

# INNOVATIVE TOOLS AND STRATEGIES FOR THE IMPLEMENTATION OF FOOD PROFESSIONAL SKILLS AND EXPERTISE IN A LIFELONG LEARNING PERSPECTIVE

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# Training Requirements And Careers for Knowledge-based Food Science and Technology in Europe

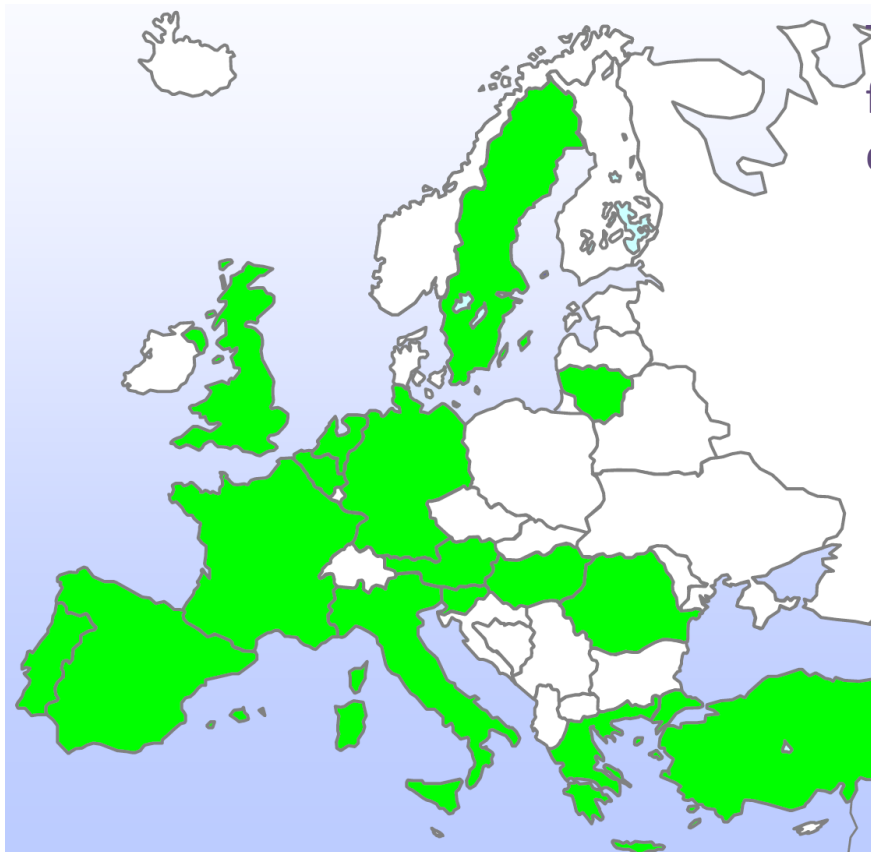
**TRACK\_FAST**  
**FP7 KBBE 227220**

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Porto Portugal

# Objective

Identification of the training and career requirements of future European food scientists and technologists (FST),  
and the implementation of a European strategy to recruit the next generation FST leaders

# Consortium



TRACK\_FAST provides main stakeholders with a forum within which their main needs are considered

- ❖ representatives of European and national professional organisations,
- ❖ research centres,
- ❖ academic bodies,
- ❖ multinational companies,
- ❖ SME associations,
- ❖ associations specialized in training members for the food industry,
- ❖ quality assurance experts.

# Consortium



# Logical Framework

Update education/training based on actual and future food job market needs

Establishment of a framework for continual professional training and career development for the FST professionals

Regulation of FST professions in Europe

Promotion of FST to attract students

>>> Identification and definition of personal skills  
requirements in food job market

# Organization of Brainstorming Workshops

*“... 16 workshops were organized, one in each of the 16 partner countries...”*

***Aiming to answer the questions:***

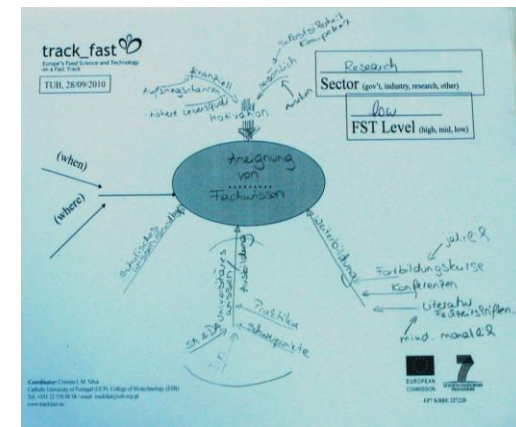
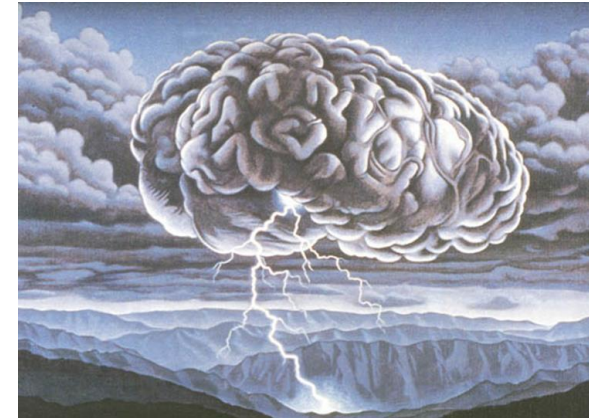
1) *Which competencies should a FST have to be competitive in the job market and to provide the skills needed by employers?*

**&**

2) *How and when should these competencies be acquired?*



	GOV	IND	RES	OTH	TOTAL ATTENDEES
Austria	1	2	4	0	7
Belgium	0	8	4	0	12
France	2	0	0	5	7
Germany	1	4	7	0	12
Greece	2	5	10	5	22
Hungary	7	6	7	5	25
Italy	2	4	4	0	10
Lithuania	8	10	4	0	22
Netherlands	0	1	1	1	3
Portugal	4	14	5	3	26
Romania	2	6	15	0	23
Slovenia	5	7	6	5	23
Spain	2	12	1	1	16
Sweden	21	15	24	26	86
Turkey	4	6	4	0	14
UK	1	2	3	1	7
	62	102	99	52	315



# Ideas for ideal skills from workshops

- A total of **4273 ideas for ideal skills** were provided by 315 workshop participants.
- 22 % were excluded from analysis because they either did not contain all required information (60 skill ideas) or agreement was not reached on the code (865 skill ideas).



