



e-MENSA

e-Platform Technologies for the
European Agri-Food Supply Chain
FP6 Contract SSA 007124

Innovative technologies for the European
agrifood supply chain: contribution of e-
platform technologies

Special Session
European Parliament, Brussels
27 June 2006

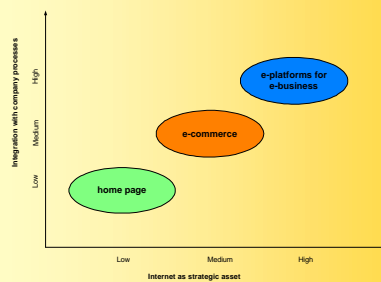


The e-platforms in agrifood

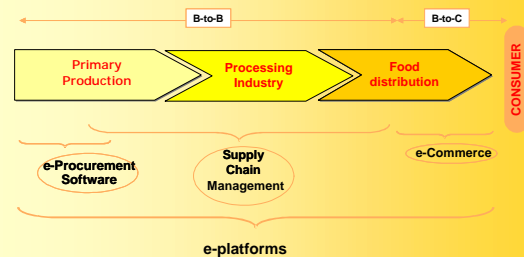


Raffaello Prugger
Tecnoalimenti, Italy

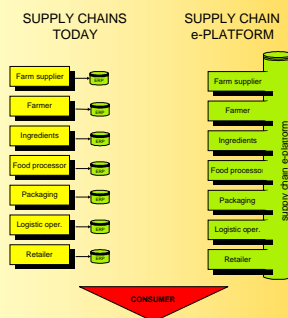
Strategic evolution of IT in agrifood business



What is a food chain electronic platform (e-platform)?



What is an e-platform? Issue: information sharing



What is an e-platform?

An open infrastructure for improving
supply chain efficiency

Software infrastructure to collect, store and share
selected information between food chain players.

The aim is to increase efficiency

Functionalities that can be plugged into an e-platform:

- ☐ Logistics
- ☐ Marketplace (B-B, B-C)
- ☐ Business transactions
- ☐ Traceability
- ☐ Collective marketing
- ☐ Market forecasting
- ☐ Storage optimisation
- ☐ Other innovative services to players or consumers



The e-MENSA project



Georgina Holt
UK, Consultant of Tecnoalimenti

e-MENSA Project Partnership



- TCA - Tecnoalimenti S.C.p.A., Italy (Project co-ordinator)
- ainia - Asociación para la Investigación de la Ind. Agroalim., Spain
- Imperial College - Centre for Food Chain Research, UK
- ENEA - Ente per le Nuove Tecnologie, l'Energia e l'Ambiente, Italy
- ILIM - Instytut Logistyki i Magazynowania, Poland
- Federalimentare - Federazione Italiana dell'Industria Alim., Italy
- Teagasc - Ashtown Food Research Centre (AFRC), Ireland
- AGER S.r.l., Italy
- Technical University of Berlin, Food Process Engineering, Germany
- IAMB - Istituto Agronomico Mediterraneo di Bari, Italy

e-MENSA Project Rationale



- Multiple companies
- Impotence in managing quality and safety
- European consumers' loss of confidence

Agro-food supply chain management

Recent developments in food processing, auditing and information technologies offer the potential to overcome major obstacles and to increase the efficiency, safety and functionality of the food chain

Electronic Platform

Project Strategic Objective



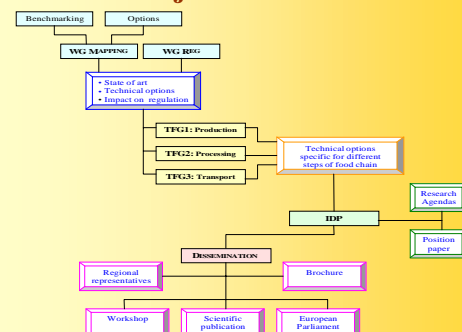
To create consensus among stakeholders on the feasibility of employing an electronic platform infrastructure for the management of the agro-food supply chains and its effective contribution to assure safety and quality of the agro-food system

