TRADITIONAL FOOD INTERNATIONAL

Traditional foods: from culture, ecology and diversity, to human health and potential for exploitation

Innovation on Traditional Food: the TRUEFOOD Integrated Project

Daniele Rossi
General Director Federalimentare
V. Chairman Food for Life
Administrator SPES EEIG
The number one manufacturing Industry in the EU
Generates 1.050 € trillion in turnover
  - representing 13% of EU manufacturing sector turnover
  - representing 13% of EU manufacturing sector turnover

Employs 4.3 million people
generating 14% of the total jobs in EU manufacturing

- 310.000 companies (99,1% SMEs)
- Export 53,7 billion €
- Import 50,8 billion €

EU is a net exporter of food products

Source: FoodDrinkEurope 2011
- It is the **2° MANUFACTURING SECTOR IN OUR COUNTRY**, after the engineering industry and it is the **3° FOOD&DRINK INDUSTRY IN EUROPE**, behind Germany and France.

- It purchases and processes **72%** of the **NATIONAL AGRICULTURAL RAW MATERIALS**.

- It is generally recognized as the **AMBASSADOR OF MADE IN ITALY IN THE WORLD** considering that almost **80%** of the Italian agro-food export is represented by high quality industry brands and PDOs / PGIs.

- It is characterized by a **SIGNIFICANT PREVALENCE of SMES**: about 6.250 companies of which 30 are large, about 220 are medium in size and the remaining 6,000 are small, but very small size (up to 10 employees).

### THE ITALIAN F&D INDUSTRY IN FIGURES

<table>
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<tr>
<th></th>
<th>2010 (MLD €)</th>
<th>2011 (MLD €)</th>
<th>2012 (MLD €)</th>
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</thead>
<tbody>
<tr>
<td><strong>TURNOVER</strong></td>
<td>124 (+3,3%)</td>
<td>127 (+2,4%)</td>
<td>130 (+2,3%)</td>
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<tr>
<td><strong>PRODUCTION</strong></td>
<td>+2,0%</td>
<td>- 1,7%</td>
<td>-1,2%</td>
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<tr>
<td><strong>NUMBER OF COMPANIES</strong></td>
<td>6.450 (&gt; 9 employees)</td>
<td>6.300 (&gt; 9 employees)</td>
<td>6.250 (&gt; 9 employees)</td>
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<tr>
<td><strong>EMPLOYMENT</strong></td>
<td>410.000</td>
<td>408.000</td>
<td>408.000</td>
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<tr>
<td><strong>EXPORT</strong></td>
<td>21 (+10,0%)</td>
<td>23 (+10%)</td>
<td>25 (+8,7%)</td>
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<td><strong>IMPORT</strong></td>
<td>17 (+13,5%)</td>
<td>18,6 (+11%)</td>
<td>20 (+8,7%)</td>
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<tr>
<td><strong>TRADE BALANCE</strong></td>
<td>4 (+2,1 %)</td>
<td>4,4 (+10%)</td>
<td>5 (+13,6%)</td>
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<td><strong>POSITION OF THE ITALIAN F&amp;D INDUSTRY</strong></td>
<td>2° (13%) after the engineering sector</td>
<td>2° (12%) after the engineering sector</td>
<td>2° (13%) after the engineering sector</td>
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**FEDERALIMENTARE and its 19 branch Associations members of Confindustria represent the Food&Drink Industry, one of the pillars of the national economy.**

Along with agriculture, induced activity and distribution, the Food&Drink Industry is the central element of the **1° ECONOMIC CHAIN of the COUNTRY**.
THE ITALIAN F&D INDUSTRY TURNOVER BY PRODUCT 2011

<table>
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<tr>
<th>Product Description</th>
<th>Turnover (Mld €)</th>
<th>Percentage</th>
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<tr>
<td>Traditional and local food</td>
<td>81,28</td>
<td>64%</td>
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<td>Advanced traditional food</td>
<td>22,86</td>
<td>18%</td>
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<td>Typical quality products (PDO, PGI, wine, etc)</td>
<td>10,16</td>
<td>8%</td>
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<td>New products (novel, functional, healthy, ready to eat, etc)</td>
<td>11,43</td>
<td>9%</td>
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<tr>
<td>Organic food</td>
<td>1,27</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>127</strong></td>
<td><strong>100%</strong></td>
</tr>
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</table>