**3348 skill ideas for the analysis**

Central	East	North	South
Austria	Hungary	Belgium	Greece
France	Lithuania	Netherlands	Italy
Germany	Romania	Sweden	Portugal
Slovenia	Turkey	UK	Spain



# Skill groups from WP3 document

## Section I. Non-sector specific skills

### **1. Fundamental Skills**

- 1.1. Communicating
- 1.2. Managing Information and computer literacy
- 1.3. Using Numbers
- 1.4. Thinking & Solving Problems
- 1.5. Providing Leadership
- 1.6. Managing Personnel

### **2. Personal Management Skills**

- 2.1. Demonstrating Positive Attitudes & Behaviours
- 2.2. Being Responsible
- 2.3. Being Adaptable
- 2.4. Learning Continuously
- 2.5. Working Safely
- 2.6. Improving own performance

### **3. Teamworking and interpersonal Skills**

- 3.1. Working with Others
- 3.2. Participating in Projects & Tasks
- 3.3. Communicating with Others

### **4. Business skills**

- 4.1. Business Planning and strategic management
- 4.2. Sales and Marketing
- 4.3. Finance and resource management
- 4.4. Customer Service
- 4.5. Corporate social responsibility CSR
- 4.6. Entrepreneurship

### **5. Pedagogical skills**

- 5.1. Learning & Assessment

## Section II. Sector non- specific skills

### **6. Skills for food quality and food safety**

- 6.1. Quality management, quality assurance and quality control
- 6.2. Food safety management, food hygiene and food safety control
- 6.3. Food legislation and control

### **7. Skills for Research and development (R&D)**

- 7.1. Product Development
- 7.2. Research
- 7.3. Consumer and nutritional sciences

### **8. Skills for Food Production and manufacturing**

- 8.1. Engineering Maintenance
- 8.2. Health, Safety and the Environment
- 8.3. Production Management
- 8.4. Production Operations
- 8.5. Cleaning and Preparation
- 8.6. Control Operations
- 8.7. Waste Disposal

### **9. Skills for food retail and the supply chain**

- 9.1. Food Retail
- 9.2. Goods Received and Storage
- 9.3. Supply to Production
- 9.4. Pick and Pack
- 9.5. Livestock Droving
- 9.6. Food service
- 9.7. Health and nutrition

### **10. Skills for Logistics**

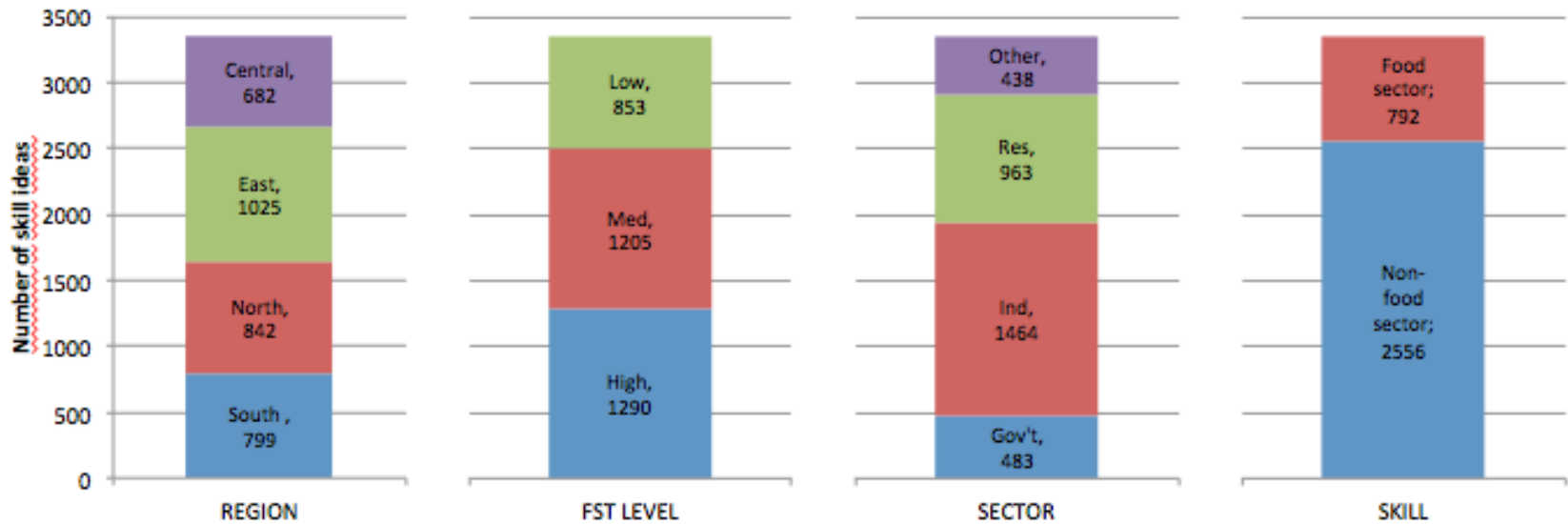
- 10.1. Transportation

## Section III. Sector specific skills

### **11. Skills for food processing sectors**

- 11.1. Meat and Poultry Processing - Preparation and Abattoirs
- 11.2. Meat and Poultry Processing - Production Butchery
- 11.3. Meat and Poultry Processing - Retail Butchery
- 11.4. Fish and Shellfish Processing
- 11.5. Dairy products
- 11.6. Brewing Production
- 11.7. Beer Packaging
- 11.8. Milling and Cereals
- 11.9. Dough and Dough Products
- 11.10. Flour Confectionery
- 11.11. Chocolate
- 11.12. Sugar Confectionery
- 11.13. Winemaking
- 11.14. Canned Fruit and Vegetables
- 11.15. Crisps, Snacks and Nuts
- 11.16. Dietetic Food
- 11.17. Desserts
- 11.18. Frozen Food
- 11.19. Seasonings and Spice
- 11.20. Soft Drinks and Fruit Juices
- 11.21. Soups
- 11.22. Jams and marmalade
- 11.23. Tea and Coffee
- 11.24. Vegetarian food
- 11.25. Ready-to-eat meals

