substantiation. > Offering training and workshops in verifying good correlation of scientific data to control tenuous product claims and “misinformation”.	
		Communications > Ensuring the integrity of well conducted scientific research and data is accurately translated and effectively communicated to the market place in a consumer meaningful manner. > Offering extensive expertise in high quality technical writing services as well as comprehensive "scientific" translations for marketing groups and the press.	
		Skin Complexities > Our skin is a beautiful if not complex organ of the body. We help you understand the science of the skin from R&D to the consumer.	
CFCS-Consult GmbH	http://www.cfcs-consult.de/?lang=em	**REACH:** Strategy Consulting (concern analysis) Strategy Consulting (concern analysis) Inquiry Dossier Registration Dossier (technical and Chemical Safety) Updates of existing dossiers applications for authorization exposure scenarios exposure and risk assessment management tasks communication with authorities expert review	REACH
		BPR: **<u>Approval</u>** Joint definition of the approval application strategy Research, data gap analysis and definition of the cost-optimized test approach Mandatory consultation with competent authority on request: study management and monitoring Toxicology, ecotoxicology, efficacy against target organisms, discussion of all endpoints and documentation of the studies in the dossier (IUCLID) Exposure assessment, risk assessment and documentation in dossier Completion of the application for approval Submission of the application to the authorities (ECHA / national authorities) via R4BP **Training courses:** -Entering substance data in IUCLID -Handling ECHA’s R4BP portal. **<u>Biocidal Products – Registration and authorisation</u>** Joint definition of the strategy to obtain product authorisation Determination of the cost-optimized test strategy, taking literature data, study management and monitoring into account Consultation with competent authorities Physicochemical data, efficacy against target organisms, toxicology, ecotoxicology, exposure and risk assessment: compilation of the dossier Submission of the application for authorisation to the authorities (ECHA / competent national authorities) **<u>Labeling (CLP) / Safety Data Sheets</u>** Design of CLP and BPR-compliant labels. Compliance checks of existing product labels. If your safety data sheets need to be updated or recreated – we will be happy to advise you!	Biocides
		Cosmetics: Compilation of toxicological profiled for ingredients (e.g. to set maximum use concentrations in different product types) literature research read-across from analogous substances in silico methods (quantitative structure activity relationships (QSAR) etc.) Competent and comprehensive strategy consulting, from idea to market Evaluation of marketability (including prohibited/restricted ingredients and conformity to natural conformity with existing natural cosmetics criteria) Guidance on required laboratory tests (e.g. microbiological tests) Preparation of safety assessments Preparation of the product information file according Notification of the respective national authority Evaluation/review of existing safety assessments and product information files Review of labelling Consultancy and auditing of compliance with Good Manufacturing Practice (GMP) DIN EN ISO 22716	Cosmetics
		Training Courses: REACH: -Exposure assessment and risk characterization – theory and application of common tools such as e.g. ECETOC TRA(M), CHESAR, EUSES, easyTRA, ConsExpo, ART a.m.m. -Input of substance data in IUCLID 6 – From the installation to the dossier creation under REACH and BPR -Hazard Assessment – substance specific determination of harmful effects on humans and the environment – data requirements and deviations (data waiving) for industrial chemicals/REACH and Biocides Biocides: -Introduction to the Biocidal Products Regulation (BPR) -Depending on your requirements, the following topics can be discussed (selection): Introduction to the Biocidal Products Regulation (BPR), process and time lines of active substance approval and product authorisation, -Study requirements according to Annex II or Annex III BPR, Information on the possible costs (study, dossier, authority costs) taking into account specific questions, Country-specific transitional regime, etc. -IUCLID- and R4BP Training Courses Prepare dossier yourself? Then you will also have to deal with the application of the relevant IT tools: IUCLID and R4BP. -IUCLID (International Uniform Chemical Information Database) is the software that must be used to collect data on your company and on your active substance or biocidal product. Application dossiers need to be created from IUCLID to be forwarded to the authorities (ECHA). -R4BP is the central portal through which all biocide applications must be submitted. On the ECHA website you will find a large number of guidelines, most of which are currently only available in English. Biocide sector are: -Introduction to IUCLID and R4BP (half-day basic course to teach theoretical knowledge) -IUCLID Workshop (one-day course with practical exercises) for entering data in IUCLID and submitting dossiers via R4BP	Food Suplements
		Project Management	Demarcation from drugs
		Consortium management: -Support of consortia for >20 of the most significant European chemical companies for 2010 registrations	Demarcation from medical devices
		Project communication: -Multilingual communication at national and international level (Europe, North America, Asia)	"Our team consists of experienced toxicologists,

			chemists, ecotoxicologists, biologists, biochemists and environmental chemists. "
		Coordination: -Coordination of experts for registration projects -Monitoring of contract laboratories for experimental studies -Organization of many international conferences, workshops and project meetings	
		SIEF communication: -Status requests and technical information for several thousand SIEF-participants SIEF management: -SFF and TPR for Lead registrants in about 20 different SIEFs for 2010 deadline	
		Trustee services: -Collection, evaluation and archiving of secret and confidential data Protection against disclosure to competitors Assistance in conclusion of cooperation agreements: -Consortium Agreements -Data Sharing Agreements -SIEF Agreements for Joint Submission for several dozen companies	
		Information management: -Data collection and management -Installation and management of information exchange platforms: -Short- and long-term archiving	
		Financial management: For about 20 REACH registrations in 2010: Budget compilation and controlling Preparation of plans and cost sharing Accounting and invoicing in the consortium Calculation of cost breakdown for all SIEF-members	
		Compliance Review	
		Food products: Demarcation from other product groups (drugs, food additives, novel food) Preparation of safety expertises and determination of the safe maximum amount by doing a scientific risk assessment based on generally accepted scientific data Determination of marketability Notification of the respective national authority (Germany: Federal Office of Consumer Protection and Food Safety (BVL)) according to § 5 of the German food supplements regulation (NemV) / Art. 10 of Directive 2002/46/EC Verification of labelling	
Callaghan Consulting International	https://www.ccintl.eu/index.html https://www.linkedin.com/in/tmcallaghan/	**Technology Development & Regulatory Compliance:** > Delivery of strategic intelligence and scientific facts for enhanced innovation to help you improve your competitiveness in the marketplace. > Technology development and scouting for enhancing product innovations and your market success.	
		Claims Development & Substantiation: > Ensuring the integrity of well conducted scientific research and data is accurately translated and effectively communicated to the market place in a consumer meaningful manner. > Offering extensive expertise in high quality technical writing services as well as comprehensive "scientific" translations for marketing groups and the press.	
		Communications > Ensuring the integrity of well conducted scientific research and data is accurately translated and effectively communicated to the market place in a consumer meaningful manner. > Offering extensive expertise in high quality technical writing services as well as comprehensive "scientific" translations for marketing groups and the press.	
Chem-Consult		**Toxicological advice** REACH Biocidal / -wirkstoffe	
		HAZOP / PAAG / LOPA / Functional Safety Safety analysis / HAZOP / HAZOP Seminar HAZOP / LOPA / Functional Safety audit	
		IUCLID REACH registration REACH Inquiry Authorization under REACH (Annex XIV) Approval of biocidal active substances Authorization of biocidal products Training / Seminars Hosting and installation	
		REACH Registration Inquiry admission PPORD Safety Report (CSR) Data Gap Analysis study monitoring SVHC GLP tests Only Representative (OR) Third Party Representative (TPR) REACH seminars & conferences IUCLID seminars Safety Data Sheets	
		Training / Seminars / Conferences REACH seminars & conferences IUCLID seminars GHS / CLP seminars CPD seminars	
		Biocidal products and agents Authorization of biocidal products Approval of biocidal active substances Toxicological evaluation IUCLID seminars	
		(EU) GHS Classification and labeling in accordance with the CLP Regulation Safety Data Sheets CLP & GHS training GHS converter CLH Dossiers for Authorities and Industry	
		drug environmental review Study monitoring under GLP	
ChemGes	http://www.dr-software.com/	Software Development: Safety Data Sheets Internal Plant Instructions Labelling	REACH GHS
Chemical Safety Consulting	https://www.chemicalsafetyconsulting.com/	**Chemical hazard communications** **Automated Safety Data Sheet (SDS) System Optimization Review** Initial meeting: a meeting will be scheduled to discuss the scope of the system, the current process, and any "pain points" the team is experiencing. System review: Based on the initial meeting, a proposal will be agreed to selectively evaluate the system set-up, automation processes, SDS template formatting, regulatory data use, and key phrase translations in the SDS authoring system. This review will identify whether the system is	

		meeting your goals for your hazard communication program. Recommendations: A follow-up meeting will be held to deliver a report of recommendations arising from the review process **Automated Safety Data Sheet (SDS) System Compliance Review** **Develop test cases** Chemical Safety Consulting can support the development of test cases. A clearly documents test case plan will demonstrate that the audit has been conducted in a manner that is representative of the range of product hazards and with respect to chemicals of particular concern (e.g. chemicals subject to specific national regulations). **Audit the finished SDS in translation** Chemical Safety Consulting can confirm the form of the safety data sheet with respect to local regulations or guidance Chemical Safety Consulting verifies key elements in the local language where the regulations/guidance define the phrases that must or should be used, e.g. for section headers and subheaders and legally established phrases such as H- and P-statements. **Audit the finished SDS in English** Chemical Safety Consulting can verify specific required elements per national regulations and perform a consistency check on information disclosed in sections 2-3 with the information given in the rest of the safety data sheet. Chemical Safety Consulting can provide general observations based on experience with important expectations of customers in the target countries. **Deliverable #1: Recommendations** Chemical Safety Consulting has developed tools for efficiently communicating improvements needs, especially avoiding repeated remarks on identical issues arising in different test cases and easing the tracking of issue resolution. **Deliverable #2: Documenting the audit results for the project records** Although it can be difficult to guarantee compliance on complicated documents such as an SDS, in the event of an inspection or challenge to the SDS it can be useful to have evidence of a quality control program intended to avoid and minimize errors. Therefore, as a second deliverable Chemical Safety Consulting provides a report of the audit approach and summary of the work undertaken suitable for use in an inspection.	
		Industrial health and safety **Health and Safety Audits** **Risk Assessment** **Knowledge management** **Management system implementation** **Policies and procedures** **Incident investigation** **Training** **Emergency planning**	
		Global chemical control compliance **We can help you understand your obligations with respect to:** REACH and Extended Safety Data Sheets Globally Harmonized System Chemical Control Regulations Worldwide Training	
		Sustainability Assessing current processes, systems and impacts Supporting goal-setting, planning, and implementation of a Sustainability Strategy Implementing systems and software tools to support sustainable product research and development Providing independent verification of sustainability progress through Green Audits Communicating sustainability successes to target audiences	
Chem-Service Group	http://chemservice-group.com/	**International chemical law** -Strategic and technical consultation -Toxicology consultation -Dossier compilation -Only Representative (OR) for manufacturers from non-EU countries -Ensuring compliance along the entire supply chain (REACH-Code-Model) -Development and coordination of Consortia -Documentation and support for administrative tasks	Health & Safety expert Health & Safety coordinator Dangerous substances officer Dangerous goods officer ADR 1.3 Waste management officer Emission protection officer Water protection officer
		GHS, CLP & Safety Data Sheets: -Consultation on CLP, GHS and country-specific features -Review and implementation of classification according to CLP -Review, creation, translation and updating of Safety Data Sheets and identification labels	Member of Only Representative Organisation
		Compliance in the supply chain: -REACH code model -Regulatory data-sheets -Communication according to REACH -chemical safety reports in the business environment	REACH Orphan Substances Consortium
		Biocides & plant protection products: -Compilation of technical dossiers in accordance with the Plant Protection Product Directive 91/414/EEC, the Plant Protection Product Regulation (EU) No 545/2011, US-Federal Law for Pesticide Registration and Classification Procedures 40 CFR 152 (governing insecticides, fungicides and rodenticides) and other, national regulations -Data gap analyses -Tests -Risk assessments -Studies and their abstracts	Member of ACS (scientific society with focus of chemistry professionals)
		Product & substance regulations -Food -Coordination of registration processes -Development of strategies for global registration -Interpretation of the current legal situation -Analysis of the current status of substance authorisations -Creation and submission of dossiers, applications and petitions -Compilation of conformity declarations and expert reports -Migration modelling and review -Toxicology testing -Prohibition & restriction list	
		Authorisation, restriction & socio-economic analysis -Chemical Safety Report (CSR) -Analysis of substitution options (Assessment of Alternatives) -Substitution programme, including timeline (Substitution Plan) -Socio-Economic Analysis (in accordance with REACH Annex XVI) -Statement on the risks of emission and waste products	
		Consortia Management: Administrative Services -Syndication -Development of ongoing business -Administration of agreements and assignments -Organisation and management of meetings/telephone conferences -Documentation and archiving -Comprehensive Letter of Access (LoA) Management Financial Services -Trustee account administration -Budget monitoring -Cost sharing and calculation of consortia fees -Calculation, processing and invoicing of LoA sales	
		Advocacy -Consolidation of the results of social, economic and technological studies -Compilation of dossiers for authorisation and restriction procedures -Development of positions for interest groups -Organisation of the technical content of campaigns	

		Health & Safety: -Work safety and health protection -Environmental Protection	
Conusbat Regulatory Services	http://www.conusbat.com/en/services.php	**Business** Technical and Regulatory Support Strategic Consulting, Compliance Analysis Safety Assessment, PIF, Registration Dossier Registration, Notification Responsible Person (CPR-RP), Only Representative REACH-OR) CLP: Classification & Labelling Worldwide Compliance Management	
		ADVICE Compliance Knowledge Compliance Studies - worldwide Reports - Product & Ingredients Regulatory Requirements worldwide	
		Training, Workshops and Coaching Aspects of EU REACH, EU Cosmetics Products Regulation Worldwide Cosmetics Regulations	
Conusbat Regulatory Services	http://www.conusbat.com/	Business - Technical and Regulatory Support: -Strategic Consulting, Compliance Analysis -Safety Assessment, PIF, Registration Dossier -Registration, Notification -Responsible Person (CPR-RP), -Only Representative REACH-OR) -CLP: Classification & Labelling -Worldwide Compliance Management	Expert Personnel: Technical Regulatory director (specialized in cosmetics) Cosmetics Consultants Europe (CCE) CERTIFIED SAFETY ASSESSOR REGULATORY PROJECT MANAGER
		Advice: Compliance Knowledge: -Compliance Studies - worldwide -Reports - Product & Ingredients Regulatory Requirements worldwide	
		Training: Training, Workshops and Coaching -Aspects of EU REACH, EU Cosmetics Products Regulation -Worldwide Cosmetics Regulations	
CSB GmbH	https://www.csb-online.de/en/index.html	**GHS (CLP)** Safety Data Sheets Notification to Poison Centres (CLP Article 45) Classification & Labelling-Inventory	
		REACH REACH Article 8 – Only Representative of a non-Community Manufacturer Registration of Substances Maintenance of registration dossiers Substance/Dossier Evaluation Authorisation	
		Biocides <u>Active substance approval/prolongation</u> -Communication with authorities -"Data-Gap-Analysis" and test-strategies -Literature search -Negotiations with data holders -Placing and monitoring studies -Preparation of the technical dossier (IUCLID 6) -Preparation of a scientific assessment and summary -General support throughout the authorisation process <u>Article 95 listing</u> CSB can offer you support for either the complete application or parts of the application (for example - communication with data holders). For a non-EU company we also offer to act as the EU-representative. <u>Authorisation of biocidal products / biocidal product families</u> -Strategic and technical planning of a product family -Support in choosing the best authorisation option -Dealing with authorities -"Data-Gap-Analysis" & testing strategies -Literature search -Negotiations with data holders -Placing and monitoring of studies -Preparation of the technical dossier (IUCLID 6) -Preparation of a scientific assessment and summary -General support throughout the authorisation process	
		Transport of dangerous goods <u>-Advise on Dangerous Goods</u> -impact of classification on road, rail and sea transport carriers. Through a partner we also offer: - Consultation for air transport -Rregional service as external dangerous goods advisor.	*Our staff is trained regularly and has the necessary qualifications to serve as dangerous goods advisors*
		Toxicological Risk Assessment -Support in classification questions in case of borderline or vague data -Assessment of CMR- (Carcinogenic, Mutagenic or Reproduction toxicity) or ED- (Endocrine Disrupting) properties -Derivation of risk management measures -Evaluation of the environmental behaviour of substances -Test monitoring of validated tests to determine the hazard potential of a substance/product in cooperation with laboratory partners.	*Because of our expertise and experience in human and eco-toxicological risk assessments*

Currenta	https://www.currenta.com/home-en.html	Analytical Services: Support in resolving analytical issues, especially in the fields of chemistry, life sciences, pharmaceuticals and polymers Training Portfolio: Practical and future-focused training for up-and-coming talent and continuing education courses for employees seeking further professional qualifications CHEMPARK: The services we provide in our role as manager and operator of CHEMPARK, including support with permit procedures, infrastructure provision, communication and dialogue with the local community Utilities: Supply of electricity, natural gas, steam, compressed air and technical gases from our own power plants and systems, and from trading on energy exchanges Safety/Security Services: Comprehensive services in the areas of health protection, occupational safety, fire protection and security management Environmental Services: Recycling and disposal of waste polluted with chemicals, wastewater treatment, environmental monitoring, and supply of water and refrigeration energy	
		Analytical Services Agrochemicals Fire technology Surface and solid-state analysis Industrial chemicals / quality inspections Method validation Pharmaceuticals Polymers REACH / consulting Regulatory studies (GLP) Spectroscopy / structural elucidation Stability tests Environmental analytics	
		Methods: Determining nitrosamines Chemical characteristics Chromatography Elemental analytics Gel permeation chromatography LC/MS, GC/MS combinations Mass spectrometry Micro-gas chromatography Microscopy NMR spectroscopy Ecotoxicological material tests Optical spectroscopy Physiochemical parameters (GLP) Physical methods X-ray diffractometry	
		Chemistry analytics 1-DEVELOPMENT AND VALIDATION OF ANALYTICAL METHODS 2-STRUCTURAL ELUCIDATION / SYNTHESIS CONTROL 3-ELEMENTAL ANALYTICS 4-AGROCHEMICALS We help you with analytical issues involved in the production of crop protection agents. 5-ENVIRONMENTAL ANALYTICS We analyze the environmental compartments of water and air for you. If an incident occurs, we perform all the requisite analyses and evaluations.	1-Thanks to our many years of expertise, we can provide you with sound advice and support when it comes to selecting analysis techniques. 3- You benefit from the many years of expertise amassed by our specialist teams in analyzing chemical products and from our comprehensive range of cutting-edge equipment. 4-We have extensive experience of batch inspections, production monitoring and incoming raw material inspections. 5-Our specialists are experts at identifying and quantifying organic and inorganic substances.
		PHARMACEUTICAL ANALYTICS PHARMACOPOEIA / RAW MATERIAL TESTING ICH STABILITY STUDIES- We store your pharmaceutical products in line with the ICH guidelines for various climate zones and we have a wide range of analytical methods at our disposal for subsequent testing of your samples. DEVELOPMENT AND VALIDATION OF ANALYTICAL METHODS - for your product quality control procedures (gearing the selection of analysis techniques and the scope of validation to your requirements). ELEMENTAL ANALYTICS IN LINE WITH ICH Q3D Standardized element screenings - basis for risk assessments relating to the elemental impurities of pharmaceuticals (ICH Q3D guideline). Customized solutions for ongoing checks on pharmaceuticals or feedstocks. CLEANING VALIDATION- test your production facilities for residues. DEFECT ANALYSIS We test active ingredient crystals and **medical products** for defects. We also analyze the particles found to define their type, distribution and size. POLYMORPHY We use X-ray diffractometry for unambiguous, non-destructive identification of the various polymorphic substances in pharmaceutical products. TESTING OF PACKAGING MATERIALS Extractable studies that enable the transfer of additives and degradation products to the relevant pharmaceutical to be assessed. ELUCIDATION OF SECONDARY COMPONENTS We offer structural elucidation of these secondary components so as to enable a risk assessment.	Our expertise in numerous analysis techniques helps you test for residues POLIMORPHY: The relevant tests are possible under various environmental conditions, e.g. at different temperatures or humidities.

		MATERIALS analytics Construction: building materials, components Electrical engineering/electronics: cables, housings Consumer goods industry: textiles, furniture, household goods Transportation sector: rail, road, air and sea Pharmaceuticals and crop protection: tablets, seeds POLYMER MATERIALS Analyses are performed using determination of particle sizes and molecular weight distributions, structural analyses, quantification of ASM, stabilizers, emulsifiers and plasticizers, and thermoanalytical characteristics. SURFACE AND SOLID-STATE ANALYSIS FOR MATERIALS Methods such as electron microscopy, atomic force microscopy, infrared microscopy and X-ray diffractometry. FIRE TECHNOLOGY Experimental investigations, assessments and concepts Fire testing of products Special end-use-specific tests Information on fire-safe and standard-compliant product applications Expert reports on the fire performance of products (ignitability, flame spread, heat release, smoke and toxic gas production) Fire modeling Implementation of research projects Development and optimization of fire test methods	DIN EN ISO/IEC 17025
		Consulting - Analytics REACH and Biocides We advise you on issues relating to REACH and biocide regulations and work with you to develop an appropriate strategy. We offer you comprehensive advice or, if you wish, specific services. REGULATORY STUDIES We offer a wide selection of studies to determine physico-chemical characteristics, environmental performance and ecotoxicological properties.	
		X-ray Diffraction (XRD) and X-ray Structure Analysis X-RAY POWDER DIFFRACTION Qualitative Powder Diffraction / Polymorphism (GMP XRPD) Quantitative Powder Diffraction by Rietveld Determination of crystallite size Temperature and humidity controlled X-ray Powder DiffractionTemperature and humidity controlled X-ray Powder Diffraction X-RAY STRUCTURE ANALYSIS	
		Safety and Security Occupational health Preventive and emergency fire protection Security management Safe working practices for safe production	
		Environmental Services Integrated environmental management Network of disposal plants	
DEKRA Insight	https://www.dekra.us/en/home-page/	**Vehicle Inspection:** Periodic Mandatory Inspections Emission Tests Specific Periodic Inspections Non-Periodic Inspections Examination and Registration Services Management Road Safety Campaigns	
		Claims & Expertise: Claims handling Loss adjusting Vehicle Appraisal Services Vehicle management services	
		Product Testing: EMC & RF Testing Product Safety Testing Cyber Security Product Certification Medical Device Services Connectivity Testing	
		Industrial Inspection	
		Consulting: Process Safety Organizational Safety & Reliability Health, Safety & Environment Solutions Network Performance Consulting Cyber Security & Information Technology Solutions	
		Audits: System Certification Personnel Certification Customized Assessments	
		Training: Training Areas Expert Migration Consulting and Media Language and Integration Educational Research	
		Temp Work: Personnel Management Solution Management Event & Logistics Management Human Resources Management	
DHI	https://worldwide.dhigroup.com/	**AQUACULTURE AND AGRICULTURE:** -state-of-the-art assessments -forecasting and early-warning systems -production optimisation -risk control services	
		ENERGY: **-Field monitoring** **-Remote sensing** **-Model testing** **-Laboratory analyses** **-Numerical modelling** **-Customised software development.**	

		CLIMATE CHANGE: **-Climate change Decision Support System (DSS), based on the downscaling of Global or Regional Climate Models, to project future climatic conditions and associated uncertainties** **-Unsurpassed experience in flood forecasting worldwide** **-Flood risk assessment and management based on advanced modelling techniques** **-Capacity building and training** **-Integrated Water Resources Management (IWRM)** **-Tailor-made IT systems for optimal water management (real-time and planning)**	
		COAST AND MARINE: **Our solutions combine the knowledge of natural processes with in-depth understanding of our numerical models and the data needed to set up, calibrate, and verify them.** **Transform model results into sustainable engineering solutions designed to cope with the future climate.** **-In-house physical model testing** **-Survey** **-Monitoring capabilities** **-MIKE Powered by DHI software.**	
		SURFACE AND GROUNDWATER: **-Watershed management** **-Rivers, dams and reservoirs** **-Flood management and forecasting** **-Groundwater management** **-Irrigation** **-Water quality and environmental impacts**	
		MINING: **-OPERATIONAL MINE WATER PLANNING - MIKE MINE** **Automated systems to combine disparate data sets for centralized collaboration and automated data analysis and reporting** **Dynamic displays of real-time operating data through a customized dashboard** **Tools that reconcile current operating conditions with planned conditions** **Updated forecasts based on current conditions and model updates** **Rapid scenario analysis to improve operating strategies** **-MINE DEWATERING:** **Optimizing well placement and pumping rates** **Linking catchment hydrology to the dewatering system design** **Explicit incorporation of highly detailed geologic, alteration and structural models into FEFLOW models, which play a crucial role in controlling pore pressure dissipation and mine inflows** **Synchronizing the dewatering program to mine planning and production through the incorporation of real-time operational management tools in MIKE MINE** **-SITE-WIDE AND CATCHMENT SCALE WATER BALANCES** **-TAILINGS AND CLOSURE:** **High-resolution tailings pore pressure modeling using FEFLOW** **Incorporating hydrodynamical coupled processes to capture the transient nature of the tailings materials properties** **Non-Newtonian tailings runout analyses to better understand facility risks.** **-MINE WATER SUPPLY** **BRINE RESOURCE EVALUATION**	
		URBAN WATER: **-Forecasting and monitoring services and MIKE Powered by DHI software** **-Planning** **-Design** **-Oeration** **of urban infrastructure**	
		INDUSTRY: **We support in achieving resource efficiency and reduction of waste leachates.** **Innovation and testing of new technologies,** **Detailed knowledge of production processes, technologies and regulatory requirements.**	
		ENVIRONMENT AND ECOSYSTEMS: **-Biodiversity and ecosystem processes (tropical, temperate and sub-Arctic)** **-Environmental Impact Assessment (EIA) and sustainability principles** **-Advice on sustainable infrastructure development and resource extraction techniques** **-Best practice mitigation, compensation and offset options** **-Numerical modelling (including ecological, agent-based and habitat modelling)** **-Advanced monitoring techniques** **-Environmental mitigation and ecosystem-based management techniques** **-Software customisation (including models and data portals)**	
		PRODUCT SAFETY AND ENVIRONMENTAL RISKS: **-Expertise and IT solutions for global regulatory requirements (including REACH, GHS/CLP and Safety Data Sheets)** **-In-depth knowledge of human toxicology and ecotoxicology** **-Ecotoxicological testing in compliance with OECD guidelines** **-Risk and exposure assessments** **-Global Product Stewardship**	
DR.MACH	https://www.mach-chemguide.com/en/services/	**Cosmetics:** Take over the cosmetic product safety assessment Prepare a cosmetic safety report according to the new EC Regulation 1223/2009 on cosmetic products. We notify the EU commission of your cosmetic products through the Cosmetic Products Notification Portal CPNP according to Article 13 of EC 12223/2009.	"Founder of company is member of: -German Society of Experimental and Clinical Phamacology and Toxicology (DGPT) -German Society of Toxicology (GT) -German Society of Cosmetic Chemists (DGK)"
		REACH We check to which extent you are concerned with REACH and take care of your obligations. We arrange and manage your REACH registrations and notifications. We represent your interests in SIEFs and consortia, towards the European Chemicals Agency ECHA and towards its industrial inspectorate, e.g. in the case of REACH inspections.	
		Manufacturers & Importers Managing egistrations: We analyse to which extent you are affected by REACH We identify required obligations We coordinate required actions We take over cost planning and cost control We manage registrations and notifications We communicate with ECHA We represent your interests in SIEFs and consortia	

		We adjust the registration dossier with regard to the safety data sheet We update the registration dossier Manage late preregistrations Prepare ECHA enquiries for non-phase-in substances according to REACH Article 26 Notify ECHA for substances that are manufactured or imported for the purpose of product and process oriented research and development (PPORD) Help to create your extended safety data sheets (eSDS)	
		Articles We register the substances that are intended to be released from the article. We help you clarify whether your article contains substances of the Candidate List in concentrations above 0.1% (w/w). We support you in fulfilling your obligation to inform industrial and professional users and distributors as well as consumers. We notify the ECHA of substances contained in your articles, which are included in the Candidate List. We notify the ECHA of your using substances that are included in the authorisation list of REACH, Annex XIV.	
		Downstream User support in identifying the uses of your substances and mixtures support in communicating within the supply chain support in adapting your Safety Data Sheets communication with ECHA about the preparation of a separate safety report or the reliance on exemptions notification of ECHA of your using substances that are included in the authorisation list of REACH Annex XIV.	
		Lead Registrant Dossier preparation in IUCLID 5 Correct identification of the substance Literature search Data gap analysis QSAR modeling Exposition based waving Integrated test strategy Monitoring of studies Preparation of study summaries Classification and labeling Guidance on safe use Exposure scenarios Chemical safety report	
		CLP help you with the classification & labelling notify the ECHA of your substances' classification and labelling update your notification come to an agreement with other notifiers or registrants about the classification and labelling	
		Intermediates Prepare the registration dossier and manage the registration with ECHA. Support you in documenting the strictly controlled conditions If required, we update your registration dossier according to the latest ECHA guidance document.	
		Seminars and In-house training	Doesn't seem to be main focus (really vague in what the training and seminars comprise
EBRC	https://www.ebrc.de/	**Active substances:** Product-type specific initial completeness check of data sets Identification of data gaps Evaluation of the validity of existing studies Strategy for closing data gaps, e.g. through comprehensive literature searches or conduct of new experimental studies Planning, coordination and monitoring of experimental studies Development of concepts for data waiving Modelling of physicochemical, toxicological and environmental substance properties - (Q)SAR Evaluation of physicochemical hazards of active substances Assessment of the basic effectiveness of active substances Evaluation of the toxicological profile of active substances Derivation of safe exposure levels for humans: e.g. A(O)EL, ADI, etc. Evaluation of the environmental fate of active substances Evaluation of the ecotoxicological profile of active substances Derivation of PNECs (predicted no-effect concentrations of active substances) Proposals for classification & labelling Preparation of complete dossiers in support of EU listing of both new and existing active substances, according to product-type specific data requirements, including all relevant risk assessments, and preparation of a comprehensive IUCLID 6 file Submission of dossiers and defence in the review process Performance of non-standard risk assessments (biostatistics, data management, etc.)	"Since the implementation of the BPD and subsequent BPR , EBRC was responsible for the notification of more than 25 biocidal active substances (including compilation, submission and defence of comprehensive IUCLID data sets and Assessment Reports)."
		Biocidal products: Initial completeness check of data sets on biocidal products Concepts for Biocidal Product Families Identification of data gaps Evaluation of the validity of existing studies Strategy for closing data gaps, e.g. through comprehensive literature searches or conduct of new experimental studies Planning, coordination and monitoring of experimental studies Development of concepts for data waiving Evaluation of physicochemical hazards of biocidal products Assessment of the efficacy of biocidal products Evaluation of the toxicological profile of biocidal products Assessment of combined effects in case of several active substances/substances of concern Assessment of the exposure of humans (users, bystanders, general public) using EU standard models acc. to the Guidance on BPR (Guidance on the BPR Volume III Human Health, HEEG opinions, BEAT, ConsExpo, ...) Development and coordination of occupational exposure measurements, if required Risk characterisation for human health Evaluation of the environmental profile of biocidal products Modelling of releases to the environment using EU standard models (EUBEES-ESDs, EUSES, ...), estimation of PECs (predicted environmental concentrations) Coordination of environmental monitoring, if required Risk characterisation for relevant environmental compartments Proposals for classification & labelling of biocidal products Submission and defence of dossiers in the authorisation process General services in the maintenance of regulatory approvals for products already on the market	
		Task force/consortia management: Scientific support for approval of a biocidal active substance: Evaluation of technical equivalence Preparation of complete biocidal dossiers Coordination and monitoring of studies Submission of the dossier to the Rapporteur Member State Updating of submitted dossiers Administrative support of task forces and consortia: Centralised communication within a consortium/task force Coordination of data sharing Financial management of joint submission and jointly generated dossiers Management of letters of access (communication with interested parties, distribution of documents, tracing of payments, etc.) Coordination, organisation and documentation of telephone conferences and meetings Legal advice (in collaboration with our trusted subcontractors): Generation of contractual agreements within consortia and with other interested parties (i.e. legal form, letter of access) Fiscal support according to respective legal form Securing formal requirements under the Biocidal Products Directive and the future Biocidal Products Regulation	