Source: Data processing and estimates Federalimentare 2012

TOP 5 SECTORS
1. Wine, grape, vinegar: 20.7%
2. Confectionery: 12.2%
3. Processed fruit and vegetables: 12.1%
4. Dairy products: 9.3%
5. Pasta: 8.5%

Source: Data processing and estimates Federalimentare 2012
Top 10 destination countries:
1. Germany 17%
2. France 12%
3. USA 11%
4. UK 9%
5. Switzerland 4%
6. Austria 4%
7. Spain 3%
8. Netherlands 3%
9. Belgium 3%
10. Other 32%

Top 10 dynamic countries/market:
1. United Arab Emirates 13%
2. South Africa 11%
3. Brasil 11%
4. Hungary 11%
5. China 11%
6. Libya 10%
7. Russia 10%
8. Israel 9%
9. Nigeria 7%
10. South Korea 8%

Source: Data processing and estimates Federalimentare 2012
STRENGTHS

- Wide variety of high quality products;
- Products at the “Top” of the international markets;
- Ability to combine tradition and constant process and product innovation;
- Strong links with the territory and with the Italian cultural heritage;
- High safety standards;
- Very strong against the cycles of the economy.

WEAKNESSES

- Fragmented sector;
- Innovation is too low (especially among SMEs);
- High costs of logistics and services (transport, energy, infrastructure);
- Low export growth vs. competitor European countries (Germany, France..);
- Counterfeiting and imitation, especially vs rich and demanding markets;
- Lack of Italian retail chains in the world.
THE ITALIAN F&D INDUSTRY
STRENGTHS OF TRADITIONAL FOOD PRODUCTS

- Organoleptic features
- They are part of consumers’ background
- They are associated to specific celebrations and seasons
- Local roots
- They pass from a generation to another
- Identifying features

LOCAL GASTRONOMY HERITAGE

BARRIERS & CONSTRAINTS OF INNOVATION OF F&D INDUSTRY SMEs

1. Emotional, cultural barriers;
2. Trust, social capital;
3. Lack of information;
4. Lack of knowledge / skills;
5. High cost compared to available resources;
6. Limited resources;
7. Time constraints;
8. Legal barriers;
9. Lack of customer responsiveness

THE ITALIAN F&D INDUSTRY INVESTMENTS IN RESEARCH

- more than 2% of turnover in analysis and quality and safety control;
- 1.6% in formal and informal research and development of innovative products and processes;
- more than 4% in new equipment, automation, ICT and logistics.
Innovation by:
- Adoption
- Incremental change
- Combining knowledge in new ways

Innovation from own sources

'Radical' innovators
- Large Companies
- with R&D department(s)

'Incremental' innovators
- SMEs
- No R&D department

Effective networks

Major innovators: 41%
- Process Major innovation 23%
- Product Major innovation 31%
- Both: 13%

Improvers who did not introduced major innovations: 44%

Only 15% of all F&D firms did not introduce innovations in the last 3 years

SOURCE: SSA “SMEs-NET”
Traditional Food International – Cesena, 4 October 2012
The competitiveness of the food industry depends on innovation!

The Italian and international market of food products will be more and more affected by the changes in society (ageing, individualization), by the changes of the nutritional habits and by the way of life.

For this reason the F&D industry is constantly involved in meeting consumers’ needs supplying products adapted to the various nutritional needs, considering as well the different ways of consumption that enable the consumer to make responsible choices and to follow a diet suitable to his/her lifestyle and the physical activity performed.

Consumers themselves are more and more in a position to recognize the real value of what they are buying, from the choice of the primary products, the technological features, to the attention given to the correct employ of natural resources, to logistics and packaging, from the point of view of the concept of global quality.