# Distribution of skill ideas



**Low Responsibility Level (LR)**

Responsible for a scope of activities under the direction of others

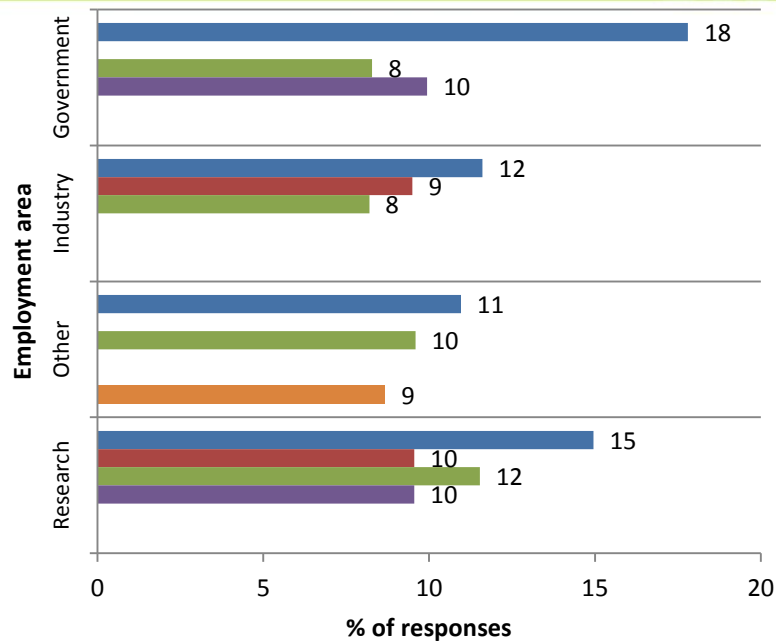
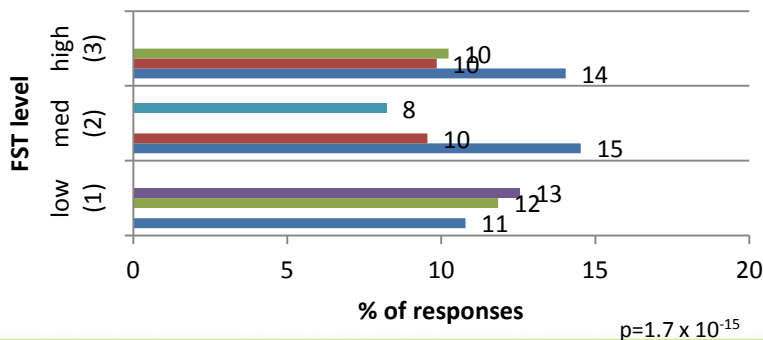
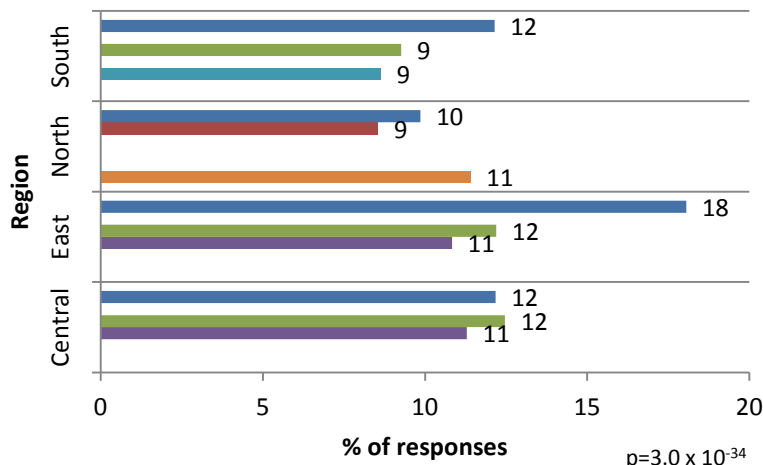
**Medium Responsibility Level (MR)**

In charge of leading a group of persons

**High Responsibility Level (HR)**

In charge of leading the company

# Top three ideal skill ideas

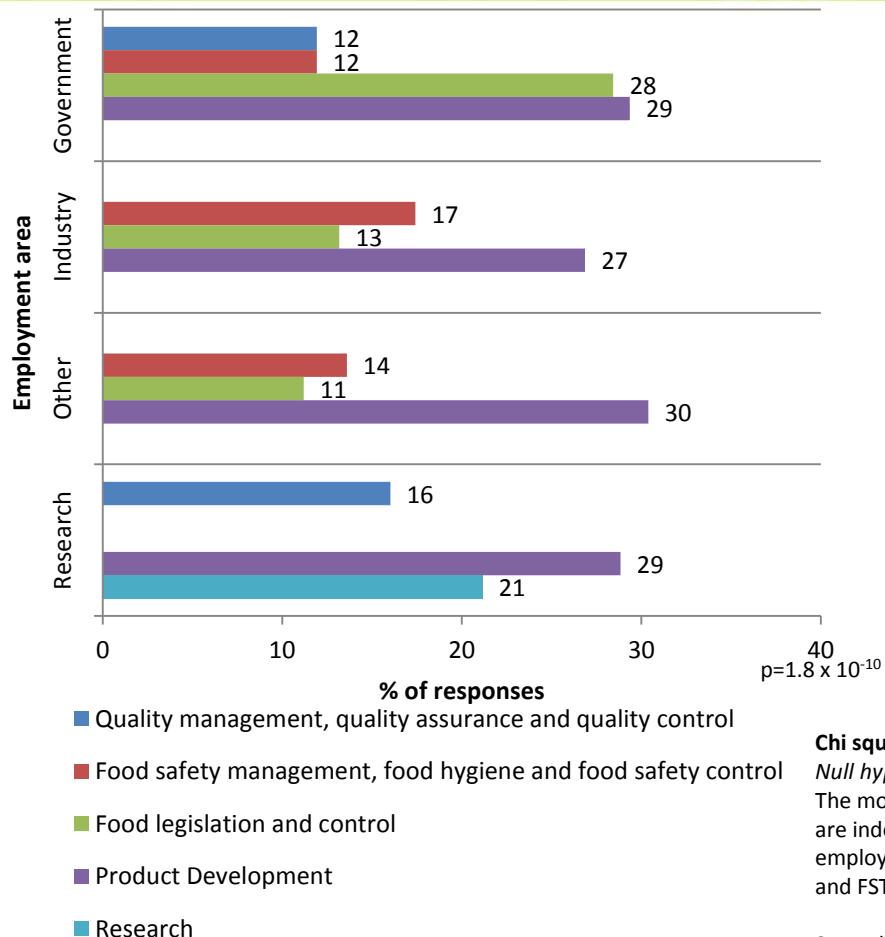
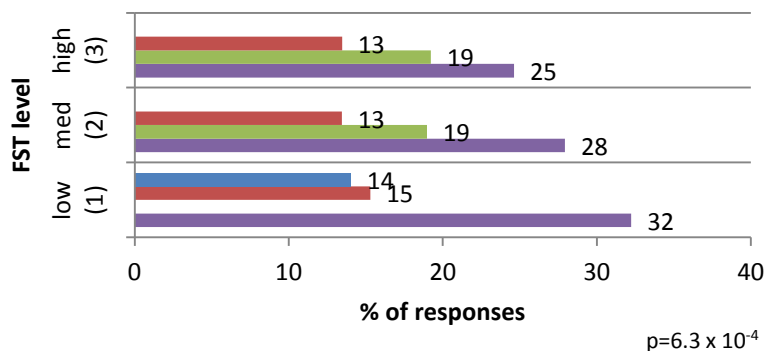
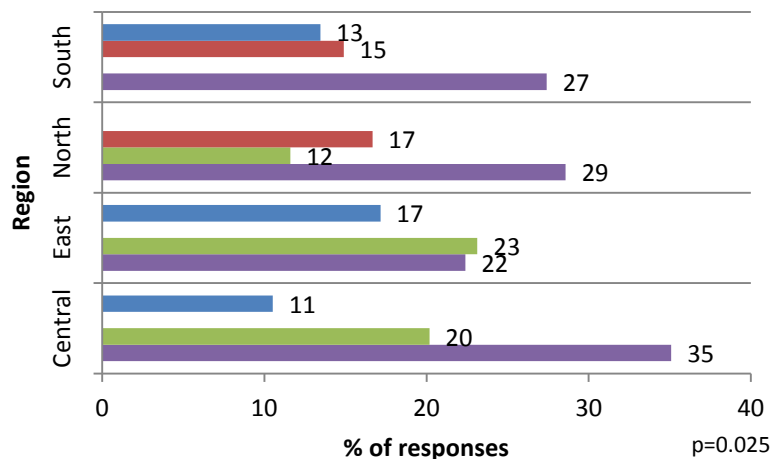


- Communicating
- Thinking & Solving Problems
- Demonstrating Positive Attitudes & Behaviours
- Being Responsible
- Working with Others
- Product Development

**Chi square test**  
*Null hypothesis:*  
 The most desired FST skills are independent of employment area, region and FST level.