		REACH: Data gathering, literature searches and evaluation Data-gap analysis, closing of data-gaps and study monitoring Chemical Safety Assessment (CSA) Phys. chem. hazards Human health hazards Environmental fate Ecotoxicity PBT and vPvB assessment Technical Dossier (IUCLID 5) Identification of known uses Exposure characterisation HH and ENV and development of exposure scenarios Risk characterisation Chemical Safety Report (CSR) Classification and Labelling Safety Data Sheets Consortium and SIEF management	
		Classification and Labelling (GHS / CLP)	
		Safety Data Sheets	
		Biostatistics	
		Data Management	
ECT Oekotoxikologie GmbH	https://ect.de/	**Testing** Aquatic Organisms Sediment Organisms Terrestrial Organisms Dung organisms Bioaccumulation Environmental Fate Waste Wastewater	
		Consultancy Industrial chemicals Biocides Pharmaceuticals Plant Protection Products Mixtures Waste Organisation of Workshops & Meetings Training Activities (terrestrial ecotoxicology	
		Standardisation OECD activities ISO activities Other standardisation organisations	
		Research	
		Industrial Chemicals Identification of information requirements and data gaps Data mining and literature search Generating and evaluating e-fate and ecotox data with established (Q)SAR models, e.g. US EPA EPI Suite and the OECD QSAR Toolbox Data management, evaluation and reporting with IUCLID 6 Placing, performing and monitoring of required studies according to Good Laboratory Practice (GLP) Specifying exposure scenarios and conducting the environmental risk assessment Preparing the dossier (e.g. technical dossier and chemical safety report) Writing of expert judgements (e.g. within CoRAP) Assessment of substances of very high concern (SVHC): CMR, PBT, vPvB, endocrine disruptors, and equivalent level of concern Classification, Packaging & Labelling (CLP) according to the Globally Harmonized System (GHS) Communication with the competent authorities (e.g. ECHA)	
		Biocides - Complete Registration: Identification of the product type and specific information requirements Data mining, data gap analysis and literature search Data management, evaluation and reporting with IUCLID 6 Placing, performing and monitoring of required studies according to Good Laboratory Practice (GLP) Specifying exposure scenarios and conducting the environmental risk assessment Dossier preparation Assessment of substances of very high concern (SVHC): CMR, PBT, vPvB, endocrine disruptors, and equivalent level of concern Classification, Packaging & Labelling (CLP) according to the Globally Harmonised System (GHS) and EU requirements Communication with the competent authority (pre- and post submission) Project coordination and communication with all participants Submission of the dossier documents to the competent authorities	
		Pharmaceuticals Identification of information requirements and data gaps Data mining and literature search Placing, performing and monitoring of required fate and effect studies according to Good Laboratory Practice (GLP) Conducting Phase I and II of the environmental risk assessment for human as well as veterinary pharmaceuticals Dossier preparation (CTD Module 1.6) Providing expert opinion reports on specific questions regarding effects, exposure and risk management Communication with the competent authorities	
		Plant protection Products Data gap analysis and development of strategies for additional testing Performing, placing and monitoring of required studies according to Good Laboratory Practice (GLP) Preparation of dossiers for the active substance and formulations Preparation of the fate (Section 5) and ecotoxicity (Section 6) dossier parts Environmental risk assessment and risk refinement Project coordination and communication	
EDC - Chemical Consulting	http://edc-com.de	**1 Chemistry informatics** General information: Design, validation and usage of (Q) SAR Evaluation of (Q)SAR models and (Q)SAR software Data bank research (material data, literature) **Evaluations and prognoses** **Human toxicity:** Calculation of toxic end points according to FDA Acute toxicity in mammals: various models in rat and mouse, male/female animals Carcinogenicity (rodents: hamster, rat, mouse; male, female; hepatocarcinogenity) Estrogenic activity Cyto-toxicity Teratogenicity Immuno-toxicity Neurotoxicity Skin irritation Developmental toxicity Mutagenicity (Salmonella +- S9 , Ames et al.; UDS, SCE, Micronucleus test, FDA: diverse organisms, cells) Enzyme obstruction ... **Skin and eye irritation, allergenic potential, skin penetration**	

		ADME (Absorption, Distribution, Metabolism, Excretion) Physical-chemical data (log Pow, log Koc, water solubility etc.) Protein binding Oral availability Renal excretion Mammal/human metabolism Distribution volume Adverse effects on the liver Lipinsky Rule of Five Effect against pathogenic germs, HIV, malaria ... **Environmental behaviour and fate:** Biological biodegradability according to OECD/EU-Tests, MITI-Tests (e.g.. OECD 301 B,D; 302 B) Bio-accumulation Physical-chemical data (log Pow, log Koc, water solubility, Henry coefficient etc.) ... **Prediction of transformation products** Products of the photochemical decomposition Products of bacterial metabolism Products of mammal metabolism ... **Eco-toxicology (international standardised tests according to ISO, OECD, EU):** Bacterial toxicity Fish toxicity Daphnia toxicity Algae toxicity Endocrine activity	
		2 Consultation and training in connection with hazardous materials and environmental management -Hazardous material management, handling, storage, transport and removal of hazardous wastes as well as radioactive materials -Hazardous material transport in connection with disposal -Concerns of emission, soil and water protection -New construction plans when hazardous materials should be stored or processed -Disassembly work when contamination or impurities must be reckoned with -Carrying out of briefings, training courses -Creation of operating instructions -Effective delegation of responsibility -Creation of check-lists, implementation of structures during the design of environmental management systems	
		3 Chemical analysis, environmental chemistry, environmental hygiene, sustainable chemistry and pharmacy **Assessment of experimental data: Environmental behaviour of chemicals** **Assessment of analytical procedures and results** Gas chromatography coupled with mass-spectrometry (GC, GC/MS; GC/MS-M) Liquid chromatography (HPLC), coupled with mass-spectrometry LC/MS-MS Summation parameters such as DOC, AOX, etc. **Material flow management** Balancing Theoretical background Waste water cadastre Environmental management according to ISO and EMAS **Sustainable chemistry and sustainable pharmacy Concepts** Concepts Environmental behaviour of chemicals and pharmaceuticals Raw material basis Synthesis	
ERM	https://www.erm.com/	**Sustainability Services:** -Corporate & Sustainability Reporting -Energy & Climate Change -Product Stewardship -Social Performance & Public Affairs -Impact Assessment -Water Services -Information Solutions -Safety Services	ERM is a leading global provider of environmental, health, safety, risk, social and sustainability-related consulting services.
		M&A Solutions Services: -Divestitures -Due Diligence -Information Solutions -Post-Merger Integration (PMI) -Product Stewardship -Asset Retirement	Integrated Management System for quality, environment and health & safety and are certified according to ISO 9001 and ISO 14001 standards
		Operational Performance Services:Management Systems & Compliance Support: -Information Solutions -Product Stewardship -Safety Services -Learning & Development -Corporate & Sustainability Reporting -Energy and Climate Change -Impact Assessment -Divestitures -Due Diligence	
		Major Capital Project Services: -Social Performance & Public Affairs -Cultural Heritage -Biodiversity & Ecosystems -FERC Permitting -Impact Assessment -Safety Services -Information Solutions -Management Systems & Compliance Support	
		Asset & Portfolio Management Services: -Management Systems & Compliance Support -Asset Retirement -Information Solutions -Remediation Management -Sediments & Watershed Management -Site Investigation & Risk Assessment -Decommissioning, Decontamination & Demolition -Divestitures -Due Diligence -Post-Merger Integration (PMI)	
		Health, Safety & Risk Services: Safety Services Technical Risk Services Learning & Development Audit Information Solutions Management Systems & Compliance Support	
		Environmental Compliance Services: **-Air Quality** **-Audit** **-Impact Assessment**	

		-FERC Permitting **-Due Diligence** **-Management Systems & Compliance Support** **-Sediments & Watershed Management** **-Site Investigation & Risk Assessment** **-Remediation Management** **-Asset Retirement**	
		Data Management & Technology Services: **-Information Solutions** **-Product Stewardship** **-Learning & Development** **-Management Systems & Compliance Support** **-Audit** **-Corporate & Sustainability Reporting**	
Eurofins	https://www.eurofins.com/contact-us/worldwide-interactive-map/	**Services Overview:** Agroscience Services Agro Testing BioPharma Services Contract Development & Manufacturing Organisation (CDMO) Clinical Diagnostics Consumer Product Testing Cosmetics Testing Digital Testing Electrical and Electronics Environment Testing Food and Feed Testing Forensic Services Genomic Services Industrial Services Materials and Engineering Medical Devices REACH Services Eurofins Technologies	
		Medical Devices **MEDICAL DEVICE CLASSIFICATION** Medical device classification based on risk -In accordance with the European Medical Device Directive 93/42/EEC: -In vitro diagnostic medical device classification in accordance with Directive 98/79/EC, Medical electrical equipment **MEDICAL DEVICE CERTIFICATION SERVICES** CB Scheme ISO 13485 Quality Management System (QMS) Notified Body (NB) Services **Active & non-active Medical Devices** Annex III; EC Type Examination certificates Annex IV; EC Verification certificates Annex V; Production quality assurance EC declaration of conformity Annex VI; Product quality assurance EC declaration of conformity Annex II; Full quality assurance system EC declaration of conformity **In vitro diagnostic medical devices** Annex III; Ch 6 EC Design Examination certificate IVD devices for self-testing Annex II list A dvices Annex IV; EC Quality system certificate Annex II list A devices Annex II list B devices IVD devices for self-testing Global Market Access knowledge of regional and national technical requirements and approvals processes, Tailor-made testing, certification and approvals service for your medical devices' target market(s). Medical Devices Single Audit Program MEDICAL TESTING SERVICES (NEXT CELL)	US and Canada Eurofins MET-certified medical products FDA approvals
		Safety Testing EN 60601-1; base standard IEC 60601-1-1; medical electrical systems IEC 60601-1-2 EMC (3rd & 4th Edition) IEC 60601-1-3; radiation protection IEC 62304; programmable electronic medical systems (PEMS) IEC 60601-1-6 & IEC 62366; usability IEC 60601-1-8; alarms IEC 60601-1-9; environmentally conscious design IEC 60601-1-10; physiological closed loop controllers IEC 60601-1-11; home health care environment IEC 60601-1-12; emergency medical services environment IEC 60601-2-10; stimulation IEC 60601-2-18; endoscopic IEC 60601-2-27; electrocardiogram (ECG) IEC 60601-2-31; external pacemaker IEC 60601-2-34; invasive blood pressure monitoring IEC 60601-2-37; ultrasonic diagnostic and monitoring IEC 60601-2-40; electromyograph (EMG) IEC 60601-2-46; operating tables IEC 60601-2-49; patient monitoring IEC 60601-2-52; medical beds IEC 60601-2-54; X-ray equipment for radiography and radioscopy	

		IEC 60601-2-66; hearing aids IEC 61010-2-101; in vitro diagnostic (IVD) medical equipment IEC 80601-2-60; dental equipment ISO 7176-9 & RESNA WC-1:2009; electric wheelchairs	
		Performance Testing Functionality Energy Efficiency Durability and reliability Performance tests to many FDA Guidance Documents, AAMI and ANSI standards Special tests to establish and/or validate claims on new medical devices Unique testing facilities for special medical devices; electro-surgical devices, ultrasound equipment, electric wheelchairs etc. Litigation support testing, expert witness Failure analysis	
		Medical Devices additional solutions: Electrical medical device safety & performance testing & certification Notified body services for both active and non-active medical devices Cyber security testing Digital Testing Services Biocompatibility testing according to ISO 10933 standard family and microbiological studies (GLP) Chemical and physical analysis/characterization Chemical restricted substances testing Microbiology and sterility Packaging and seal integrity Materials and chemical characterisation Material & engineering sciences; testing and expert services	
		Biocides **Consultancy Services** <u>Documentary and regulatory</u> Customer´s method development assessment Factory audits Technical dossier Label checks based on supplied documents (SDS, label, composition, …) <u>Operational</u> Generation of test plans / protocols Evaluation of technical specifications of the product to define proper Quality Control Plans Training On-site witnessing tests and studies **Chemistry** Chemical analyses/equipment REACH / CLP testing Toxicology Physical-chemical properties **Microbiology & biocidal activities** Challenge test Microbial enumeration: Efficacy & stability studies on disinfectants & biocides: Swimming pool disinfectant products **Environmental tests** Biodegradability Ecotoxicity **Clinical Tests** 5 clinical test institutes in Europe Consumer data base (More than 200 inclusion criteria) Tolerance studies **Performance tests** **All Purpose Cleaners** **Fabric care** **Dishwashing** **Air fresheners & toilet care** **Insecticides**	
		Global Service Scope Consultancy & Regulatory Certification / Approvals Inspection & Audits Testing Digital	
		Eurofins >> Consumer Product Testing >> Services >> Expert Services & Regulatory >> Chemical field **Chemical Field** Assessment REACH & RoHS Other Regulations HENZ Registration Safety Data Sheet (SDS) Toxicological Profile of Raw Materials Chem-MAP® Programme (Zero Discharge of Hazardous Chemicals) **Cosmetics** Cosmetic Products Notification Portal (CPNP) Cosmetics Safety Assessment / Dossier	

		Cosmetovigilance / Post-market survey **Documentary** Technical File Review (TCF) Techincal Sheets Markings & Label Check Instruction Manual and Artwork Check Product Information File Audit Product Registration and Safety Data Sheet Assessment & Development and Training **Regulatory Assessment** Safety Assessment Test Plans | Protocols Ad hoc Control Plans R&D-Method Develpment Training	
Exponent	https://www.exponent.com/	**1Engineering Sciences:** -Biomechanics -Biomedical Engineering -Buildings & Structures -Civil Engineering -Construction Consulting -Electrical Engineering & Computer Science -Human Factors -Industrial Structures -Materials & Corrosion Engineering -Mechanical Engineering -Polymer Science & Materials Chemistry -Statistical & Data Sciences -Thermal Sciences -Vehicle Engineering	Many experts in nano-materials and highlighted services connected to nanomaterials and nanotechnology
		Nanotechnology State-of-the-science reviews for specific NMs Applied research on specific NMs <u>Human and Environmental Health</u> Health and environmental assessment of NMs in consumer products and industrial settings Evaluation of work practices during manufacturing Industrial hygiene surveys Exposure potential and bioavailability Evaluation of the regulatory future for food NMs Evaluation of NM issues related to food safety, dietary supplements, and food packaging materials Medical device safety and biocompatibility assessments	
		Nanotechnology <u>Material Characterization</u> NM-specific characterization, including physical property measurement, nano-scale structural analysis, and material identification Reliability testing on NM physics of failure Failure analysis on products containing NMs Evaluation of reactivity, fire, and explosion hazards of NMs during processing Materials science evaluations to determine the potential for exposure <u>Industrial Applications</u> Life-cycle assessments, product stewardship, and product safety and liability Failure modes and effects analysis for product design Reverse engineering Intellectual property protection Micro-contamination expertise and product yield enhancement NM product and process design and manufacturing support, including process metrology and robustness Product recall investigations Due diligence evaluations for NM applications <u>Regulatory</u> Evaluation of NM issues for OTC drugs and cosmetics Regulatory assistance in bringing products containing NMs to market under relevant statutes (e.g., TSCA, FIFRA, FD&C Act)	
		2Health & Environmental Sciences:	
		2.1 Chemical Regulation & Food Safety: -Authorisation Under REACH -Biocides -Chemical Regulatory Support - U.S. -Chemistry Services for Plant Protection Products, Biocides and Chemicals in the EU -Classification & Labeling of Chemical Substances & Mixtures -Efficacy & Biological Assessment Dossiers -Endocrine Disruption -Environmental Risk Assessment of Plant Protection Products, Biocides, Chemicals, Veterinary Medicines & Pharmaceuticals in the EU -Import Tolerances & Maximum Residue Levels (MRL) -Plant Protection Products -Plant Science & Pathology -Product Development -Production of CLH Dossiers for Harmonised Classification and Labelling -Registration, Evaluation, Authorization of CHemicals (REACH) -Regulation & Safety of Cosmetics -Regulatory Policy Support -Total Product Management -Toxic Substances Control Act (TSCA) -Vulnerability Assessments, Compliance Audits & Due Diligence	
		2.1.1: Biocides: Regulatory Advice under BPR – Legislation; Transitional arrangements; Requirements for products; Requirements for treated articles; Requirements for Biocidal Product Families (BPF); Technical Equivalence; Regulatory options Product Stewardship – Assistance in promoting best practices through responsible manufacturing, communication and use of their products throughout Europe and globally Portfolio Management Active Substance and Product Dossiers Biocidal Product Family (BPF) Assessment Same Biocidal Products Data Gap Analysis, Waiving Strategy, and Bridging Arguments Study Placement and Monitoring Efficacy Exposure Modelling and Risk Assessments In situ Generated Biocides Technical Equivalence (TE) Assessment Post-Submission Support Global National Registration Task Force/Consortia Management Training	

		Chemistry Services for Plant Protection Products, Biocides and Chemicals in the EU: Identity: Study design/monitoring of 5-batch analysis for technical grade active substance Setting of technical specification for active substance Use of manufacturing QC data to support proposed technical specification Preparation and submission of technical equivalence dossiers to support existing or alternative sources of active substance Preparation of confidential sections of EU regulatory dossiers Submission of FAO/WHO specifications to the Joint Meeting on Pesticide Specifications (JMPS) Physical and Chemical Properties Data gap analysis on existing physical and chemical properties data set(s) for active substance and formulated product Preparation of data waivers and bridging (read-across) arguments Advice on appropriate testing methods (e.g. EC, OECD, CIPAC) Stability testing requirements (accelerated and long term) for formulated products (e.g. SC, WP, WG, SL, LN, aerosols, vaporising mats) Study design/monitoring of all physical and chemical properties studies Preparation of physical and chemical properties sections of EU regulatory dossiers Advice on classification implications (CLP Regulation (EC) 1272/2008) of physical and chemical properties studies Preparation of the physical hazards section of EU biocide dossiers (CLP) Analytical Methods: Data gap analysis on existing analytical method validation data set(s) Production of data waivers Pre-registration method validation requirements in accordance with EU guidance documents SANCO/3029/99 and SANCO/3030/99 Post-registration 'monitoring' method validation requirements in accordance with EU guidance document SANCO/825/00 (e.g. relevant matrices, ILV) Advice on appropriate limit of quantification (LOQ) for individual matrices, in accordance with MRL's and other guidance Assessment of extraction efficiency data for monitoring methods Study design/monitoring of all analytical method validation studies Preparation of pre-registration and post-registration monitoring analytical method sections of EU regulatory dossiers	
		Medical Devices: -The testing of medical devices, accessory components, and power management (e.g., Lithium battery packs). -Support to ME equipment manufacturers in implementing IEC60601 standards and preparing for an efficient and effective certification process. -Support in all phases of ME equipment and system life-cycle, including early design assistance. -Establishing general requirements for risk management, such as hazard identification, risk acceptability criteria, as well as pre- and post-production risk analysis. -Assistance to medical device manufacturers in determining the root-cause of failures. -Support in remediation activities to correct deficiencies and guidance through electromagnetic compliance (EMC) re-qualification of their products.	
		Medical Devices & EMI / EMC: -Return to work safety evaluation after receiving a new medical device -Technical interface with medical device manufacturer personnel regarding safety concerns -Immunity testing of medical devices	
		Medical Device Equipment, Electrical Safety & Compliance Assessment: **-The testing of medical devices, accessory components, and power management (e.g., Lithium battery packs).** **-Support to ME equipment manufacturers in implementing IEC60601 standards and preparing for an efficient and effective certification process.** **-Support in all phases of ME equipment and system life-cycle, including early design assistance.** **-Establishing general requirements for risk management, such as hazard identification, risk acceptability criteria, as well as pre- and post-production risk analysis.** **-Assistance to medical device manufacturers in determining the root-cause of failures.** **-Support in remediation activities to correct deficiencies and guidance through electromagnetic compliance (EMC) re-qualification of their products.**	
		2.2-Ecological & Biological Sciences	
		2.3-Environmental & Earth Sciences	
		2.4-Health Sciences	
		3Laboratory & Other Services: Laboratory Testing CALPUFF The NASCRAC™ Software Information Resources Phoenix User Research Center (PURC) Proposition 65 (California) Visual Communication	
Fieldfisher	https://www.fieldfisher.com/	Brand Development	Partner Marie-Léonie Vergnerie expertise in biocides and nano-technnologies
		Brexit: Challenges and Opportunities	
		Competition, Regulatory and Trade	
		Condor: Alternative Legal Solutions	
		Construction	
		Consulting	
		Corporate	
		Corporate Crime	
		Cyber Security	
		Debt Recovery Team	
		Dispute Resolution	
		Employment, Pensions and Incentives	
		Finance	
		Financial Services	
		Franchising	
		Immigration	
		Intellectual Property	
		Inward Investment	
		Medical Negligence	
		Personal Injury	
		Privacy, Security and Information	
		Private Client	
		Professional Services	
		Public and Regulatory	
		Real Estate	
		Restructuring and Insolvency	
		Sanctions and Trade Restrictions	
		Tax and Structuring	
		Technology, Outsourcing and Privacy	
FoBiG	https://www.fobig.de/en/	**Chemicals-Reach / CLP:** **Registration of docssieers** -Support for SIEF- and consortium communication (phase in substances) -Preparation of inquiry dossiers (new substances) -Data search and data gap analysis -Study monitoring -Preparation of IUCLID files (physico-chemical, human health, and ecotoxicological data quality assured by „Good Evaluation Practice", classification and labeling, derivation of DNELs and PNECs) -Preparation of chemical safety reports (including exposure assessment and risk characterisation – application of CHESAR) -Applications for authorisation for substances listed in REACH Annex XIV -Update and refinement of chemical safety reports -Evaluation of alternative substances (in cooperation with our partner RPA) socio-economic analaysis (SEA) **Communication** -Support for extended safety data sheets (eSDS) -Check of compliance with registered uses -Evaluation of mixtures **Classification and Labelling** -Physico-chemical hazards and respective test guidelines	References from around 50 clients: Most are German, but also include Switzerlanc, UK, Belgium, Luxembourg, Italy

		-Toxicological hazards -Environmental hazards	
		Biocides **-Estimation of human exposure** **-Toxikological assessment of active substances and additives**	Partnership with Regisgate Other partners (less emphasis): Battelle, Geneva, Switzerland Hydrotox GmbH, Freiburg, Germany ECT Ökotoxikologie GmbH, Flörsheim, Germany
		Cosmetic Regulation: -Compilation of the safety information (toxicological profiles, exposure assessment) for suppliers of raw materials and manufacturers of cosmetic products -Preparing the cosmetic safety assessment for products according to Regulation (EC) No 1223/2009.	Worked with 500 substances so far (they provide a list)
		Consumer product safety -Toxicological assessment and exposure estimation for contaminants in textiles for the manufacturer or those placing these products on the market -Assessment of the migration behaviour of chemicals from consumer products, in cooperation with qualified laboratories, if required -Safety assessment of consumer products.	Publishes 2-18 publications per year
		Food Safety -Assessment of the toxic effects of contaminants, food contact materials and food additives (e.g. EFSA project on mycotoxins) -Assessment of the exposure to substances from food (e.g. LExUkon project) -Methodological issues of the assessment of substances in food (see e.g. projects on: maximum levels for non-carcinogenic and carcinogenic food contaminants such as arsenic.	privately owned company specialised in chemical safety and (eco-)toxicological risk assessment
		Occupational Safety **Substance- and product-specific assessments** -Risk assessment according to the German Hazardous Substances Ordinance -Derivation of occupational exposure limits (German „Arbeitsplatzgrenzwerte" (AGW)) according to the nationally established methodology -Exposure-risk relationships and AGW for carcinogens at the workplace -Criteria documents for EU-IOELVs of the EU Scientific Committee for Occupational Exposure Levels (SCOEL) -Classification and labelling of substances **Methodological projects** -Search for substitutes (TRGS 600) -Occupational exposure assessment, e.g. in relation to dermal exposure and skin penetration (EU-Projekt "RiskofDerm") or for specific products, such as biocides (e.g. BAuA project F 1922) -Application of dosimety models (MPPD) for a prediction of dust deposition in the respiratory tract	
		Environmental contaminants: -Toxicological assessment of environmental contaminants and derivation of tolerable intake levels -Toxicological assessment of hazardous waste sites and derivation of compartment-specific trigger values for water, soil and air -Derivation of levels of no concern ("Geringfügigkeitsschwellen") for groundwater -Health-based assessments in the context of an environmental impact assessment (EIA) and authorisation/permitting procedures according to the German Federal Immission Control Act -Derivation of guide values for indoor air according to the methodology of the Indoor Air Hygiene Commission (IRK)	
		Expertise: -Limit values -Methods for risk assessment -Ecotoxicology and environmental fate -Exposure assessment -Alternative methods - 3Rs - QSAR Literature search and data evaluation	
Fraunhofer ITEM	https://www.item.fraunhofer.de/en.html	**SERVICES AND EXPERTISE** DRUG DEVELOPMENT CHEMICAL SAFETY AND ASSESSMENT TRANSLATIONAL BIOMEDICAL ENGINEERING PERSONALIZED TUMOR THERAPY	
		DRUG DEVELOPMENT: GMP manufacturing of biopharmaceuticals for clinical trials GMP manufacturing of investigational APIs Quality control testing of biopharmaceutical APIs and IMPs Aseptic filling and release of liquid dosage forms of IMPs Biopharmaceutical consulting Development of mammalian and microbial production cell lines GMP manufacture of master and working cell banks Development of robust upstream and downstream sequences	Scientific experts in drug development from in-house development platforms (process development and manufacturing of biopharmaceutical investigational medicinal products, non-clinical testing, and clinical trials) Regulatory experts Risk managers
		DRUG DEVELOPMENT: Regulatory research and risk assessment in drug development Preparation of a regulatory strategy: -Project planning focusing on regulatory compliance, -Integration and cross-linking of different R&D disciplines, -Regulatory troubleshooting -Addressing of regulators' concerns **Interaction with regulatory authorities:** -Scientific and regulatory advice meetings with authorities (e.g. national competent authorities, EMA, FDA), -Application for authorization of clinical trials (national authorities, ethics committee), -ATMP classification and certification, -Application for orphan drug designation, access to EMA's , -"PRIoritiy MEdicines" (PRIME) scheme and FDA's "breakthrough therapies" **Preparation of the required documentation:** Study reports in formats acceptable to the regulatory authorities, support in dossier preparation (e.g. IMPD, CTD), core documents according to ICH E6 (e.g. IB, CTP) **Risk assessment:** Risk-based approach in development: ATMPs (e.g. according to Directive 2001/83/EC), Classification regarding maximum residue limits according to Regulation (EU) No. 37/2010, Impact assessment and preparation for new procedures (e.g. Regulation (EU) No. 536/2014, ICH E6R2), Environmental risk assessment for GMOs according to Directive 2001/18/EC, Eenvironmental risk assessment according to EMEA/CHMP/SWP/4447/00 (strategic planning, risk analysis, study performance and monitoring, revision).	

