National Food Technology Platforms: EU Circular BioEconomy and the AgroIndustrial SMEs Priorities”

1st TRAFOON Stakeholder Workshop

Novi Sad, 17th of May 2016

Daniele Rossi

Coordinator EU National FoodTechnology Platforms

Italian Representative expert in the Horizon2020 Programme Committee SC2

Director Research & Innovation – ConfAgricoltura – Confederation of Farmers

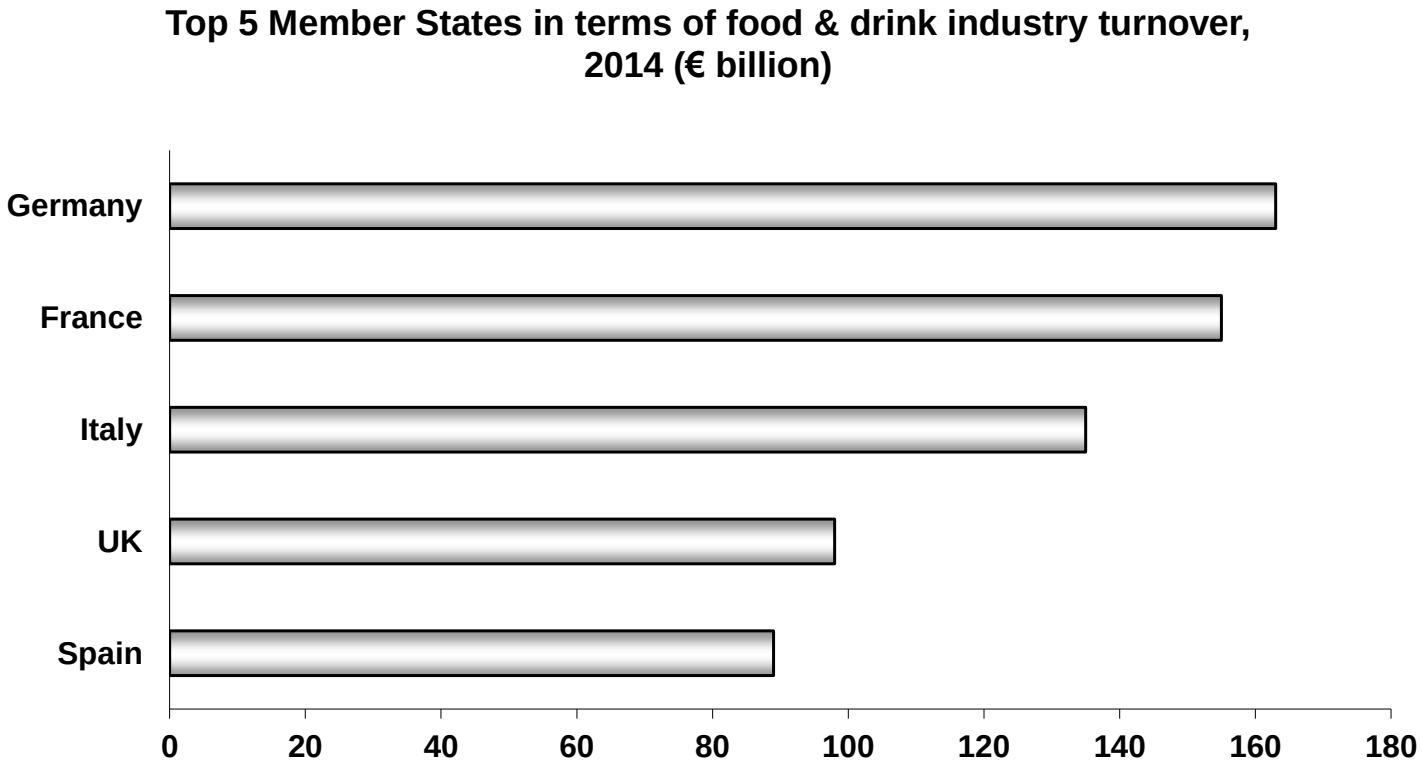
Director International Projects – Brewers of Italy – Confindustria – Brewers of Europe