Strongly rejected.

# Top three ideal food skill ideas

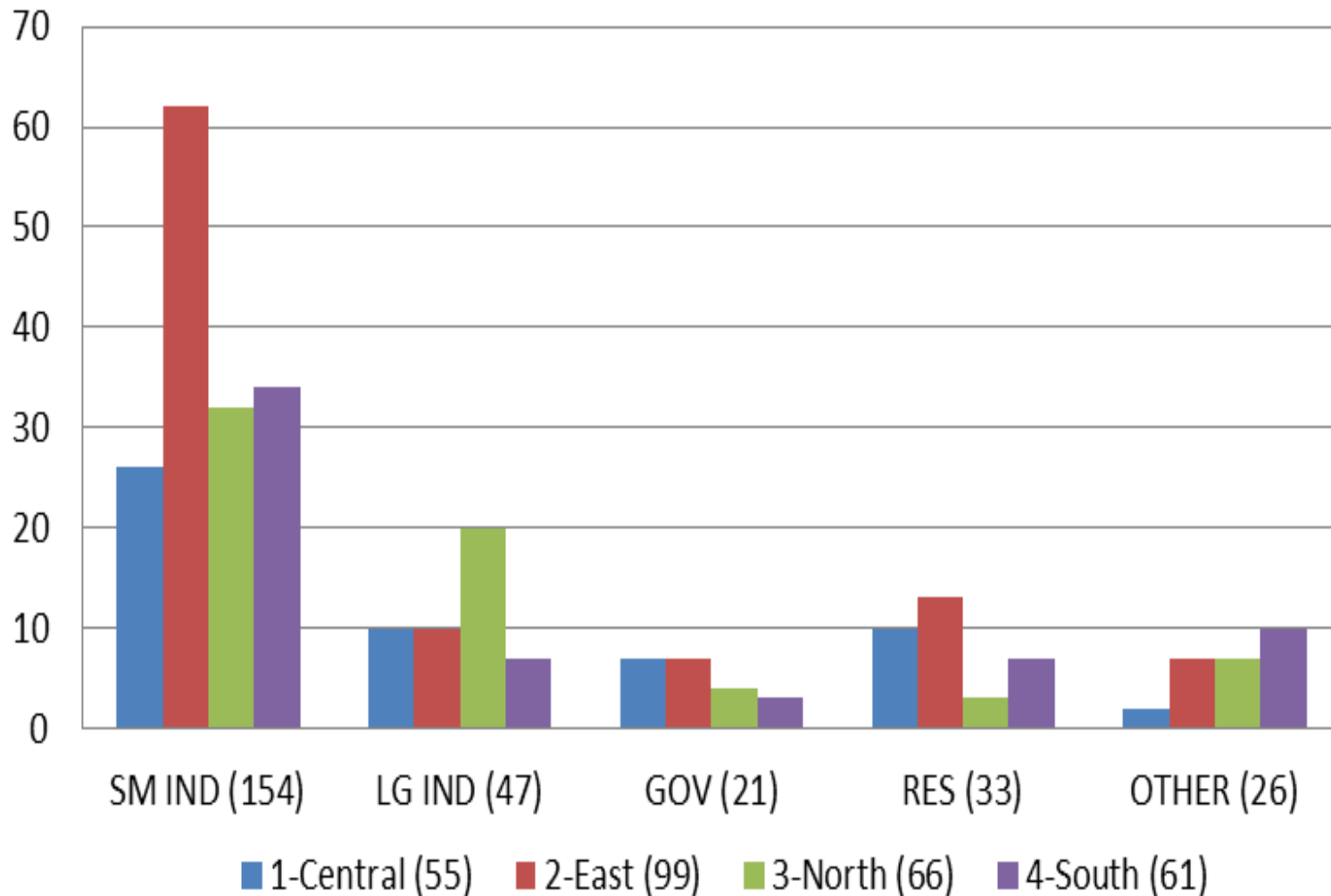


**Chi square test**  
*Null hypothesis:*  
 The most desired FST skills are independent of employment area, region and FST level.

Strongly rejected.