		Regulatory research Development of new tools, standards, and approaches for assessment of regulated products, critical path research along the development process	
		DRUG DEVELOPMENT: Preclinical research and testing **Efficacy testing of (bio)pharmaceuticals** -Disease-relevant models for efficacy testing of drug candidates in all therapeutic areas of respiratory medicine: Asthma, COPD, infection, fibrosis, and tumors -Broad range of cell, tissue culture, and animal models, used to study different disease aspects **Safety and toxicity testing of (bio)pharmaceuticals** In-vitro, ex-vivo, and in-vivo studies (relevant species, single-dose and repeated-dose) Substances we investigate include pharmaceuticals such as traditional chemically synthesized drug products, biopharmaceuticals, phytopharmaceuticals, vaccines, and ATMPs Safety pharmacology (core battery) Special focus on inhalation toxicology and immunotoxicology Testing strategies to accompany clients during scientific advice and registration processes Study performance in compliance with OECD GLP guidelines **Novel toxicology and 3 Rs** Exploratory ex-vivo/in-vitro testing using proprietary models and technologies: -P.R.I.T.® exposure system for in-vitro exposure of cells and tissues to airborne, soluble, and particulate test substances at air/liquid interfaces -Human precision-cut lung slices Characterization of molecular mechanisms of action Utilization of toxicological databases (RITA, goRENI, DevTox)	
		DRUG DEVELOPMENT: Clinical trials Scientific consultancy Identification of an appropriate proof-of-concept model and study design for your clinical trial Development of study protocols Conduct of clinical trials Preparation of patient information and informed consent forms (ICFs) Submission of requests for ethical review of monocenter clinical trials Recruitment of patients and healthy volunteers Update and archiving of trial-related documents Process monitoring by a separate quality assurance department **research methods and technologies** Inflammation monitoring Challenge models Biomarkers Medical imaging Chip cytometry Respiratory diagnostics	
		CHEMICAL SAFETY AND ASSESSMENT Method development and customized analyses Development of analytical methods and validation in compliance with the relevant guidelines Analytical studies (both GLP and non-GLP) for registration and authorization Target and non-target analysis of inorganic and organic compounds (e.g. aldehydes/ketones, dyes, pharmaceuticals, BTX, PAHs, pesticides, VOCs, SVOCs, metals, and compounds typical of explosives) Characterization of complex mixtures in environmental samples and biological matrices Structural elucidation of drug substances and natural products and of their metabolites Protein MS, structural elucidation of modified proteins, de-novo sequencing Metabolism research and accompanying analyses to investigate toxicokinetic endpoints Development of instruments for measurement, collection, and generation of aerosols Development of methods and technologies for controlled inhalation studies Toxicology testing **Key topics** Chemicals, pesticides and biocides Nanomaterials, particles and fibers Environmental and occupational safety Inhalation toxicology Mechanistic and in-vitro toxicology Genetic toxicology Pathology **Services** Regulatory assessment by means of standard tests in compliance with international guidelines (OECD, EU, EPA, or FDA) Characterization of molecular mechanisms of action Toxicological databases (RITA, goRENI, DevTox) P.R.I.T.® exposure system for in-vitro exposure of cells and tissues to airborne, soluble, and particulate test substances at air/liquid interfaces Exposure characterization **Physical and chemical measurement of aerosol and vapor emissions:** aerosols include dusts, (nano-)particles, sprays, oil mists and vapors, and microorganisms; gases include volatile and semi-volatile organic compounds. **Mathematical modeling of inhalation exposure:** dispersion of pollutants (SprayExpo, used e.g. for biocides; quantification of particle deposition and resuspension for indoor air models); lung deposition and absorption (inter-species comparison; clearance and solubility) **Development of custom measurement and process technology:** measurement technology for dusts and aerosols (PM10, PM2.5, exhaust gases, nanoparticles), aerosol generation methods (calibration aerosols, nebulization methods, dry powder dispersion), process development (Method development and customized analyses) Regulatory research and risk assessment **Our services and expertise:** Data gap analysis and literature search: In cooperation with you, we determine what data are available and whether additional studies are necessary, and we check whether there is information publicly available about the substance in question. We are particularly experienced in working with substance categories and read-across. Dossier preparation: We prepare IUCLID-5 datasets for the studies, perform exposure and risk assessments, and prepare a chemical safety report (CSR) and the registration dossier. Counseling and support: We provide comprehensive counseling services and together with you develop a registration strategy tailored to your situation. Study design and monitoring: Experimental investigations, e.g. for toxicology testing, can be performed directly at Fraunhofer ITEM or are subcontracted to other testing institutes. Risk assessment and expert reports: In the form of expert reports, we document the (eco-)toxicological properties of substances and assess their risks to human health and the environment, also beyond the scope of REACH, for example, in the event of contamination or chemical residues in foods and products. **Registration and risk assessment:** of industrial chemicals/REACH of biocides	**BIOCIDES:** We have more than 20 years' experience preparing dossiers for biocidal active substances and biocidal products in different product categories on behalf of our clients. Fraunhofer ITEM can support its clients with any scientific and regulatory issues. This includes the evaluation of all data, identification and assessment of critical substances, and dossier preparation and submission. For questions beyond standard toxicology, we develop tailored solutions for our clients by applying read-across/bridging principles or integrated testing strategies, such as in-vitro methods. Our aim is to point out risks to health and the environment, to reduce these, and at the same time not to lose sight of the desired efficacy against harmful target organisms.

		of veterinary medicinal products of food additives	
		TRANSLATIONAL BIOMEDICAL ENGINEERING (Medical inhalation, Neuro-implants) - MEDICAL DEVICES (with strong focus on biomedical) **<u>1-Device development and manufacturing processes</u>** **Development of medical inhalers** **Bringing medical devices into clinic: respiratory devices and drugs** Development of smart inhalation devices: Dry powder inhaler: Optimized humidification of aerosols for inhalation: **Development of polymeric implants** **Bridging the gap: from academic research to clinical trials (MEDICAL DEVICES):** -Atomic layer deposition (ALD) of alumina barrier layers in the nm size range -Parylene C layers for active implant encapsulation -3D medical grade silicone rubber printing for individualized implant manufacture -Femtosecond laser processing -Plasma functionalization **<u>2-Testing and test methods</u>** **Testing of medical inhalers-Development of customized test benches** Enhancement of standard test methods or development of new methods according to a risk-based approach and taking into account specific project requirements Verification of device performance with the above methods during the development phase Identification of potential unwanted effects of medicinal aerosols on the inhalation circuit **Testing of active implants** Develop new test methods that make use of a multi-parameter model with elevated pressure and artificial body fluids at high concentrations. By setting up mathematical modeling in parallel, we can provide the desired long-term life span forecasts with acceptable accuracy. **<u>3-Regulatory support: MEDICAL DEVICES</u>** **Regulatory strategy and relevant processes for market approval – tailored to your specific requirements** Selection of an approval strategy, Implementation of this strategy, and **workshops** to sensitize for processes and documentation necessary for market approval. **MEDICAL DEVICE REGULATION:** Definition of risk management measures in compliance with (DIN EN) ISO 14971, biological evaluation of the medical device as part of the risk management process, and performance of relevant in-vitro and in-vivo tests in compliance with the (DIN EN) ISO 10993 standards under one roof. Clinical evaluation is performed primarily based on scientific literature and can be complemented, if necessary, by clinical trials. **Safety and risk assessment:** Risk management: support our partners throughout the development phase in minimizing any risks in compliance with the relevant standards. **Mitigation:** Development and implementation of safety features, Formal implementation of risk management, Any risk mitigation measures that may be required	
		PERSONALIZED TUMOR THERAPY <u>Single-cell analytics</u> Enrichment, isolation and molecular analysis of rare cells Decoding single cells <u>Innovative tumor models</u> In-vitro and in-vivo drug testing Advanced preclinical PDX models <u>Mathematical modeling and bioinformatics</u> Multi-level disease modeling Bioinformatics services and consulting	
		NANOMATERIALS: Assessment of nanomaterials requires their comprehensive characterization Combined use of in-vitro and in-vivo tests Harmonization of testing criteria SERVICES: Nose-only and whole-body exposure of rodents Toxicokinetics of inhaled particles Deposition and retention Particle clearance by using radiolabeled tracers Biopersistence of fibers	

		Bioavailability of metals from solid material particles Inflammatory reactions in the lung Enzymes and cytokines in bronchoalveolar lavage fluid Oxidative damage parameters Investigation of cell proliferation in the lung Histopathology	
		BIOCIDES: **Scientific and regulatory support** **Development of a registration strategy and support for the implementation of regulatory requirements** **Communication with competent authorities** **Letter of access negotiations (LoA)** **Notification of biocides in different countries** **Data collection and study monitoring** **Identification of data gaps** **Development of testing strategies and use of (Q)SAR** **Commissioning and monitoring of analytical studies and in-vitro and in-vivo studies** **Efficacy assessment and consultancy on label claims** **Risk assessment of active substances, biocidal products/families** **Assessment of the hazard profile including classification and labeling** **Substance of concern (SoC) identification and evaluation** **Evaluation of endocrine disrupting criteria (ED assessment)** **Exposure and risk assessment for humans and the environment** **In-house exposure measurements and analytics** **Dossier preparation and submission** **Dossier preparation for authorization of biocidal active substances and biocidal products/families according to the BPR (including IUCLID file; draft risk assessment (DRA) and summary of product characteristics (SPC))** **Dossier submission via R4BP** **Response to further inquiries and additional data requests by the authorities** **OTHER SERVICES** **Training courses** **Development of models for exposure and emission evaluation** **Assistance with strategic decisions and product development** **Inhouse exposure measurements and analytics**	Expertise in human and environmental toxicology Many years of experience in the preparation of dossiers for biocidal active substances and biocidal products/families Exposure and risk assessment Consulting and support in related regulatory areas including REACH, veterinary medicinal products, food additives, and cosmetics Development and evaluation of concepts and methods for chemical risk assessment, including development of (quantitative) structure-activity relationships ((Q)SAR) or exposure models
		Focuses of Research **DRUG DEVELOPMENT** **Testing of cell-based medicinal products** **Controlling antibiotic-resistant pathogens** **Human lung tissue for research on respiratory diseases** **Non-invasive breath gas analysis** **Development of novel biomarkers for use in clinical trials** **Clinical and translational fibrosis research** **Imaging of the human lung - visualizing drug efficacy** **CHEMICAL SAFETY AND ASSESSMENT** **Exposure science** **Non-animal toxicology testing** **Toxicity of fibers, particles, and nanomaterials** **Analysis of indoor and workplace air quality** **TRANSLATIONAL BIOMEDICAL ENGINEERING** **Innovative approaches for inhaled aerosol therapies** **Medical and environmental sensors** **Accelerated life cycle testing** **PERSONALIZED TUMOR THERAPY** **Single-cell technologies** **Identification of target structures and therapy prediction** **Mathematical modeling of disease processes** **Models of treatment and metastasis formation**	
GAB consulting	http://www.gabconsulting.de/home.html	**Agro-Chemicals/Feed Activities/Biocides/Biopesticides/REACH and CLP/Nanomaterials:** **Regulatory Aspects** Prepare applications Consortia management Expert Statements **Dossier Writing (One-Stop Writing)** **Study Conduction** Scientific Support (chemicals and microbials): -Physical-chemical tests -Ecotoxicological tests -Environmental Tests **Project Coordination / General Consulting (selected services)** Classification of product category (feed additive, biocide or veterinary drug) Literature research (Identification of data gaps) **Dossier Preparation (selected services)** Identification and evaluation of data gaps Cost analysis of dossier registration and completion of data package Time scheduling Support in laboratory contracting Scientific Support Study monitoring Dossier Preparation (selected services) Risk assessments (modeling and exposure scenarios) Expert Statements Literature search Submission **Follow-up Activities & Dossier Defence (selected services)** Review of authorities assessments Risk refinements Expert assessment and negotiation with authorities	
		Environmental Risk Assessment: **Regulatory Aspects** **Preparing Environmental Risk Assessments** Environmental Evaluations Negotiations with relevant authorities Montoring of developments in regulatory affairs **Environmental and Ecotoxicology Study Conduction** -Scoping -Contracting -Monitoring	

		Connected with laboratories and research institutions Development of Reports	
		Featured in Homepage: **Quality assurance** Monitoring and improvement of all processes **Data Base (of previous dossier data)** **Task Force / Consortium Management** **General Consultancy** -Scientific Support -Regulatory Support -Product development assistance -Procurement of Laboratories -Have great network of contacts -Regulation updates **The Fire Brigade** Team of senior scientists in case of urgent matters	
GBK Global Regulatory Compliance	https://www.gbk-ingelheim.de/en/	EHS AUDITING **OUTSOURCED Audit system software** Review of supply chains, product-safety relevant processes and documents system of evaluation, a practical aid for inspection of: Safety data sheets (SDS), Availability of dangerous goods labels Dangerous goods transportation logistics.	*cfp ® is an audit system which offers internet based tools for the review of supply chains, product-safety relevant processes and documents.* *fp ® provides a unique and innovative system of evaluation, a practical aid for inspection of safety data sheets (SDS), availability of dangerous goods labels and dangerous goods transportation logistics.*
		DANGEROUS GOODS SERVICES Taking over the responsibility of safety adviser for all modes of transport (road, rail, barge, sea). Classification/labelling of substances and preparations including evaluation of suitable packaging. Regular training to ensure your employees always act in compliance with all applicable regulations. Periodical audits guarantee to detect possible weak areas. Development of process-oriented checklists. Ongoing consultation for your organization.	
		TRAININGS AND SEMINARS Virtual or in person **Topics** Storage of hazardous substances (TRGS), Process optimization, Dangerous goods logistics, Labeling and packaging	
		EMTEL ® EMERGENCY TELEPHONE Access to a professional emergency call centre (24 hours / 7 days / 365 days per year) Emergency telephone number in 190 languages Fulfillment of your legal obligations Realisation of all airline and shipping company requirements Medical advice in case of poisoning Additional service in the USA: waste management Fulfillment of regional requirements on an emergency service Comprehensive support in case of accidents with chemicals MODULES EMTEL ® TRANSPORT EMTEL ® SDS EMTEL ® LABEL EMTEL ® DETERGENTS EMTEL ® LITHIUM EMTEL ® CHINA	

		INTERNATIONAL EHS CONSULTING **AUTHORING AND MONITORING OF SAFETY DATA SHEETS (SDS and labelling)** Classification and labelling of substances and preparations in the jurisdictions of EU, US and the Americas, Asia/Pacific. Authoring of Safety Data Sheets in the jurisdictions of EU, US and the Americas, Asia/Pacifics and all other worldwide standards. Providing of Safety Data Sheetsin 42 languages. Check and Monitoring of Safety Data Sheets with all regulatory content. Classification according to international dangerous goods law Ongoing consulting and training. **WORLDWIDE SUBSTANCE & PRODUCT- REGISTRATIONS (Advise you take over all tasks related with the registration.** Substance-/product registration in Europe, USA and Japan, China, Korea and Australia (other countries on request) Consulting services in connection with the registration REACH-Services **REACH-SERVICES FOR EU, US, CHINA JAPAN & KOREA** Support in identifying action plan needs and assistance in building the necessary REACH-Registry Advice on the selection of testing institutes and on establishing a suitable organization Determination of exposure scenarios and development of chemical safety reports Costing under the REACH-Process, cost savings through research of existing data Processing customer requests, possible synergy effects from wide customer base Consortia presentation / confidentiality of data and "Third Party" trade secrets **INTERNATIONAL CHEMICAL LEGISLATION** MSDS authoring as per GHS and all other worldwide standards in all European, American and several Asian languages. Classification and labelling of substances and preparations. Product registration services (e.g. REACH-registration, TSCA, METI, PICCS, AICS, DSL/NDSL). GBK offers a compliant emergency telephone number for your MSDS, according to legal requirements. Around-the-clock availability of your emergency telephone number: 7 days a week, 24 hours a day, 365 days per year. Ongoing consultation and training. **GHS SERVICES FOR EUROPE AND CHINA**	Our competent experts advise and support your company in accomplishing all legally mandatory REACH requirements. GBK supports you in all questions concerning international chemical legislation. We provide these compliance services together with a worldwide expert network.
		TP1 – GUIDELINE FOR HAZARDOUS MATERIALS TRANSPORTATION GBK-TP1 PORTAL Upload the prepared electronic transport documents and make them availavle on the TP1 server right away. EMTEL® EMERGENCY NUMBER GBK CONSULTING	

Granta (Part of engineering simulation company ANSYS)	https://grantadesign.com/	**GRANTA MI** **Enterprise material intelligence** R&D Innovate, for example with composites or additive manufacturing' Eliminate test duplication and avoid wasted effort' Capture and re-use application experience. **Design & analysis** Simulation tools **Procurement & production** Ensure consistency and accuracy of data across the company Decision Making support Problem-solving **In-service & compliance** Minimize environmental and resource impact Reduce regulatory risk Respond faster to materials-related customer issues **Support materials engineering** **Test data management** Capture and manage test data for all materials types – metals, plastics, composites. Analyze data to generate robust properties for design and simulation. Ensure full traceability and auditability throughout the process. **Composites** Traceability - Capture composites data and inter-relationships Analysis - Genrate final design values Qualiification - Test program planning and reporting Database: Reference Data - Data from NCAMP/AGATE, CMH-17, and Firehole Composites Proprietary materials Data Additive Manufacturing Ensure traceability and future-proof AM projects; capture the full picture: any test for powders, materials, parts. Capture the full picture: any test type for powders, materials, and parts. Consolidate, control, and share AM data across your organization. Manage key AM workflows. Understand process parameters and impact on performance. **Make better products** **Enable product engineering** Access materials data via the embedded MI:Materials Gateway app MI:Enterprise Connect technology to synchronize approved materials data with your PLM system **Empower simulation** Generate accurate materials models, with full traceability. Combine with authoritative reference data. Deploy data for use in CAE, increasing confidence in results and re-use of data **Reduce product risk** Avoid business risk due to restricted substance regulations such as REACH. Base decisions on robust data about the materials and specifications that drive use of restricted substances. Analyze your materials, processes, specifications to eliminate risk up-front. Consider compliance during design. Enable fast risk assessment for your existing products as regulations change.	

		CES Selector (250,000+ datasheets on grades of metals, composites, plastics, and more.) Metals – the MI-21 metals and consumables data, StahlDat SX and SteelSpec steels. Polymers – CAMPUS and M-Base Plastics, Prospector Plastics, and ChemRes chemical resistance data. Aero – MMPDS aero alloys, CMH-17 and Firehole composites. **Materials selection** **Data and tools** Search & Filtering tools Charting tools Comparison table Reference records and favorites 'Find Similar' tool Selection 'wizard' Performance Index Finder Engineering Solver Selection Report	A unique data set, compiled by Granta materials experts.
		Data Products AMORPHOUS METALS & METAL FOAMS ANSYS GRANTA MATERIALS DATA FOR SIMULATION ASM MEDICAL MATERIALS ASME BPV CODE CAMPUS AND M-BASE PLASTICS CAMPUS PLASTICS CMH-17 COATINGS COMPOSITES DESIGN COMPOSITES QED CRITICAL MATERIALS ECOINVENT KEY MATERIALS INDICATORS ESDU MMDH FIREHOLE COMPOSITES HUMAN BIOLOGICAL MATERIALS JAHM CURVE DATA MATERIALUNIVERSE MI-21 MMPDS NCS COLORS NIMS CREEP AND FATIGUE NIST LEAD-FREE SOLDERS PANTONE COLORS POWDER METALLURGY PROSPECTOR PLASTICS PROSPECTOR PLASTICS AND UL YELLOW CARDS RESTRICTED SUBSTANCES SENVOL DATABASE SHEET STEELS STAHLDAT SX STEELSPEC MaterialUniverse - 3,500 records providing physical, cost, mechanical, thermal, electrical, optical, durability, environmental data on virtually all purchasable engineering materials, plus extensive data on 240 processes General – tradenames, price, density… Composition – % composition, base material, filler… Mechanical properties Impact properties Thermal properties Processing properties Electrical properties Bio-data Optical properties Absorption, permeability Durability Geo-economic data Eco properties Application information	
		CES EduPack Training software	

Hermes Hansecontrol Group	https://www.hermesworld.com/de/ueber-uns/hermes-gruppe/hermes-hansecontrol-group/hermes-hansecontrol-group/	**Consulting** **requirement profiles** minimum requirements (e.g. limits, methods and scope) List of restricted substances (list of all legally prohibited or restricted substances per product) Custom profile (develop company-specific quality requirements e.g. take into account environmental requirements) **product labeling** Product Safety Act (ProdSG), eg manufacturer identification CE marking "Made in" marking Material composition according to VO1007 / 2011 (former Textile Labeling Act) Care Labeling Energy Labeling Ordinance (ENVKV) Electrical Appliance Act (ElektroG, WEEE) EMC Act Softlines: clothing, home and home textiles, footwear and leather goods Hardlines: hardware store products, tools, furniture, decorative, sports and leisure items toys Electricals and Electronics: Lighting, Appliances, Audio and Video Articles, Wireless and Telecommunications Equipment **Process analysis and optimization** supplier evaluation Product Risk Assessment product responsibility material requirements recall management crisis management Company certification **REACh** Training and advice Evaluation of products and materials Support in creating inspection strategy They can inspect in case of SVHC substances Document Service - receive standardized sample letters for suppliers and customer inquirie REACh documents (eg test reports) checked for plausibility and completeness **Risk Assessment** feasibility study Risk analysis of consumer goods, toys and entire product lines Product-related research and classifications. In the following procurement phase: Support in the selection of suitable materials, Inform about legally required inspections Give indications of safeguards that go beyond the statutory minimum. **Safety of children's clothing (DIN EN 14682)** Conditions (illustrated specification that explains the requirements of the standard in more detail and provides your employees with reliable assistance with the standard-compliant design of children's clothing from the design to the product release of your products.) Seminar (one-day seminar in our company or at your location) - theoretical foundations and the practical implementation of the standard specifications by means of examples. Examination of samples	Product Safety Act (ProdSG) - Safety of children's clothing As Hermes Hansecontrol is represented in this committee, our experts are always up to date and will gladly advise you on the correct implementation of the standard requirements.
		Product testing **Chemical analysis / pollutant tests** -Organic analytics chlorophenols Azo dyes (cleavable amines from azo dyes) Disperse dyes, dyes (allergenic, carcinogenic) SCCP AP / APEO Chloroorganic carriers dimethyl fumarate bisphenols Specific migration (eg bisphenol A, amines, phthalates, PAH, melamine) formaldehyde preservatives Perfluorinated compounds (eg PFOS, PFOA), fluoroteleleral alcohols and acrylates) Phthalates, phthalate substitutes Polycyclic aromatic hydrocarbons (PAHs) Organotin compounds Toys according to EN 71-9 / -10 / -11 Screening Analysis N-nitrosamines, N-nitrosatable substances VOC Flame retardants -Inorganic analytics Determination of heavy metals (eg Pb, Cd) in commodities Nickelability / DIN EN 1811) Metal migration to EN 71-3 (toys) Formaldehyde in leather and textiles Cr VI in leather and textiles pH levels in leather and textiles -Testing Specifications (Prüfgrundlagen) Commodities Ordinance (BedGgstV) Chemical Prohibition Ordinance (ChemVerbotsV) Packaging Ordinance (VerpackV) Framework Regulation (EC) No 1935/2004 Regulation (EC) No 10/2011 Plastics Regulation Custom requirements BfR Recommendations REACh Regulation 1907/2006 Annex XVII and SVHC Candidate List POP Regulation 850/2004 **Electrics and electronics / safety checks**	

		-electric security GPSD Low Voltage Directive Toys according to EN 62115 machinery Directive GS ("Tested Safety") and "Type Approved" marks CB certification -Eco-design Implementation of the directive for energy-related products Energy label, standby consumption -photometry Luminous flux Color rendering **EMC and RED** **performance characteristics** Large household appliances Energy Labeling Ordinance (EnVkV) Eco-design Directive product-specific standards Stoves, ovens and hobs, DIN EN 60350 / DIN EN 50304 Washing machines, DIN EN 60456 Clothes dryer, DIN EN 61121 Washer dryer, DIN EN 50229 Dishwasher, DIN EN 60436 / DIN EN 50242 customized requirements Small household electrical appliances Norm requirements (in-house test plants) **Fitness for use Fit for Use (FFU) (marketability)** Checking for marketability based on documents (MarCo) Individual tests according to test plans developed by us with grading Comparison test against reference samples or in accordance with requirements of Stiftung Warentest Endurance test according to customer requirements Assessment of function, handling and processing **inspections** -Inspections of production sites technical skills production volumes Social audits Environmental standards **-I**nspections on the product product groups: soft Lines Hard Lines Electrics and Electricals toys Judgment of: packaging Storage and transport conditions fumigation **Mechanics / safety and performance tests** GS examination and certification Testing according to legal requirements, eg ProdSG Product development accompanying tests Safety and endurance tests Testing physical quantities such as forces (+/- 20kN), torques, lengths, speeds, power or speeds Testing for use properties Quality inspection according to market requirements (FFU) **RoHS investigations** **Sensors and LFGB** sensors Examinations according to LFGB Testing principles (excerpt) **textile Physics** Material composition according to VO1007 / 2011 (former Textile Labeling Act) Color fastness tests including light, washing, water, sweat, saliva, friction, chlorine bath water and sea water Checking the dimensional change, seam rotation and optics Examination of the pill tendency Abrasion resistance Colorimetric measurement Testing of functional clothing according to ISO, ASTM, JIS L Zipper checks (DIN and BS standard) Tensile, tensile and compression tests Garnprüfungen **Marketability - Market Compliance (MarCo)**	
		Certificate Database (Hancontrol certification)	
		Tools & Services (Software) - Hermes Group shipment tracking Find a parcel shop ProfiPaketService Certificate Database click2supplychain.com Hermes PORT	

Hohenstein	https://www.hohenstein.com/en/	**Conformity** Textile technological and chemical tests Testing for harmful substances - with STANDARD 100 by OEKO-TEX® Testing of leather products LEATHER STANDARD by OEKO-TEX® - your reliable label for leather articles tested for harmful substances Wastewater analysis Inspections and audits Technical performance descriptions Medical compression textiles (as per RAL) Medical compression textiles Colour and whiteness assessment Toys	
		Sustainability Chemical management ECO PASSPORT by OEKO-TEX® - your certification for a responsible chemical management Fair working conditions Implement fair working conditions - with STeP by OEKO-TEX® Ecological impact STeP by OEKO-TEX® - your standard to protect the environment Wastewater analysis Management systems Biodegradability GMO testing of cotton	
		Performance Comfort Compression effect of textiles Odour management UV protection effect UV protection Biocides Comparative product tests Testing of detergents Suitability for leasing	
		Occupational clothing Personal Protective Equipment Workwear	
		Health Harmful substances STANDARD 100 by OEKO-TEX® - Have your textiles tested for harmful substances Medical compression textiles Medical compression textiles (as per RAL) UV protection UV protection effect Applied hygiene Hohenstein Health Center Medical products	
		Fit Innovation Pattern service Fitting test Further training Consulting and individual project support	
		Textile care Industrial laundries Suitability for leasing Domestic textile care	
		Standards and Certificates Hohenstein Quality Labels Biologically effective Biologically safe Domestic washing machines and detergents Compression test Fit (clothing) Sleeping comfort Wear comfort UV protection Harmful substances and Workmanship OEKO-TEX® (consumer protection and product stewardship for textiles and Leather) -Tested for harmful substances -Manufactured in an environmentally friendly and socially responsible way -Effective consumer protection -Transparent information about sustainable, responsible production along the textile supply chain UV STANDARD 801 RAL system partner	Hohenstein is a founding member of the International Association for Research and Testing in the Field of Textile and Leather Ecology, known in short as OEKO-TEX®.
		Training Textile basic knowledge Clothing technology Safety and sustainability Washing and cleaning Comfort and performance Medicine and healthcare	
		Research Public research Scientific advisory board Partner networks	
Hohmann rechtsanwälte	https://www.hohmann-rechtsanwaelte.de/	**Offer of advice Foreign Trade Law:** EU and US export law EU and US customs law White Collar Crime Compliance of service providers International Cotnract Law International Distribution Law International Right	
		Advice on Substance Law: Chemicals and Biocides: Compliance with REACH and Biocides - Demarcation issues - Approvals -Registrations -Markings	

		Hazardous Substance Product Safety Law Cosmetics Law FDA	
		Advice other commercial and constitutional - Competition, antitrust, commercial, procurement law	
ibacon GmbH	https://www.ibacon.com/	**PLANT PROTECTION PRODUCTS** **e.g. Regulation (EC) No 1107/2009** **BIOCIDES** **e.g. Regulation (EC) No 528/2012** **MEDICINAL PRODUCTS FOR HUMAN USE** **e.g. Regulation (EC) No 726/2004** **VETERINARY MEDICINAL PRODUCTS** **e.g. Regulation (EC) No 726/2004 and Directive 2009/9/EC** **REACH GHS / CLP** **e.g. Regulation (EC) No 1907/2006** a broad spectrum of study types that are required for the registration of plant protection products/ biocides/ pharmaceutical products/veterinary medicinal products/ industrial chemical products studies according to recent national and international guidelines, guidance documents and literature (e.g. OECD, ISO, OCSPP, JMAFF, EPPO, IOBC, SANCO and SETAC) a state-of-the-art testing facility including 14C-laboratory tailor-made study designs	20 years of expertise in the conduction of GLP studies the knowledge to deal with difficult substances
		AQUATIC ECOTOXICOLOGY - Studies with aquatic invertebrates, plants and fish -Environmental risk assessment of chemicals -Possibilty to run in parallel taylor-made modelling approaches -Aquatic animals and plants -Analytical Dose Verification	
		CHEMISTRY Physical-chemical properties studies, biodegradation and residues	
		ENVIRONMENTAL FATE Aerobic and anerobic transformation in soil and water Transformation in Soil Transformation in Water Transformation in Manure Bioaccumulation and Bioconcentration	Our environmental fate laboratory is equipped with LSC, radio-HPLC, HPLC-UV, and LC-MS/MS. All studies can be conducted with 14C-labelled substances as well as with non-labelled test substances.
		TERRESTRIAL ECOTOXICOLOGY Non-target arthropods, soil organisms, bees, non-target plants and field studies Non-target Arthropods Soil Organisms Bees Non-target plants Field Studies	
		ECOLOGICAL MODELLING Taking laboratory results one step further For survival data, we offer analysis with the Generalized Unified Threshold model of Survival (GUTS) For the analysis of sublethal effects, we provide analysis with DEBtox models For Toxicokinetic – toxicodynamic (TKTD) modelling on population level, we offer analysis and predictions with DEB-IBM For the Honey Bee population level, we are working on the application of BEEHAVE (Becher et al, 2014)	
		QUALITY ASSURANCE **Services for Environmental Risk Assessment Studies** Aquatic and terrestrial ecotoxicology Physical and chemical parameter characterization Residue analysis Environmental fate Field studies **Inhouse Audits:** Support of internal QA In-house audits of studies and processes – specialized in studies for Environmental Risk Assessments In-house audits of facilities **Site and Vendor Audits:** Audit and/or pre-placement assessment of facilities at 3rd party Contract Research Organizations **Training:** Tailored to your needs (including course material and a certificate of attendance) GLP training on various topics (GLP basic and refresher courses, management and study director responsibilities, QA role, management of multi-site studies, archiving of GLP data) **Standard Operating Procedures:** Preparation and revision of standard operating procedures Review of standard operating procedures on GLP conformity **Validation of Computerised Systems:** Advice and assistance on the development of validation standards and performance of validation process **Support for Authority Inspection:** Implementation of quality assurance systems for initial inspections Supervision of the first GLP study Review of existing GLP concepts and improvement of existing systems and processes Pre-inspection training and briefing of staff at all levels	