EU Food Industry per countries

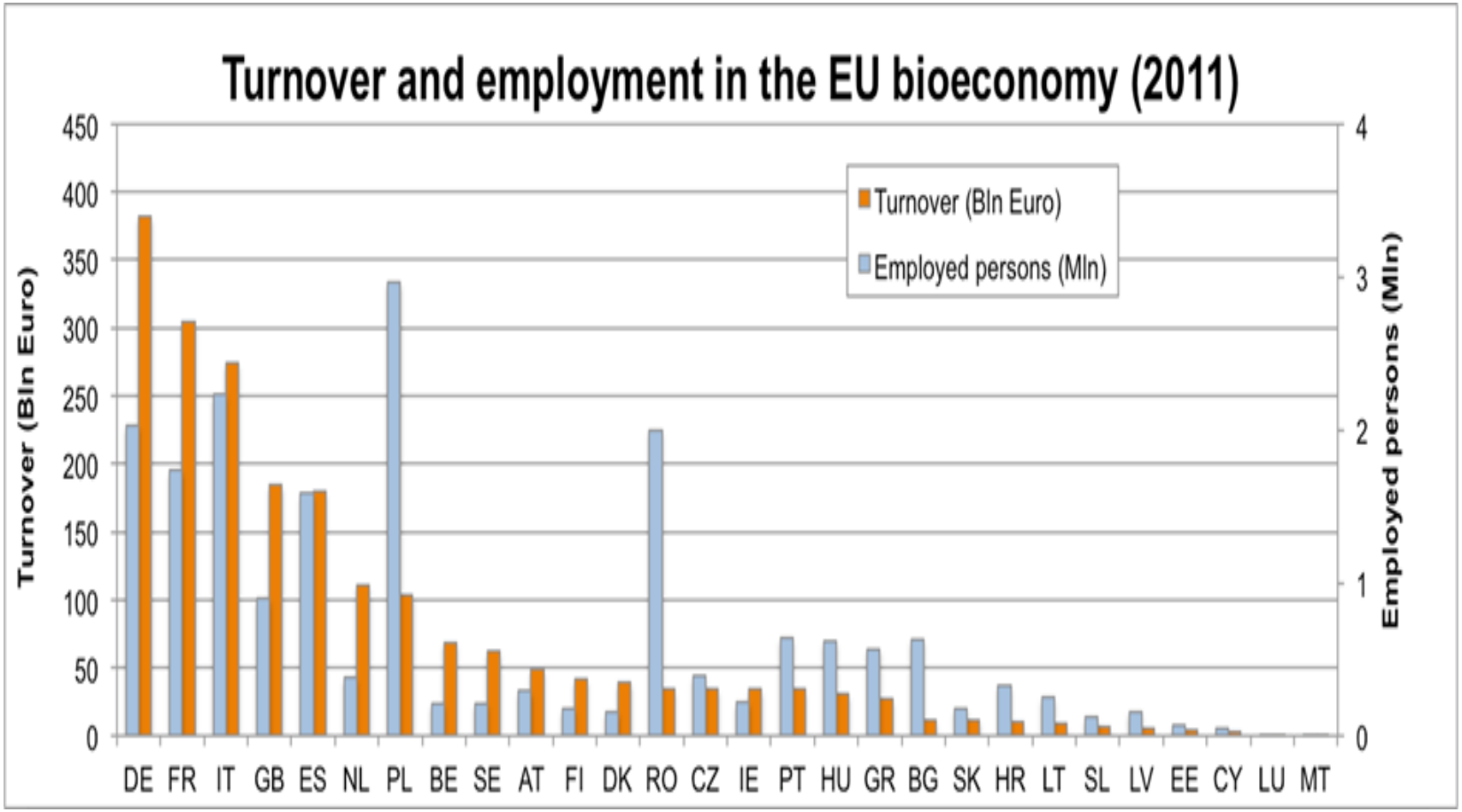
	Turnover	Value added	Number of employees	Number of companies
	€ billion	€ billion	1,000	
Austria	12.6	4.7*	58	3,921*
Belgium	44.5	6.7	89	4,912
Bulgaria	4.7	0.8*	99*	5,612
Cyprus	1.5	0.4*	13*	863
Czech Republic	11.3	2.9	105	8,360
Denmark	25.4	3.2	55	1,610*
Estonia	1.5	0.3	13	422
Finland	11.3	2.5	33	1,900
France	157.2	29.3	500	10,000
Germany	163.3	11.5	550	5,960
Greece	11	1.4	65	1,180
Hungary	8.3	2.0	97	6,556
Ireland	22.0	6.0*	43	689
Italy	127.0	24.2	408	6,300
Latvia	1.6	0.3*	25*	788
Lithuania	3.6	0.6*	42*	1,205
Netherlands	59.2*	14.3	131	4,385*
Poland	49.7	8.9*	403*	13,708
Portugal	14.5	2.9	110	10,513
Romania	10.5	2.2*	186	8,239
Slovakia	3.7	0.7	30	218
Slovenia	2.2	0.5*	16*	1,214
Spain	83.8	20.0*	446	30,000
Sweden	19.2	4.4	56	3.400
TOTAL	**937**	**174**	**3.943**	**138.455**