Project Specific Objectives



- Establish a network among players active in the agro-food chain
- Develop a shared vision for food supply chain infrastructures and technological strategies across Europe
- Support regional, national and community policies aimed at regulating co-operation across food chain players
- Disseminate results to the scientific, the business, the consumer and the policy-maker communities

Project Structure





Analysis of primary production



Biagio Di Terlizzi
IAMB, Italy

Analysis of primary production: Project results



- Farmers as first ring of the food chain
- A food chain leadership is necessary
- Role of retail towards producers (wielding power vs social role)
- Cultural obstacles to vertical collaboration
- Harmonization norms between countries of food chain player Link of innovation and setting off typical products

IAMB

Analysis of primary production: Farmers as first ring of the food chain



Farmers influence the safety and the quality of food; but they:

- Suffer the retailers price policy;
- Have small farm surface and are rarely organised in P.O.

IAMB

Analysis of primary production: Role of retail towards producers (wielding power vs social role)



Retailer favors the cultural change in agricultural sector; in fact it:

- Defines quality standards (Eurogap, Tesco Nature's Choice, BRC, etc.)
- Calls for the respect and the certification of quality standards

IAMB

Analysis of primary production: A food chain leadership is necessary



From e-MENSA (agricultural production) a food chain leader emerges:

- A food chain player (for ex. retailer or farmer)
or
- A food chain manager super-partes

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Analysis of primary production: Cultural obstacles to vertical collaboration



- There is a strong mistrust among players
- It is necessary to start up a cultural innovation before a technical innovation

IAMB

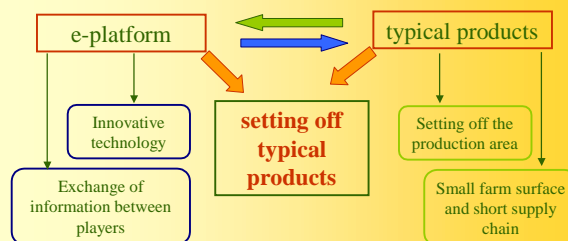
Analysis of primary production: Considerations

1. What benefits do farmers of typical products take from using e-platform ?
1. What benefits do retailers who buy typical products take from using e-platform ?
2. Is an e-platform only a virtual place to meet supply and demand or shall it give information to players and consumers about products safety?

IAMB

Analysis of primary production: Future challenges

Link of innovation and setting off typical products



IAMB

Analysis of primary production: Harmonization of norms between countries of food supply chain

Delocalization of food supply chain
(above all farmers)



Safety of products

IAMB



Analysis of primary production



Paola Zaganelli
AGER/Coldiretti, Italy



Analysis of food processing industry



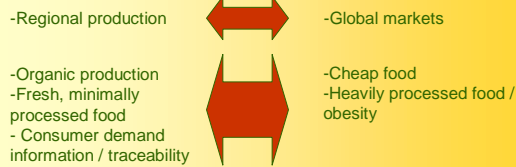
Cornelius Luscher, Dietrich Knorr
Technische Universität Berlin, Germany

Analysis of food processing industry: Trends in the food market



Analysis of food processing industry:

Trends in the food market



Analysis of food processing industry:

Project results

Structure of the food industry

- Many SME's
- Global companies (brand products)
- Excess production capacities
- Highly competitive
- No "high-tech" production

Retailers

- Big organizations
- Demand low prices
- Demand high quality

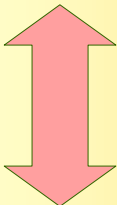
Retailers are the dominant player in the food chain

- Prices and margins are low
- High quality nevertheless possible
- Innovations are difficult to implement
- Traceability demanded by consumer (via legislation, retail)

Analysis of food processing industry:

Future challenges (1)

Innovations are difficult to implement



"E-platform Technologies for the European Agro-food Supply Chain" ?