		TESTING OF POTENTIAL ENDOCRINE DISRUPTORS Level 1 (Existing data and existing or new non-test information) Physical and chemical properties QSAR model predictions TKTD modelling for making best use of existing data Level 3 (In vivo assays providing data about selected endocrine mechanisms / pathways) OECD 231 Amphibian Metamorphosis Assay OECD 229 Fish Short Term Reproduction Assay OECD 230 21 Day Fish Assay OECD Draft Xenopus Embryonic Thyroid Assay Level 4 (In vivo assays providing data on adverse effects on endocrine relevant endpoints) OECD 234 Fish Sexual Development Test OECD 241 Larval Amphibian Growth and Development Assay OECD 210 Fish Early-life Stage Toxicity Test OECD 242 Potamopyrgus antipodarum Reproduction Test OECD 243 Lymnea stagnalis Reproduction Test OECD 218/OECD 219 Chironomid Toxicity Test OECD 211 Daphnia Reproduction Test OECD 222 Earthworm Reproduction Test OECD 225 Sediment Water Lumbriculus Toxicity Test using Spiked Sediment OECD 226 Predatory Mite Reproduction Test OECD 232 Collembolan Reproduction Test in Soil Level 5 (In vivo assays providing data about selected endocrine mechanisms / pathways) OPPTS 850.1500 Fish Full Lifecyle Test OECD 240 Medaka Extended One-generation Reproduction Test OECD 233 Sediment Water Chironomid Life Cycle Toxicity Test	
IDRG (International Development of Regulatory Globalization)	https://www.idrgplantprotection.eu	**Workshops** Showcase the progress in the international harmonization efforts, we build and review a virtual data package as a team, we discuss problems and solutions that participants might bring from past experience, We establish a list of 'dos and dont's' when managing a win-win task-force.in person at our training site in person at your training site or by webinar.	
		Coaching Workshops provide you with an overview and the general approach that you can apply to all countries, products, crops and pests. plant protection problems to be heard and to be resolved	
		Strategizing	
imds Professional	https://www.imds-professional.com/	**material research** You provide us with your parts lists, drawings or other documents and we research the materials and standard components for you to make the required IMDS entries.	
		IMDS entry (data entry) Based on your information or our material research Supplier data sheets Revision If a rejection is required, we will tell your supplier what to do in order to gain acceptance of the material data sheets. We coordinate the special requirements with your customers, create the customer data sheets and send them.	
		IMDS project management e.g. the re-sampling of supplier parts, we take over the complete work processes that arise in connection with the IMDS requirements - including deadline monitoring and quality control.	
		IMDS Supplier Management -Adjustment of your supplier purchasing conditions. Your data entry requirements and test rules as well as other IMDS requirements will be communicated to your supplier in the form of a checklist. Request of necessary data from your suppliers and monitor the adherence to deadlines. Check incoming supplier data for content and formal accuracy. In case of rejection, we explain the reasons for a quick correction and inform your suppliers in parallel by e-mail about the necessary revision. -Monitor the status of requested material data sheets for you and remind your suppliers in good time to set the data. We support a technical clarification with your suppliers for an efficient and error-free data entry.	
		IMDS Customer Management Monitor customer end dates, Conduct discussions with your customers in the case of special requirements Check the status of the sent material data sheets up to the complete acceptance by your customer.	
		IMDS Software Support There are several providers of IT solutions that speed up or simplify IMDS editing. As a rule, these only make sense if you process larger quantities of material data in the IMDS system. When we provide the IMDS service for you, we will work with the solutions or IMDS software you require or provide . To support the IMDS , DXC Technology (formerly HPE) has developed software-based solutions: IMDS AI (IMDS Advanced Interface) as an interface for the automated downloading and uploading of large amounts of data; eCenter-icm2 as an application for the collection, management and control of material data; IMDS with a2 optimizer as IMDS access service with additional features compared to the online application; the REACH module and the RRR report as tools to integrate the extra features into the a2 optimizer. Find out more about IMDS Advanced Solutions Services here . We are happy to advise you! If you have had to fulfill IMDS requirements for about one work week per month , it is already worth purchasing the IMDS-a2. As part of our IMDS services , we use the a2 optimizer and reduce the IMDS processing costs for you.	
		IMDS-Company-Merge and IMDS-Company-SplitOff If the changes in internal IMDS processes or ownership necessitate a reorganization of the company structures listed in the IMDS, we will take over the IMDS Company Merge or IMDS Company SplitOff for you.	
		CAMDS - Chinese IMDS	
		Consulting	
		TRAINING IMDS CDX CAMDS REACH ROHS GADSL CONFLICT MINERALS BIOCIDES	
Innoturn	https://www.innoturn.de/	**TRAINING for REACH, ROHS, conflict minerals:** Sensitization of the management Fast company-specific training for new employees or REACH representatives Quick overview of legal updates REACH Guide available on website Open seminars	Implementation of material compliance requirements in more than 100 companies: REACH regulation, RoHS directive and conflict minerals Regular training on the REACH regulation in cross-industry seminars since 2008 with more than 2,050 satisfied participants in the REACH seminar
		CONSULTING for material compliance Preparation of the impact analysis by innoturn questionnaire Know-how protection by secrecy agreement	Organizational consulting for the implementation of material requirements in small and medium-sized companies
		REACH SVHC service Compliance with REACH compliance for communication in the supply chain	Development of requirement profiles in the supply chain with

		Differentiation from other legal obligations (RoHS, conflict minerals, etc.) Procedure concerning databases eg IMDS, BOMcheck	specification of supplier obligations and fulfillment of necessary customer information
		REACH Audit Services REACH audit as preparation for authority examination Compliance with REACH obligations for substances, mixtures and articles Ensuring compliance with obligations and their documentation for the persons and departments involved	Derivation of the impact analysis and documentation structure regarding substance-based product requirements
		REACH NODES service Top Down Approach for determination of duties Documentation overview in the company and organizational recommendations	Project management consulting: Process development for the industrial upscaling of the microwave synthesis of organic substances
		REACH Outsourcing Service Low-cost service offers through independent evaluation	training Dr. rer. nat. Mineralogy in Experimental Petrology (University of Bochum)
		REACH - Risk Analysis Service Derivation of strategic options for action Avoidance of compliance risks Avoidance of business risks (delivery failures) Cost estimate for measures	Vice President, Clariant Intl. , Mining Chemicals for the treatment of mineral raw materials New Business Development Director, Hoechst AG for filters in the automotive sector and building technology Research Staff Member for Ceramic Materials in Electronics Applications, IBM, USA
Intertek	https://www.intertek.com/	**Assurance:** Intertek Ontrack Management Systems Certification Corporate Social Responsibility Risk Management Supply Chain Assessment Legal & Regulatory Sustainability & Environmental Benchmarking in Quality & Performance Facility/Plant & Equipment Laboratory Outsourcing	
		Testing: Automotive Testing Bioanalysis Services Biofuels Testing Chemical Testing Contamination Detection and Analysis Energy Efficiency Testing Environmental Testing Fire & Flammability Testing Food Testing Hardlines Testing Health & Beauty Testing Materials Testing Mineral Testing Non-Destructive Testing Packaging Testing Petroleum Testing Pharmaceutical Testing Polymers & Plastics Testing Product Safety Testing Quality & Performance Testing Textile & Apparel Testing	
		Inspection: Agricultural Cargo Inspection Building Product Inspection Chemical Cargo Inspection Electrical Product Inspection Industrial Technical Inspection Services Exporter & Importer Inspection Field Labeling Inspection Food Inspection Pipe Traceability and Inspection Data – Intertek pipeAware™ Inspection Data Management Software (IDMS) Juvenile Product Inspection Management Systems Certification Minerals Inspection & Surveying Petro-Chemical Cargo Inspection Petroleum Cargo Inspection Site Construction Inspection Textile & Apparel Inspection	
		Certification: Appliances & Electronic Certification Aerospace Certification AS9100 Series Building Products Certification EcoReinforcement BES 6001 Certification Certification of Conformity / Inspection by Country Certification Services for Consumer Products Eco-Textile Certification Food Certification Food Service Equipment Certification GS Certification Hazardous Locations Certification HVACR Certification Industrial Equipment Certification IT & Telecom Certification Juvenile Product Certification Life Safety & Security Certification Lighting Certification Management Systems Certification Medical Device Certification Textile Certification	
		Auditing: Auditing and System Certification Services Corporate Social Responsibility Sustainability Benchmark Profile Vendor Inspection Supply Chain Assessments Laboratory Benchmarking Technical Auditing and Assessment for Manufacturing and Industry **Auditing Solutions by Industry** Cosmetics Pharmaceuticals Food Textiles & Clothing	

		Industrial Manufacturing	
		Consulting Analytical & Chemical Consulting Services Asset Integrity Management Building Sciences & Enclosure Consulting Consumer Product Assurance Corporate Social Responsibility Services Corrosion & Materials Consulting Energy & Water Consulting Services Expert Witness Services Failure Investigation Food Scientific & Regulatory Consulting Hazardous Locations Consulting Health, Environmental & Regulatory Services Industrial Equipment Consulting Medical Device Consulting Services Pharmaceutical Consulting Services Power Plant Consulting Services Product Consulting Services Safe Operations & Performance Supply Chain Security Sustainability Well Control Technical Consulting	
		Sourcing (tools to help choose suppliers) Supply Chain Assessments Intertek Inlight Green Supply Chain Management Services Ethical Sourcing Forum Industrial Technical Inspection Services **Outsourcing:** Corporate Social Responsibility Food and Agriculture Laboratory Outsourcing Pharmaceutical Services Product Risk Assessment and Management Laboratory Benchmarking, Consulting and Evaluation REACH Outsourcing Services Technical Staffing Services	
		Training **Frontline Worker Training** Intertek Alchemy Award-winning Courseware Course-authoring Software Alchemy Coach: On-the-Floor Validation Training Reinforcement Communications Digital Documentation & Audit Reporting **Intertek Academy (one in Germany)** **Management Systems Training** IRCA-Registered Training Courses Management Systems Seminars and Training Courses **Oil & Gas Training** Intertek Well Control Training Oil and Gas Technical Training Petroleum Industry Training Safe Operations & Performance **Safety** Workplace Safety Consulting & Training Food Safety Consulting & Training **Asset Integrity** Asset Integrity Management Training Flow Assurance - Wellbores to Export Course Pipeline Corrosion and Integrity Management Course	NANO MATERIALS: Textiles Pharmaceuticals Food and Nutrition Cosmetics - Speciality chemicals - Rubbers, plastics and composites materials Electronics
		Nanomaterial specific: Nanotechnology Safety and Regulatory Services Surface Analysis Nanomaterials Analysis and Research Particle Size Testing Particle Size Analysis via Differential Centrifugal Sedimentation Characterisation of Nanotechnology in Cosmetics Nanoparticles in Pharmaceutical Products Analysis Graphene Analysis and Quality Assurance Carbon Nanotube Analysis and Characterisation Auditing and Systems Certification	Our extensive nanomaterials and nanotechnology capabilities include pre-clinical study design, regulatory affairs and liaison, toxicology, epidemiology and risk assessment. At Intertek, our scientists also provide the chemical and physical testing you need to meet evolving national or international regulatory requirements. Our team characterise your products through nano-scale analysis covering the critical attributes of particle size, morphology, dispersion, uniformity, and optical and physical properties.
		Medical Devices: **Regulatory Requirements for Medical Equipment** Help you navigate regulatory requirements for IEC 60601-1, IEC 60601-1-2, MDD, IVDD, and the CB Scheme. **IEC 60601-1, 3rd Edition Standard** **IEC 60601-1-2:2007 Electromagnetic Compatibility** **Medical Devices Directive 93/42/EEC** **In Vitro Diagnostic Directive 98/79/EC** **The CB Scheme** **EU RoHS 2 Recast Directive 2011/65/EU** -technical documentation, -BoM assessment, -testing, -consulting, and -product certification. **Medical Product Testing Solutions** Reach your target markets quickly and cost-effectively with electrical, software and mobile application testing and certification for your medical device. **Home Healthcare Equipment** Certify your product to IEC 60601-1-11 ahead of the June 1, 2013 adoption deadline. **Wireless Device Technology** **Imaging Equipment** Testing and certification to IEC 60601 standards for medical imaging equipment.	for more than 50 years Intertek has been partnering with medical device manufacturers to develop product assurance and global regulatory solutions for testing, certification and auditing. Intertek consulting and assurance services provided for medical devices are carried out by medical device experts of a separate legal entity who have no influence over any aspect of Intertek Notified Body activities.

		Laboratory Equipment Meet IEC 61010-1 compliance deadlines with guidance and testing support from our global team of engineers specializing in medical, laboratory, and test & measurement equipment. **Batteries used in Medical Equipment** Reach global markets with compliance to IEC 62133 for lithium-ion batteries used in medical, IT and home healthcare equipment. **Active Implantable Medical Devices** Verify that electrical and environmental impacts pose no effect to your implantable device with electrical safety and EMC compatibility testing. **Medical Devices - A to Z** From dental chairs to diagnostic laser equipment, and hospital to home care, we test any electrical device on the market to meet your regulatory needs. **Embedded Software and Mobile Medical Applications** Lack internal resources to validate software or test mobile apps across the many smartphones in the global market? Our specialists will quickly help you validate your software and mobile applications. **Environmental & Regulatory Services** We fully support the medical device industry to comply with global health and environmental regulatory requirements and restrictions, such as RoHS. Battery Directive (2006/66/EC) Biofuels California AB 1953 California Green Chemistry California Lighting Efficiency and Toxics Reduction Act (AB 1109) California Proposition 65 California RoHS California Safe Cosmetics Act (SB 484) California Toxic Toy Bill (AB 1108) Canada Chemical Management Plan Canada Environmental Assessment Regulations for Food & Drug Act New Substances Canada In-Commerce List for Food & Drug Act Substances Canadian Cosmetics Regulations Canadian New Substances Notification (NSN) Regulations Canadian Agent Canadian Food Inspection Agency (CFIA) Non-Food Chemical Applications Carbon Footprint China RoHS CLP Regulation (Classification, Labelling, and Packaging) Conflict Minerals Services Consumer Product Safety Improvement Act (CPSIA) Decabromodiphenyl ether (decaBDE) Dimethylfumarate (DMF) End-of-Life Vehicle (ELV) EPEAT (Electronic Product Environmental Assessment Tool) ErP Directive European Union Biocides Regulatory Services EU Cosmetics Regulations E-Waste Food Contact Regulations Food Health Claims Generally Recognized as Safe (GRAS) Global Harmonized System (GHS) Green Chemistry Green (Environmental) Claims Health Canada: DEHP and BPA H.R. 2420: The Environmental Design of Electrical Equipment Act (EDEE) Act H.R. 4428: Children's Toxic Metals Act Japan Green (JGPSSI) Korea RoHS Labeling of Hazardous Art Materials Act (LHAMA) Evaluation Material Safety Data Sheets (MSDS) Nanotechnology New Substance Notifications Novel Foods Regulation (EC 258/97) Ontario Section 34 Notifications OSHA Hazard Communication Standard (HCS) Services Packaging and Packaging Waste Directive (94/62/EC) REACH Restricted Substance Lists (RSL) RoHS Directive Sustainability Taiwan Existing Chemical Substance Nomination (ECN) Directions 2009/11/02 Tier 2 Chemical Inventory Reporting Toxic Substances Control Act (TSCA) Toxic Trio Chemical Services Toy Directive (88/378/EEC) Treatment Instructions and Dismantling Information Turkey CLP Regulation Turkish Chemical Regulation US Cosmetics Regulations WEEE Directive (2012/19/EU) **SPECIFIC SERVICES** Global Chemicals Management Notification/Registration of Chemicals Food Contact Testing Services Consulting Services Bill of Material (BoM) Assessments Toxicology Risk Assessments Labeling of Hazardous Art Materials Act (LHAMA) Evaluation Contamination Risk Assessments Scientific Assessments and Reviews Hazard Communication Environmental Auditing and Certification Services Compliance Footprint® Global Certification Corporate Litigation Support Compliance Auditing, Training and Mediation **Medical Management Systems Certification & Auditing** Get to market faster with integrated compliance solutions and a committed, global team on your side. ISO 13485:2016 Medical Device Single Audit Program (MDSAP) Medical Device Directive (MDD) ICMED - Indian Certification of Medical Devices ISO 22716:2007 - Cosmetics GMP Medical Device Regulation (MDR) ISO/IEC 27001 – Information Security Management ISO 45001 - Occupational Health and Safety Management ISO 22301 – Business Continuity Management **Scientific Support Services** Medical device and materials testing including safety assessment through extractables / leachables and bioanalysis supporting all stages of development and manufacturing.	

		R&D Analytical Support Material Characterization and Failure Analysis Interaction Assessments in Combination Devices Stability and Medical Device Testing Regulatory, Auditing and Microbiology Services Manufacturing Crisis and Rapid Response **Clinical Research Services** Multi-disciplined clinical teams who provide robust, GCP and ISO 14155 compliant clinical trials for low risk medical devices. In Vitro Oral Care Product Testing Skin care product dermatology for cosmetics and consumer healthcare **SPE-3000-15** Serves as the model code for the field evaluation of medical electrical equipment (MEE) and medical electrical systems (MES), specifically pertaining to safety from electric shock, fire and mechanical hazards. **Auditing and Systems Certification**	
iPoint	https://www.ipoint-systems.com/	**Software Services** **> Software Support & Maintenance** Support through Portal and E-mail eLearning (Access to Knowledge Base, User Guides and Community) Documentation and System Requirements Updates & Assistance **>Software Implementation Services** **Strategy** Compliance Strategy Workshop - Sustainability programs and compliance programs **Project Planning & Pilot Implementation** Process Definition Composition of suitable iPoint Solutions Project Plan / Road Map Fast Track Pilot Implementation Gap Analysis & Fine-Tuning Quality Assurance Data Migration **Roll-Out & Integration** Roll-Out Project Management (single point of contact) Integration in Customer Environment / Systems / Processes incl. ERP, PDM/PLM Customer Specific Developments User and Administration Training **> Data Hosting** Customer In-house Solution Environmental Health Safety Software Trial Cloud Solutions Private Cloud Public Cloud Environmental Health Safety Software Test Hosting & SaaS Data Hosting Software as a Service **> SAP Competence Center** Focus: XI/PI Traditional methods such as RFC and IDOCS Environmental Health Safety Software Trial QM-Modul SAP IQOS Environmental Health Safety Software Test SAP DMS SAP BW	
		Consulting Services > Compliance & Sustainability Strategy Workshops **Topics**- REACH/RoHS/Conflict Minerals/Human Trafficking and Modern Slavery/Life Cycle Assessment/Environment, Health & Safety/Circular Economy Introduction into the chosen workshop topic Company assessment Situation and gap analysis Practical use cases Capacity projection Roadmap and strategy development **Program Execution & Reporting** Supply Chain Engagement Training Reporting Legal Disclosures Public/Investor Relations Audit Assistance > Data Collection Management Data Collection & Validation Data Analysis & Processing Reporting > Content Data Management Regulatory data Substance Data > Supplier Management Supplier Qualification Supplier Education Supplier Escalation	
KFT	https://www.kft.de/en/home.php	**Communication** **Safety Data Sheets** Compilation KFT Use Survey Identification labels Operating instructions Substance registration Emergency numbers **Maintenance** Basic Maintenance Premium Maintenance Premium Plus Maintenance **KFT ChemDoc24** **KFT Control & Care**	Linkedin Specialties: Hazardous Materials Advising, GHS and CLP, Material Safety Data Sheets, REACH, Biocides Registration, Dangerous goods Advising, Checking of marketability, and Chemical Compliance
		Compliance **Chemicals** REACH consulting Late pre-registration Registration	ISO 9001 Certified Company

		Dossier compilation CSR compilation Only representative Third Party / Trustee SIEF management **Biocidal products** Reporting **Cosmetics** Advice on cosmetics The CPNP EU notification procedure Safety assessment/Product information file (PIF) Marketing review/Marketability tests worldwide **Consumer Products** Marketing audit Product Registration BfR registration WRMG registration	
Knoel	https://www.knoellconsult.com/en/business-units-4	Biocides: -Toxicology -Authorisation -Efficacy -Environmental Fate -Endocrine Disruptors (ED) -Ecotoxicology	
		Industrial Chemicals: -Toxicology -Ecotoxicology -Exposure Scenarios -Registration Strategies -Authorisation -CLH Dossier Preparation -Cosmetics -Endocrine Disruptors (ED) -Support in Evaluation Processes	
		Product Safety: -Articles -Dangerous Goods -Downstream Users -Regulatory Compliance -Safety Data Sheets (SDS) -Seveso III -Product Notification	
		Medical Devices: -Quality Management Consulting -Regulatory Consulting -Project Management -Clinical Safety Consulting -Biological Safety Consulting -Design and Development Consulting -Training: -Regulatory requirements for product registration in global key markets (Europe, Asia, North & South America) -FDA inspections -Strategies to get experience in biological evaluations (10993-series, biological safety assessments, toxicological risk assessments), clinical evaluations of medical devices (MEDDEV 2.7.1 Rev 4, 2017/745) and IVDs (2017/746).	
LAUS GmbH	https://www.laus.group/en/	**Product Groups:** Chemicals Pesticides and Biopesticides Cosmetics Biocides Veterinary Medicinal Products Human Medicinal Products Medical Devices FFDCA | FIFRA | TSCA	
		Physico-Chemical Properties OECD/EU-Methods UN-Methods CIPAC-Methods FEA-Methods	
		In vitro Toxicology in vitro Skin Tests in vitro Eye Tests in vitro Skin Sensitization Cytotoxicity Endocrine Properties	
		Mutagenicity and Genotoxicity Testing of gene mutations on bacteria according OECD 471 Testing of numerical and/or structural chromosome aberrations (aneugenic and clastogenic effects) on mammalian cells/human lymphocytes according OECD 473 or OECD 487 Testing of gene mutations on mammalian cells according OECD 476	
		Ecotoxicology Aquatic Studies Terrestrial Studies	
		Biodegradation Ready Biodegradability Inherent Biodegradability Special Biodegradation Tests	
		Environmental Fate 14 C-marked simulation tests bioaccumulation OECD 106 - Adsorption / Desorption using a Batch Equilibrium Method OECD 111 - Hydrolysis as a Function of pH OECD 121 - Estimation of the Adsorption Coefficient (Koc) on Soil and Sewage Sludge using High Performance Liquid Chromatography (HPLC)	
		Analytical Chemistry and Instrumentation Development, Implementation and Validation of Analytical Methods Revalidation or ILV Studies (Independent Laboratory Validation) for the identification and quantification of active substances in Plant Protection Products according to SANCO/3030/99 rev. 4 Analytical Measurements within Ecotoxicological, Toxicological and Physico-chemical Studies Residue Studies of Formulations in Various Matrices 5-Batch Analysis Sameness Studies according REACH	
		Testing for endocrine properties according to OECD Level 2 Estrogen and Androgen Receptor Binding Affinity (YES / YAS Assay) Level 4 Fish Sexual Development Test (OECD 234) Fish Reproduction Partial Lifecycle Test Sediment-Water Chironomide Toxicity Using Spiked Sediment (OECD 218) Sediment-Water Chironomide Toxicity Using Spiked Water (OECD 219)	

		Daphnia Reproduction Test (OECD 211) Earthworm Reproduction Test (OECD 222) Sediment Water Lumbriculus Toxicity Test (OECD 225) Level 5 Fish Life Cycle Test (Danio rerio) (OECD DRP 2008)	
		Nanomaterials: **Methods for the characterization of Nanomaterials and Nanoforms** TEM: Transmission electron microscopy PSD: Particle Size Distribution Guidelines: OECD 110 or CIPAC MT 187 BET (Brunauer–Emmett–Teller) Determination of the specific surface by gas adsorption Density: bulk density, tapped density or skeletal density Hydroxy groups acc. SEARS Determination of Specific Surface Area of Colloidal Silica by titration with sodium hydroxide Point of Zero Charge (physical state, when the electrical charge density on a surface is zero) REM = NO Scanning electron microscopy XRD: X-ray diffraction Characterization of amorphous Nanoforms including quantification by Rietveld method **Physical-chemical properties** OECD 105 - Water solubility OECD 105 - Water solubility for silica with Tyndall effect OECD 29 - Transformation – Dissolution Study for inorganic Nanomaterials OECD 318 - Dispersion Stability of Nanomaterials in Simulated Environmental Media OECD 110 - Particle Size Distribution (PSD), angular laser diffraction wet and dry Dustiness - CIPAC MT 171 **Ecotoxicology** Aquatic plant studies: Lemna OECD 221 Invertebrates studies: Daphnia OECD 211 Fish studies: OECD 210, OECD 212, OECD 215 Earthworm studies: OECD 222 Chironomus studies: OECD 218 and OECD 219 **Genotoxicity/Mutagencity** OECD 473: In Vitro Mammalian Chromosome Aberration Test OECD 487: In Vitro Mammalian Cell Micronucleus Test OECD 490: In Vitro Mammalian Cell Gene Mutation Test: Mouse Lymphoma Assay OECD 476: Hypoxanthine-guanine phosphoribosyl transferase Test: HPRT Test **Endocrine Properties** Level 1 Literature data Level 2 YES/YAS Assay and/or Steroidogenesis in vitro (OECD TG 456) Level 3 Uterotrophic Assay (OECD TG 440)* and/or Hershberger Assay (OECD TG 441)* (BOTH SUBCONTRACTED) Level 4 Fish Sexual Development Test (OECD 234) or Fish Reproduction Partial Lifecycle Test or Chironomus Toxicity Test (OECD 218-219) or Daphnia magna Reproduction Test (OECD 211) or Earthworm Reproduction Test (OECD 222) or Sediment Water Lumbriculus Toxicity Test (OECD 225) Level 5 Fish Life Cycle Test (Danio rerio)	
		Testing of biocides according to European Regulation (EC) No 528/2012 Analytical chemistry Chemical identity 5-batch analysis residue studies stability studies Accelerated storage stability cold stability Long-term stability Physicochemical investigations (CIPAC, EU, UN, OECD and FEA) in vitro / in vivo toxicology Aquatic and Terrestrial Ecotoxicology environmental behavior Mutagenicity / genotoxicity Testing for endocrine properties	
		Medical Devices ISO 10993-3: Tests for genotoxicity, carcinogenicity and reproductive toxicity ISO 10993-4: Selection of tests for interaction with blood ISO 10993-5: Tests for in vitro cytotoxicity ISO 10993-6: Tests for local effects after implantations ISO 10993-7: Ethylene Oxide Sterilization Residues ISO 10993-10: Tests for irritation and skin sensitization ISO 10993-11: Systemic toxicity tests	
Lisam Systems	https://www.lisam.com/en-us/	**<u>Chemical & Specialty Chemical:</u>** **ExESS® Chemical Management System** Inventory of chemicals Safety Data Sheets: SDS (MSDS) – ES – eSDS Label Management Safety Instruction Cards Workplace Risk Assessment REACH, CLP, SEVESO, APEX Permits Storage of explosive materials Dangerous waste inventory	
		<u>Gas and Specialty Gas Compliance Solution</u> **ExESS Gas Classification Module (GCM)** **The ExESS/EIGA Gas Classification Module for GHS allows users to create a fully compliant SDS for a gas by leveraging built-in processes to:** Build a composition effortlessly Calculate the DPD/CLP classification and transport profile of a mixture automatically with the integrated Gas Calculation Module (GCM) Use the "Apply Blocks" function to integrate pertinent EIGA and CGA-approved content within all sections of an SDS Generate SDS reports and labels automatically Import and export data with ease **Standard features of this module:** EIGA and CGA-approved SDS for 150 pure gases Classification and labeling information for 300 pure substances Library of 600 phrases common to gases, in over 20 languages ADR / IATA / IMDG dangerous goods lists Prints labels directly from ExESS, including "banana" labels for the Compressed Gas Industry	ExESS® GCM was developed in close partnership with the European Industrial Gases Association (EIGA). As a member of and collaborator with global associations such as the Compressed Gas Association (CGA) and EIGA, Lisam offers outstanding global compliance technology for the industrial and specialty gas industry.
		<u>Cosmetics Compliance Solution</u> **ExESS® IFRA Cosmetics Module** **Module Features:** List of allergens (EU) CosIng 2 database (European Commission) List of forbidden and restricted substances List of authorized colorants, preservatives and UV filters **Substances databases included:**	Lisam's collaboration and relationship with the International Fragrance Association (IFRA), a global association representing the world's leading fragrance producers ensures that the latest information and guidelines

		IFRA substances database NVZ list of substances INCI list **Main reports generated by this module:** Generates Cosmetics reports Cosmetics Leaflet Specific cosmetic label layouts Technical report Allergens report IFRA certificate Cosmetic labels	are always updated for compliance with IFRA's latest Amendments, and its' corresponding Standards and Labeling Manual.
		FRAGRANCE Compliance Solution **Features and Functionality:** Creates and manages IFRA Certificates Provides customizable, traceable ingredient and fragrance status Generates regulatory documentation such as SDS and labels Performs Product and raw material batch tracking with QC Analysis, Inventory tracking Integrates with IFRA database List of allergens (EU) CosIng 2 database (European Commission) List of forbidden and restricted substances List of authorized colorants, preservatives and UV filters Lists substances with a composition and (a) CAS number(s) that can contain IFRA standards according to IFRA Annex 1 Performs IFRA Matching at substance level, if no matches, IFRA substance families which do not have an associated CAS# will be displayed Calculates and performs matching at mixture level, presents a calculated table and a calculated maximum usage level per class Performs IFRA Batch Calculation by product Offers users the ability to see the latest updates and product warnings **Main Reports:** Specific ingredient label layouts (IL) Technical report Allergens report Ingredient data sheet (IDS) IFRA certificates Ingredient labels **Substances Databases:** NVZ list of substances IFRA substances database INCI list	Lisam Systems' collaboration and relationship with the IFRA ensures that the latest information and guidelines are always updated for ongoing compliance with the IFRA 47th amendment and the IFRA standards.
Perkin Elmer	https://www.perkinelmer.com/	**Products:** Accessories Anesthesia Systems Animal Shields Automation & Liquid Handling - Research Autosamplers Benches & Accessory Carts Boards Cassettes Cells & Windows Compressors Couplers Dispensers Gas Management Generators Heating & Cooling Systems Humidifiers Imaging Chambers In Vivo Imaging Accessories Injection Systems Lenses & Objectives Manifolds Mixers Modular OEM Spectrometers Nebulizer Systems Noise Enclosures & Dust Covers Optical Filters Power Conditioners Presses & Crimpers Probes Reflective Hemispheres Sample Introduction Systems Sample Preparation Systems Stackers	
		Informatics Clinical Analytics Cognitive Search Informatics Services Products and Technology Research Support Translational	
		OEM Solutions	
		Service Parts ServiceParts-AtomicAbsorption-02 ServiceParts-TissueCore	
		Software Image Analysis Software Instrument Control & Upgrades Newborn Screening Software QA/QC Software (Organize all of the testing and results needed to control manufacturing processes and ensure the quality of raw materials, in process samples, and finished goods.)	
		Training	
		Services: **Cord Blood and Cord Tissue Banking**	
		Genetic and Newborn Testing AnyPanel™ Biochemical and Metabolic Screening CNGnome™ Newborn Screening Whole Exome Sequencing Whole Genome Sequencing	
		OneSource Laboratory Services Compliance Services Education Services	

		Information Services Instrument Services Relocation Services Scientific Services	
		Custom Products & Research Services	
Prosacon	https://www.prosacon.de/	**Biocidal** Consternation analysis drugs biocidal Consulting & Support Biocidal Products Regulation	
		Chemicals (REACH) Consternation analysis Registration admission Consulting & Support REACH and CLP regulations	
Qualisys	http://qualisys.eu/index.php?id=home&L=sfnzfqcwnsjbyef	**Hazardous Materials Service** **Research:** We clarify incomplete or contradictory data of your suppliers for you and know the international legal situation. **Data Quality :** You will receive regularly updated and expertized data for your specific preparations - no standard database and grading software can. **Integration and future-proofing:** We can transfer the data directly into your IT system or onto your servers - in systems such as SAP EH & S and in the CSB system as well as in industry solutions or as PDF files. **Simplicity**: With SUMDAT Desktop you can use intuitive software with suitable options for your workplace or a small network. **Information exchange :** We can inform your customers, the poison and transport emergency call or authorities about changed data. **Product Optimization:** We help to design products in line with the market and notify you when a raw material through SVHC listing or new classification in a future ATP affects the marketability of your product - so you can make changes to the recipe timely.	
		Supplier Information Data quality Trustee function - If we supply high quality MSDS, we may need to ask suppliers for additional information Compare all data with similar products to create an additional level of quality assurance Supplier obligations - Research to reduce product liability	
		SAFETY DATA Safety Data Sheets: 1. Hazard analysis 2. Data creation 3. Information Telephone numbers in safety data sheets: Information department Poison Center Transport emergency Labels Part of the SUMDAT data service is always the provision of labels according to hazardous substances legislation for all countries for which you commission safety data sheets. Various sizes (fit label into package) SUMDAT labels are not only suitable for the labeling of bulk and stored goods, but also as a template with all hazardous substance information for the graphic design of your retail packaging.	
		Data Management - SUMDAT process and review your safety data sheets in the Qualisys Hazardous Substances back-office Llabels, Operating instructions , Lists. Alternatively or additionally, you will receive PDF files of your safety data sheets. **Integration in IT systems** three-stage integration model for SAP systems **Integration in websites** SUMDAT web environment - software to make safety data sheets available to your customers. **SUMDAT solo (standard option)** REACH safety data sheet in a language of your choice including operating instructions and identification labels . Included in the price is the update over two years. During this time, you will receive a continuously updated safety data sheet. We will give you 60% discount on every other language. Safety data sheets according to ANSI Z400.1 for USA or Canada are also available.	*Qualisys specializes in data integration in IT systems such as content management, document management or enterprise software.*
		Data for software systems **phrase Libraries** European Phrase Catalog - new and unique phrase IDs that simplify software integration and data exchange - Exposure scenarios for Extended Safety Data Sheets under REACH through coordination with Cefic's ESCom project **EuPhraC SDS Main Body:** This corresponds to the previous BDI catalog and covers all requirements of the REACH safety data sheet without exposure scenarios. **EuPhraC ES:** This module contains all Exposure Scenario Extensions, including the new lists of industry sector groups. Together with the core catalog, this includes the recommendations for the extended safety data sheet. Transport identifier: Varied phrases European Waste Catalog: The difference in metadata	
		material data Lists for legal compliance - REACH With chemical inventories you check the marketability of chemical products. If there is no legal classification , the supplier classifies itself on the basis of the properties. When a product is transported, the dangerous goods law uses its transport data for the various modes of transport. Qualisys provides the necessary current data for this. inventories fabric directories Europe: EINECS / ELINCS / NLP Europe: Substances of Very High Concern (SVHC), Annex XVII (OTHER AREAS IN WEBSITE) classifications/labeling threshold limit Values Each safety data sheet contains both hazard statements and limit values of the product and its raw materials. Qualisys provides these limits and updates them on an ongoing basis - European as well as international.	primary sources: the official publications of the respective countries or organizations.
		transport data ADN Table A (inland waterway transport Europe)	

