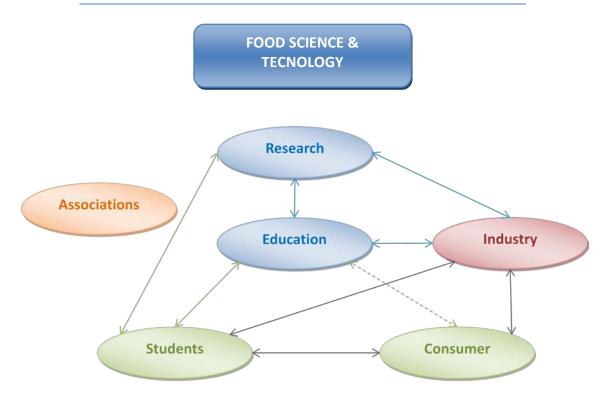
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WHAT ARE THE MAIN OBJECTIVES FOR THE DEVELOPMENT OF A NETWORK OF FOOD UNIVERSITIES?

Academic studies in Food Science and Engineering are strongly multidisciplinary: chemistry, biochemistry, physics, microbiology, process engineering and technology, management, logistics, market studies, informatics... That gives a full justification to organize a network of universities dealing with Food Studies, with different specialities, but all working for the same aims: education and research for the benefit of consumers through food industry.

Objectives may be summarized as follow:

- **Education** for students, continuing education, participation of industry partners in education to prepare the actors in food world as engineer, technician, consumer, educator. The content and quality of teaching, the methods are always to improve! And exchange, mobility of students help to discover new methods, other culture.
- Research development of products, equipments, new concepts adapted to the evolution of world. Exchanges of results between research teams in the same field -or in different fields- is a source of enrichment, progress.
- Relation with industry including big and small enterprises, for recruitment of well-formed students (scientific knowledge, creativity, team working); information of educators and students about industrial practices and needs (by participating to teaching, to training); sharing and development of research projects, to propose the best technologies and products adapted to the society.

 About consumers (we are all consumers!) to know their needs, to evaluate satisfaction, to propose new services, products, to help to the development of a better food world.

All these contacts/facts/works happen in a changing world with different practices, tastes and habits and problems for food accessibility, and nutrition.

Our role and duty as researchers and teachers is to develop **mutual knowledge**, **exchange of ideas**, at a European and International level to be able to participate in the development of all countries, locally and everywhere, to give right answers to an international changing market. To reach this aim, the creation of networks of people who know each other, who work together is necessary and this is not possible without meetings, exchange of people (students, teachers, researchers), not only by Internet but also in reality = to meet, to work, to eat together! For example through Associations (EFChE, IUFFoST, EFFoST, local organisms), congresses (local and international), symposia, workshops, common research projects.....

We all know that and it was existing in all universities: this is what each of us was/is doing. But we know also that a well structured organization in networks brings more possibilities = sharing ideas multiply the efficiency! However it means also use of money!!!!

WHO WERE THE FIRST PARTNERS OF THE INITIAL NETWORK OF UNIVERSITIES IN FOOD?

In universities teaching in the food area, the partners were at the same time **teachers and researchers**, two complementary functions which mean various contacts with a lot of people:

- **The students**: to educate them, to show them what is food, what is food industry, to help them to discover their future job and their responsibilities in an international environment
- The actors of food industry: a world made of different aspects, products and process, quality control in production, management of resources, of production, of people. Contacts with industry are necessary to know the needs, to work in research, to teach the reality and to establish contacts with students through training and for participation of industry in teaching.
- The researchers of the world of Food Science and Engineering, a multidisciplinary area. To do research represents a great opportunity to meet other teams in different fields of science, in the same country or others, through national/international meetings (congresses), multipartners projects (financed for grants). That means an enlarged network not only for research but also for training, for exchanges of teachers/students.

IN PRACTICE, WHAT HAPPENED BEFORE ISEKI_FOOD NETWORK, BEFORE 2001....?

In 1988 in Porto a first network of **5 food universities** from 5 countries (Pt, It, Be, UK, Fr) was established by Professor Medina, presently Director of Escola Superior de Biotecnologia. The contacts were established through previous existing groups (i.e. Food WG of European Federation of Chemical Engineering) or personal contacts.

At that moment it was for **Erasmus** purposes, for organized exchange of students. That meant mutual agreements, knowledge of the different curriculum to be able to validate the stays of students: *recognition of studies made in another university was/is never an easy thing*!!! And an Erasmus project accepted by Brussels meant financial help for students and it was essential! Then this group increased along the years, first by increasing the number of countries around Europe, till 15 in 1997, to finally accept/involve several universities in each country and build the Thematic Network **FoodNet** in 1998 (see *Annex 1*). All was based on the work, enthusiasm and goodwill of representatives, most of them being teaching staff and researchers.... and on the financial help of Brussels!