Source: Data & trends of the European Food and Drink Industry 2012 (FoodDrinkEurope)

TOP 5 F&D INDUSTRIES IN THE EU



Source: Federalimentare elaboration from preliminary Eurostat data



Source: SCAR – EUROSTAT 4th foresight 2015

2014 EU BIO-ECONOMY

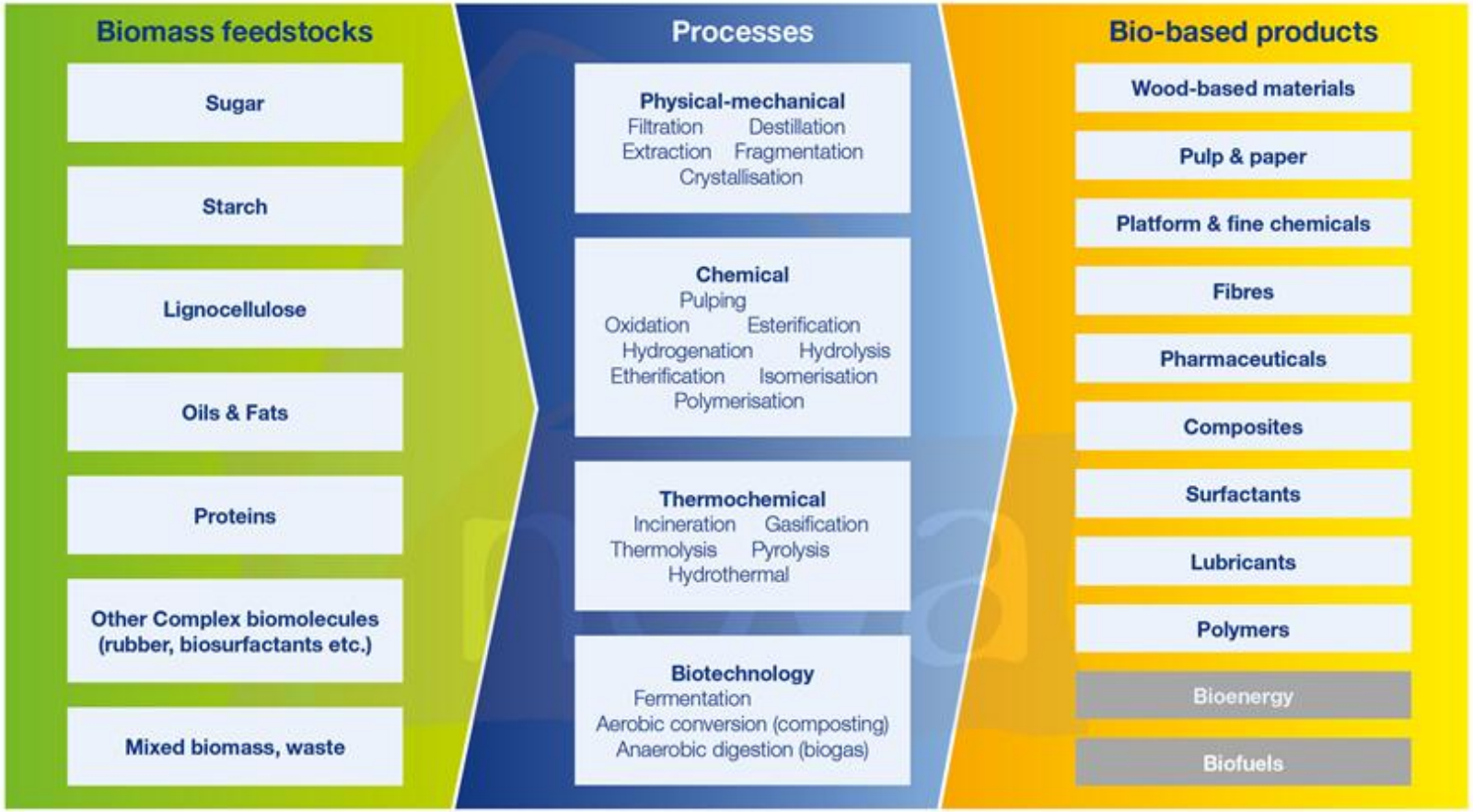
EU bio-economy turnover of 2.690 billion € with 22 million employees.