		ADR / RID (Road / Rail Transport Europe) DOT (inland transport USA) IATA-DGR (air transport) IMDG (sea transport), additionally with separation groups TDG (inland transport Canada)	
		Software components Qualisys MOVE is a component for dangerous goods classification. It will not pick a UN number, but your customer will be assisted in selecting the relevant UN number.	
QUMSULT	https://qumsult.de	**Quality** ISO 9001 IATF 16949 the automobile standard Internal audits	
		Environment and energy ISO 14001 ISO 50001 - Energy Management Energy audit EN 16247-1 - mandatory for non-SME Internal audits legal register sustainability	
		Occupational Safety and Health Specialist for work safety risk assessment ISO 45001 / OHSAS 18001 Fire protection consulting demographics advice	
		Software **EHS software** Hazardous materials management - Software for hazardous materials register and operating instructions (GHS / CLP compliant) risk assessment - module Risk Assessment from Web SARA supports occupational safety and health and simplifies the risk assessment process. AwSV software - Capture, manage, document water polluting substances and plants -Calculate Requirements and operator obligations -Documents created: -System Data Sheet -Information sheet according to § 44 AwSV -Operating instructions according to § 44 AwSV -cadastral system <u>SARA</u> a list of substances (hazardous substances register) -> further information a directory for assets (asset cadastre) -> further information a list of legislation or binding commitments (legal register with commentary) -> further information a list of waste (waste balances) -> further information a directory for processes / activities (risk assessment) -> further information the risk assessment and additional risk assessment (according to Nohl) a measure module All directories are linked. This allows you z. B., to document the use of substances in installations; document the storage of substances in facilities; to assign individual legal regulations to the plants or processes; To keep waste in the list of installations; Assign plants to processes / workplaces / areas / activities. SARA covers requirements of ISO 14001, ISO 50001, OHSAS 18001 / ISO 45001, IATF 16949, the EMAS, the Hazardous Substances Ordinance, the AwSV, the Industrial Safety Ordinance and the risk assessment from various regulations. Standard reports offered: waste balance List of substances in accordance with the Hazardous Substances Ordinance (Gefahrstoffkataster) Operating instructions for substances (in accordance with the Hazardous Substances Ordinance / TRGS 555) and plants (according to the Operational Safety Ordinance) risk assessment Plant documentation, operating instructions and leaflet according to AwSV In-company legislation (environment, energy and occupational safety) **audit software** **SOFIA** **plan, perform and monitor audits.** **strictly based on the requirements of DIN EN ISO 19011** **QUMCHECK** **software for in-house audits** Quality Management: DIN EN ISO 9001: 2015 DIN EN ISO 9001: 2008 DIN EN ISO 13485: 2007 (medical devices, orientation to ISO 9001: 2000) DIN EN ISO 9001: 2008 industry-specific for Central Sterile Supply (CSSD) DIN EN ISO 9001: 2008 industry-specific for pharmacies Environmental Management / Energy Management: DIN EN ISO 14001: 2015 DIN EN ISO 14001: 2009 DIN EN ISO 50001: 2011 / DIN EN 16001: 2009 EMAS III (Regulation (EC) No 1221/2009) Environmental protection in schools Occupational Health: OHSAS 18001: 2007 **legal directory** The legal cadastre PAUL contains more than 1,200 regulations prepared by the EU, the federal government and the federal states for environmental, energy and occupational safety (regulations, directives, implementing decrees, laws, technical rules, statutes, etc.). Own access and administration of any number of users from your company Input of own user groups and company-specific processes Assignment of the rules to processes or user groups Almost all regulations are linked to freely available full texts Comments (quintessence for each rule) let you quickly capture and evaluate the contents of the legislation The legislation is updated quarterly by QUMsult You will be informed about changes / innovations The changes are also annotated by QUMsult (bottom line for each change), so you can quickly track and evaluate the changes in the legislation Information of users with mail function (eg if measures are required) Changes are recorded (change history), which guarantees complete traceability Duties resulting from the legislation have been identified and listed	*With Web SARA, companies of all industries and sizes can use a tool for hazardous substance management (Hazardous Substances List / Hazardous Substances Register / Operating Instructions). Web-based, it offers all employees at all sites access to the central and always up-to-date register of hazardous substances. Proof to the certifier and supervisory authority is possible at any time and the processes can be controlled and documented.* *Hazards to work areas and activities can be identified and assessed. The basis for this are the risk factors of the Common German Occupational Safety and Health Strategy (GDA) . For each hazard factor, there are pre-formulated sample texts on protective measures and specific hazards. The user can also formulate his own texts and use them again and again. Measures can be defined as well as appointments and responsibilities. The implementation of the measures can also be monitored. Previously acquired data are available at the press of a button as reports (risk assessment, overview of all measures and risk assessments). Other documents can be assigned to the risk assessment.* *SARA* *Standard reports*

		teachings **UTA - Instruction and Training - Instructions with photos and films** Prepare instructions: Determine who should be instructed on which topic; they can choose suitable media. Media can be any common presentation (eg Powerpoint) or videos or pictures taken with the tablet itself, eg to show a concrete danger in the workplace. As instructional slides we recommend: Haufe instructional slides Arbeitsschutz Online . Instruction will be given - on site or in the classroom - paperless. Participants can access all browser-enabled devices (laptop, PC, tablet) via touch screen, signature pad or mouse sign ; the signature is stored electronically on the topic and content of the instruction . All data from completed instructions including the electronic signatures are documented . Results can be output as pdf documents. Instructors or supervisors can also document performed effectiveness checks . UTA provides a central qualification matrix that everyone can access. She informs when the next instruction is due, which persons have been instructed on which topics / work equipment and shows which employees need urgent training. **QM plan for your management system - task list of all relevant activities relating to the QM system** **questionnaires** Quality Management: ISO 9001: 2015 IATF 16949: 2016 ISO 13485: 2016-08 ISO 13485: 2010-01 Environmental Management: ISO 50001: 2018 NEW! ISO 14001: 2015 EMAS III -2017 additional requirements ISO 50001: 2011 Safety Management: ISO 45001: 2018 NEW! OHSAS 18001: 2007 Sustainability: DNK - English **DNK -** German Other: Ma**il management** **ISO 45001: 2018 AS MIND MAP CHECKLIST IN PDF**	
REACH Advice GmbH	https://www.reach-advice.com/	**project management** Preparation of supplier questionnaire for the availability of raw materials in the future Communication with suppliers and customers regarding usage and exposure categories Achieving compliance with the legal requirements of the REACH Regulation and with legislation of European member states. Representation and advice in SIEFs and consortia Registration management including preparation of the technical dossier, exposure scenarios, chemical safety reports and extended safety data sheets (in all European languages) Creation and update of IUCLID 5 dossiers Preparation of registration dossiers Analysis of your REACH obligations and opportunities Communication in the supply chain REACH manager training Development of strategies for the REACH process implementation Assess the impact of REACH on your business Preparing your business to meet the REACH requirements ("legal compliance management")	
		Participation in SIEF / consortia Strategic advice Assistance in all legal matters Consultation in the background Support and contact for all questions about a SIEF or a consortium communication with authorities	
		Registration services IUCLID 6 data update Preparation of registration dossiers Economic and financial evaluation of the impact of REACH Evaluation of studies Direct communication with customers, authorities and co-registrants Collection and generation of data Preparation of chemical safety reports Extended safety data sheets with exposure scenarios Strategic Registration Consulting Representation in SIEF (s) and consortia Risk Assessment Submission of registration dossiers, dossier follow-up	
		REACH Only Representative **Creation and dispatch of Safety Data Sheets (SDS) along the supply chain** **Updating of safety data sheets** **Preparation and submission of registration documents, dossiers and update of registration documentation** **Keeping an importer directory with the respective tonnage** **Willingness to inform the authorities of the Member States on demand concerning the quantity and type of imports into the EU** **Authorization and notification regarding SVHC** **Preparation and testing of shared cost models** **Implementation of impact analyzes** **Dissemination and control of the required information within the supply chain** **Participation and communication in the respective consortia** **Observation of consortia** **Logging of meetings in the SIEF / consortia** **Consideration of deadlines** **Negotiate contracts and clarify legal requirements** **Preparation of reviews and safety reports**	
		Special Services Support in the run-up to the signing of a license agreement (Letter of Access, LOA) with the consortium or the registrant. The acquisition of a LOA is critical to your business in terms of the requirements of the registration dossier. We compile all the information necessary for the preparation of the individual part of the registration dossier, and we organize compulsory tests to prove your chemical identity. As a minimum performance we create the individual part of the dossier in IUCLID 6. Since it is highly important for the successful completion of all necessary tests during registration to file a complete and error-free dossier (otherwise ECHA will reject the dossier), REACH Advice GmbH will check the dossier for technical completeness once it has been fully prepared. REACH Advice GmbH will forward the dossier to ECHA on your behalf and, if possible, answer any questions that emerge from ECHA during the evaluation phase.	
		3rd party representative Participation in the SIEF including report creation Participation in consortia If necessary, monitoring of consortium activities contract negotiations Review of the cost sharing models	

		Representation of EU customers Examination and clarification of the legal requirements Creation of safety reports and risk assessments Preparation of registration dossiers	
SCC GmbH (Scientific Consulting Company)	https://www.scc-gmbh.de/	**Agrochemicals & Biorationals (EU AND INTERNATIONAL)** Agrochemicals Biorationals Biostimulants and fertilisers Organic farming Approval status of active substances Efficacy CADDY (Computer Aided Dossier and Data Supply) dossier) **Regulatory Service** **Study Monitoring** **Task Force/Consortium Management**	
		Biocides Biocidal Products Active Substances Approval status of active substances Exposure and Risk Assessments Study Monitoring Biocidal Product Consortia Call for Interest – Biocidal Product Consortia IUCLID/R4BP (the International Uniform Chemical Information Database (IT tool for the electronic submission of data within the framework of the REACH Regulation)/ electronic portal for the Registration for Biocidal Products	
		Chemicals EU REACH Brexit - Experienced UK partner Only Representative Consortia and SIEFs Poison Centre Notification IUCLID **Chemicals International (Japan, SK, China and Australia)** **Study Planning and Monitoring**	
		Regulatory Science = Scientific Support Efficacy Study Monitoring Modelling and Risk Assessment Maximum Residue Levels ERA Task force/Consortium Management Electronic Submission of Dossiers	
		Consumer Products Study Monitoring: Design and contract the necessary studies at the laboratories best suited to meet the company's specific needs. We cooperate with either contract or your in-house laboratories through the testing and reporting phases (monitoring) in order to guarantee full compliance with regulatory and scientific requirements and standards. higher tier studies(e.g. operator exposure studies (OPEX studies), micro-/mesocosm studies, birds/mammals (e.g. focal species and effect studies) NTA/bee semi-field and field studies).	
		Cosmetics Study Monitoring	
		Feed & Food Additives	
		Medical Devices SCC can help you incorporate this new regulation into your company. We can also help your R&D department with ISO 13485 procedure definitions and finding suitable funding programmes. In addition to this, we have in-depth experience in the qualification and validation of your products as well as production and quality control equipment and methods. Further, SCC offers international approval of medical devices, directly or in cooperation with our international partners. Biological evaluation *Evaluations carried out to determine the biological risks of medical devices are defined in ISO 10993 and a number of other product-specific standards, whereas the selection of applicable tests is device dependent.* *We design all necessary studies. If you do not have in-house capacity, we arrange to have them carried out at laboratories that are best suited to your needs. We provide support with risk assessments and help you select the right studies. We collaborate with external contract partners or your in-house laboratories during the testing and reporting phases (monitoring). We check all-round compliance with regulatory and scientific requirements and standards, and help you prepare the final report.* *Biological evaluation is usually part of a conformity assessment, but it can also be done as a stand-alone project.* Clinical Evaluation *In the EU, the technical documentation and clinical evaluation form the central part of medical device conformity assessments in cases where clinical investigations are not required. With the introduction of the new MDR (EU) 2017/745, the rules for planning and updating clinical evaluations have been tightened.* *SCC can search for and provide you with scientific literature in line with the latest MEDDEV guidance 2.7/1 revision 4, which forms the basis for preparing and updating clinical evaluations.* *For clinical evaluations, SCC offers a broad range of services: We can support you during the process or – based on the data you provide – fully prepare or update the clinical evaluation for your medical devices.*	
		GLP & Regulatory Archiving Electronic Document and Dossier Management System (EDDMS)	
		Pharma Pre-Clinical Study monitoring (e.g. Pre-clinical studies on mammalian toxicology. Studies on the environmental fate and behaviour. Studies on effects to aquatic and terrestrial organisms.)	
		SUM UP: Data gaps analysis Test strategies and study monitoring Advice on alternative testing strategies and (Q) SAR Scientific opinions, including justification for non-submission of data, read-across and group procedures Risk assessment and modeling Creation and submission of dossiers Dossier defense at national and international level Maintaining product registrations consortium management Services as REACH representative only Regulatory seminars and expert workshops Electronic Document and Dossier Management System (EDDMS) GLP and non-GLP archiving concepts	
SGS	https://www.sgs.com/	**Our Services (Overview)** >Agriculture & Food >Chemical >Construction >Consumer Goods & Retail >Energy >Environment >Health & Safety >Industrial Manufacturing >Life Sciences >Logistics >Mining >Oil & Gas >Public Sector	

		>Risk Management >Sustainability >Trade >Training Services >Transportation	
		Chemical Chemical Feedstocks Services Finished Product Services Asset Integrity Management Services Project Life Cycle Services Technical Staffing Services Lab Design, Commissioning & Operation Services Training & Technical Support Quality Management Quality, Health, Safety & Environment	Our analytical, bioanalytical and clinical trial testing, along with process management capabilities, provide a wide range of essential services.
		BIOCIDES:Home › Chemical › Finished Product Services › Agrochemicals › Pesticides Field trials GLP residue studies Environmental fate studies Ecotoxicology studies Analytical chemistry Brand protection and supply chain management	
		Home › Consumer Goods and Retail **Consumer Goods and Retail** Cosmetics, Personal Care & Household Electrical & Electronics Hardgoods Medical Devices Softlines & Accessories Toys & Juvenile Products Packaging Food Audits Product Inspection Product Certification Marks Training Quality, Health, Safety & Environment	
		Consumer Goods and Retail › Medical Devices: Sub-areas: Pharmaceutical Development & Quality Control Testing Package & Container Testing Electrical & Electro Medical Device Testing Regulatory Certification Training	*As the world's largest inspection, verification, testing and certification company, we provide clients with a market leading, global network of medical device offices, laboratories and experts. Operating in over 35 countries, we offer global and local solutions to meet your certification, testing, training and audit requirements. We offer virtually every global approval you need now or will need in the future.*
		Home › Consumer Goods and RetailMedical Devices › Pharmaceutical Development and Quality Control Testing: **1-cGMP Analytical Chemistry - QC Release** We offer testing for: Raw materials Excipients Active pharmaceuticals ingredients Finished products Personal care products Medical devices Packaging materials Containers CHEMICALS TEST PARAMETERS Our chemicals test parameters include: Identification Assay Impurities Dissolution Residual solvents Elemental impurities (heavy metals) Titration / Water (by Karl-Fisher) PHYSICAL AND PHYSICO-CHEMICAL TEST PARAMETERS Our physical and physico-chemical test parameters include: Description pH Conductivity Total organic carbon Viscosity Density Specific gravity Refractive index Water activity Disintegration melting point Particle size distribution (wet/dry) Particulate matter Particulate osmolality and osmolality Flash point Moisture determination (we still use the term LoD) Limit tests Hardness Friability Sulphated ash Anions Volatile organic compounds (VOC) Slide and static friction testing Bubble Point Specific/Optical rotation Organic volatile impurities (OVI) KEY ANALYTICAL TECHNIQUES We offer you a wide range of analytical techniques, including: Spectroscopy: UV/Vis FTIR Atomic absorption spectroscopy – flame / graphite / VGA ICP-OES and ICP-MS Chromatographic tests: TLC	

		HPLC/UPLC (with UV, PDA, FLD, RI, Corona, ELSD – Detectors) GC/HS (with TCD/FID/MS – Detectors) Medical Device QC Testing Microbiological Tests Water System Validation **2-Pharmaceutical Development and Quality Control Testing › Medical Device QC Testing** Our Medical Device Testing Services include: Determination of bioburden before sterilization Sterility testing according to USP and EP of products and biological indicators Method development and validation Package expiration dating studies Endotoxin testing Gel clot, kinetic, and chromogenic Residual ethylene oxide testing according to EN ISO 10993-7 Environmental monitoring of production zones Viable and nonviable particulate analysis RODAC and swab analysis of surfaces Cytotoxicity bioassay Polymer identification FTIR, TGA, DSC Container Closure Permeation Dye and microbial ingress studies Test for leachable substances according to EN ISO 10993-173 **3-Pharmaceutical Development and Quality Control Testing › Microbiological Tests** **4-Pharmaceutical Development and Quality Control Testing › Water System Validation** Water Monograph Testing Performed According to USP/EP/JP: TOC Conductivity Bacterial endotoxins (LAL) Particulate matter Total microbial count Coliform	
		Home › Consumer Goods and RetailMedical Devices › Medical Devices › Package and Container Testing Container Testing Services Our pharmaceutical packaging tests include: Identification Limit tests Impurities Assays Compendial container testing Classification Biological tests Physicochemical tests Permeation Extractable studies Container/content interaction (in-use stability) Extractables and leachables studies Migration studies Ash Container closure integrity Particulate matter LAL Extractables & Leachables Testing We provide: Test strategy planning and data evaluation based on the available information Supporting of risk analysis procedures Development of a tailored study design for extractables and leachables or chemical characterization, according pharmaceutical standards and ISO 10993 part 12/18 Extractables profiling (inorganic and organic extractables) Sequential extractions and alternative extraction techniques for isolating extractables in materials made from polymers, metals and ceramics Characterization of extractables by chromatographic and spectroscopic investigations Identification of a material and the identification and quantitation of the chemicals present in materials by chemical characterization Identification and evaluation of the physico-chemical, mechanical, morphological and topographical properties of materials Chemical and structural changes (e.g. by DSC) on polymeric materials after stressing by themperature or irradiation Determination of the Analytical Evaluation Threshold (AET) Calculation of the AET based on Safety Concern Threshold (SCT) or Threshold of Toxicological Concern (TTC) and ICH M7 guideline Biocompatibility: USP<87> and USP <88> Toxicological assessments and method development and validation of potential leachables in pharmaceutical products and from medical devices Performing leachables studies or simulated use studies on pharmaceutical products and medical devices Reporting and evaluation of results within the current guidelines EXTRACTABLES AND LEACHABLES TESTING AND ASSESSMENT TECHNOLOGIES Our extractables and leachables testing and assessment technologies include: UPLC and HPLC-MS/MS, HPLC Q-Tof (ESI, APCI), HPLC-UV, DADHS-GC, HS-GC-MS, GC-QTof (EI, CI) Semi-preparative fraction collection by HPLC Accurate mass assignments by mass spectrometry Peak purity GC (FID, ECD, FID-NP), GC-MS GC-TEA (nitrosamines) HPLC-MS/MS (ESI) perfluorinated acids (PFCA) ICP-OES, ICP-MS, AAS, IR IC-ED (anions, cations) FTIR Accelerated Solvent Extraction (ASE) Soxhlet and reflux extraction Static or dynamic liquid extraction by pumping through; simulated use and migration studies TOPOGRAPHICAL METHODS AND MORE We provide topographical methods and other methods for physical-chemical material characterization, surface contamination, risk of delamination or surface fracture after stressing including: Thermoanalysis TGA, DSC X-ray fluorescence analysis (XRF) Materialography, Light Microscopy Electron Microscopy (REM, SEM) Atomic-force microscopy (AFM) X-ray diffraction (XRD; XRT) Electron Probe Microanalyzer (ESMA) Photoelectron Spectrometry (XPS) Auger Electron Spectroscopy (AES) Spreading Resistance Profiling (SRP) Secondary Ion Mass spectrometry (SIMS-Tof)	

		Home › Consumer Goods and Retai › Medical Devices › Electrical & Electro Medical Device Testing Testing For all EU and International Product Safety Regulations, US NRTL, Standard council of Canada, EMC (IEC/EN 60601-1-2, and IEC/EN 61326 series including CB), functional safety, wireless devices, rechargeable batteries, restricted substances, packaging and the product safety of medical diagnostic x-ray devices. Pre-testing During the product development phase with screening of risk management, software life cycle and usability activities. Certification Against all relevant ISO standards – 13485, 9001 and 14001, the major EU Medical Directives – 93/42/EEC and 98/79/EC, as well as other EC directives, US 510(k) Support Services, US FDA Site Inspections, JPAL and others. Training For medical device regulations, standards and testing practices. Other services Like biocompatibility evaluation, audits, clinical trials, hygienic qualification, microbiological tests of products, product control for possible toxic residues and failure analysis for root cause clarification of malfunction on all kind of active and passive medical devices. MEDICAL DEVICES FUNCTIONAL SAFETY: active/electrical medical devices IEC 60601-1 3rd Edition Programmable electrical medical systems IEC 60601-1-4 Software-Life Cycle according to IEC 62304 IEC 61508 medical software applications (APPs) Training on the procedures and requirements of the CE manufacturer declaration of Medical Device Directive 93/42/EEC (MDD), Annex VII Clarification of the applicable medical device standards Examination of documents to be submitted	*Home › Consumer Goods and Retail › Medical Devices › Electrical and Electro Medical Device Testing* *Our global network of experts and testing labs allows you to access the entire range of trusted SGS services in your manufacturing region and close to all major medical markets, at all times.* *Regardless of the project size and number of markets targeted, we can improve the efficiency and value of your operation by combining the advantages of our worldwide reach, the wide range of accreditations, resources and global expertise into one global package.* *An SGS Electro-Medical service package specifically customized to your needs is just a few clicks away.*
		Home › Consumer Goods and Retai › Medical Devices › Regulatory Certification -2003/32/EC - Animal Tissue TSE Species CE Marking -93/42/EEC – Medical Devices Directive, CE Marking for Europe -98/79/EC – In Vitro Diagnostic Medical Device Directive – CE Marking for Europe -Good Distribution Practices (GDP) Certification for Pharmaceutical Industry -Hong Kong (Hong Kong - Medical Devices Control Office) -In Vitro Diagnostic Devices Regulation (EU) 2017/746 – CE Marking Certification -NRTL -PMD Act: Japanese Regulations for Medical Devices -Taiwan (ROC Taiwan) -ISO 13485:2016 Standard - Transition, Certification & Auditor Training	*We can help you achieve certification for:* *International standards, such as ISO 13485 and MDSAP* *Regional regulations, including medical devices and in vitro diagnostic devices EU directives and regulations* *Local regulations, such as those of Hong Kong, Japan (JPAL) and Taiwan (ROC)* *Our certification programs cover:* *Training on regulations* *Audits of your processes and systems against the requirements of the applicable standards or regulations* *Issuance of certification upon the completion of a successful certification process*
		Home › Consumer Goods and Retai › Medical Devices › Training Quality Management Global Regulations: 93/42/EEC – Medical Devices Directive, CE Marking for Europe 98/79/EC – In Vitro Diagnostic Medical Device Directive – CE Marking for Europe 93/42/EEC – Technical Documentation Risk Management Sterilization	
		OVERVIEW of MAIN SERVICES withing Medical Devices: **Certification:** ISO 13485, EC Directive 93/42/EEC (MDD) until May 2020, EC Directive 98/79/EC (IVDD) until May 2022, MDSAP, MDR* (EU) 2017/745, IVDR* (EU) 2017/746, PMD Act (Japan), INMETRO (Brazil), Good Distribution Practice, with additional regulatory approvals for Taiwan, Hong Kong, Korea, and others. **Electro-medical testing:** Product safety and EMC testing to the full range of IEC/EN 60601 and IEC/EN 61010 series with CB, NRTL approval and ISO/IEC 17025 accreditation. **Microbiological and chemical testing:** sterility, biocompatibility, microbial and polymer identification, container closure, environmental monitoring, extractables and leachables, endotoxin, cleaning and disinfection. **Other Testing:** wireless/telemedicine, battery, RoHS 2, packaging. **Training:** QMS/auditing, internal auditing, global regulations, sterilization processes, risk management, product safety/EMC, with public and in-house courses. **Auditing:** Pharmaceutical GMP audits.	
		Home › Public Sector › Quality, Health, Safety and Environment › Product Safety › REACH REACH Data Management Tool Impact Analysis Management of SVHC Pre-Registration Registration Dossier Safety Data Sheet Classification & Labeling SIEF & Third Party Representation Substance Identification SVHC Testing	
		Home › Risk Management **Risk management** -Large Projects & Finance -Trade Financial Risk -Commodity Trading -Quality, Security & Business Continuity -Health, Safety & Environment Pipeline Integrity Services SUM UP Risk management planning Risk identification Quantitative and qualitative risk analyses Risk handling Management of residual risk Independent third-party research, surveys, market studies, feasibility studies and due diligence assessments	

		Equator principles monitoring Project monitoring and management Product and cargo quality and quantity surveys Collateral management Trade risk management	
		Home › Sustainability Sustainability Environment Facilities & Production Management & Compliance Economic Sustainability Social Sustainability Integrated Management Systems Certifications Sustainability Reporting	
		TRAINING SERVICES Industry Based Training Materials Testing Environment Leadership & Management Management Systems & Standards Process Improvement Risk & Security Management Supply Chain & Manufacturing Sustainability	
spectra Consult GmbH	https://www.spectra-consult.de/	Biocides BPR Chemicals CLP Task forces Registration Authorisation notification Product consortia developing integrated and tailored-to-your-needs strategies for regulatory compliance and responsible use of chemicals and biocides according to Regulation (EC) No 1272/2008 (CLP) and Regulation (EU) No 528/2012 (BPR) assisting in the technical part including dossier preparation and submission, data gap analyses, testing and non-testing strategies, study monitoring, exposure and risk assessments as well as expert and classification/labelling statements managing task forces and consortia for substances or products	
tec4U	https://www.tec4u-solutions.com/	**Consultation** **Steps to material compliance** **status analysis** **process consulting** **house standard** **risk assessment** **Requirements** REACH RoHS conflict minerals HolzVo DIN EN 50851 **Sustainable product design** requirements management Creation of a house standard for the NPG process integration Sensitization and qualification of employees Software and operational support (data research, supplier communication)	
		Training (academy): **Material Compliance Academy** certificate courses Become an Expert: Material Compliance Officer or Material Compliance Specialist (TÜV) In-house and online training Ensure your own expertise: seminars and webinars on material compliance requirements Training on the job Train and improve your practical skills: Material Compliance Implementation Trainings Material compliance workshops Make your processes fit for the global material specifications: Material Compliance Process Workshop	
		Data service: **Data Service-EASY** Procurement of the material compliance statement of all active articles - Data Service Easy Complete Procurement of the Material Compliance Statement for all BOM items - Data Service Easy Product **Data Cross data service (besides software)** Data research and supplier communication Validation of the data Entry of data in own and external systems Compiling the data for the customer documentation **Data service IMDS (International Material Data System of automotive industry)** Fulfillment of legal and legal principles, Data management (research, input, maintenance, control), Communication with your suppliers and customers, Creation, modification and processing of material data sheets (MDB), Material or component analysis to determine missing material data. Our support areas around IMDS and CAMDS : Data research, data entry, data transmission continuous data validation Prototypes IMDS Chemical analyzes account cleanup **Hazardous materials management (Combined with GeMasy Software)** Process integration of Hazardous Substance Management into business processes Supplier communication to ensure the necessary database (procurement of declarations of conformity, partially and fully declared material data, safety data sheets, certificates, other documents) Creation and maintenance of the hazardous materials register Testing of safety data sheets Taking over the role of the external REACH coordinator	
		Software: **Data Cross** (Software for communication, archiving and evaluation of material data, safety data sheets and other documents) **Compliance Checker** (Software for testing the material compliance of fully declared products)	