NB: Other actions existed (before, during and after) in all universities in food, but these network actions were organised, they had as objectives to bring common way of thinking, even if studies are still different in each institution. For example you can be very good friends with a different way of living, but it does not prevent you to share and discuss ideas to improve your life, to better understand each other.....

Erasmus exchanges were/are not the only exchanges but they create a strong European action/movement, useful for the mobility of people, the development of common projects and actions, sharing experiences, developing knowledge of other methods and overall other groups of people.

WHAT WAS DONE THROUGH THESE ESTABLISHED CONTACTS?

- Exchange of students Erasmus (studies), Comett and Leonardo (involving industry for training periods); with countries from East of Europe, Tempus, Tacis, INTAS (Russie); with Canada (FoodAtlantic, see *Annex 2*).
- ➤ The first Tempus project of the network was built in 1991; the first contacts being with Poland, Hungary, Tcheck Republic, Romania, then others were developed with Bulgaria. Objectives were mainly to compare and improve/change curricula, and to exchange students and teachers.
- Following an assessment of training needs at European level in food science, food technology and food engineering (1993, AIR programme), as a result a European Master Degree in Food Studies began in September 1995, with industry sponsoring (Annex 3).

- Along the years, numerous other masters all around Europe were created in different universities between different partners (use of different languages, different teaching methods and domains) some of them being financed by Europe.
- ➤ Several projects oriented to research were born from cooperation through network: Flair, Copernicus, Alfa (exchange of PhD (2202-2005), see Annex 4). In the network the contacts between partners is facilitated: to ask for some help in some research/teaching domain or to recruit PhD students, or to find a placement in a specific country.
- And finally the enlargement of the network of universities to the World lead to ISEKI_FOOD and ISEKI_MUNDUS, to improve the mutual knowledge, to have a common way of thinking, to share all our experiences in classical education and for long life learning, to better cooperate with all stakeholders, to improve the food system. (I.e. The last Track Fast project is an example of a global project on training requirements for carrier development, which could not have existed without the existence of the network).
- The development of such Thematic Networks projects includes dissemination for example through presentations in several International Food congresses as ICEF 8, International Congress on Engineering and Food, Puebla (Mexico), April 2000 (2 conferences) then in ICEF 9, March 2004, Montpellier, (France), ICEF 10, Viňa del Mar (Chile), ICEF 11, May 2011, Athens (Greece), IUFOST 11th International Congress on Food Science and Technology, Seoul (Korea), April 2001 (participation to 2 round tables), IUFOST 12th July 2003, Chicago (USA), IUFOST 15th, Aug.2010, Cape Town (SA), Congress in Durban (SA), Sept 2001 (linked with IUFoST); Symposium in Nairobi, July 2002 (with IUFoST).



Annex 1 - FOODNET - Food studies in Europe (1998-2001)

Thematic Network - Project n°55792-CP-1-98-FR-ERASMUS-ETN

The thematic Network FOODNET deals with Food studies: food science, food process and technology, economics-management-logistics. "The diversity of disciplines and approaches combined with the increasing complexity of the markets lead to the need of promoting novel initiatives that can pool together experiences from all over Europe and adapt teaching and training programmes to the future needs."

It included a total number of **86** official **partners in the last year** (Coordination ENSIA, Fr):

- 58 universities in Europe from 27 countries (=24 different languages)
- 28 partners from: food companies (7), research centers (8), professional associations (11), service (2)

6 working groups on Curricula (ESB Porto, Pt), Continuing education (Boku Vienna, At), PhD studies (ETSIA Valencia, Sp), Assessment of studies (ECTS) (Univ. Münich, De), Personal skills development (Univ. College Dublin, Ie) and Language studies (Univ. College Cork, Ie);

- Data bases on Curricula; Distance learning; PhD
- Introduction of ECTS, equivalence, common form for assessment of teaching
- 3 books for teaching = chapters written by authors from universities partners
 - ⇒ "Personal Skills: an integrated component of Food science courses", coord. M. Walters (Univ. College Dublin, Ie) and R. Pawsey (South Bank Univ. London, UK), March 2001, 227p.
 - ⇒ "Food innovation management", coord. R. Treillon (ENSIA Massy, F), March 2001, 259p. (together with FoodAtlantic project)
 - ⇒ "Practical tasks for food quality assurance", coord. G. Schleining (Boku Vienna, At) and S. Mannino (Univ. Milan, It), May 2001.
- 9 meetings of partners in 3 years.
- **1**st European Food PhD forum, 25-27 Sept 2000 in Univ. Ghent (Be) with 23 PhD students from 15 countries.
- A European Conference "Education in Food Science & Technology for the 21st century Personal skills: the paradigm of active learning". It was hold in Wageningen (NL) on 8-9 March 2001 (M. Walters (UCDublin, Ie) & R. Hartemink (Univ. Wageningen, NL).