# Current FST situation

## Questionnaire Analysis (281)

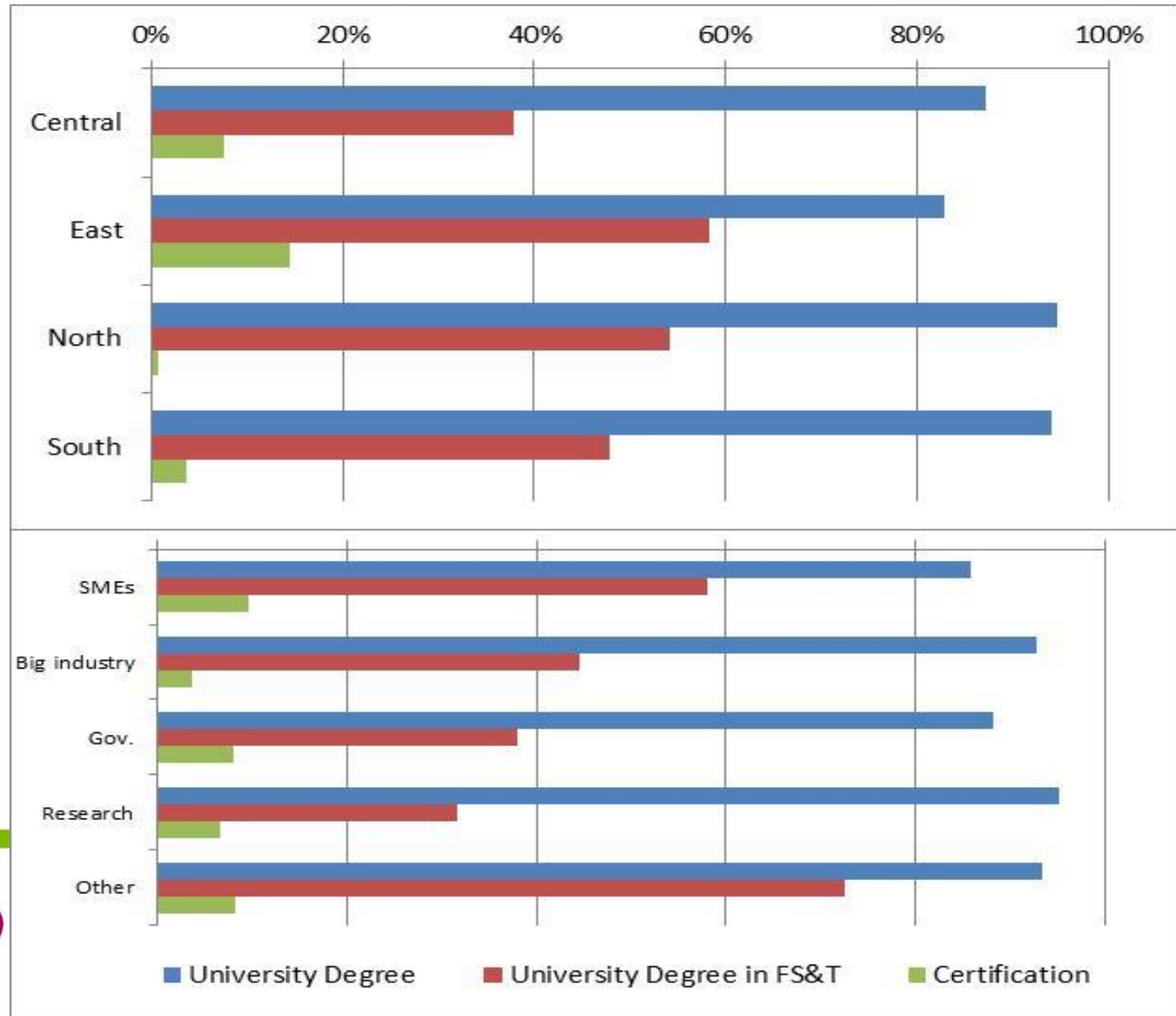


# Degrees held by currently employed FSTs

University  
Degree

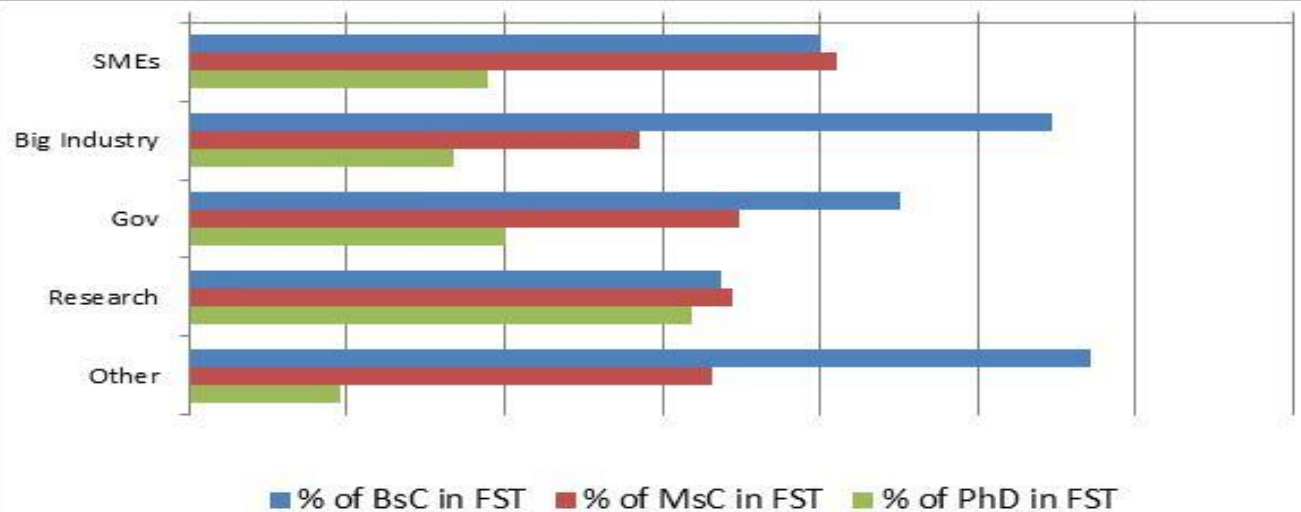
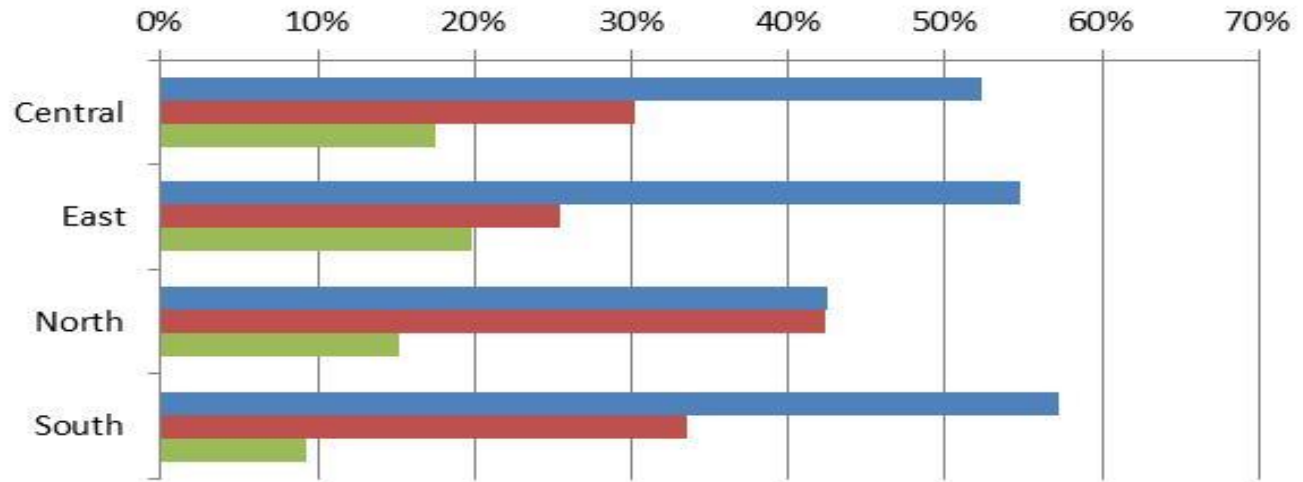
Degree in FST

Certification



# Nature of the FST degree

**FSTs with a  
Bachelor's  
Master's  
PhD  
in FST**



“How satisfied are you with employees that are new graduates in FST?”