Sector	Turnover (Billion €)	Employees (million)	Source
Food & Drink Industry	1.186	4.4	FoodDrinkEurope
Agriculture	430	12,0	COPA-COGECA
Fisheries	14	0.5	FAO
Paper, Leather etc.	428	1,8	CEPI
Forestry	337	2,0	CEI-BOIS
Others	227	1,0	CEFIC
Bio-based materials			
Chemistry	60 (est)*	0,15 (est)*	USDA, Arthur D Little, Festel, McKinsey, CEFIC
Enzymes	1 (est)*	0,005 (est)*	Amfep, Novozymes, Danisco/Genencor, DSM
Biofuels	7	0,15	EBB, eBio
Total	**2.690**	**22**	

Milan, 26.05.2015

Source: CE 2014

Bio-based Economy: feedstocks, processes and products (without food & feed)



European long-term priorities of The European Technology Platform Food for Life

- A more **competitive agri-food industry and chain** in Europe;
- **More innovation** in farming and food processing:
- **Farm for Tomorrow - Food Factory of the Future;**
- **Resource efficiency** in the Circular Bioeconomy
- **Improving added value of high quality foods**, traditional and PGI ;
- Dietary needs of the **elderly**, in **pregnancy**, in others target groups;
- Early **detection** of chemical and microbiological **hazards;**
- **Low cost and low scale processing, tech transfer** and networks for SMEs;
- Impact of food and drink **policies** in Europe (VAT, excise, access, comm.).

The European Technology Platform Food for Life: aims

- **Increase** R&D strategy;
- **Coordinate** research in Europe and prevent duplication;
- **Promote** SME participation, specific programmes and networks;
- **Focus**, align and collaborate transnationally between stakeholders;
- **Increase** multidisciplinary / cross-sector education and training;
- **Optimise** knowledge capture and dissemination of knowledge between Member States and towards farmers and SMEs.

36 Food for Life NTPs: think locally, act globally!

COORDINATOR: Italian Food for Life

NTPs

Figures

- More than **35.000** SMEs and **4.600** national stakeholders involved (Industry, Farmers, Universities, Research centres, Consumers, National Public Bodies, Retailers, Financial institutions).
- **87** strategic documents visible and published on ETP website (SRA, Implementation Plan, Vision document etc.)
- **2** mln € yearly availability of public national funds specifically for NTPs
- **450** mln € yearly availability of public national funds for food chain research