		Check compliance Check Material Specifications Option to request Material Compliance Certificate **GeMaSy** (Hazardous substance software for processing and evaluation of safety data sheets incl. Warehouse and job site assignment) Keep a list of hazardous substances according to GefStoffV Implementation of the new hazard labeling GHS (Globally Harmonized System for Classification and Labeling of Chemicals) Preparation of risk assessments and operating instructions Evidence for control authorities	
thinkstep	https://www.thinkstep.com/de	**Product Stewardship (SOLUTIONS)** LIFE CYCLE ENGINEERING PRODUCT DESIGN & INNOVATION PRODUCT & PORTFOLIO REPORTING SUPPLY CHAIN COMPLIANCE MATERIAL MANAGEMENT PRODUCT COMPLIANCE END OF LIFE COMPLIANCE	
		Corporate Sustainability (SOLUTIONS) SUSTAINABILITY REPORTING & CSR MANAGEMENT ENERGY & CARBON MANAGEMENT BUILDING PORTFOLIO MANAGEMENT EHS MANAGEMENT	
		Integrated Solutions (SOLUTIONS) CIRCULAR ECONOMY SCIENCE BASED TARGETS VALUE CHAIN CARBON ACCOUNTING (SCOPE 3)	
		GaBi Software GABI TS GABI CIRCULARITY TOOLKIT GABI PACKAGING CALCULATOR GABI DFX GABI ENVISION GABI SERVER GABI FOR UNIVERSITIES GABI SUPPORT	
		SoFi Software SOFI ON SALESFORCE SOFI SOFTWARE	
		Material & Compliance Software PRODUCT COMPLIANCE SOFTWARE INTEGRATED MATERIAL MANAGEMENT SOFTWARE PRODUCT COMPLIANCE RISK SCREENER CRADLE TO CRADLE (C2C) SCREENER BOMCHECK EC4P	
		LCA Data (12500 lifecycle inventory datasets) LCA DATABASES DATA ON DEMAND TRUCOST FACTORS EF DATA FROM THINKSTEP	
		SoFi Content (corporate sustainability data) SOFI IMPACT LIBRARIES SOFI BENCHMARK LIBRARY SOFI BEST PRACTICE LIBRARY DISCLOSURE MANAGEMENT FRAMEWORK	
		Material Knowledge COMPANY TAILORED MATERIAL CATALOGS STANDARD MATERIAL CATALOGS - MATSPHERE COMPLIANCE RISK SCREENER	
		Strategic Advisory Services THINKSTEPGO™ WORKSHOP MATERIALITY ASSESSMENT BENCHMARKING SUSTAINABILITY STRATEGY DEVELOPMENT BUSINESS VALUE OF SUSTAINABILITY PORTFOLIO SUSTAINABILITY ASSESSMENT CIRCULAR ECONOMY SCIENCE BASED TARGETS SUSTAINABLE DEVELOPMENT GOALS VALUE CHAIN CARBON ACCOUNTING (SCOPE 3)	
		Performance Improvement & Implementation LIFE CYCLE ASSESSMENT (LCA) PRODUCT ENVIRONMENTAL FOOTPRINTING (PEF) ENVIRONMENTAL PRODUCT DECLARATION (EPD) SYSTEMS INTEGRATION SUPPLY CHAIN MANAGEMENT EDGE CERTIFICATION ENVIRONMENTAL MANAGEMENT SYSTEM PRODUCT COMPLIANCE	
		Reporting CDP REPORTING GRI REPORTING CARBON MANAGEMENT & REPORTING	
		INDUSTRY EXPERTISE: Energy & Mobility AIR, RAIL & MARITIME AUTOMOTIVE ENERGY & UTILITIES OIL & GAS PUBLIC TRANSPORT TRANSPORT & LOGISTICS Building & Construction BUILDING MATERIALS REAL ESTATE COMPANIES Consumer Goods APPAREL COSMETICS & PERSONAL CARE ELECTRONICS FOOD, BEVERAGE & AGRICULTURE WOOD, PULP & PAPER PACKAGING RETAIL Chemicals & Life Science HEALTHCARE CHEMICALS Metals, Mining & Manufacturing MANUFACTURING	

		METALS & MINING Services & Public Sector PUBLIC SECTOR BANKING & FINANCE EDUCATION	
ToxMinds	https://toxminds.com/	**Chemical and product safety** ((eco)toxicology using emerging technology and state-of-the-art risk assessment practices.) Comprehensive literature and desktop searches using public and commercial databases Retrieval, data compilation and presentation of accurate information on the (eco)toxicological effects of chemicals Interpretation, quality evaluations and development of Robust Study Summaries (RSS) of physico-chemical, environmental fate, (eco)toxicology and human toxicology studies Data gap analysis under consideration of non-testing approaches Identification of intelligent testing strategies, design and management of testing programmes ECHA-guideline compliant assessment of endocrine disrupting properties Higher tiered human and environmental exposure modelling (e.g., CHESAR, EASY TRA, Consexpo, ART, EUSES, Risk of Derm) Risk assessment of chemical substances in compliance with the respective regulatory frameworks (e.g., REACH, BPR) Solving complex health or environmental issues through organisation and management of multi-disciplinary expert panels	
		Regulatory strategy and compliance Portfolio review and regulatory strategy consulting Data compilation, evaluation of non-testing approaches and waiving opportunities, final data gap analysis Design and management of testing programmes Interpretation, quality evaluation and study summary preparation of physico-chemical, environmental fate, ecotoxicology and human toxicology studies Human and environmental exposure modelling, covering occupational, residential and dietary exposures as well all relevant environmental compartments Higher tiered human and environmental state-of-the-art risk assessment Development of Regulation-compliant registration dossiers or submissions REACH Regulation: IUCLID dossiers; Chemical safety assessment and reports Biocidal Product Regulation: Development of product authorisation dossiers and R4BP; including documents I, IIA, IIB, IIIA, IIIB and all other supporting documents for the product types Cosmetics Regulation: Cosmetic ingredient dossiers for SCCS submission; Product information files (PIF) Preparation of responses to authority requests and/or advocating and defending scientific approaches with public authorities (e.g., ECHA, EMA, EFSA, and national authorities)	
		Product stewardship (Ensuring publicly acceptable products – We help you to communicate the safety of your product to the public.) Client tailored trainings on topics related to product safety & regulatory compliance Principles of human & environmental hazard, exposure and risk assessment of chemicals Hazard-specific endpoint training (e.g., skin sensitisation, endocrine disruption, aquatic toxicity) Regulatory frameworks and related IT tools (e.g., IUCLID software package) QSAR & REACH/BPR specific exposure modelling tools Development of REACH-compliant extended Safety Data Sheets (eSDS) Establishment and moderation of scientific review panels Development of science-based strategies and documentation to support chemicals or products under regulatory or public scrutiny Science advocacy and product defence Communication of (eco)toxicology and risk assessment findings to various audiences with different levels of scientific knowledge	
		-**QSAR Modelling** (Predicting toxicity, identifying suitable analogues for read-across and select lead candidates through combined use of public and commercial QSAR tools.) QSAR-based (eco)toxicological hazard profiling and/or metabolism prediction Publicly available tools: OECD toolbox, Toxtree, Ambit, ChemMine, SmartCyp, EPIWIN, FAME Commercial tools: DEREK Nexus™, METEOR Nexus™ (provided by Lhasa Ltd.) Quantitative prediction of physico-chemical properties Identification of analogues for read-across purposes Chemical and biological similarity assessments Guideline compliant read-across justification for (eco)toxicology endpoints and analogue based derivation of safe exposure levels (e.g., DNELs under REACH, SEL for Cosmetics, PDE for Pharma) Predictions of endocrine activity Toxicity assessment of manufacturing impurities, extractables & leachables Mutagenicity assessment for impurities in pharmaceutical products (ICH M7 guideline) Identification of low toxicity molecules and lead candidate selection in comparative toxicity screens Feasibility screening of new technologies and R&D developments	
		Endocrine disruption (Identifying and assessing the evidence for chemicals to cause endocrine disruption in humans and the environment) Comprehensive literature and desktop searches using public and commercial databases Topline screening and feasibility assessment of lead candidates from an ED perspective QSAR modelling to predict endocrine activity based on chemical structures Systematic review of the data based on pre-defined relevance and reliability criteria Matrix-based collation of identified data based on relevance, reliability and lines of evidence Assessment of endocrine-mediated adversity and Mode of Action (MoA) analysis Design and management of testing programmes to evaluate or verify any endocrine activity Preparation of an ECHA-guideline compliant ED assessment reports in response to competent authority requests	
		New risk assessment methodologies (Identifying and applying new methodologies and risk assessment approaches to support chemical safety without animal testing) Thorough desktop search to identify, collate and appraise any relevant toxicological information QSAR-based (eco)toxicological hazard profiling and metabolism prediction Exposure and systemic bioavailability prediction (target organs, internal concentration) Evaluation of the suitability of TTC and read-across approaches Advice on integrated testing strategies using non-animal methodologies as permitted under the EU REACH and BPR Regulation Non-biased MoA hypothesis generation based on all available data and identification of potential data/information gap Development of tiered testing programme(s) to reduce read-across uncertainties or verify MoA hypotheses	
		DIVISIONS PER INDUSTRY	
		Biocides Thorough desktop research, scientific review of available data and data gap analysis relative to BPR requirements Determination and advice on most cost-efficient testing and registration strategies ECHA-guidance compliant assessment of endocrine disrupting properties of biocidal product ingredients Management of testing programmes Development of product authorisation dossiers and R4BP Preparation of full human health and environmental risk assessments, including all relevant exposure modelling Scientific advice to deal with complex toxicological profiles threatening the success of authorisations or leading to unfavourable RCR values or PEC/PNEC ratios Post-submission support (e.g., client representation with – and response to – authorities) Consortium management and 3rd party representation LoA cost determinations and negotiations	
		Cosmetic & consumer products QSAR modelling and analogue identification and read-across justifications Identification of mechanism-based in chemico and/or in vitro testing strategies to fill endpoint data gaps Guidance-compliant screening for endocrine disrupting properties and SCCS-compliant human health risk assessments Preparation of cosmetic ingredient dossiers Development of product information files (PIF) and notification via CPNP (Cosmetic Product Notification Portal) for cosmetic products Assessments of extractables and leachables in packaging materials Feasibility and safety screening of new technologies including botanicals and nanomaterials Due diligence evaluation of new business ventures	

		Pharma (pharmaceutical, veterinary medicines or medical device sector) QSAR modelling using ICH M7 recommended tools (e.g., Derek Nexus, Meteor Nexus) Derivation of permissible daily exposure (PDE) levels of active ingredients through cross-contamination in shared facilities Derivation of occupational exposure limits (OEL) for actives Establishment of safe exposure or maximum residue levels of Excipients Manufacturing impurities Extractables & Leachables Other types of contaminants EU chemical regulatory compliance support as applicable to the Pharma sector (e.g., REACH, CLP Regulation) Environmental risk assessment of product ingredients (actives, non-actives)	
		Green biotechnology (genetically modified organisms) Human health and environmental risk assessments, in conformity with applicable legislation and practices Monitoring, screen, summarising and submission to the authorities of all relevant published literature related to the safety of GM food and feed crops, in accordance with 2017 EFSA guidance.	
TUV	https://www.tuvsud.com/en	**AUDITING & SYSTEM CERTIFICATION** ISO 9001 Quality management Food safety ISO TS 22163 Rail quality ISO 14001 Environmental management ISO 29990 and IEE Education AS EN 91XX Aerospace ISO 45001 Occupational health and safety FSC™ CoC Certification IATF 16949 Automotive quality ISO/IEC 27001 Information security TL9000 Quality telecommunications ISO/IEC 20000 IT service management ISO 50001 Energy management ISO 31000 ONR 49001 Risk management Audit Services	
		TESTING SERVICES Chemical Analysis and Testing Electrical Safety Testing Electromagnetic Compatibility (EMC) Testing Electromagnetic Field (EMF) Testing Environmental and Sustainability Solutions Energy Efficiency Testing Environmental Testing Failure Analysis Flammability Testing Food Testing Functional Safety Services Global Supply Chain Compliance Mechanical Safety Testing Personal Protective Equipment Testing Product Packaging Testing Product Performance and Endurance Testing Radio Frequency Testing Restricted Substances List RSL Testing Shock and Vibration Testing Specific Absorption Rate SAR Testing Wireless Testing and Certification	
		PRODUCT CERTIFICATION CERTIFICATION MARKS Footwear and Footwear Fit Mark Geprüfte Sicherheit (GS) Mark Toy Mark Certification TÜV SÜD Bauart Mark Zhaga Testing and Certification WORLDWIDE APPROVALS IECEE CB Scheme ASIA APPROVALS EASTERN EUROPE APPROVALS EUROPE APPROVALS Brexit CE marking EMC Directive Energy-Related Products (ERP) Directive ENEC and ENEC+ Certification Geprüfte Sicherheit (GS) Mark Low Voltage Directive (LVD) Machinery Directive Radio Equipment Directive RoHS 2 Toy Safety Directive WEEE II Directive NORTH AMERICA APPROVALS SOUTH AMERICA APPROVALS	
		INSPECTION Quality Assurance and Quality Control Site Assessment Risk-Based Inspection and Maintenance DIN EN ISO/IEC 17020 Inspection Services In-Service Inspection MEP System Inspection Testing and Certification Lifts and Escalators Cranes and Machinery Non-destructive Testing Private Vehicle Owner Services Post shipment inspection Pre-shipment inspection	
		TECHNICAL ADVISORY Industry 4.0 Quality Assurance and Quality Control Process Safety Loss Prevention Functional Safety Services Due Diligence Licensing and Environmental Management Plant Life Assessment and Extension Decommissioning of Nuclear Power Plants Seismic Hazard Analysis and Design Bankable Photovoltaic Power Solutions Yield Studies QHSE Services Project Development Building Information Modeling Energy Efficiency in Buildings MEP Design and Advisory	
		GLOBAL MARKET ACCESS Tailored solutions - Based on research of regulatory requirements, certification stipulations and schemes for target markets and product.	

		Interface with regulators - Interface with governmental organisations and certification bodies on behalf of clients lacking local representation. Testing - Product testing for a single or family of products in accordance with required test standards. Global knowledge bank - Regulation database for different products and countries, including national requirements, policies and technical regulations.	
		TRAINING General Functional Safety Training IEC 61508 Training IT Security Training Safety IEC 61508 & Security IEC 62443 Training IT Security IEC 62443 Training Automotive Training ISO 26262 Training ISO 26262 Functional Safety Certification Programme (FSCP) Rail Training Rail EN501xx training (EN 50126/-28/-29/-59 Railway) DIN 27001 Maintenance Training Rolling Stock Training Signalling Training Machinery/Industrial Manufacturing Training Safety of Machinery ISO 13849 Training Food Training Fit in Hygiene Online Training Nuclear Energy Training Nuclear training, workshops and tutorials	
		CYBER SECURITY Penetration Testing Distributed Ledger Security PCI Compliance Vulnerability Scan Safer Shopping Certification Data Protection	
		RISK MANAGEMENT Property Loss Control Engineering Fire Protection Engineering and Natural Hazards Analysis Boiler and Machinery Engineering Infrared Thermographic Surveys	
		Industries that they serve: **CHEMICAL AND PROCESS** **CONSUMER PRODUCTS & RETAIL** Audio, Visual and IT Equipment Cosmetics Digital Payment Electrical and Electronics Food Footwear and Leather Home and Garden Lighting Social Compliance Sporting Goods Textile and Clothing Toys and Childrens Products Drones Wearable Devices **ENERGY** Conventional Power Nuclear Power Solar Power Wind Power **HEALTHCARE AND MEDICAL DEVICES** Healthcare Medical Devices and IVD **INFRASTRUCTURE & RAIL** Infrastructure Rail **MANUFACTURING** Components & Equipment Machinery & Robotics **MOBILITY & AUTOMOTIVE** Automotive & OEM Retail & Leasing Fleet Private Vehicle Owners **REAL ESTATE** Buildings Lifts, Cranes & Conveyors	
		Medical Devices specific services: **Market Approval and Certification** Europe Medical Device Regulation (MDR) In Vitro Device Regulation (IVDR) Medical Devices Directive (MDD) Active Implantable Medical Devices Directive (AIMDD) CE Marking of In Vitro Diagnostic Directive (IVDD) Unannounced Audits Restricted Hazardous Substances Americas Asia Pacific and Australia Russia Ukraine **Medical Device Testing and Assessment** Active Medical Devices IEC 60601-1 Functional Safety in the Medical Industry Non-active Medical Devices ISO 10993-1 Biological Evaluation and Biocompatibility Biological, Physical and Chemical Testing for Medical Devices Sterilisation Practices Control and Validation for Medical Devices **Quality Management and Quality Control** ISO 13485 Quality Management System for Medical Devices ISO 15378 Quality Management System for Medicinal Packaging Materials Suppliers ISO 14971 Risk Management Requirements for Medical Devices	

		Quality Management and Quality Control for Medical Devices Clinical Services Clinical Data for Medical Devices Assessment of Clinical Evaluation ISO 14155 Clinical Investigation Plans for Medical Devices Clinical Services Healthcare Good Dialysis Practices (GDP) Certification ISO 27001 Management System Certification Healthcare Other Services Orthopedic Medical Devices Cardiovascular Medical Devices Code of Conduct MDR/IVDR Declaration of Interest Med-Info Download Center Questionnaires and Application Forms for Medical Devices Regulatory Strategy Transfer to TÜV SÜD	
		Our environmental services: Lifecycle Assessments (ISO 14040) – This is a standardised tool for recording the descriptive environmental impacts of a product throughout its entire lifecycle. TÜV SÜD supports manufacturers to enhance the credibility of lifecycle assessments through a professional critical review. Product Water Footprint (ISO14046)– The water footprint of a product is a quantifiable assessment of the potential direct and indirect impacts on water, as a result of all processing stages of its production. A product water footprint tells us how much pressure that product has put on water resources. Product Carbon Footprints (GHG Protocol) – A product carbon footprint measures the greenhouse gas emissions throughout the product's entire lifecycle. TÜV SÜD supports manufacturers to enhance the credibility of a carbon footprint through a certification. Renewable resources verification (TÜV SÜD Standard CMS 71)– This service deals with certification of the use of renewable resources in support of a claim that informs buyers how their purchasing behaviour impacts the transition from fossil to renewable resources in the value chain. Environmental Impact Assessment (EIA) – We can undertake a full EIA to allow our clients to understand the environmental effects of a product, plant or proposed project, taking into account socioeconomic and health impacts so that mitigation plans can be put in place. Developing products in a Circular Economy (training / awareness programmes) – Our training and awareness programmes aid manufacturers in developing processes that reflect Circular Economy principles and values. REACH Regulatory Testing (EC 1907/2006) – Registration Evaluation Authorization and Restriction of Chemicals (REACH) restrictions serve to limit or ban substances that pose excessive risks to human health or the environment. Our testing services help manufacturers to fulfil their chemical safety testing obligations under REACH. RoHS testing (Directive 2011/65/EU) – We assess manufacturers for compliance with the Restriction of Hazardous Substances (RoHS) Directive, which restricts the use of certain hazardous substances in the manufacturing of various types of electrical and electronic equipment. WEEE (Directive 2012/19/EU) – This Directive covers waste electrical and electronic equipment (WEEE). We support manufacturers to comply with this Directive concerning the recycling of electrical and electronic products. Energy Efficiency (ErP Directive 2009/125/EC)– TÜV SÜD supports manufacturers in achieving energy efficiency, reducing the amount of energy required to provide products and services. Packaging and packaging waste (Directive 94/62/EC) – We support manufacturers with this Directive, which deals with the problems of packaging waste and the currently permitted heavy metal content in packaging. Corporate Social Responsibilities Audit – TÜV SÜD conducts audits on companies for compliance with the SA8000, Business Social Compliance Initiative, Worldwide Responsible Accredited Production, SEDEX and Code of Conduct audits.	
		Chemical Data management system: (Software) 1"An automatic BoM-comparison algorithm to return statistically significant advice by taking the supplier's chemical testing performance into consideration. 2A mathematical model for uncorrelated data to compute the passing probabilities of materials and final products subject to predefined acceptance limits; a time-evolving probability calculation making use of a rolling timeframe concept to dynamically reflect the performance of suppliers. 3The Risk Cube: The predictive capability to forecast the passing rates of raw materials or/and final products upon acceptance limit or evaluation criteria changes. The system supports businesses with: -Quality system design and implementation via Plan-Do-Check-Act Testing at the upstream point of the supply chain, and chemical products / formulations screening (smart testing). -Consolidation of all the chemical testing results along the supply chain (BOM, BOS). -Assured traceability along the supply chain from raw materials to final products – a relational database. -Compiled up-to-date requirements of regulations on chemicals by materials, by usages, and by regions/ countries. -Storage of MSDS, RSL, TDS of chemicals with risk assessments, precautionary actions and phase-out plans for hazardous chemicals. -Formulated test plans to reduce redundant testing. -Formulated test plans to monitor the reduction and elimination of restricted substances -Compiled testing statistics to evaluate the performance of suppliers."	
		ENVIRONMENTAL & SUSTAINABILITY SOLUTIONS -Lifecycle Assessments (ISO 14040) – This is a standardised tool for recording the descriptive environmental impacts of a product throughout its entire lifecycle. TÜV SÜD supports manufacturers to enhance the credibility of lifecycle assessments through a professional critical review. -Product Water Footprint (ISO14046)– The water footprint of a product is a quantifiable assessment of the potential direct and indirect impacts on water, as a result of all processing stages of its production. A product water footprint tells us how much pressure that product has put on water resources. -Product Carbon Footprints (GHG Protocol) – A product carbon footprint measures the greenhouse gas emissions throughout the product's entire lifecycle. TÜV SÜD supports manufacturers to enhance the credibility of a carbon footprint through a certification. -Renewable resources verification (TÜV SÜD Standard CMS 71)– This service deals with certification of the use of renewable resources in support of a claim that informs buyers how their purchasing behaviour impacts the transition from fossil to renewable resources in the value chain. -Environmental Impact Assessment (EIA) – We can undertake a full EIA to allow our clients to understand the environmental effects of a product, plant or proposed project, taking into account socioeconomic and health impacts so that mitigation plans can be put in place. -Developing products in a Circular Economy (training / awareness programmes) – Our training and awareness programmes aid manufacturers in developing processes that reflect Circular Economy principles and values. -REACH Regulatory Testing (EC 1907/2006) – Registration Evaluation Authorization and Restriction of Chemicals (REACH) restrictions serve to limit or ban substances that pose excessive risks to human health or the environment. Our testing services help manufacturers to fulfil their chemical safety testing obligations under REACH. -RoHS testing (Directive 2011/65/EU) – We assess manufacturers for compliance with the Restriction of Hazardous Substances (RoHS) Directive, which restricts the use of certain hazardous substances in the manufacturing of various types of electrical and electronic equipment. -WEEE (Directive 2012/19/EU) – This Directive covers waste electrical and electronic equipment (WEEE). We support manufacturers to comply with this Directive concerning the recycling of electrical and electronic products. -Energy Efficiency (ErP Directive 2009/125/EC)– TÜV SÜD supports manufacturers in achieving energy efficiency, reducing the amount of energy required to provide products and services. -Packaging and packaging waste (Directive 94/62/EC) – We support manufacturers with this Directive, which deals with the problems of packaging	

		waste and the currently permitted heavy metal content in packaging. -Corporate Social Responsibilities Audit – TÜV SÜD conducts audits on companies for compliance with the SA8000, Business Social Compliance Initiative, Worldwide Responsible Accredited Production, SEDEX and Code of Conduct audits.	
UI	https://services.ul.com/categories/testing/	Certification: -GREENGUARD Certification for Medical Devices -Electrical Medical Device Certification -Medical Device Cybersecurity Certification -Medical Device Verification Mark -Protective Coatings Testing and Certification -Recycled Plastics Testing and Certification -UL Product Lens™ Certification -INMETRO Certification Requirements -Green Laboratory Practices Certification -62368-1 Hazard Based Safety Standard (Medical Devices) -Appliance Wiring Material Testing and Certification (MD) -Authorized Label Supplier Program for Certification Marks (all) -Certificated Agency Program Certification Services (all) -Certification Program for ICT Power Cable (MD) -Chemical Emissions Product Testing -Data Sync and Charger Cable Certification Program (medical devices) -IEC/ISO 27001 – Empowering Information Security -PCB Compliance and Regulatory Safety Testing -Plastics Quality Safety Performance (MD)	UL's expert research analysts analyze SDS's
		Testing: -Analytical Chemistry for Medical Devices -Chemical and Water Management Systems -Factory Acceptance Witness Testing Standards -Chemical Specialty Product Testing for Household Cleaning Products -Custom Medical Device Testing -Medical Device Biocompatibility and Toxicity Evaluation -Medical Device Packaging Testing -Medical Device Usability Testing -Human Factors Engineering Testing -ONC Health IT Testing and Certification -ISO 18562 VOC and Particle Testing for Medical Devices -Basic Testing Program for Plastic (MD) -Battery Safety Testing (MD) -Biocompatibility Evaluation of Breathing Gas Pathways (MD) -Electrical Safety For A/V and ICT Equipment -General Purpose Model Testing and Certification (MD) -Optical Radiation Testing and Evaluation Services (MD) -Plastic Materials Testing (MD) -Testing for Electrical Insulation Systems -Compression tests for materials -Testing Materials for use in Additive manufacturing (3d) (MD)	
		Inspection: -Chemical Regulatory Monitoring -Consumer Goods Inspection Services	
		Auditing: -Current Good Manufacturing Practices (cGMP) Audits -Supply Chain Compliance -Process and Systems Solutions	
		Validation / Verification --Product Sustainability Certifications and Validations -Innovative Environmental Product Claims Validation	
		Advisory: -Chemical R&D Digital Advertising Advisory Services -Chemical Regulatory Advisory Services	
		Services Bundles: -Chemical Regulatory Compliance -Cosmetics and Personal Care Testing Services -Global Market Access -Materials Research and Evaluation Services -Medical Device Electromagnetic Compatibility (EMC) - Testing and certification -Medical Device Regulatory Testing and Certification -Sterilization and Microbiology Testing for Medical Devices --Chemical Policy Management -Cybersecurity Assurance and Compliance	
		Software and Test Tools:	
		Analytics and Intelligence -Predictive Toxicology Solutions	
		Digital Applications: -Medical Device Interoperability - connect with IT systems -Safety Data Sheet (SDS) Authoring and Labeling Services -Lead Generation Tools for Manufacturers	
		Learning and Development -Authorized Label Supplier Program for Certification Marks -Personnel Certification for Individual Competency -Training and Advisory Services for Manufacturers and Service Providers -Industry and Product Training	
		Labeling	
		Other Services: -OTC and Pharmaceuticals Services	
		Sustainability Consulting Advisory Services	
		Medical Devices **Electromagnetic Compatibility (EMC) Testing for Medical Devices** Our EMC testing facilities provide cost-effective assessments of electronic products with custom testing solutions that enhance process efficiency and reduce testing cycles, helping you meet demanding time-to-market needs. **ISO 18562 VOC and Particle Testing for Medical Devices** The regulatory approval process is often complex and ill-defined. UL provides manufacturers with testing and compliance assistance to help ensure faster clearance of FDA 510(k) submissions related to respiratory and ventilation devices and accessories. **Medical Device Biocompatibility and Toxicity Evaluation** For medical devices with direct or indirect patient contact, the biological safety of the device and its intended use is critical. UL can perform biocompatibility evaluation studies in accordance with ISO 10993-1:2009. **Medical Device Cybersecurity Certification** The UL CAP Evaluation reviews documentation related to processes concerning medical devices and network connected device cybersecurity. The UL CAP Certification process evaluates documents and process assessment and also conducts software testing. **Medical Device Interoperability** We have developed sharable databases, open-source tools and applications that will enable a broader community of researchers and manufacturers to implement secure medical device interoperability.	

		Medical Device Packaging Testing Our package testing services help ensure safe and sterile delivery of critical medical devices. **Medical Device Regulatory Testing and Certification** Our usability suite of testing services are aimed at helping you create safe and user-friendly devices while achieving required regulatory compliance. **Medical Device Usability Testing** Our usability suite of testing services are aimed at helping you create safe and user-friendly devices while achieving required regulatory compliance.	
Ul:Chemadvisor	https://psi.ul.com/en/products/ohs-pure-substance-database/	Product design	
		Product development	
		Management of product and supply chain risk	
		Communication	
UMCO	https://www.umco.de/en/pages/about-us.html	**Global Chemical Management** Creation of (extended) safety data sheets SAP EHS: Content Maintenance, Raw Material Maintenance and Creation of Safety Data Sheets Continuous Product Stewardship Compliance check and collection of product information Approval, approval, registration, notification and notification of chemical substances and mixtures Digital data exchange	
		Traning - ACADEMY UMCO current seminars and in-house variants webinars for specialists and executives. Biocides Hazardous Substances REACH Environmental Protection Dangerous Goods	
Umwelt Consult	http://umwelt-consult.com/index.php/home.html#intro	Drinking water hygiene. -Microbiological investigations -linventory of the buildings -scheduling, -sampling -remediation recommendations. Hazard analysis according to VDI 6023 Medical and dental practices - Advice in drinking water hygiene in general, from the house connection to the treatment center - Hygiene tests for ventilation and air conditioning systems according to VDI 6022 - Consultation and planning of disinfection measures - Appointment reminder, we remind you of the next investigation - Quick test procedure for routine self-control	
		Room air hygiene according to VDI 6022 Carry out assessments Advising on hygienic matters in the ventilation technology.	
		seminars In-house or outsourced trainings -VDI -VDI 6023, -Hygiene training -HACCP. -LAGA PN 98 waste sampling. Hygiene conference (already done in 2016, no future dates)	
		Hazard analyzes according to VDI 6023 (Drinking water hygiene) Emphasize weak points in your drinking water system and make improvement recommendations	
		Environmental sampling -Hygiene sector -LAGA PN 98 -Building pollutants investigations.	