**97% are either**

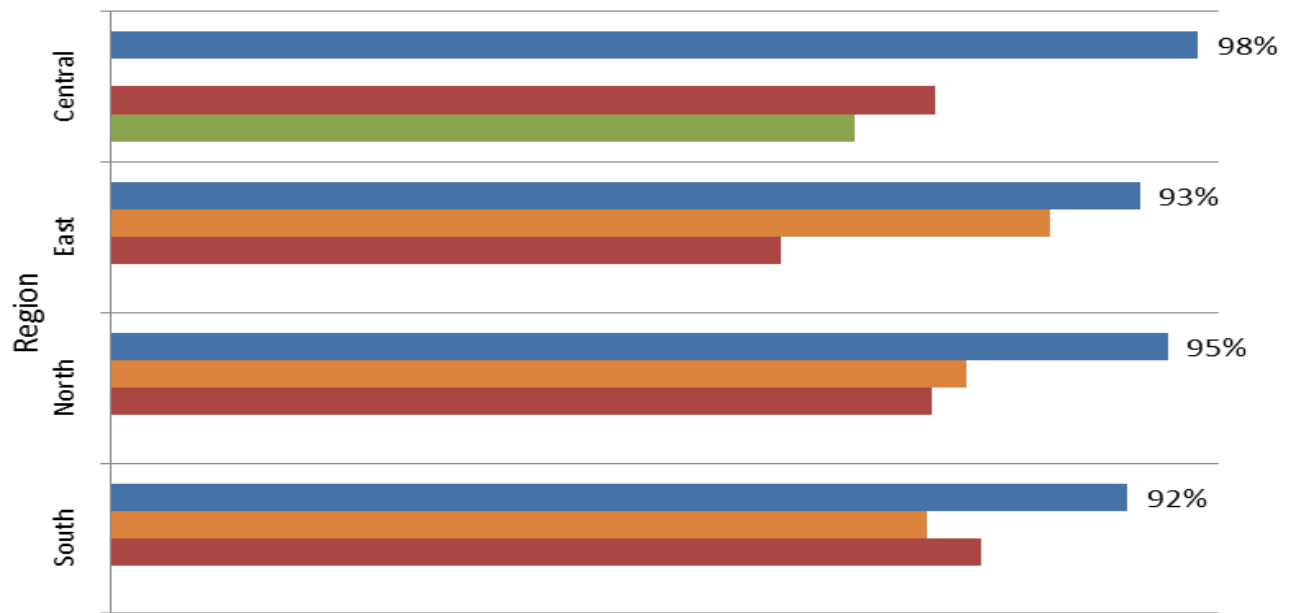
“Very satisfied, they have excellent knowledge and skills”



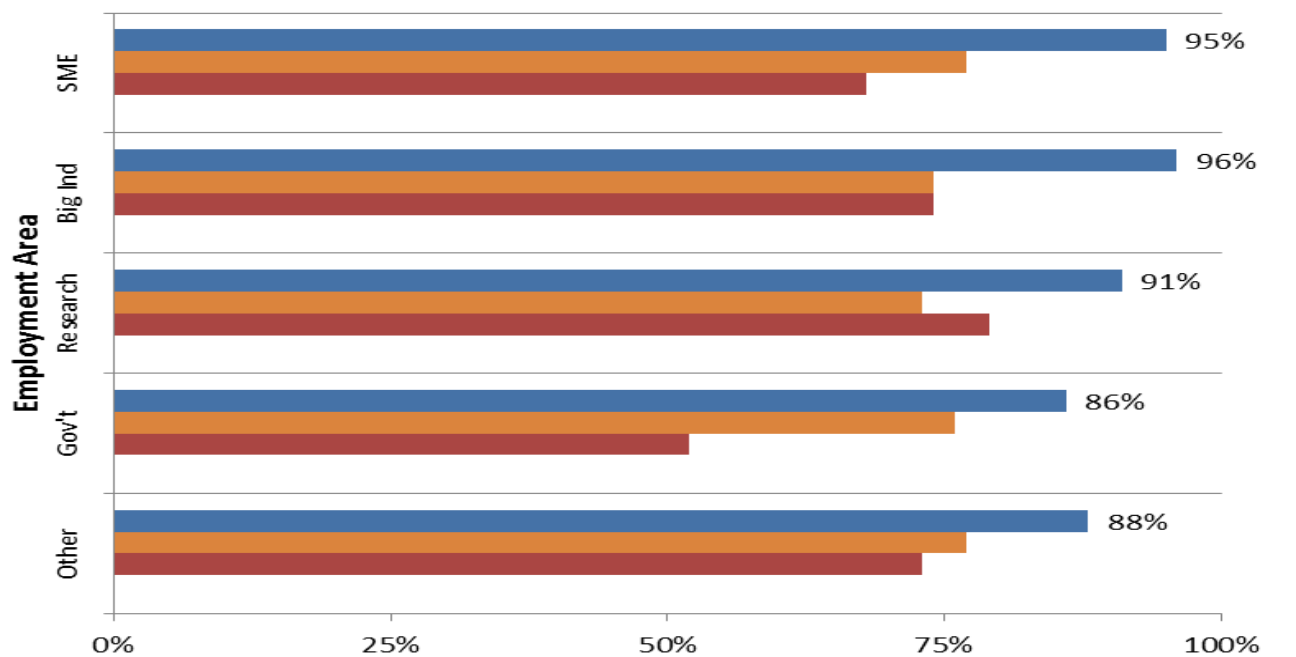
Or

“Somewhat satisfied, they need further training or experience”