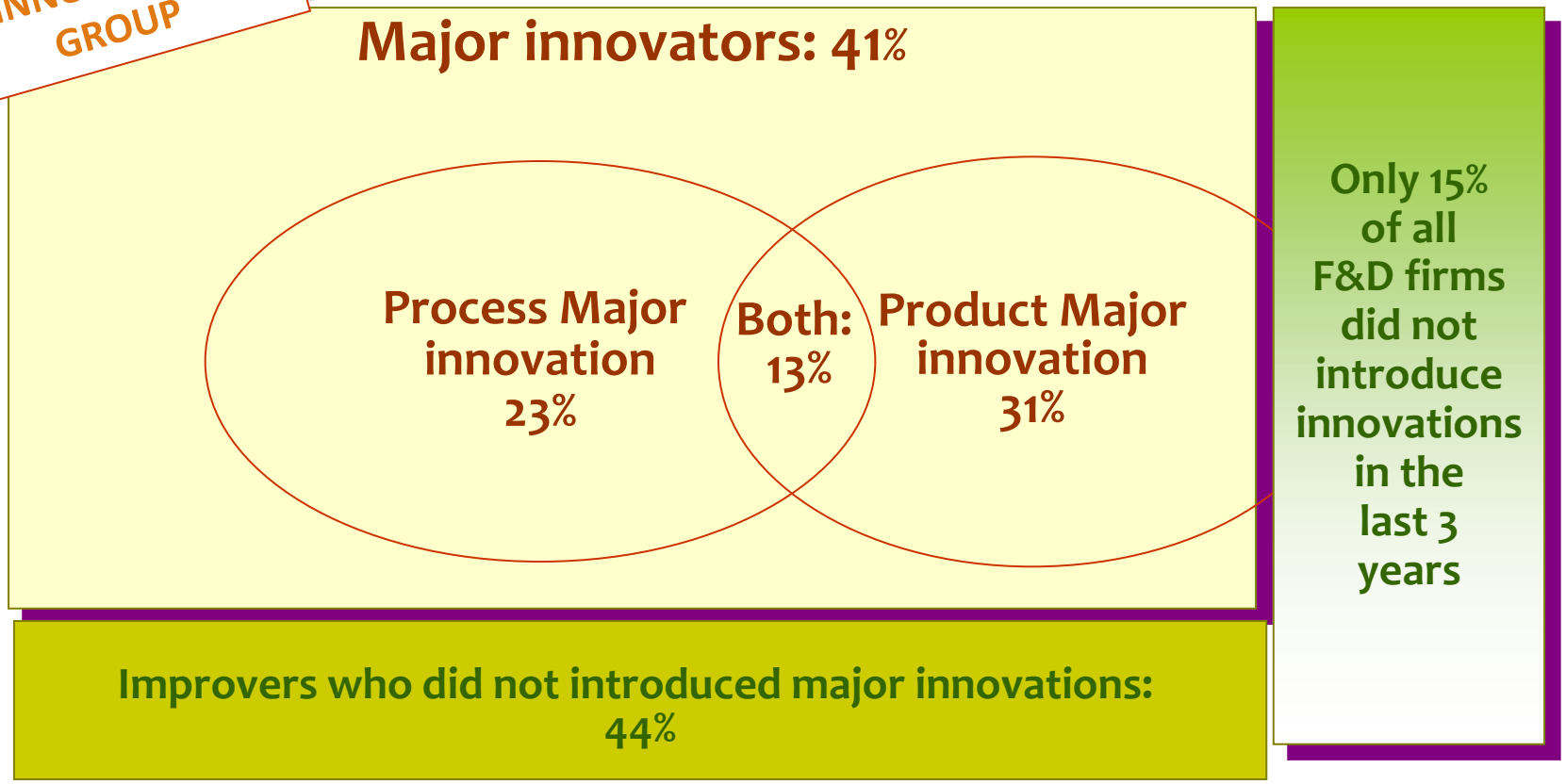
Meetings

1. Rome, 14.04.2007
2. Brussels, 14.09.2007
3. Brussels, 6.06.2008
4. Budapest, 12.09. 2008
5. Barcelona, 11.05.2009
6. Riga, 2.10.2009
7. Brussels, 4.03.2010
8. Rimini, 16.09.2010
9. Budapest, 2.05.2011
10. Bonn, 2.11.2011
11. Istanbul, 11.06.2012
12. Paris, 23.10.2012
13. Vienna, 22.04.2013
14. Brussels, 3.09.2013
15. Athens, 11.03.2014
16. Turin, 6.10.2014
17. Prague, 13.04.2015
18. Athens, 11.11.2015
19. **Bruxelles, 20.04.2016**
20. **Wien, 28.11.2016**