Appendix 4 Regulatory-Scientific Focus (Nanomaterials Market):

Nanomaterials			
High Focus	**Regulatory Support**	**Scientific support**	**Services**
Fraunhofer ITEM	Medium	High	**NANOMATERIALS:** Assessment of nanomaterials requires their comprehensive characterization Combined use of in-vitro and in-vivo tests Harmonization of testing criteria SERVICES: Nose-only and whole-body exposure of rodents Toxicokinetics of inhaled particles Deposition and retention Particle clearance by using radiolabeled tracers Biopersistence of fibers Bioavailability of metals from solid material particles Inflammatory reactions in the lung Enzymes and cytokines in bronchoalveolar lavage fluid Oxidative damage parameters Investigation of cell proliferation in the lung Histopathology
GAB consulting	High	High	**Nanomaterials:** **Regulatory Aspects** Prepare applications Consortia management Expert Statements **Dossier Writing (One-Stop Writing)** **Study Conduction** Scientific Support (chemicals and microbials): -Physical-chemical tests -Ecotoxicological tests -Environmental Tests **Project Coordination / General Consulting (selected services)** Classification of product category (feed additive, biocide or veterinary drug) Literature research (Identification of data gaps) **Dossier Preparation (selected services)** Identification and evaluation of data gaps Cost analysis of dossier registration and completion of data package Time scheduling Support in laboratory contracting Scientific Support Study monitoring Dossier Preparation (selected services) Risk assessments (modeling and exposure scenarios) Expert Statements Literature search Submission **Follow-up Activities & Dossier Defence (selected services)** Review of authorities assessments Risk refinements Expert assessment and negotiation with authorities
Intertek	High	High	**Nanomaterial specific:** Nanotechnology Safety and Regulatory Services Surface Analysis Nanomaterials Analysis and Research Particle Size Testing Particle Size Analysis via Differential Centrifugal Sedimentation Characterisation of Nanotechnology in Cosmetics Nanoparticles in Pharmaceutical Products Analysis Graphene Analysis and Quality Assurance Carbon Nanotube Analysis and Characterisation Auditing and Systems Certification

Medium Focus	**Regulatory Support**	**Scientific support**	**Services**
Alster Consulting	Medium	Low	Basic advice for managing nanomaterials under BPR
Chem-Consult	High	Low	Full REACH services Issues with nano particles in cosmetics
DHI	Medium	High	E-REACHNANO: FREE WEB TOOL WITH INFORMATION FOR REGISTRATION OF NANOMATERIALS PRODUCT SAFETY AND ENVIRONMENTAL RISK: CHALLENGES: Assessing the effect of new technologies such as nanotechnology
Eurofins	Medium	Medium	Regulatory Support for Cosmetics Nanomaterial testing
Exponent	High	High	Full REACH services Human and Environmental Health Material Characterization Industrial Applications Regulatory
LAUS GmbH	Low	Medium	No REACH services. Testing and Studies for nanomaterials
Perkin Elmer	Low	Low	They supply technology for Nanotechnology analysis
SCC GmbH	High	Low	Full compliance with REACH. No mention of specific services for nanomaterials

Appendix 5 Regulatory-Scientific Focus (Biocides):

Biocides			
High Focus	**Regulatory**	**Scientific support**	**Services**
Alster Consulting	Medium	Low	**Biocides** General compliance advice Advise on data and cost sharing Basic advice for managing nanomaterials under BPR Representation to meetings Support to determine the company size according to Commission Recommendation 2003/361/EC (relevant when requesting ECHA to check the SME status of your company, in order to benefit from reduced fees under BPR)
CFCS-Consult GmbH	High	High	**Biocides (full support)** Active substances – Approval Joint definition of the approval application strategy Research, data gap analysis and definition of the cost-optimized test approach Mandatory consultation with competent authority on request: study management and monitoring Toxicology, ecotoxicology, efficacy against target organisms, discussion of all endpoints and documentation of the studies in the dossier (IUCLID) Exposure assessment, risk assessment and documentation in dossier Completion of the application for approval Submission of the application to the authorities (ECHA / national authorities) via R4BP Biocide training courses tailored specifically to your needs – for example for entering substance data in IUCLID or for handling ECHA's R4BP portal. Biocidal Products – Registration and authorisation Joint definition of the strategy to obtain product authorisation Determination of the cost-optimized test strategy, taking literature data, study management and monitoring into account Consultation with competent authorities Physicochemical data, efficacy against target organisms, toxicology, ecotoxicology, exposure and risk assessment: compilation of the dossier Submission of the application for authorisation to the authorities (ECHA / competent national authorities) Biocide training courses tailored specifically to your needs – for example for entering substance data in IUCLID or for handling ECHA's R4BP portal. Biocidal Products – label; safety data sheet We can support you in the design of CLP and BPR-compliant labels. We also offer compliance checks of existing product labels. If your safety data sheets need to be updated or recreated – we will be happy to advise you!
Chem-Consult	High	High	**professional strategic advice:** Advice on your rights and obligations under the Biocidal Product Regulation Creation of dossiers in IUCLID for ECHA applications via R4BP Toxicological / ecotoxicological evaluation / assessment of your biocides / biocide active ingredients Scientific monitoring of necessary examinations that are carried out in a GLP laboratory of your choice or one of our partner laboratories Testing services in partner laboratories For users: Verification of authorizations to fulfill your obligations before you buy and resell biocides, drugs or biocidal goods IUCLID R4BP Training and Biocidal Regulation Training - in-house or team training at your location
Chem-Service Group	High	High	-Compilation of active substance and product dossiers in accordance with the Biocidal Products Directive 98/8/EC (BPD), the Biocidal Products Regulation (EU) No 528/2012 (BPR) and other, national regulations -Marketing authorisation of product families and in-situ systems -Registration procedures for treated articles
CSB GmbH	High	High	Active substance approval/prolongation Article 95 listing Authorisation of biocidal products / biocidal product families
EBRC	High	High	Active substances: (...) - Check regulatory science Biocides: Initial completeness check of data sets on biocidal products Concepts for Biocidal Product Families Identification of data gaps Evaluation of the validity of existing studies Strategy for closing data gaps, e.g. through comprehensive literature searches or conduct of new experimental studies Planning, coordination and monitoring of experimental studies Development of concepts for data waiving Evaluation of physicochemical hazards of biocidal products Assessment of the efficacy of biocidal products Evaluation of the toxicological profile of biocidal products Assessment of combined effects in case of several active substances/substances of concern Assessment of the exposure of humans (users, bystanders, general public) using EU standard models acc. to the Guidance on BPR (Guidance on the BPR Volume III Human Health, HEEG opinions, BEAT, ConsExpo, …) Development and coordination of occupational exposure measurements, if required Risk characterisation for human health Evaluation of the environmental profile of biocidal products Modelling of releases to the environment using EU standard models (EUBEES-ESDs, EUSES, …), estimation of PECs (predicted environmental concentrations) Coordination of environmental monitoring, if required Risk characterisation for relevant environmental compartments Proposals for classification & labelling of biocidal products Submission and defence of dossiers in the authorisation process General services in the maintenance of regulatory approvals for products already on the market
ECT Oekotoxikologie GmbH	High	High	Identification of the product type and specific information requirements Data mining, data gap analysis and literature search Data management, evaluation and reporting with IUCLID 6 Placing, performing and monitoring of required studies according to Good Laboratory Practice (GLP) Specifying exposure scenarios and conducting the environmental risk assessment Dossier preparation Assessment of substances of very high concern (SVHC): CMR, PBT, vPvB, endocrine disruptors, and equivalent level of concern Classification, Packaging & Labelling (CLP) according to the Globally Harmonised System (GHS) and EU requirements Communication with the competent authority (pre- and post submission)

			Project coordination and communication with all participants Submission of the dossier documents to the competent authorities
FoBiG	Medium	High	Authorisation: (no registration) Analysis of the data requirements for the products Use the data from the active substance dossiers FoBiG's focus within RegisGate and in relation to biocides in general are: Estimation of human exposure Toxikological assessment of active substances and additives
GAB consulting	High	High	Dossier Writing Study Conduction General Consultancy & Project Management (selected services) Dossier Preparation (selected services): Approval of active substances and authorisations of biocides Follow-up Activities & Dossier Defence (selected services)
Hohenstein	Low	Medium	Neutral efficacy tests
ibacon GmbH	Medium	Medium	a broad spectrum of study types that are required for the registration of biocidal products 20 years of expertise in the conduction of GLP studies the knowledge to deal with difficult substances studies according to recent national and international guidelines, guidance documents and literature (e.g. OECD, ISO, OCSPP, JMAFF, EPPO, IOBC, SANCO and SETAC) a state-of-the-art testing facility including 14C-laboratory tailor-made study designs
KFT	Medium	Medium	We advise you in the field of biocidal product regulation Explain the process and the requirements, Carry out the process from the beginning to the successful approval for you. - No mention of authorisation
Knoel	High	High	Strategic consulting General project management and management of registration projects Registrations according to relevant regulations (e.g. EU Directive 98/8/EC, which will be replaced on 1st September 2013 by EU Regulation 528/2012/EC) Study management Identity, technical equivalence and physical-chemical parameters Human health hazard and human exposure assessment Lifestock exposure, animal safety assessment and dietary safety assessment Environmental fate and ecotoxicological evaluation Assessment of endocrine disrupting (ED) properties Efficacy on target organisms
LAUS GmbH	Low	Medium	Together with our partner laboratories, we offer you the complete range of tests according to the principles of Good Laboratory Practice (GLP):
Prosacon	High	High	We prepare regulatory dossiers for biocidal products with the active ingredients DDAC and / or ADBAC. Authorization of biocidal products
SCC GmbH	High	High	Dossier strategy define the appropriate dossier strategy Dossier preparation Review of available data on your biocidal product: Are there any gaps in the data? Is read-across or a non-submission justification possible? Planning and monitoring of required product studies Identification of substances of concern and definition of necessary regulatory activities Definition of intended uses Performance of exposure and risk assessments for human health, animal health and the environment Identification of possible critical issues and clarification of a way forward with the selected reference member state in a pre-submission meeting Preparation of the dossier (product assessment report, IUCLID file and SPC document) Dossier submission via R4BP3 Follow-up & defence Timely and competent response to questions raised by the authorities Representation and support of the applicant in ECHA working group meetings in Union authorisation cases Biocidal product consortia
spectra Consult GmbH	High	High	developing integrated and tailored-to-your-needs strategies for regulatory compliance and responsible use of chemicals and biocides according to Regulation (EC) No 1272/2008 (CLP) and Regulation (EU) No 528/2012 (BPR) assisting in the technical part including dossier preparation and submission, data gap analyses, testing and non-testing strategies, study monitoring, exposure and risk assessments as well as expert and classification/labelling statements managing task forces and consortia for substances or products
ToxMinds	High	High	Thorough desktop research, scientific review of available data and data gap analysis relative to BPR requirements Determination and advice on most cost-efficient testing and registration strategies ECHA-guidance compliant assessment of endocrine disrupting properties of biocidal product ingredients Management of testing programmes Development of product authorisation dossiers and R4BP Preparation of full human health and environmental risk assessments, including all relevant exposure modelling Scientific advice to deal with complex toxicological profiles threatening the success of authorisations or leading to unfavourable RCR values or PEC/PNEC ratios Post-submission support (e.g., client representation with – and response to – authorities) Consortium management and 3rd party representation LoA cost determinations and negotiations

Biocides			
Medium Focus	**Regulatory**	**Scientific support**	**Services**
Arcerion	Medium	Low	Compliance assessment: "Based on this information we will provide an analysis and individual evaluation of obligations under REACH, CLP, Seveso, Biocide or WEEE/RoHS regulations and directives."
Currenta	Medium	High	REACH and Biocides We advise you on issues relating to REACH and biocide regulations and work with you to develop an appropriate strategy. We offer you comprehensive advice or, if you wish, specific services. REGULATORY STUDIES To comply with your registration requirements, studies normally need to be submitted to the authorities. These need to be conducted in line with national or international standards. We offer a wide selection of studies to determine physico-chemical characteristics, environmental performance and ecotoxicological properties.
DHI	Medium	High	We provide assistance from beginning to end with the authorisation process of biocidal products (no mention of approval of active substances) professional monitoring and validation of test

			trials expert examination and compilation of data documentation for product dossiers
ERM	Medium	Low	History - Acquired company that provides compliance information about biocides and risk assessment advice
Eurofins	High	High	Regulatory Managers offer 'end-to-end' regulatory consultancy to guide you through the many complexities of the BPR Analysis of business objectives and proposals for the best regulatory time and cost strategies Development of Biocidal Product Family structure (meta-SPCs and SPC editor) Literature searches (where required) Data-gap analysis including evaluation of quality, relevance and reliability of existing information Study monitoring of GLP studies, including efficacy Project management Preparation of IUCLID dossiers for active substance approvals and product authorisations Advice on in-situ generated actives Human health risk assessment and environmental risk assessment including environmental modelling Classification and labelling (CLP) of actives and products Assistance with Article 95 listing as a supplier of an active substance (or precursor) Support with technical equivalence applications Assistance with the BPR transitional requirements Project management
Exponent	High	High	Regulatory Strategy Regulatory Advice under BPR Product Stewardship Portfolio Management Active Substance and Product Dossiers Biocidal Product Family (BPF) Assessment Data Gap Analysis, Waiving Strategy, and Bridging Arguments Study Placement and Monitoring Efficacy Exposure Modelling and Risk Assessments In situ Generated Biocides Technical Equivalence (TE) Assessment Post-Submission Support Global National Registration Task Force/Consortia Management Training Peer reviewing documents Acting as a sounding board on potential courses of action/strategies Providing a "neutral viewpoint" to obtain views on particular issues from EU Regulatory Authorities without the need to disclose the compound of interest. Tailored training Provide organisational capacity within multi-disciplinary teams to address multiple projects
Fieldfisher	High	Low	REACH, biocides, pesticides, CLP Regulation, WEEE and RoHS: Guidance on regulatory compliance (including antitrust issues), product safety and registration, Communication with the regulatory authorities, Data sharing, Breach of contractual and legal requirements, Dispute resolution (including mediation and arbitration) or Litigation (both private party disputes and private party/public authority disputes), we can help.
Fraunhofer ITEM	High	High	Scientific and regulatory support Development of a registration strategy and support for the implementation of regulatory requirements Communication with competent authorities Letter of access negotiations (LoA) Notification of biocides in different countries Data collection and study monitoring Identification of data gaps Development of testing strategies and use of (Q)SAR Commissioning and monitoring of analytical studies and in-vitro and in-vivo studies Efficacy assessment and consultancy on label claims Risk assessment of active substances, biocidal products/families Assessment of the hazard profile including classification and labeling Substance of concern (SoC) identification and evaluation Evaluation of endocrine disrupting criteria (ED assessment) Exposure and risk assessment for humans and the environment In-house exposure measurements and analytics Dossier preparation and submission Dossier preparation for authorization of biocidal active substances and biocidal products/families according to the BPR (including IUCLID file; draft risk assessment (DRA) and summary of product characteristics (SPC)) Dossier submission via R4BP Response to further inquiries and additional data requests by the authorities
Hohmann rechtsanwälte	Medium	Low	Advice: Demarcation issues Approvals Registrations Markings
imds Professional	Medium	Low	Training on Biocides specific to automotive industry
Intertek	High	High	Product development and strategic advice Regulatory support and consulting Identification of compliance requirements under the BPR, including data requirements for active substances. Completion of data gap analysis and preliminary risk assessments (including cost estimates for completing the data package) Identification of authorization requirements of the BPR throughout the transitional periods. Identification of requirements for listing on Art. 95 list of active substances and products suppliers Classification and labelling support in compliance with CLP. Regulatory submissions and study support Dossier writing, submission and monitoring. Dossier preparation (IUCLID) and submission (R4BP3) according to BPR and National transitional rules (National applications prior to the approval of the active substance) Post submission monitoring and liaison between competent authorities and clients Technical documentation support Physical-chemical properties, efficacy, toxicology, ecotoxicology and fate and behavior in the environment Toxicological, Fate and behavior and Ecotoxicological Risk assessment Study placement, monitoring, and design (both in-house and through partner laboratories)

Perkin Elmer	Low	Low	They supply technology for Biocide analysis
SGS	High	High	Our experts can assist you every step of the way, including: Registration of biocides Testing and analysis Product data file compilation Consulting services for treated articles
Tuv	Low	Medium	CHEMICAL ANALYSIS TESTING SERVICES
UMCO	High	Low	"We can offer you the complete registration or authorization process of substances under the REACH Regulation as well as biocidal products and biocide approval in the EU."

Appendix 6 Regulatory-Scientific Focus (Medical Devices):

Medical Devices			
High Focus	**Regulatory**	**Scientific support**	**Services**
DEKRA Insight	High	High	Medical Device Directive (MDD) In Vitro Diagnostics Directive (IVDD) Active Implantable Medical Device Directive (AIMDD) ISO 13485 MDSAP IEC/EN 60601-1-2 European Notified Body Recognized auditing organization for Medical Device Single Audit Program (MDSAP) Globally recognized certification body
Eurofins	High	High	Chemical/Physical Analysis Extractables and Leachables Testing Particulate Matter Microbiology & Sterility Reprocessing Validations Sterility Expansion Production Water Bacterial Endotoxin (LAL) Packaging & Seal Integrity Label Durability Testing Shelf Life & Accelerated Aging Biocompatibility Testing Chemical Characterization Toxicological Risk Assessment Genetic Toxicology Hemocompatibility Alternative Toxicology Combination Products Syringe Testing Electrical Medical Equipment Cyber Security Safety & Performance Testing Certification Services Notified Body Services NRTL & SCC CB Scheme Global Market Access ISO 13485 Materials & Chemical Characterization Metallurgical Engineering & Characterization Polymer Chemistry Microscopy & Morphology Surface Analysis
Fraunhofer ITEM	High	High	Device development and fabrication processes Testing and test methods Regulatory support Assistance in the selection of an approval strategy, Implementation of this strategy, and Workshops to sensitize for processes and documentation necessary for market approval Other MDD and transition to MDR Definition of risk management measures in compliance with (DIN EN) ISO 14971, Biological evaluation of the medical device as part of the risk management process, and performance of relevant in-vitro and in-vivo tests in compliance with the (DIN EN) ISO 10993 standards Clinical evaluation based on scientific literature and can be complemented, if necessary, by clinical trials. Safety and risk assessment Risk management: Mitigation No mention of notified body services but support is described as complete
Hohenstein	Medium	Medium	Consumer safety through product optimisation during development Minimisation of complaints all the way to promotional marketing Tests of medical products Support preparation of technical documentation Advise you regarding the clinical evaluation
Intertek	High	High	**Regulatory Requirements for Medical Equipment** Bring your medical device to market with a partner who can help you navigate regulatory requirements for IEC 60601-1, IEC 60601-1-2, MDD, IVDD, and the CB Scheme. **Medical Devices Testing Solutions** Reach your target markets quickly and cost-effectively with electrical, software and mobile application testing and certification for your medical device. **Environmental & Regulatory Services** We fully support the medical device industry to comply with global health and environmental regulatory requirements and restrictions, such as RoHS. **Medical Management Systems Certification & Auditing** Get to market faster with integrated compliance solutions and a committed, global team on your side. **Scientific Support Services** Medical device and materials testing including safety assessment through extractables / leachables and bioanalysis supporting all stages of development and manufacturing. **Clinical Research Services** Multi-disciplined clinical teams who provide robust, GCP and ISO 14155 compliant clinical trials for low risk medical devices. **SPE-3000-15** Serves as the model code for the field evaluation of medical electrical equipment (MEE) and medical electrical systems (MES), specifically pertaining to safety from electric shock, fire and mechanical hazards. **Auditing and Systems Certification**
Knoel	Medium	High	Global regulatory support Regulatory strategy Gap analysis and requirements of the submission documents Compiling the submission documents Updates Design & Development Support with preparation of design & development documents Support with preparation of risk management documents Support with preparation of usability engineering documents Organization of verification and validation activities Evaluation of the sterile aspects (e.g. sterile-validation), packaging and transport-validation of medical devices. Quality Management The review and/or implementation of global quality management standards (e.g. Quality System Regulation - QSR, ISO 13485, Medical Device Single Audit Program - MDSAP) Conduction of audits (internal, supplier audits, mock-audits, MDSAP)

			Support with inspections by certification bodies (including on-site support and response to inspectional findings) Clinical Safety Development of a customized strategy for your products and markets Data gap analyses Establishment of a profound clinical evaluation/performance evaluation Development of an overarching post-market surveillance (PMS) strategy Support in the set-up of clinical trials and post-market studies Biological Safety Customized regulatory consulting for biological safety of medical devices and strategic support, according to the ISO 10993 series and other relevant regulatory requirements Data gap analyses and development of chemical and toxicological/biocompatibility testing strategies including preparation of the biological evaluation plan Interaction with contract research organizations (CROs) during study management and monitoring Scientific literature searches and data evaluation with regards to reliability and applicability for biological evaluation Toxicological characterization of raw materials and/or extractables and leachables Alternative evaluation approaches, e.g. in silico modelling (Quantitative Structure Activity Relationship - QSAR), read-across, etc.... Hazard and exposure assessment as well as risk benefit evaluation for medical devices Overall biological safety assessment, and compilation of a biological evaluation report Toxicological expert statements, e.g. regarding Carcinogenic/Mutagenic/Reprotoxic (CMR) properties, particle toxicity, etc.... Communication with authorities and notified bodies
LAUS GmbH	Low	Medium	Testing of Medical Devices according ISO 10993
SCC GmbH	Medium	High	Requirements MDR (EU) 2017/745 training gap analysis clarify your open issues and negotiate acceptable solutions with notified bodies and authorities Risk Assessment Biological evaluation Clinical evaluation Qualification and validation International Approval
Tuv	High	High	Market Approval and Certification (...) Medical Device Regulation (MDR) In Vitro Device Regulation (IVDR) Medical Devices Directive (MDD) Active Implantable Medical Devices Directive (AIMDD) CE Marking of In Vitro Diagnostic Directive (IVDD) Unannounced Audits Restricted Hazardous Substances Medical Device Testing and Assessment (...) Quality Management and Quality Control (...) Clinical Services (...) Healthcare (...) Other Services Orthopedic Medical Devices Cardiovascular Medical Devices Code of Conduct MDR/IVDR Declaration of Interest Med-Info Download Center Questionnaires and Application Forms for Medical Devices Regulatory Strategy Transfer to TÜV SÜD *TÜV SÜD Product Service is the world's largest EU Notified Body for medical devices covered by MDDs*

Medical Devices			
Medium Focus	**Regulatory**	**Scientific support**	**Services**
DHI	Medium	Medium	Ttoxicology partner in development phase. Help you select the right materials based on toxicological data gathered from targeted data searches or QSAR evaluations. Documentation on regulatory compliance. Third party evaluation and validation of risk assessments.
Exponent	Medium	High	Medical & Economic Assessment of Medical Devices Medical Device Equipment, Electrical Safety & Compliance Assessment Medical Device Regulatory Support Technical support for pre-market strategy, Testing Submissions Risk and hazard analysis Failure investigation CAPA and recall activities FDA inspection and warning letter response; and litigation Regulatory Strategy Compliance Postmarket Surveillance Medical Devices, Implants & Surgical Tools Medical Implant Wear, Fatigue & Corrosion Testing Medical Technology Assessment
Prosacon	Low	Low	Industries of our clients: Medical Devices
SGS	High	High	Pharmaceutical Development & Quality Control Testing cGMP Analytical Chemistry - QC Release Environmental Monitoring Gas Analysis in Pharmaceutical Production Medical Device QC Testing Microbiological Testing for Life Sciences Water System Validation Electrical & Electro Medical Device Testing Chemical Testing EMC Testing Regulatory Certification 2003/32/EC - Animal Tissue TSE Species CE Marking 93/42/EEC – Medical Devices Directive, CE Marking for Europe 98/79/EC – In Vitro Diagnostic Medical Device Directive – CE Marking for Europe European Medical Devices Regulation: MDR (EU) 2017/745 – CE Marking Certification Good Distribution Practices (GDP) Certification for Pharmaceutical Industry Hong Kong (Hong Kong - Medical Devices Control Office) In Vitro Diagnostic Devices Regulation (EU) 2017/746 – CE Marking Certification Medical Device Single Audit Program (MDSAP) Audit & Certification NRTL PMD Act: Japanese Regulations for Medical Devices Taiwan (ROC Taiwan) ISO 13485:2016 Standard - Transition, Certification & Auditor Training Training Quality Management Global Regulations Risk Management Sterilization
ToxMinds	Low	Medium	QSAR modelling using ICH M7 recommended tools (e.g., Derek Nexus, Meteor Nexus) Derivation of permissible daily exposure (PDE) levels of active ingredients through cross-contamination in shared facilities

			Derivation of occupational exposure limits (OEL) for actives Establishment of safe exposure or maximum residue levels of Excipients Manufacturing impurities Extractables & Leachables Other types of contaminants EU chemical regulatory compliance support as applicable to the Pharma sector (e.g., REACH, CLP Regulation) Environmental risk assessment of product ingredients (actives, non-actives)
UI	High	High	Electromagnetic Compatibility (EMC) Testing for Medical Devices ISO 18562 VOC and Particle Testing for Medical Devices Medical Device Biocompatibility and Toxicity Evaluation Medical Device Cybersecurity Certification Medical Device Interoperability Medical Device Packaging Testing Medical Device Regulatory Testing and Certification Validation/ Verification Report Summative Test Report Human Factors Engineering Report Cybersecurity Assessment Report Informative Test Report Certified Body (CB) Nationally Recognized Testing Lab (NRTL) Quality Management System (QMS) Medical Device Single Audit Program (MDSAP) Medical Device Usability Testing

Appendix 7 Regulatory-Scientific Focus (Overview):

	Regulatory Focus (Category)	Scientific Focus in Nanomaterials	Scientific Focus in Biocides	Scientific Focus in Medical Devices	NOTES
1cc GmbH	High	Low	Low	Low	
Alster Consulting	Medium	Low	Low	Low	Regulatory- Advice, Training and consortia support
Anthesis	Medium	Low	Low	Low	Company is really strong on stamdards, sustainability and environmental consulting but doesn't seem to have scientific expertise in tbe market areas (no mention of regulation or specific services). More scientific than regulatory but not in any of the sector of focus
Arcerion	High	Low	Low	Low	Focus on REACH and Blocides regulatory support (including communcation and Safety Data Sheets) No mention of any additional services related to any of the areas.
Asseso	High	Low	Low	Low	Big focus on regulatory activities and management. They mention laboratory management but no expertise in any of the focus sectors
Callaghan Consulting International	Medium	Low	Low	Low	Regulatory: Advice on Regulations on cosmetics Scientific support and advice only on cosmetics
CFCS-Consult GmbH	High	Low	High	Low	Really strong regulatory support (REACH and Biocides) Scientific Support: Toxicology, ecotoxicology, Safety Datasheet review
Chem-Consult	High	Low	High	Low	Biocidal includes Toxicological evaluation
ChemGes	High	Low	Low	Low	
Chemical Safety Consulting	Medium	Low	Low	Low	Regulatory support in chemical compliance seems to be limited to advice (even though the rest of the services seem very complete)
Chem-Service Group	High	Low	High	Low	Seems like a great competitor
Conusbat Regulatory Services	High	Low	Low	Low	Only regulatory services
CSB GmbH	High	Low	High	Low	Really complete regulatory support (including registration of REACH) Scientiifc support in all stages of Biocides
Currenta	Medium	Low	Medium	Low	Regulaotry - Advice and Other specific tasks Biocide - They provide testing and advice -Advise and Regulatory studies
DEKRA Insight	Medium	Low	Low	High	No reference of "biocide" "biocides" or "biocidal" in the website. No reference of "nano" or "nanomaterials" in the website. Within medical devices they provide they have high scientific focus on testing.
DHI	High	Low	High	Medium	-Expertise and IT solutions for global regulatory requirements (including REACH, GHS/CLP and Safety Data Sheets) -In-depth knowledge of human toxicology and ecotoxicology -Ecotoxicological testing in compliance with OECD guidelines -Risk and exposure assessments -Global Product Stewardship -Help devlelopping Reach e-Nano Database and mention of nano material water membrane for water but no indication that team is specialized in nanomaterials. No certification for Medical Devices and third party evaluation and validation - Basically low level
DR.MACH	high	Low	Low	Low	Intermediates offer same services as REACH but want to focus on them for some reason. Training and Seminars doesn't seem to be main focus (really vague in what the training and seminars comprise
EBRC	High	Low	High	Low	
ECT Oekotoxikologie GmbH	High	Low	High	Low	Biocides: *Our REACH experts at ECT are specialised in the area of ecotoxicology, environmental fate and behaviour as well as physico-chemical properties of industrial chemicals.*
EDC - Chemical Consulting	Medium	Low	Low	Low	The Regulatory focus is medium because they offer: Consistent usage of pre-existing data (e.g. extensive literature research or usage of (quantitative) structural property/activity relationships, Q(SAR). Grouping (Category approach): Several structurally similar chemicals can be combined so that only one dossier must be submitted. The basis for this is formed by literature and data bank research as well as (Q)SAR. Bridging: If data from a structurally similar chemicals exist, these data can be used for a new material (literature and data bank research). Waiving: If it is shown that no kind of exposure to a chemical can be expected, then the corresponding tests can be dispensed with (literature and data bank research, optimisation of chemicals and pharmaceuticals, benign by design). EDC provides support in these areas through competent consultation or complete processing. Doesn't seem to be complete REACH services Even though they have a high scientific expertise. The teams doesn't seem to have its focus on any of the particular areas.