# Top Soft Skills in Currently Employed FSTs

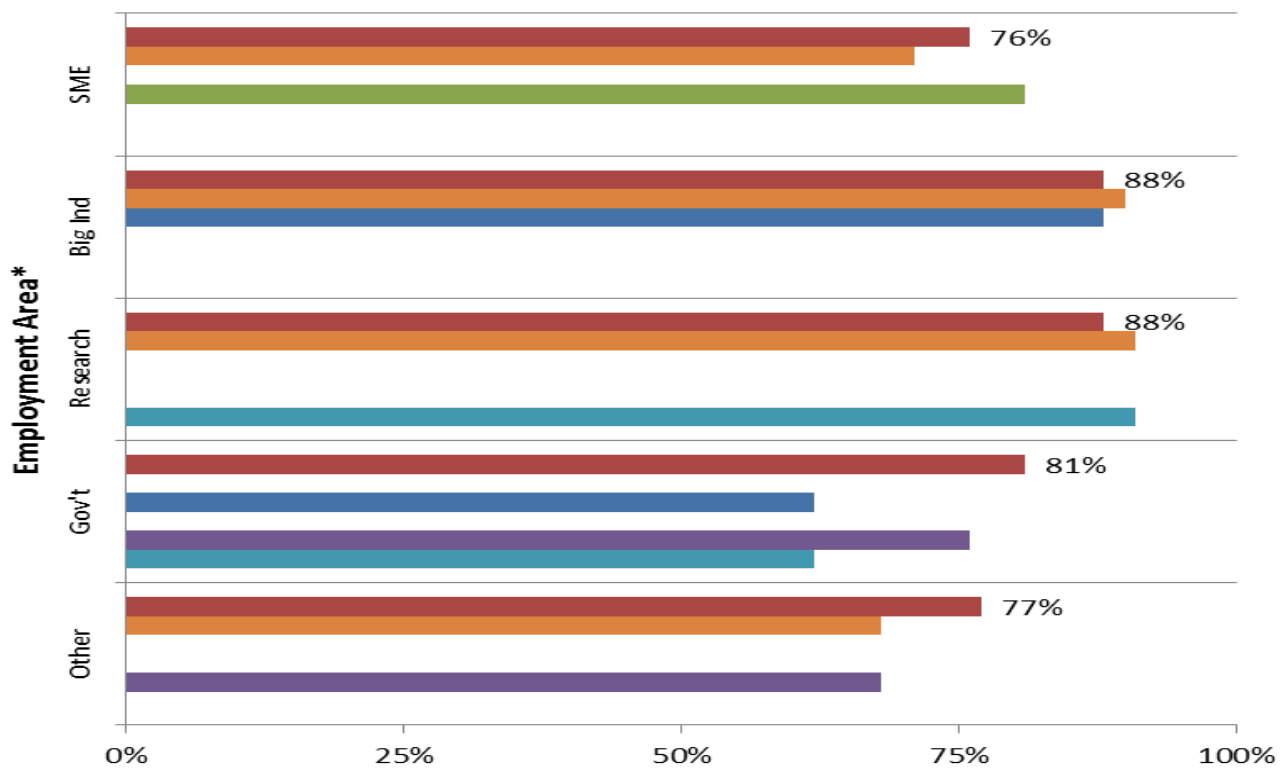
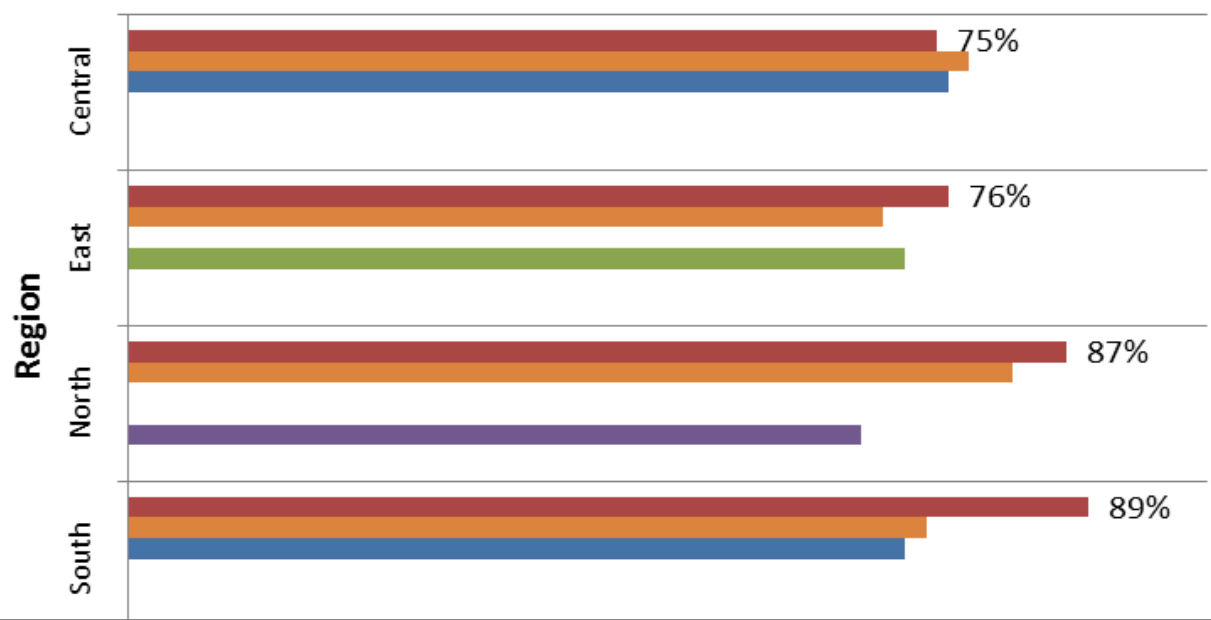


- Communicating
- Managing Information & Computer Literacy
- Working With Others
- Participating in Projects & Tasks



# Top Food Skills in Currently Employed FSTs

- Food Safety Management, Hygiene & Safety Control
- Product Development
- Quality Management, Assurance & Control
- Production Management/Operations
- Food Legislation & Control
- Research



# Highlights

- Employers of food scientists & technologists (FSTs) told us which skills they desire
- “Communicating” was the no. 1 skill desired by all FST employers
- Training in communication skills should primarily take place in school, before and during university, but the suggested frequency of such training was close to “continuous”, indicating that education during work life is also important for this skill.
- Overall, “soft” skills are more in demand than food sector specific skills

# Highlights

- “Product Development” was the no. 1 food sector specific skill
- This skill should primarily be learned in the workplace, but preceded by university training
- Desired skills varied by geographical region, FST level and employment area
- All employers in all areas mentioned soft skills much more than food sector skills. This may reflect a general satisfaction with the food sector-specific skills found in current FSTs

# Highlights

- The comparison with the current situation showed that in general FSTs have the skills that are considered ideal. This is good news!
- However, current FSTs have almost the same competence in soft and food specific skills while, ideally, FSTs should have many more soft skills. The message seems to be that we need more soft skills and more varied soft skills

>>> Establishment of a framework for continual professional training and career development for the FST professional

✓ Establishment of a framework for  
career development for the FST profes

[www.foodcareers.eu](http://www.foodcareers.eu)

✓ Motivation of young people  
science and technology in Europe .

[www.foodgalaxy.eu](http://www.foodgalaxy.eu)

Better prepared  
**PROFESSIONALS**

**MORE  
PROFESSIONALS**



**Better  
PROFESSIONALS**



# foodcareers

European network for continual professional training and career development for the Food Professional

Join us!



Members



Networks



Profession Development



Training Courses

## latest news

**Publication of Knowledge and Skills draft document version 2.0**  
03.2012

## upcoming events

**PAS 220 : 2008 & FSSC 2200**  
[Read More](#)

## who's on-line

There are currently *0 users* and *2 guests* online.