EUROPE

European F&D INDUSTRY INNOVATORS GROUPS

INNOVATORS GROUP



Source: SSA "SMEs-NET"

F&D INDUSTRY FUTURE TRENDS

- Wide variety of products.
- Convenience, ready to eat.
- Attention to specific nutritional needs.
- Tasty products, texture, density, colour, pack.
- Products affordable in price / quality ratio.
- Attention to specific needs: religious / ethnic / ethical .
- Attention to environment,sustainability,naturalness
- New occasions: brunches, aperos, happy hours, street food, catering, slow food, grazing, gastros.

Challenges and responses for Food Manufacturers

- Scarcity in **raw materials;**
- **Globalization** to manage**;**
- **Local food chains and markets** enhanced**;**
- **Buyers and Retailers concentration;**
- **New ways of consumption;**
- High **stratification** of consumption;
- **New glocal values:** ethics, envi, ethnic, authentic, natural …;
- **New policies** on food&drink: neo protect, neo prohibi, neo info;
- **New trade policies:** Europe, Efta, Nafta, Asian, Ttip, Med, Mercosur.

- **Precision farming** and sustainability;
- Raw materials **diversity**;
- **Low scale technologies** and scale economies;
- Resource and manufacturing **efficiency** to improve**;**
- **Horizontal** Innovation to be incorporated: new mats., ICT, process, pack, low scale, low cost technologies
- From old to **young generation of entrepreneurs;**
- **Food Supply Chain** and **Collaborative Networks;**
- New **distribution systems** and **business models;**
- **Flexibility and differentiation to face new ways of consumption;**

Business models for the bioeconomy

- Circularity implies new ways of designing and manufacturing products, new relationships between economic actors, new ways of recycling components and waste, etc.
- Actors and activities will be reassembled in time and in space.
- Different production models in terms of scope and size should not only be able to co-exist, but also capture the synergies between them.
- Public sector involvement is needed for these new business models to work, as public goods are generated in the circular economy but often not remunerated by the market.

Circular BioEconomy 2 (8 Actions)
The AgriFood Matrix

	Food	By products	Micro-Macro Ingredients	Feed	BioMaterials Non Food	Compost Fertilizers	BioGas	BioFuels
Meat industry					-			
Feed industry								
milk&dairy								
Vegetable processing								
Bread & bakery								
Sweets & Candies								
Juices & concentrates								
Analcoholic beverage								
Alcoholic beverage								

Circular BioEconomy 2 : Cascade Principle
The European Matrix

	Food	By products	Micro-Macro Ingredients	Feed	BioMaterials Non Food	Compost Fertilizers	BioGas	BioFuels
Meat industry	X	X		X	-		X	
Feed industry		X		X		X	X	
Milk & dairy	X	X	X	X	X			
Vegetable processing	X	X	X	X		X	X	
Bread & bakery	X	X		X	X			X
Sweets & Candies	X		X				X	
Juices & concentrates	X	X	X	X			X	
Analcoholic beverage	X		X		X			
Alcoholic beverage	X	X	X	X	X			X

Circular BioEconomy
Global Challenges after 2008 crisis

- Nutrition security and climate change: sustainable food supply system (SFSP-FAO UNEP);
- Access to enough, safe and nutritious food : EU JPI FACCE and Healthy Diet for a Healthy Life and WANA;
- A more resource – efficient agriculture, marine and food chain, in rural and urban dimensions:FAO Agrifood Task force and IPCC and CFP
- Developing the human and social capital: High level panel of experts (FAO UNEP HLPE);
- Land use and rural development strategy: CAP, OECD WP on rural growth and CIHEAM;
- Long term strategy for the bioeconomy : EU biobased PPP – Green Economy and IAASTD and ETC group.
- Long term strategy for renewable energies: BIOGAS european development