Traceability demanded by consumer

Analysis of food processing industry:

Future challenges (2)

Food processing experts agree that e-platforms:

... lead to better safety of food.

... better quality of food products.

... advantages for SME's (e.g. better access to markets, shared resources).

Analysis of food processing industry:

Future challenges (3)

Food processing experts, however, point out that:

- ... the implementation of a platform is more realistic, if one player (retailer) forces the others.
- ... an economic success is visible on a short-term basis.
- ... SME's need support.
- ... free flow of data is an illusion, unless forced by traceability legislation (provenance, quality data).
- ... technological hurdles have to be solved (identification, data interfaces).



Analysis of Distribution/Retail Sectors



Clare Reynolds, Maeve Henchion
AFRC-Teagasc, Ireland

Analysis of Distribution/Retail Sectors

Project results

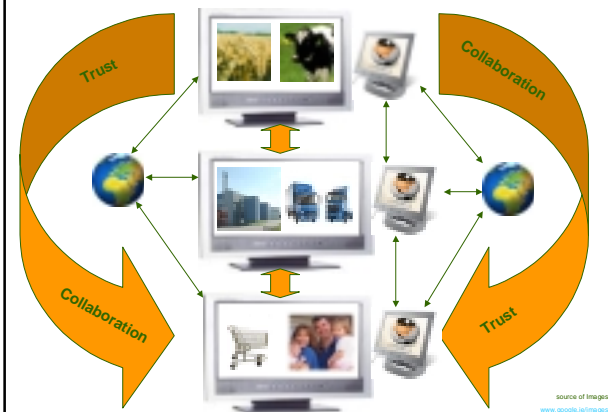
- Trust & Collaboration,
 - » Essential for e-platform establishment
- Net Benefit & Cost
 - » Real benefits defined in financial terms must be evident in order for any player to 'buy in'
 - » Cost allocation across platform must be established based on criteria established by platform leader or collaboratively in case of decentralised platform
 - » Absorption capacity is cost for SME's not technological barrier

Analysis of Distribution/Retail Sectors

Project results

- Common Strategy
 - » Unrealistic, questionable whether necessary, across all parameters of the supply chain
 - » Food Safety collaboration, strategy feasible here
 - » Common brand / Quality Mark, allows multi-lateral agreements to which all partners sign into collectively
- E-platform control
 - » Retailer led, large volume markets, already chain captain in the Supply chain
 - » SME's less ICT capability & skill base to lead
 - » Alternative e-platform involves collaborative approach, only possibility in platform creating alternative routes to market

Potential e-Platform Application to the Agri-Food Supply Chain



Analysis of Distribution/Retail Sectors

Future Challenges

- Cost & Benefit distribution
 - » Clearly identifying all associated net costs & benefits for all players
 - » Clearly identify equitable cost distribution across platform
 - » Dependant on ownership model used (Profit, Institutional Support or Non-Profit)
- Privacy & Security of information
 - » Type of information to be exchanged
 - » Net benefit or cost of sharing / receiving information
 - » Security of Data exchanged
 - » Depends on common strategy

Analysis of Distribution/Retail Sectors

Future Challenges

- Differing requirements for SME's
 - » depending on type e-platform entering (retailer led or alternative route to market)
 - » Small & Micro enterprises may be forced into alternative route to market platform from a sustainability point of view
- Case Study
 - » Pilot: Experts felt that to assure SME's of the capabilities of a working e-platform, demonstration enterprises must be set up to act as 'living examples' of this type of operation



Emerging e-platform architectures



Roberto Tononi
ENEA, Italy

Emerging e-platform architectures to cope with Supply Chain problems:

- Lack of a strategic plan for the whole Supply Chain (SC)
- Delays in adopting new technologies
- Gaps in the approach to Total Quality
- Non unified inventory management
- Non concurrent optimization of the activities of all SC members
- Poor vertical integration