Among the topics of innovation in the food sector, an important part is driven by the main consumer trends: naturalness & freshness of products, fabric, color, taste & sensory content, recipes & their reformulations, portioning & presentation with the integrated service, nutritional & health values, functionality, opportunity & place of consumption.
Research on Traditional Food: The TRUEFOOD project

FEDERALIMENTARE
Federazione Italiana dell'Industria Alimentare

Traditional Food International – Cesena, 4 October 2012
**PROJECT TITLE:** Traditional United Europe Food

**CONTRACT NUMBER:** Food-CT-2006-016264

**DURATION:** 4 years, from 1 May 2006 to 30 April 2010

**PROJECT COST:** €21 million of which €15.5 million financed by the EU within the 6th Framework Programme for RTD

**EU TYPE OF INSTRUMENT:** Integrated Project (IP) – 6th Framework Programme – 3rd Call - Food Quality and Safety (Priority 5)

**PROJECT COORDINATOR:** SPES GEIE (Spread European Safety European Economic Interest Grouping). The Group associates 13 European Food & Drink Industry Federations representing 280 branches and 35,000 European small to medium size enterprises:

- ANIA (France)
- FEVIA (Belgium)
- FIAA/LVA (Austria)
- FIAL (Switzerland)
- SEVT (Greece)
- CCIS CAFÉ (Slovenia)
- FFDI (Czech Republic)
- FI (Denmark)
- FIPA (Portugal)
- FEDERALIMENTARE (Italy)
- FHFI (Hungary)
- FIAB (Spain)
- SETBIR (Turkey)
Improving nutritional quality of traditional products in line with consumer demands: production of innovations, at both the primary production and processing stage, which increase the nutritional composition of traditional foods. Nutritional benefits (e.g. higher levels of antioxidants, vitamins, minerals, polyunsaturated fat or reduced levels of salt and residues of pesticides) are increasingly demanded by consumers. TRUEFOOD has therefore increased the competitiveness of traditional production systems by delivering nutritional and “health related” benefits desired by consumers.

**Milk & Cheeses**
Identification of innovations which improve the nutritional composition of traditional milk and dairy products (i.e. FTIR to predict the milk fatty acid composition, ELISA to evidence the presence of the peptidases from L helveticus in the cheeses)

**Plant products**
Identification of innovations which optimise the nutritional composition of traditional fresh fruit and vegetable products (use of organic fertilizers, elicitors or environmental diversification at primary production to reduces environmental pollution and potential health risks and contributes to the strategy of expanding “low input” food production systems).

**Dry cured ham & Smoked salmon**
Development of technologies to reduce the salt content in traditional ham and fish products (NIR to predict fat content in salmon or crust development in dry-cured ham, CT to predict the distribution of salt and water contents in salmon and dry-cured ham)
**WHAT TRUEFOOD WAS AIMING AT?**

**FEDERALIMENTARE**
Federazione Italiana dell'Industria Alimentare

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<tr>
<th>i.</th>
<th>Identify and quantify consumer perceptions, expectations and attitudes with safety and quality characteristics of traditional foods, and (b) innovations introduced into the traditional food industry.</th>
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<td>ii.</td>
<td>Identify, evaluate and transfer into the industry innovations that guarantee especially with respect to microbiological and chemical hazards.</td>
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<td>iii.</td>
<td>Identify, evaluate and transfer into the industry innovations that improve quality, while at the same time maintaining or improving other quality recognised by traditional food consumers (e.g. sensory, environmental, animal ethical qualities).</td>
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<td>iv.</td>
<td>Support the marketing and supply chain development of traditional food products.</td>
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<td>v.</td>
<td>Establish an effective and sustainable system of technology transfer of innovations developed within the TRUEFOOD projects and in other EU, national and industry R&amp;D projects) into traditional food industry, focussing specifically to SMEs.</td>
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</table>
Definition of traditional food product:
A product frequently consumed or associated with specific celebrations and/or seasons, transmitted from one generation to another, made in a specific way according to the gastronomic heritage, distinguished and known thanks to its sensory properties and associated to a certain local area, region or country.
The TRUEFOOD project