ERM	High	Low	Medium	Low	ERM is strong on environmental, health, safety, risk, social consulting services and sustainability related services. After seeing their case studies it is possible to see that they add value is mainly through changing in management systems, culture related issues, operations management and being aware of regulations as well as doing a more economical approach to environment and sustainability. ERM owns JSC that is focused Compliance. THey mention Biocides as one of the main areas but then their scientific expertise, doesn't include characterisatioom amd interpetation of results Scoping Literature search and review Expert review of existing database against regulatory requirements using latest intelligence and regulatory trends Preliminary risk assessments to highlight any areas of concern Advice on testing Cost estimates to complete the data package Selection of RMS (if appropriate)Negotiations with regulatory authority Advice on represented uses Literature search and review Preparation of study summaries Evaluation of exposure scenarios Preparation of robust risk assessments Preparation of electronic dossier (CADDY, IUCLID) Collation and submission to the authorities (including REACH-IT, R4BP)
Eurofins	Medium	Medium	High	High	Nanomaterial testing Biocides - Really in-depth and complete, from scientific and regulatory Medical Devices - Testing and Certification
Exponent	High	High	High	High	Really competitive company but Germany subsidiary according to annual report 2017 is dedicated to a different area. However since subsidiaries are in Germany Switzerland and UK Germany might be the only place where they can move their compliance subsidiary for europe
Fieldfisher	Medium	Low	Low	Low	Only reference a single person so the criteria "a team of scientists" was not fulfilled. Also it is a law firm so scientific expertise doesn't seem to be their focus
FoBiG	Medium	Low	High	Low	They have many scientists and especially researchers that conduct risk assessments and other tests.
Fraunhofer ITEM	Medium	High	High	High	Regulatory: REACH Registration Assessment, and testing of nanomaterials (really complete) Scientific and regulatory support for biocides Regulatory and scientific support for medical devices
GAB consulting	High	High	High	Low	GAB seems to have a strong team in the areas of Nanomaterials and biocides, with no reference of Medical Devices. THey are really focused on regulation as opposed to scientific focus but their team seems to have the experts needed to do all the specialized tasks
GBK Global Regulatory Compliance	High	Low	Low	Low	Strong Regulatory support with audits, training, REACH registration. Scientific support (emergency number) but not in any of the focus sectors
Granta (Part of engineering simulation company ANSYS)	Medium	Low	Low	Low	Regulatory support - They only have REACH incorporated into their software No mention of any of the focus markets
Hermes Hansecontrol Group	Medium	Low	Low	Low	Regulatory services such as REACH seems incomplete (no defense/ registration/ only supporting activities and certification. Really strong on testing and certification and inspections. No focus on sustainability and medium focus on environment (example eco-design). Really strong on scientific support Part of a much bigger group (Hermes which is focused on Logistics), so expansion and fundingmay be limited. No focus on any of the areas of expertise. Overall average competitor
Hohenstein	Low	Low	Medium	Medium	No regulatory Support APPLIED TO TEXTILES: Biocides: Testing Medical Devices: Testing only
Hohmann rechtsanwälte	Medium	Low	Low	Low	They offer advice on registrations for REACH and biocides but no audits, management functions.
ibacon GmbH	Medium	Low	Medium	Low	They conduct studies that are compliant with multiple regulations but don't seem to take over the registration and create dossiers, safety data sheets etc. Only testing and studies Scientific Support - They help design studies and they do the testing required for biocidal regulation. Don't mention interpretation or dossier creation (maybe included in study)
IDRG (International Development of Regulatory Globalization)	Low	Low	Low	Low	
imds Professional	Medium	Low	Low	Low	Really regulatory focused (offer to do buraucracies of imds), training and software (don't focus on scientific aspect) They can provide advice for biocides, as it is included in the training.
Innoturn	High	Low	Low	Low	Only one consultant expert in REACH. Even though she has expertise in automotive and mining chemicals, she doesn't seem to be an expert in any of the 3 areas. Her main focus seems to be on the seminars and training
Intertek	High	High	High	High	Really big company in many areas of quality, safety, processes and systems. Regulation and compliance is not main focus of this company. Certification and Testingis what is featured the most. Theese expertise areas are one of many but they seem to be realluy well equiped

iPoint	High	Low	Low	Low	Software developing company with great focus on regulations. Support given mainly Technical, not regulatory or scientific. No mention of any of the areas of expertise Regulatory focus is really strong. Software and Seminars aimed at changing Management Systems to achieve Sustainability and Compliance goals In their workshops, after the Company assessment (not sure if scientific expertise needed) they do a Situation and gap analysis (not sure if scientific expertise needed)
KFT	Medium	Low	Medium	Low	They only advise companies and say the requirements. Supporting through the whole process. Both on REACH and Biocides
Knoel	High	Low	High	High	
LAUS GmbH	Low	Medium	Medium	Medium	They provide testing for all the 3 markets but no dossier creation but no substance characterisation and interpretation Possible Partner as their motto is "*small enough to care and big enough to deliver."(...) This helps you to find the best test strategy for your product and to avoid extra costs.*
Lisam Systems	High	Low	Low	Low	Since 1999, Lisam Systems has worked as a compliance partner to help companies to overcome and comply with the global compliance standards in Environment, Health & Safety. Lisam Systems' offering the most intuitive and functional IT tools to promote compliance and ensure environmental sustainability, health and safety, workplace excellence and people-oriented management. Lisam has *Network of service providers and global regulatory experts* but no mention of scientific experts
Perkin Elmer	Low	Low	Low	Low	One of main areas of research is nanomaterials They offer Pesticide and Mycotoxin Analysis with LC/MS/MS but within Cannabis industry Capabilities: Detection Imaging Informatics Services (Customized laboratory management, research and clinical solutions)
Prosacon	High	Low	High	Low	They create the dossiers *"With our expert knowledge , we check the regulatory requirements of your products and evaluate their physicochemical, toxicological and ecotoxicological effects.We create dossiers you need, be it biocidal products or chemicals . And we take the contact and negotiations with the authorities and owners of the data and revise your safety data sheets."* No mention of services or expertise in medical Devices or nanomaterials Bottom Line: Medium-Strong Competitor for biocides. Not for the other focus sectors.
Qualisys	Medium	Low	Low	Low	Regulatory Support - Software provides information about regulations and regulatory related data. No mention of any of the focus sectors (or scientific expertise and support)
QUMSULT	High	Low	Low	Low	Regulatory: No mention of REACH but many other certifications. High management focus (e.g. environmental management systems. All the software based on ISO standards No mention of scientific support for any of the focus sectors. Regulations inckluded in software (although they don't mention which)
REACH Advice GmbH	High	Low	Low	Low	Complete REACH regulatory support No scientific support
SCC GmbH	High	Low	High	High	The key to our success lies in our many years of regulatory experience and the sound scientific expertise of our team. Our scientific and regulatory knowledge is bundled in our Regulatory Science department. Our team of more than 130 employees consists of highly qualified, experienced and team-oriented experts, mostly with academic degrees. They don't mention any kind of advice for Nanomaterials (they have only defended nanomaterials' safety dossiers. For Biocides they have the study monitoring where they have to design and monitor studies. For Medical Devices they provide both biological and clinical evaluations which also requires a high degree of scientific expertise.
SGS	High	Medium	High	High	*Home › Public Sector › Quality, Health, Safety and Environment › Product Safety › REACH* *"SGS offers a comprehensive suite of services to help our customers comply with their obligations under REACH, from initial REACH registration to consulting, testing, auditing and verification services to support ongoing compliance."* Nanomaterials Even though it is not explicitly written many services include testing of in lab, working with nanomaterials so at least advice on results should be provided. Within pesticides there is a high degree of scientific expertise. Medical Devices Services offered are really extensive, with certification and testing.
spectra Consult GmbH	High	Low	High	Low	No mention of biocides expertise: But mention of Study montioring and expert statements
tec4U	High	Low	Low	Low	Provides many services related to REACH (not all), risk assessment, sustainable product design. The rest of the services are software or database based, these are more focus on compliance updates and check. Traning is also offered. No toxicology or any scientific related services. Also no mention of any of the focus markets.
thinkstep	High	Low	Low	Low	Really strong focus on compliance, management and IT systems and focus on environment, sustainability and product stewardship. *No mention of any expert scientific teams. Team of international sustainability experts 28 phds in the team*

					"world's leading source of next-generation sustainability technology and expertise, built over 30+ years."
ToxMinds	High	Low	Low	Low	Mention of REACH and main area of homepage dedicated to compliance Includes consortia management, and communication. No reference of audits Biocides: E.g." *desktop research, scientific review of available data and data gap analysis relative to BPR requirements" / "Management of testing programmes"* Medical Devices: Provides human and environmental safety assessments (not any testing or advice or certification.
TUV	Medium	Low	High	High	No mention of Nanomaterials. Even though biocides is not main focus. Company seems to have labs and therefore teams that are able to characterise substances and do the scientific part of REACH (as opposed to regulatory part). The great degree of focus on Medical devices, testing and certification shows great scientific expertise in this area.
UI	High	Low	Low	High	Regulatory Support -Chemical Regulatory Compliance Manage your chemical compliance needs with the help of global regulatory expertise and leading resources. Scientific support No mention of Nanomaterials
UMCO	High	Low	High	Low	*Regulatory support also includes consulting, audits and training* *"We can offer you the complete registration or authorization process of substances under the REACH Regulation as well as biocidal products and biocide approval in the EU."*
Umwelt Consult	Medium	Low	Low	Low	The team can provide advice on a few regulations related to drinking water and air hygiene. Not specialized in any of the focus markets.

Appendix 8 Benchmarking and Strategic Curve Adaptation:

Analysis of services that are offered by the company and their internalization in each market	This analysis is meant to be used to showcase the level of integration of the competitors in this market by analyzing the services they promote.	
	Analysis of companies with at least medium degree of competition that are competing in Germany	

Analysis							Example analyzing water wastage	
Offers service internally	1		Registration			Audits	Mining	
Offers service outsourced or partially	0,5	toxicology, risk assessment	close to legal			All the things sold are compliant		
Doesn't offer service	0	Testing	REACH and Global regulation			Data management		
Company	**Website**	**Regulatory Support**	**Scientific support**	**Software**	**Training**	**Product steward ship & sustainability**	**other services (e.g. environm ental consulting etc.)**	**Notes**
1cc GmbH	https://1cc-consulting.com/en/	1	0	0,5	1	0,5	0,5	Regulatory support: Regulatory monitoring, individual consulting and management and admin services Scientific support - No mention of advice or testing Software: 1cc Reporting tool and compliance data not clear if software or not Training: REACH, Environmental management system (includes employee training), RoHS Sustainability: Envirionmental Management System, Environmental Audits Other services: Copyright, ecodesign
Alster Consulting	http://alster-consulting.eu/	0,5	0,5	0	1	0	1	Regulatory support is partial Scientific support for chemical internet trade and clp is outsourced other services: Chemical internet trade
Anthesis	https://www.anthesisgroup.com/	0,5	1	1	0,5	1	1	*"Our management system specialists implement single or integrated systems following established standards like ISO 14001, ISO 9001, OHSAS 18001/ISO 45001 and ISO 50001, among others. We can also combine these services with related training, internal audits and even managed services after the certification of the systems."* *Regulatory: Only Assessment for REACH (more scientific), no mention of registration* **Value Chain Sustainability is one of the main categories in website:** Supplier performance assessments Supply chain optimization Ecosystem / Biodiversity assessments Sustainable Chemistry - Scientific support: Alternative assessment Substitution strategies Green claims management Human and eco-toxicity assessment Life cycle assessment Only Representative Waste and Resource Sustainability - Environmental consulting
Arcerion	http://www.arcerion.com/	1	0,5	0	0	0	0	*Scientific support - Scientists support solely compliance - No mention of any specific support* *"We combine the expertise of scientists and industry specialists to provide our clients a tailored solution to ensure full compliance and a competitive market access."* *Only mention Regulatory services.*
Asseso	https://www.asseso.eu/de	1	0,5	0,5	1	0	0	Regulatory support (registration, and partial scientific support (Design testing audit and expert on-site assessment), no mention of interpretation of lab tests. They offer internal training on EU safety (no details) And they claim to have specialized software (not information) No mention of sustainability or any environmental management system or product global access
Callaghan Consulting International	https://www.ccintl.eu/index.html	0,5	1	0	1	0	0	Everything focused in Cosmetics TRAINING: > Offering training and workshops in verifying good

								correlation of scientific data to control tenuous product claims and "misinformation".
CFCS-Consult GmbH	http://www.cfcs-consult.de/?lang=em	1	1	0,5	1	0	0	Regulatory, Scientific Support and training Software: *Data collection and management* *Installation and management of information exchange platforms* *Short- and long-term archiving*
Chem-Consult	https://www.reach-chemconsult.com/	1	1	0	1	0	0,5	Scientific support "Toxicological advice" is one of the main tabs in the website Regulatory support in REACH and BPR Sotware: they use and teach how to use IUCLID5 (free software by ECHA) but don't offer any in-house solutions No mention of any product stewardship or sustainability services Other services: HAZOP / PAAG / LOPA / Functional Safety
ChemGes	http://www.dr-software.com/	0,5	0	1	0	0	0	Safety data sheet software (partial regulatory support)
Chemical Safety Consulting	https://www.chemicalsafetyconsulting.com/	0,5	0	0,5	1	1	0	No mention of scientific support or scientific expertise. Software: Within sustainability one of the services includes *"Implementing systems and software tools"* Product Stewardship and Sustainability - Assessing management systems, creating sustainability strategy, green audits and communcation (not sure if it similar to sustainability reporting or something separate) Other services: Industrial Health and Safety (not sure if is included)
Chemservice	http://chemservice-group.com/	1	1	0	0	0	1	Reference of "Database" referring to hazardous substances only (chemical safety reports) (not similar to hive) No reference of "notification" suggests that no hive similar offer is given No reference of "Training" in any part of the services page No reference to any audit or data management Reference to health and safety in workplace which is other service different from others
Conusbat Regulatory Services	http://www.conusbat.com/	1	0	0	1	0	0	Only offer Regulatory support (Business and advice) and Training
CSB GmbH	https://www.csb-online.de/en/index.html	1	1	0	0	0	1	Regulatory support - Very complete Scientific support - Complete and dedicated both to REACH and Biocides (and Toxicological Risk assessment as an example of Toxicology) No training or software Other services include: Transportation of dangerous goods and Toxicological Risk Assessment (includes evaluation of substances environmental behaviour)
Currenta	https://www.currenta.com/home-en.html	0,5	1	0	1	0	1	Regulatory: THey only advise on REACH and BIOCIDES and then can do specific services (Not clear) Scientific support - Testing and analytics Training: *trains around 2,400 young people annually at the three CHEMPARK sites and in Wuppertal-Elberfeld, covering over 20 scientific, technical and commercial professions. We also offer combined training and study programmes.* Other services: Testing, Environmental Analytics, utilities, waste management, infrastructure, safety and security,
DEKRA Insight	https://www.dekra.us/en/home-page/	0,5	1	0	1	0,5	1	Mention of REACH but focus on testing and these compliance services are not highlighted Training on Environment Health and Safety is one of the offered services They provide audits (which include Energy and environment) Health, Safety & Environment Solutions
DHI	https://worldwide.dhigroup.com/	1	1	1	1	1	1	Environment and Ecosystems as other services-In-depth knowledge of human toxicology and ecotoxicology -Ecotoxicological testing in compliance with OECD guidelines -Risk and exposure assessments Specifically mention Global Product Stewardship THE ACADEMY - Training IT solutions for Global Regulatory Requirements - MIKE Software
DR.MACH	https://www.mach-chemguide.com/en/services/	1	0	0	0,5	0	0	Training and Seminars doesn't seem to be main focus (really vague in what the training and seminars comprise. Really basic compliance check offer and focus on cosmetics. Only strength in the memberships.
EBRC	https://www.ebrc.de/	1	1	0,5	0	0	0	Biostatistics and data management can be compared to Hive tool but it is under Special Services, which indicates that it is not main focus
ECT Oekotoxikologie GmbH	https://ect.de/	1	1	0	1	0	1	Regulatory Support: Support throughout entire REACH and biocidal regulatory process Scientific Support: Writing expert judgements Training Other services/ Environmental consutling:
EDC - Chemical Consulting	http://edc-com.de	0,5	1	0	1	0	1	Scientific Support - Evaluation of chemical analysis (procedures and results). However Regulatory support is only partial, according to website. They only provice information about the tested materials, which can then be used for regulations Offer training courses but no software for the client. Mention of sustainable chemistry, however no mention of audits, chemical management systems, access to markets, Data management, sustainability, product stewardship. Environmental Management = Environmental Consulting

ERM	https://www.erm.com/	0,5	0	0,5	1	1	1	Specifically mentions Product Stewardship as service offered No mention of REACH or any specific regulations which suggests that either they only have advisory services, or it's not their main focus. Main focus as said in the notes of the previous page is more improvement of operations, business, management applied to sustainability. Other services considered: Air Quality- INCLUDES Air pollution control engineering and troubleshooting; Sediments & Watershed Management - INCLUDES Sediment assessment and remediation; Water quality and watershed management; Learning & Development Service = Training in the area of Environment Health Safety and Security IT solutions "off-the-shelf or custom-built third-party technologies" on global EHSS regulatory and reporting requirements, and best practices
Eurofins	https://www.eurofins.com/contact-us/worldwide-interactive-map/	0,5	1	1	1	0,5	1	Regulatory support - Not main focus. They mention REACH but services provided more on the preparation of safety data sheets HENZ tool also supports REACH Scientific Support: e.g. Review of Safety Data Sheet (SDS) contents Software: Henz chemical assessment tool Other services: wide range of services specialized in many areas. Most involve testing Training is offered e.g. on quality assurance and control Sustainability and product stewardship services for leather products. Global market access for Medical Devices
Exponent	https://www.exponent.com/	1	1	0	1	1	1	Training inside Biocides, Product development, Efficacy, CEPA, TSCA, CLP. No reference of "database" applied to regulations and no reference of IT solutions.
Fieldfisher	https://www.fieldfisher.com/	1	0	0,5	1	0	0	In technology it does mention that they develop cloud solutions for ata export, security and global compliance for vendors and users alike. But it does seem as if they need to develop it from scratch, which means that they are not specializing in this and not focusing on compete on this
FoBiG	https://www.fobig.de/en/	1	1	0,5	0	0	0	They use software to do exposure modelling. They mention a database with 15000 substances *"Relevant input data and the key results for all 2 336 substances as well as a batch version of the ACC-HUMANsteady software, which was used to predict potential accumulation in the food chain, are made available and allow interested stakeholders to perform additional analyses."* No mention of "*Chemicals Policy and Management Systems", "Audit", "Data Management and Monitoring", "Product Assessment" or "Sustainability"*
Fraunhofer ITEM	https://www.item.fraunhofer.de/en.html	1	1	0	1	0	1	**Regulatory and Scientific Support is offered** as seen in Regulatory-Science tab **Training**: E.G Workshops in Medical Devices **Other services:** Drug Development, Personalized Tumor Therapy
GAB consulting	http://www.gabconsulting.de/home.html	1	1	0,5	0	0	0	They mention a *"Secure electronic client access database"* but it is not clear what this referes to. Expertise: *"GAB Consulting is a team of experts offering qualified and reliable regulatory services for agrochemicals, biopesticides, biocides, nanomaterials, feed additives, animal pharmaceuticals and chemicals (REACH) in compliance with the latest OECD and EU requirements. We support you in developing and implementing sustainable registration strategies in Europe and overseas, and have achieved a substantial track record over the last 15 years. Our one-stop service provides cost-effective customised solutions to meet your needs. Preparation of high quality dossiers and clear documentation, combined with a prompt and competent follow-up are key elements to achieve timely approval of active substances and related products."* Just focused on registration, no reference to Product Stewardship of any kind and no focus on sustainability Consulting Services also focused on regulation, not sustainability In-house quality assurance unit Outsource laboratories and also depend
GBK Global Regulatory Compliance	https://www.gbk-ingelheim.de/en/	1	1	0,5	1	0	0,5	Regulatory Support: REACH., GHS Scientific Support: Emergency Line- Expert Advice Software: Outsources from CFP from Chemical Footprint AG Training: Really strong point Product Stewardship and Sustainability - Audits but no mention of any other services Other Services: EHS: Safety in supply chain but tool is outsourced and also Hazardous Materials transportation support.
Granta (Part of engineering simulation company ANSYS)	https://grantadesign.com/	0,5	0,5	1	1	0	0	Software solutions company: Regulatory Support: GRANTA MI R&D Design & analysis Procurement & production In-service & compliance (Minimize environmental and resource impact Reduce regulatory risk Respond faster to materials-related customer issues) Materials selection tool, Communication tool for the supply chain Deliver accurate, consistent materials information for design and simulation, and in support of PLM. Avoid product risks

								including restricted substances. Scientific Support CES Selector The standard tool for materials selection and graphical analysis of materials properties. Training: CES EduPack World-leading resources for materials teaching in engineering, science, and design. No mention of product steewardship or sustainability or air, waste or water quality management
Hermes Hansecontrol Group	https://www.hermesworld.com/de/	0,5	1	0,5	1	0,5	1	Scientific Suport is the main focus. Testing, risk assessment, certification. Only support for REACH. Labelling is included. Software - Certification Database (no substance and regulation database mentioned) Product Stewardship - Marketability / inspections of products and production sites. No mention of No mention of sustainability Training - Training and advice Offered within REACH They offer certification for GS (testing safety) - Which can fall under other services Offer: *accredited testing and tailored consulting services, from product development to product protection and risk management.*
Hohenstein	https://www.hohenstein.com/en/	0	1	0	1	1	1	A lot of testing, certification and environmental research. no indication of interpretation) No focus on regulatory support No indication of software Training: Hohenstein Academy Other services: Wastewater analysis/ Occupational clothing/ Clothing Fit, etc (related to clothing)
Hohmann rechtsanwälte	https://www.hohmann-rechtsanwaelte.de/	1	0	0	0	0	0	As a law firm not specialized in Chemical compliance they only offer advice on REACH and Blocides law
ibacon GmbH	https://www.ibacon.com/	0,5	0,5	0	1	0	0,5	Main activity is testing: Testing is compliant with regulations and they Scientific support - designing the testing necessary for regulations. Software - No mention Training - Part of the Quality Assurance services Other services: Aquatic Ecotoxicology, environmental fate, etc tests - Part of environmental consulting
IDRG (International Development of Regulatory Globalization)	https://www.idrgplantprotection.eu	0,5	0	0	1	0	0	Regulatory Support: They give advice on Property Plant Prrotection according to Global Harmonization of the Authorization. Really strong focus on Training and workshops
imds Professional	https://www.imds-professional.com/	0	1	1	1	0	0	Regulatory support really focused on Automotive industry. But include REACH in their software Scientific expertise only for automotive industry (not relevant) Offer training on many topics related to compliance (including biocides)
Innoturn	https://www.innoturn.de/	0,5	0	0	1	0	0	She seems to only offer advice on . things and doing trainings. Not competing as Only-Representative, or in measuring impact
Intertek	https://www.intertek.com/	1	1	0	1	1	1	Environment: Indoor Air Quality (IAQ) assessments and consulting expertise Hazardous material assessments and management programs Spill remediation expert guidance and peer review services EHS management plans and programs Catastrophic and climate event EHS support and management plans Sustainability: Assurance Testing & Analysis Inspection Certification & Auditing Data management Data seems to need to be collected and is not being managed: REACH Safety Data Sheet Services Review of current Safety Data Sheet against REACH Regulation requirements Collection of required data: Current inventory of Safety Data Sheet List of countries of exportation Full composition data Physico-chemical information (where available) Toxicological and environmental properties (where available) Full contact details of SDS responsible party (manufacturer, distributor, or importer) Identification of gaps and required changes Gap closure for missing data fields Conversion of current SDS into REACH compliant format Delivery of completed SDS for use and distribution Translation into alternative languages as required Integrated Management systems Software only for integrity management. No software for Compliance management.

iPoint	https://www.ipoint-systems.com/	0	1	1	1	1	0	They offer a lot of management systems. Their software is really strong (notifications, Regulatory data and Substance Data), and management systems. They have EHS System, they participate in the Design of products They have ERP and Product Data management- Product Stewardship = Product Review Process?
KFT	https://www.kft.de/en/home.php	1	0,5	1	1	0	0	Only advise companies at legal level, with bigger focus on communication and management Scientific Support: Example Chemical Safety Report *"We will contact downstream users on your behalf to determine the use and conditions of use and to compile the substance safety report on the basis of the registration dossier prepared by us or third parties"* Chemdoc Software: Easy distribution of the current version in the company. Simple transmission of the current version to customers. At all times, up-to-date information exists about which SDS has been ordered from KFT for which substance, for which language and for which country. Evaluation of the relevance of the Safety Data Sheets possible at all times. Every employee in the company can always be given access to the latest documents. Internal storage, care and communication become redundant. Chemdoc is software that ensures that Safety Data Sheets are Registered, Distributed and Retained (legal requirement), and some information about Chemicals Sanctions Regulation KFT Academy provides training on Chemical Compliance
Knoel	https://www.knoellconsult.com/en/business-units-4	1	1	0	1	0,5	1	Training within Medical Devices: European Commission (Europe) Medical Devices Regulations ISO 13485, ISO 9001 and GMP requirements Country Specific Requirements< No mention of app or application - (reviewed 2x) Sustainability and Product Stewardship: MD: -Auditing -implementation of a suitable quality management system and the maintenance No reference of Declarable substance list No reference of Restricted Substance ListΩ Environmental Fate (example of water wastage) and it is said in the website that is pre-requisite for BRP
LAUS GmbH	https://www.laus.group/en/	0	1	0	0	0	1	They provide testing for the areas of focus. They also perform aquatic and terrestrial studies in the ecotoxicology services
Lisam Systems	https://www.lisam.com/en-us/	1	0	1	1	0,5	0	Product Stewardship - Data management, communication across supply chain, chemical policy and management systems and product assessment are included. No mention of audits, sustainability services or environment consulting. Training on how to use the application Technical Training - User Creation, Security Management, Change Control, and Back-ups and Recovery etc. EHS Regulatory trainings on related EHS topics such as REACH, GHS, Exposure Scenarios etc., through its network of service providers and global regulatory experts.
Perkin Elmer	https://www.perkinelmer.com/	0	1	1	1	0	1	Bigger focus on development of products and research than compliance consultancy Compliance in website only refers to the clients' labs being in compliance: *knowing that your lab is operating within global regulatory requirements. By consolidating with one provider and harmonizing your protocols under a single Validation Master Plan (VMP), our OneSource Universal Operational Qualification (UOQ) framework delivers an automated approach to testing, documentation and compliance, streamlining processes across all major models of laboratory instrumentation, regardless of vendor.* **Training:** Choose from basic instrument operation to advanced, custom instrument and software operation, including method optimization. **Software:** **ChemDraw:** ChemOffice Professional: The only Research Suite you'll need. From drawing reactions, to processing instrument data, to structuring experimental data. ChemDraw: Take your chemical drawing experience to the next level, enhanced with even more time-saving chemical intelligence, publication-worthy graphical templates and scientific tools. (ChemDraw JS web version) ChemDraw Prime: Your basic yet powerful chemical drawing tool, with all the beloved time-saving tricks and shortcuts that make ChemDraw the preferred tool for chemists since 1985. **Notebook:** organize and share experimental data efficiently and communicate seamlessly with the common instruments and devices you use. **Visual Analytics:** Scientific Data Visualization

								Data Wrangling Statistical Analytics **Environmental Services:** Air quality Water quality Soil Quality
Prosacon	https://www.prosacon.de/	1	1	0	0	0	0	Regulatory and Scientific Knowledge means that both regulatory and scientific support can be provided. No mention of any other activities
Qualisys	http://qualisys.eu/index.php?id=home&L=sfnzfqcwnsjbyef	0,5	0	1	0	0	0	Regulatory Support - Software provides information about regulations and regulatory related data. Scientific Support - No No training, No sustainability and product stewardship No environmental consulting
QUMSULT	https://qumsult.de	1	0	1	0,5	0,5	1	Regulatory support is strong .- Databases and notification of regulations No mention of scientific support Really strong software development Training software based on videos. Product stewardship and sustainability: Sustainability reporting/ Environmental management system and internal audits Environmental consulting: Fire protection consulting, Energy management and quality audits (ISO 9001),AWSV (water pollution)
REACH Advice GmbH	https://www.reach-advice.com/	1	0	0	0	0	0	Complete REACH Regulatory support
SCC GmbH	https://www.scc-gmbh.de/	1	1	0,5	1	0	0	Training - Regulatory seminars and expert workshops Scientific Support- Data gaps analysis *Test strategies and study monitoring* *Advice on alternative testing strategies and (Q) SAR* *Scientific opinions, including justification for non-submission of data, read-across and group procedures* *Risk assessment and modeling* Regulatory Support *Creation and submission of dossiers* *Dossier defense at national and international level* *Maintaining product registrations* *consortium management* *Services as REACH representative only* *Electronic Document and Dossier Management System (EDDMS)* *GLP and non-GLP archiving concepts* Software: *Electronic Document and Dossier Management System (EDDMS)* - database system for all regulatory archiving
SGS	https://www.sgs.com/	1	1	1	1	1	1	Sustainability is one of the main services offered Bottom Line: Great focus on scientific and sustainbility. Home › Public Sector › Quality, Health, Safety and Environment › Product Safety › REACH Software: Home › Chemical › Quality, Health, Safety and Environment › Environment › Environmental Data Management *DATA SERVICES SOLUTION* *For environmental data management to be successful, data must be collected in such a manner as to ensure legal defensibility and documentation of acquisition. Our system has been architected from the ground up to maintain traceability of every database record back to a known and accountable data generator. We provide internet tools that will allow each user, whether in the field, laboratory, or other organization, to screen their own data.* Expert Training on all the areas Sustainability and Produst Stewardship:Includes sustainability audits. BS 8555 - Certification - Implementation of Environmental Management Systems ISO 14001:2015 – Environmental Management Systems Environmental consulting : Home › Environment (Soil, water, Marine services, Air, noise, Odor, Vibration, waste and product safety, Industrial higiene, Construction and Property Management, Climate Management
spectra Consult GmbH	https://www.spectra-consult.de/	1	1	0	0	0	0	
tec4U	https://www.tec4u-solutions.com/	1	0	1	1	1	0	As the company's name indicates, software solutions are one of the main focuses Sustainable product Design Including process integration, data research, communcation with suppliers and employees- Product Stewardship and Sustainability No mention of any other kind of consulting
thinkstep	https://www.thinkstep.com/de	1	1	1	0,5	1	1	Really strong focus on software development and sustainability. Compliance as small part. Product stewardship is one of the main goals within the company mission- They do benchmarking within consulting, data management Training -thinkstepGO™ Sustainability Workshop - Identify main sustainability issues in the the company's industry, implications, creating a plan. They also host multiple webinars Environmental consulting . Energy and Carbon management

								"Value Chain Carbon Accounting (Scope 3)" - Estimate the carbon emissions from the company.
ToxMinds	https://toxminds.com/	1	1	0	1	1	0,5	Scientific Support -e.g. *"Interpretation, quality evaluations and development of Robust Study Summaries (RSS) of physico-chemical, environmental fate, (eco)toxicology and human toxicology studies"* Regulatory Support - *"Regulatory Strategy and compliance"* Services - Mention of REACH and BPR Training - Client tailored trainings on topics related to product safety & regulatory compliance Product Stewardship - No mention of Chemicals Policy and Management Systems, Audits, Data Management and Monitoring and Product Assessment (they take a more scientific approacy (e.g. *Development of science-based strategies and documentation to support chemicals or products under regulatory or public scrutiny")* Mention of environmental risk assessments. No mention of specific environmental consulting
TUV	https://www.tuvsud.com/en	1	1	1	1	1	1	Regulatory Support: HOME>SERVICES>TESTING>CHEMICAL ANALYSIS & TESTING>REACH (Really hard to find (we have to type it in search bar in order to find it) Services related to REACh: Registration dossier preparation Chemical safety report preparation and GHS/CLP-related services Chemical testing (restricted substances, substances of very high concern (SVHC) Training (in-house training and supplier training) Chemical Data management system: (Software) *1"An automatic BoM-comparison algorithm to return statistically significant advice by taking the supplier's chemical testing performance into consideration.* *2A mathematical model for uncorrelated data to compute the passing probabilities of materials and final products subject to predefined acceptance limits; a time-evolving probability calculation making use of a rolling timeframe concept to dynamically reflect the performance of suppliers.* *3The Risk Cube: The predictive capability to forecast the passing rates of raw materials or/and final products upon acceptance limit or evaluation criteria changes.* *The system supports businesses with:* *-Quality system design and implementation via Plan-Do-Check-Act Testing at the upstream point of the supply chain, and chemical products / formulations screening (smart testing).* *-Consolidation of all the chemical testing results along the supply chain (BOM, BOS).* *-Assured traceability along the supply chain from raw materials to final products – a relational database.* *-Compiled up-to-date requirements of regulations on chemicals by materials, by usages, and by regions/ countries.* *-Storage of MSDS, RSL, TDS of chemicals with risk assessments, precautionary actions and phase-out plans for hazardous chemicals.* *-Formulated test plans to reduce redundant testing.* *-Formulated test plans to monitor the reduction and elimination of restricted substances* *-Compiled testing statistics to evaluate the performance of suppliers."* Product Stewardship e.g. Chemical Data Management System and auditing Home > Services > Testing > Environmental & Sustainability Solutions Sustainability *-Lifecycle Assessments (ISO 14040) – This is a standardised tool for recording the descriptive environmental impacts of a product throughout its entire lifecycle. TÜV SÜD supports manufacturers to enhance the credibility of lifecycle assessments through a professional critical review.* *-Environmental Impact Assessment (EIA) – We can undertake a full EIA to allow our clients to understand the environmental effects of a product, plant or proposed project, taking into account socioeconomic and health impacts so that mitigation plans can be put in place.* *-Developing products in a Circular Economy (training / awareness programmes) – Our training and awareness programmes aid manufacturers in developing processes that reflect Circular Economy principles and values.* *-Corporate Social Responsibilities Audit – TÜV SÜD conducts audits on companies for compliance with the SA8000, Business Social Compliance Initiative, Worldwide Responsible Accredited Production, SEDEX and Code of Conduct audits.* Environmental consulting: (e.g.-Product Water Footprint (ISO14046)– The water footprint of a product is a quantifiable assessment of the potential direct and indirect impacts on water, as a result of all processing stages of its production. A product water footprint tells us how much pressure that product has put on water resources. -Product Carbon Footprints (GHG Protocol) – A product carbon footprint measures the greenhouse gas emissions throughout the product's entire lifecycle. TÜV SÜD supports manufacturers to enhance the credibility of a carbon footprint through a certification.)
UL	https://www.ul.com/all-offerings	1	1	1	1	1	1	Training - Learning and development Offer product stewardship and sustainability- categories in services

								Environmental consulting - e.g. chemical and waste water management systems/ Landfill waste diversion validation
UMCO		1	1	1	1	0,5	1	*Our team consists of toxicologists, chemists and biologists who optimally combine top quality with strong customer communication.* Regulatory Support: Software: *With our own software solution, we can react flexibly to your requirements and implement solutions quickly and effectively.* Software solution looks really bad only for communcation and data exchange. Product Stewardship but no reference of sustainability services Other Services: Work safety, Hazardous Materials, Consulting Management Systems (ISO 14001, OHSAS 18001, ISO 45001)
Umwelt Consult	http://umwelt-consult.com/index.php/home.html#intro	0	1	0	1	0	1	Scientific Support. Even thought they do not own the labs (they partner with Eurofins). They perform water and air quality analyses (environmental consulting).