Emerging e-platform architectures for agrifood supply chains

- Most Supply Chains (SC) of the agri-food sector are made of SME's
- They are typical decentralized SC
- Centralized: controlled by a large enterprise and by a managerial hub
- Decentralized: independent members and ineffective managerial hub

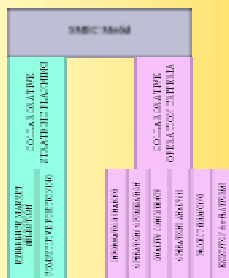
Emerging e-platform architectures: focus of the international research

- Solutions provided by the international research to the problems of decentralized SC
- State of the art: specific solutions for specific problems
- e-Mensa has collected and harmonized these solutions in a management model

Emerging e-platform architectures through a new management model

- SMEC model: Small Medium Enterprise Chain
- Base line of the model: a drive towards higher levels of collaboration among SC members
- Replace traditional supplier-client relationships with Strategic Partnerships.

Emerging e-platforms architectures: a model of collaboration

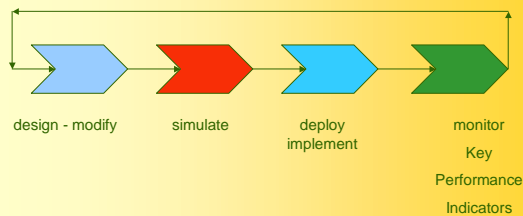


Emerging e-platforms architectures supported by the ICT

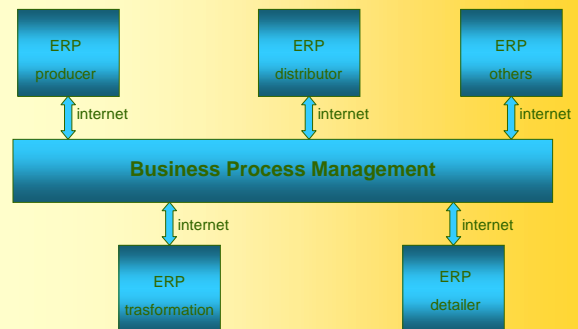
- SMEC increases the number and complexity of collaboration processes among SC members
- Automation of Collaboration Processes made possible by an innovative ICT system: **Business Process Management (BPM)**

Emerging e-platforms architectures supported by the ICT

- a BPM manages the whole life cycle of collaboration processes



Emerging e-platforms architectures: enabled by ICT systems



Research Agenda for FP7



Belen Baviera
ainia, Spain

Research Agenda for FP7 emerging from the e-MENSA consultation

Two main areas of research:

- New Technologies and New Tools
- New approaches and concepts

Research Agenda for FP7

RESEARCH ISSUE 1

- Previsional systems for a new agrifood chain management for improving product quality and safety and reducing wastes.

Research Agenda for FP7

RESEARCH ISSUE 2

- New technological systems for control of liquid foods and commodities during continuous processes

Research Agenda for FP7

RESEARCH ISSUE 3

- New systems for the supply chain governance tailored for agrifood SMEs

Research Agenda for FP7

RESEARCH ISSUE 4

- Novel systems and devices for deriving shelf-life prediction to be implemented in fresh product and produce industry.

Research Agenda for FP7

RESEARCH ISSUE 5

- Food chain economic studies for paving the way to improving benefits of collaborative e-platform approaches in the food chain

Research Agenda for FP7

RESEARCH ISSUE 6

- Standardisation issues and organisational studies of collaborative agrifood e-platforms

Recommendations to regional policy makers

- Research and development in the issues of the Agenda Research
- Special attention to the first link in the chain: primary producers
- Promotion of agreements on food chain quality standards and protocols at EU level
- Improving the knowledge in e-platforms
- Support the implementation of e-platforms
- Management of e-platforms



e-MENSA

Thank you for your attention!

For further information take the handouts.
The e-MENSA participants

www.tecnoalimenti.com