Main Results

- Application of a microbial consortia exhibiting anti-listeria activity in traditional cheeses
- New ripening room monitoring strategies improving cheese ripening processes efficiency
- A “respiratory cell” for the determination of cheese respiratory activity during ripening and under packaging
- Innovative starter cultures in Swiss type cheeses in order to increase BioActive Peptides with nutritional properties
- Validation of strategies for reduction or substitution of salt content of dry-cured hams (bone-in hams and boned hams)
- Use of X-ray methodologies to improve the raw material selection and to optimize the processing of dry-cured ham at industrial scale
Terpinen- 4-olo inactivates mastitis responsible bacteria without altering milk organoleptic and technological characteristics

New tools to cope with chemical risks in beer and traditional fish production chain. In particular, more sensitive and reliable analytical methods for SMEs in order to control of production process from raw material to final products. HACCP guideline to manage the safety and quality control of beer and traditional fish producers.

Production of new knowledge on the ability of different active packaging films in preserving dairy products. The effectiveness of antimicrobial activity of these new films was elucidated in connection with the peculiar characteristics of packaged cheeses and film composition.
The Bio-preservation (spraying or soaking solutions of LAB) of the raw pork meat can improve the safety of dry fermented Sausages for reducing L. monocytogenes.

Survey in various traditional European food products in order to define the prevalence of pathogenic microorganisms and describe their spoilage microbiota.

Collection of data in a MS Access database to facilitate retrieval of the data. Operational software are available in for industrial applications which allow the simulation of microbial behaviour for more and more species in order to identify and control microbial hazards.
The Truefood project has contributed to strengthening the link between science/research and industry especially for SMEs.

The communication effort in the area of food quality and safety, targeting the European “Traditional Food” industry, are still delivering results;

In TRUEFOOD:
- 11 National Federations;
- 280 Branch Associations;
- 6,800 SMEs targeted;
- 233 published works, among Scientific publications, Posters and Article; 28,000 SMEs & Food producers & Stakeholders contacted in 15 countries;
- 23,500 SMEs & Food producers involved in Technology and Knowledge Transfer Activities;
- 6,078 Training attendances Network and 1,575 SMEs of the TDU stable Network;
- 66 INFO SHEETs were prepared in English language, translated in different SPES national languages and disseminated using different dissemination and information channels (i.e., website, newsletter, Trainings etc.);
To provide guidance to all the personnel involved in the process of technology transfer to food businesses including mediators, between the industry and the research community, technology transfer staff of the research organisations and the universities and also those researchers, who want to foster the implementation of their research results in food businesses.

The guideline was printed and distributed on the Stakeholders Meeting of the ETP Food for Life on 3rd March 2010 in Brussels (ca. 200 participants) and on the TRUEFOOD final conference on 13th April 2010 (ca. 160 participants) in Brussels.

Furthermore, it was distributed at the conference organized by the University of Milan in March 2010, the food exhibition “Alimentaria” in Spain in March 2010, and the Final TRUEFOOD Conference in April 2010. All SPES members at national level disseminated the electronic version of the document.
COORDINATOR: Italian Food for Life

36 Food for Life NTPs: think locally, act globally!
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<td>BELGIUM FLANDERS</td>
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<td>BELGIUM WALOON</td>
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<td>THE NETHERLANDS</td>
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<td>UKRAINE</td>
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<td>36</td>
<td>UNITED KINGDOM</td>
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SINCE APRIL 2006
NTPS WERE ESTABLISHED
UNDER THE UMBRELLA OF FOOD FOR LIFE:
The consultations on the ETP Stakeholders Strategic Research Agenda held between April 2006 and January 2007 have resulted in National Food Platforms.

NTPs are the "voice of the national food industry" (industry-led, public/private partnerships).

They are a response to Major European and National Challenges.

They represent a valuable means of networking stakeholder communities of the agri-food sector in the MS through the coordination of research, development and innovation activities at national level ('bottom-up' approach).

They provide an efficient channel for two-way communication with the ETP.