Annex 2 - FOODATLANTIC, European-Canadian University network for promoting the International dimension of Training Programme in Food Studies. N° 96-07-CAN-0039-00 (Jan 98 to Aug. 2001). Coordinators = ENSIA (Europe) & Guelph (Canada)

CANADA (6 Partners)

- 1. Univ. Guelph, Department Food Science, Guelph
- 2. Mc Gill University, Dept Food Science & Agricultural & Biosystems Engineering
- 3. Université Laval, Dept Sciences de l'aliment & de nutrition, Québec
- 4. Food Research and Development Centre, St Hyacinthe
- 5. Univ. of Saskatchewan, Dept Agricultural and Bioresource Engineering, Saskatoon
- 6. University Alberta, Dept. of Agricultural, Food and Nutritional Science, Edmonton.

EUROPE (10 Partners)

- 1. ENSIA, MASSY Cedex France
- 2. Escola Superior de Biotecnologia, Porto Portugal
- 3. University College Cork, Cork Ireland
- 4. Technical Univ. Denmark, Lyngby Denmark
- 5. Technische Universität München, Weihenstephan Germany
- 6. Institut Meurice, Bruxelles Belgium
- 7. Lund University, Lund Sweden
- 8. NJH Agricultural University of Norway, Oslo Norway
- 9. University of Reading, Reading RG6 6AP United Kingdom
- 10. Agricultural University Wageningen, Wageningen The Netherlands

Why such a project?

- Pre-existing cooperation in Europe with a need to exchange (ideas, cursus; students; teachers) and to know each other = extension to Canada partners
- Pre-existing links (personal) between people from the different countries or via exchanges of students (agreements involving only two institutions) = way of extension of contacts

The programme financed by European Commission and Universities brings the necessary financial help

- for students to pay travel and visa
- to meet = meetings of partners are essential for the life of the project (- not only web communication!) to know each other, to discuss, to clarify, to really exchange on all the topics of food studies, including the food industry and consumers in different countries of the world.

The 1st meeting of partners was held at Institut Meurice in Bruxelles in November 1998. The 2nd meeting was hosted by the Food Research and Development Centre in St. Hyacinthe for 2 days (September 27-28, 1999) with visit of the Centre. Then a visit to Laval University on September 29, to Macdonald Campus of McGill University on September 30 and a visit of Guelph University on October 1st.

- ⇒ Working groups for novel teaching courses have been created to study modalities, contents:
 - Microbrewery training (A. Debourg, Brussels).
 - International food legislation (V. Davidson, D. Goff, Guelph; P. Vallance, Reading).
 - New product development-innovation (R. Treillon, E. Dumoulin, Massy) (together with FOODNET).
- Organisation of series of internships of Canadian undergraduate students in Europe and vice-versa that are accredited as integral parts of the students degree programmes, involving a total of 43+45 individual movements (individual report + evaluation).

Annex 3 - European Master Degree in Food Studies

- ⇒ Idea in 1992 (A. Medina, Porto), with the support of food industry (Nestlé, Danone, Unilever, Kraft).
- ⇒ Beginning Sept 95 (coord. Porto) 1st edition with 22 students (17 countries) and financial help from Brussels (AIR programme). 5 universities involved Porto, Cork, Reading, Massy, Lund, with industry partners.
- ⇒ In August 2010 (coord. Wageningen), 12th edition, 23 students (11 countries) and with 11 food company sponsors.

Annex 4 - ALFA N° 5.0130.9,

Food & Bioprocess Engineering for Sustainability and Quality (2002-2005) Exchange of PhD students between Europe and Latin/South America.

Partners

- **Europe:** Univ. Reading United Kingdom (coordination), ESB Portugal, ENSIA France, Univ. Ghent Belgique, Univ. Lund Sweden, UPV Spain, UCC Irlande.
- Latin/South America: ISPJAE Cuba, IPN Mexico, UNAM Mexico, PUC Chile, UPV Chile, UNER Argentine, UDS Colombie, EPN Ecuador, UNICAMP Brazil.

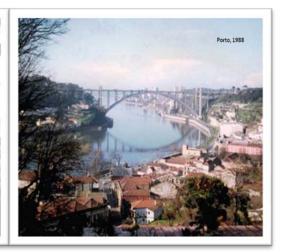
The objectives were enhanced training for research candidates, with technology and skills transfer within the network and increased local research capacity.

Exchanges at Post-graduate level (PhD mainly) (24) were realized with possible double diploma between two universities, and common publications.

Porto, February 1988 Erasmus.....







Erasmus-Tempus Wageningen April 1996







FOOD NET Porto Mars 1999







FOOD NET Crete July 1999





FOOD ATLANTIC St Hyacinthe (Canada) September 1999



FOOD NET Valencia December 1999