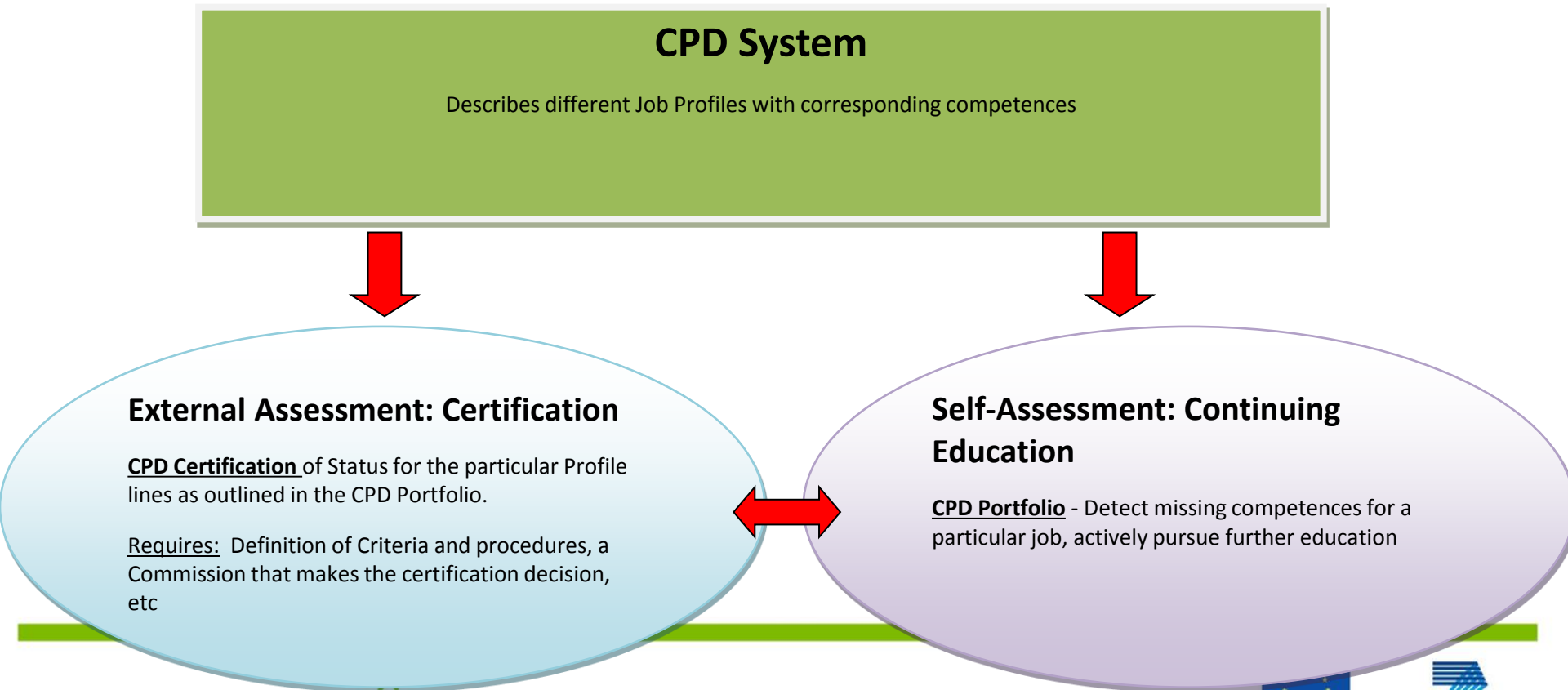
## AIMS:

bringing together graduates and professionals working in the food sector, both in industry and academia

creation of an online network for continual professional training and career development for Food Scientists and Technologists in Europe

social networking and providing the guidance and tools for creating and maintaining a continual professional development portfolio

- Development of a certification scheme for Continual Professional Development programmes



## *Sustainability after project ending*



>>>

Motivation of young people to enter and pursue of a  
career in food science and technology in Europe



**MORE  
PROFESSIONALS**

[Have an account?](#)

The Taste of Life

I eat therefore I am

Once upon a time...

To eat or not to eat

Mission Possible

I am the king of the kitchen

Brave new food

A small product for the consumer - a giant process for the producer

MY FOOD CAREER

## Highlights

### Food & Religion

Wed, 21 Mar 2012



Lifestyle and food habits have been encoded and regulated by belief and religion for centuries. This choices might have a biological base, but

Food production and processing

Nutrition

Experiments with food

Studying food science

Food science, engineering and technology

Waste management



## MAIN AIM:






Show prospective students

Food Science is a **real science with real challenges**

**Careers in Food Science and Technology**

## Food Science is a fun – targeting a “younger” audience

**House Experiments**

		
<p>Bouncy Ball made of Egg</p>	<p>Fountain made of Cola Light</p>	<p>Fruity 'Coking' of Fish</p>
		
<p>Magic Red Cabbage Juice</p>	<p>Multi Colour Juice</p>	

A career in Food Science is a **challenging and rewarding**

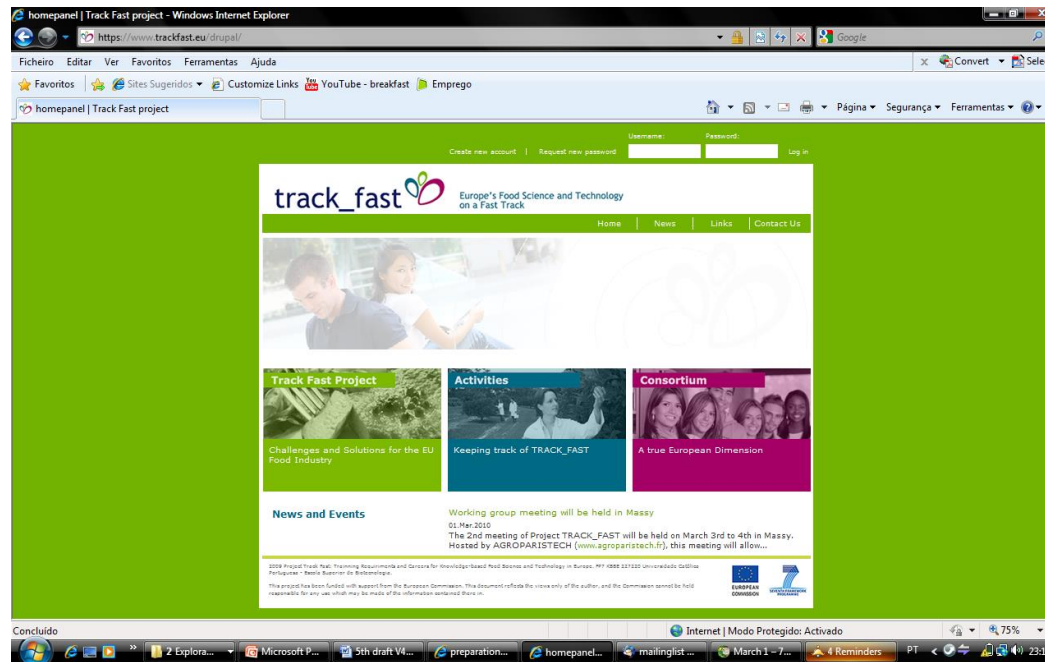


*Sustainability after project ending*

EFFOST

# Website

[www.trackfast.eu/](http://www.trackfast.eu/)



# Communication

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