**THE ETP MEMBER STATES MIRROR GROUP**

**Composition:**
- National funding bodies
- Ministerial representatives

**Mission**
- Exchanging best practice and information about the topics included in national strategic programmes of research, leading to the identification of overlaps and duplication
- Explore opportunities for aligning research programmes
- Developing joint calls (for example, through ERA-NET plus activities)
- The ETP Member States Mirror Group identified areas relevant for joint forces:
  - Food for Health
  - Sustainable food Production
  - Food Factory of the Future
Influencing the priorities for research under the Food, Agriculture and Fisheries, and Biotechnology theme of the Cooperation pillar of Framework Programme 7 (FP7)

- 90% of SRA-based priorities included in 2009, 2010 and 2011 Work Programmes
- Submission of project proposals which reflect IAP research challenges

Establishment of 36 National Food Technology Platforms
Mobilisation of stakeholder community
EC’s High Level Group recognised importance of the ETP in 2009

Joint Programming: Recognition of specific F4L priorities in the 2 JPIs “Health Diet for a Healthy Life” & “Agriculture, Food security and Climate Change”
The establishment of a Food KIC in 2014

Source: Food for Life
ITALIAN FOOD FOR LIFE brings together national key stakeholders of the agro-food sector

- the food Industry
- researchers
- farmers’ representatives
- agrochemical and breeding companies
- retailers
- processors
- consumer organisations
- regulatory bodies
- policymakers and governments

✓ To stimulate research and technological innovation in the agro-food sector at a national level.
✓ To strengthen the scientific and technological basis of our food and drink Industry.
✓ To encourage the development and international competition, especially to help SMEs.
✓ To increase and support private and public investments in research.

Source: ITP
ITALIAN FOOD FOR LIFE: KEY DATES

- **July 5th 2006**: Launch of the national Technology Platform “Italian Food for Life” (Rome).

- **November 27th 2006**: Final presentation of the Vision – Strategic Research Agenda of the national Technology Platform “Italian Food for Life” (Bologna).

- **April 14th 2007**: 1st meeting of the “Food for Life” national Technology Platforms (Rome).

- **July 20th 2007**: 1st meeting of the Board of the Italian Technology Platform (Rome).

- **February 27th 2008**: Final approval of the ITP Implementation Plan by the Board (Rome).

- **May 8th 2008**: Final presentation of the ITP Implementation Plan (Cibus Parma).

- **February 7th 2010**: Board/Mirror Group – ITP new structure in 3 Key–Thrusts approved: (Rome).

- **March 2010 – April 2011**: New working groups and meetings to develop the new Strategic Research and Innovation Agenda - Implementation Action Plan.

- **June 14th 2011**: Launch of the new Strategic Research and Innovation Agenda - Implementation Action Plan to 2030 (Rome).

- **January 26th 2012**: Strategic meeting of the core group in view of “Horizon 2020” and of the last FP7 calls (Rome).

- **July 16th 2012**: Coordination of Technological CLUSTER Agrifood “C.L.A.N” and Strategic Research Agenda

- **September 28th 2012**: Submission of Technological CLUSTER Agrifood “C.L.A.N” (EUR 47,5 million)

Source: ITP
Key Thrust 1: Improving Health, Wellbeing & Longevity

Key Thrust 2: Build Consumer Trust in the Food Chain

Key Thrust 3: Sustainable & Competitive Food Production

Communication, Training, Tech-Transfer, Company Building

Coordinator: Tecnoalimenti


Coordinators: Inran - U. Roma1, Granarolo Unilever


The New Structure

Working Groups Leaders: Enea, Inalca, Cremonini, Saplo Peroni

Source: Italian Food for Life
KEY THRUST 1: IMPROVING HEALTH, WELLBEING & LONGEVITY

OPTIMAL DEVELOPMENT OF NEURAL FUNCTIONS, WELLBEING & AGEING

INTESTINAL HEALTH & IMMUNE FUNCTIONS

DIET, WEIGHT MANAGEMENT & OBESITY

IMPROVING AQUACULTURE & ANIMAL PRODUCTS

Source: Italian Food for Life
- **Wide variety of products.**
- **Convenience.**
- **Attention to specific nutritional needs.**
- **Tasty products.**
- **Products affordable in price / quality ratio.**
- **Attention to specific needs: religious / ethnic / ethical.**
- **Attention to the environment and sustainability.**
THANK YOU FOR YOUR KIND ATTENTION

www.federalimentare.it