Circ bioeconomy: The EU way – Agri Hot Topics

- New perennial grain crops and sustainable yields;
- New biological active compounds as alternative pesticides;
- Management of natural resources and biodiversity;
- Optimizing livestock production systems;
- Soil, marine and water conservation in a changing environment;
- Improved high quality plant based protein sources;
- Valorization of by-products and wastes in a circular bioeconomy (no losses);
- Innovative tools and methods to improve quality and safety of local and origin denominated food;

Circ Bioeconomy: the EU Way - Industry Hot Topics

- The food human axis: effect of ingredients, processing and way of consumption on human wellbeing, low scale, low cost technologies;
- High quality stable and fresh food ready to eat with packaging extended shelf life;
- Consumer response to food price instability: from raw materials to retailers supplier;
- Valorization of genetic resources and technological improvements to increase the nutra-functional values of processed foods;
- New track systems and sustainable transportation and logistics, losses and waste reduction;
- Markers identification of varieties used in the production of DOP/IGP

1 Strategic Priorities, focus on SMEs Needs

1 . A resource efficient food supply, including food processing, advanced and environmental -friendly technologies, through food chain approach, increasing consumer acceptance of food products and industry best practices.

Research and application of improved and new technologies, advanced process control, manufacturing and ICT solutions, management systems, innovative solutions are necessary for:
-enabling productive, flexible food manufacturing practices, with low cost and low scale technologies;

-- efficient use of energy, materials, water and labour to promote nexus and reduce waste and losses and to maintain existing/current environmental impact of food products and packaging;

-- systematic approach to optimise the exploitation of limited raw material and other biological resources;

-- reduction of production costs without compromising food safety and quality;

-- improve and retain consumer confidence and trust in food supply chain processes and practices;

- development of accessible, affordable technologies and equipment for SMEs which can deliver the above listed functions.

2 Strategic Priorities, focus on SMEs Needs

2. Delivering nutritional and pleasurable food products that meet dietary needs and prevent non-communicable diseases.

Food products should contribute to the improvement of consumer health and well-being through understanding of the relationship between diet and health for individuals, groups and populations, at the genomic to physiological level. Food products, assisting a balanceddiet, should maintain the pleasure from eating. To achieve this, research should be carried out on:

-enhancing nutritional potential of new and not properly exploited raw materials and ingredients;

-- to preserve and enhance nutritional value and sensory properties in processing, distribution and sale through optimisation of existing and new processes and technologies;

-- reformulation of existing products and development of new concepts to create healthier alternatives without compromising product safety or quality and guidance and information for that;

-- Helping consumption decisions through better understanding of consumer perception of nutrition and health issues and trade-offs with pleasure from eating and associated behaviours

to facilitate innovation

3 Strategic Priorities, focus on SMEs Needs

3. Promotion of transfer and accessibility of new and advanced knowledge and solutions and provision of skilled staff with updated, relevant competences.

There is a need for sustainable business models, systems and networks which convert research results into practically applicable solutions data, information for SMEs on:

-efficient use of material, energy, water and labour resources and relative nexus on circular economy;

-adaptation and application of advanced process control including safety control, manufacturing, ICT, energy management solutions and value chain management methods for the food supply chain;

-- preserving and enhancing nutritional value and pleasurable sensory properties in processing, distribution and sale and on reformulation of products to deliver food products which contribute to healthy life styles and prevent non-communicable diseases,

-- methods, tools and operational models which support to maintain and develop skills, knowledge and competence of staff in manufacture, distribution and sale of food.

THANK YOU FOR YOUR ATTENTION !

progetti-internazionali@assobirra.it

d.rossi@confagricoltura.it

rossi@confindustria.umbria.it;