



European Technology Platform
Food for Life



<http://etp.ciaa.eu>

Trends in Society



■ ***Function of Food is changing:***

- what we eat: calories → “experience” → Nutrition & Health, variety
- when we eat: regular meals → grazing
- where we eat: in-home → out-of-home
- with whom we eat: social → individual
- how we prepare our food: from scratch → ready-to-eat & heat & eat

■ ***A Wealth of Choice***

- primary production: year round, global supply
- food industry: preserved, frozen, chilled, freshly prepared

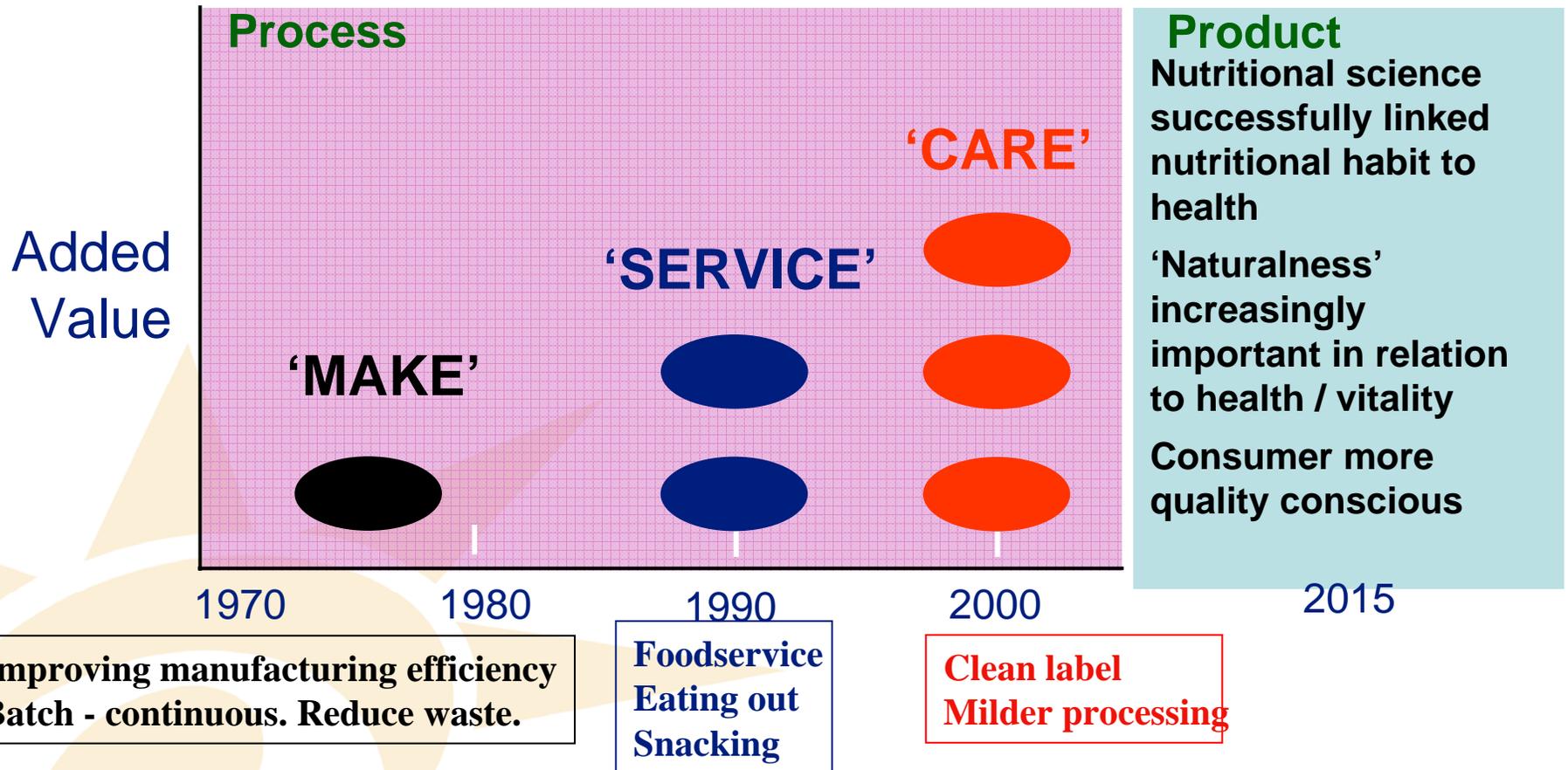
■ ***Retail has become a powerhouse***

■ ***Out-of-home has increased tremendously***

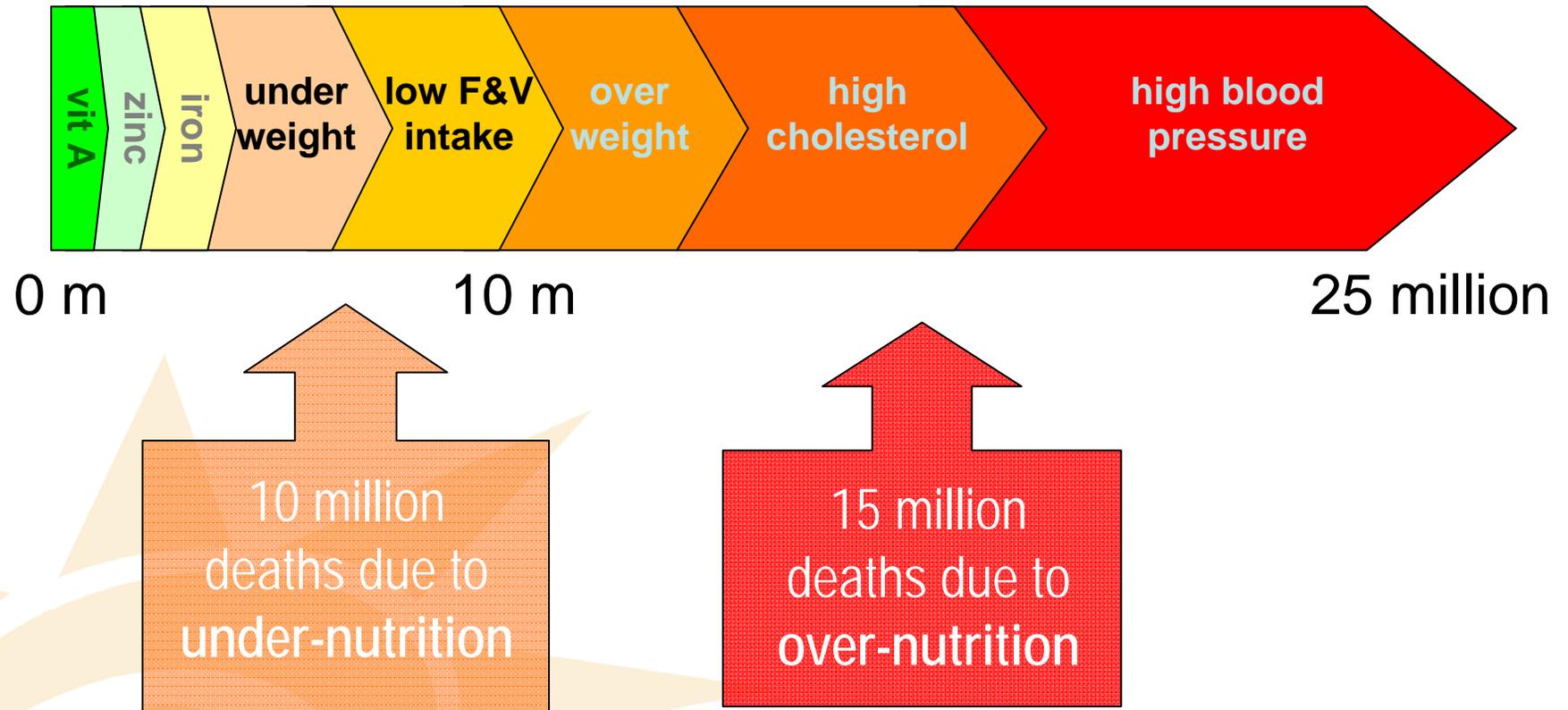
Trends in the Food Industry



Speed of product innovation

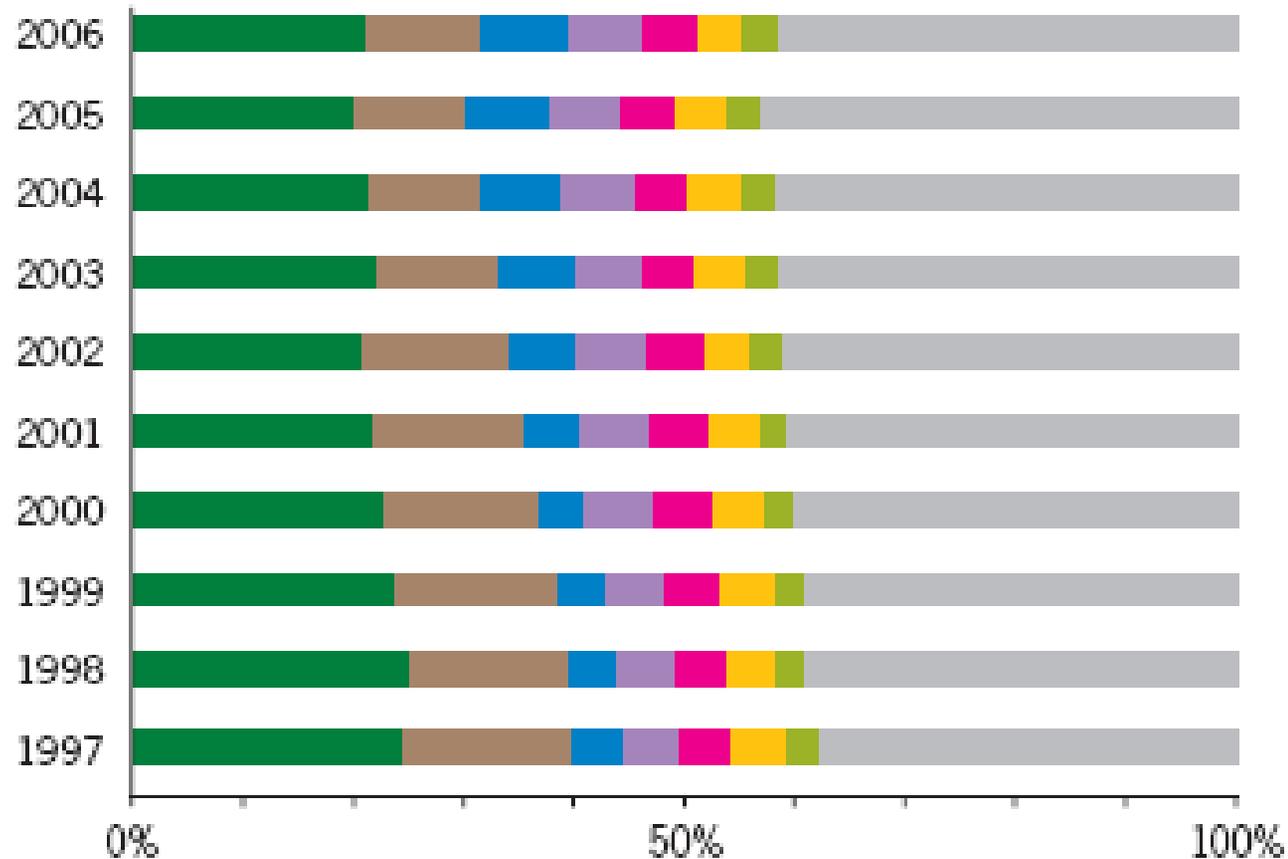


Sub-optimal nutrition has a dramatic impact on global health



Data on 2000 from WHO (2002)

Fig. 4 Shares of various countries in global food and drink exports (% of total expressed in \$)



■ EU
 ■ US
 ■ Brazil
 ■ China
 ■ Canada
 ■ Australia
 ■ New Zealand
 ■ Others

Source: WITS Database, Eurostat.

Fig. 1 Evolution of production value in various food and drink industries (2001 = 100)

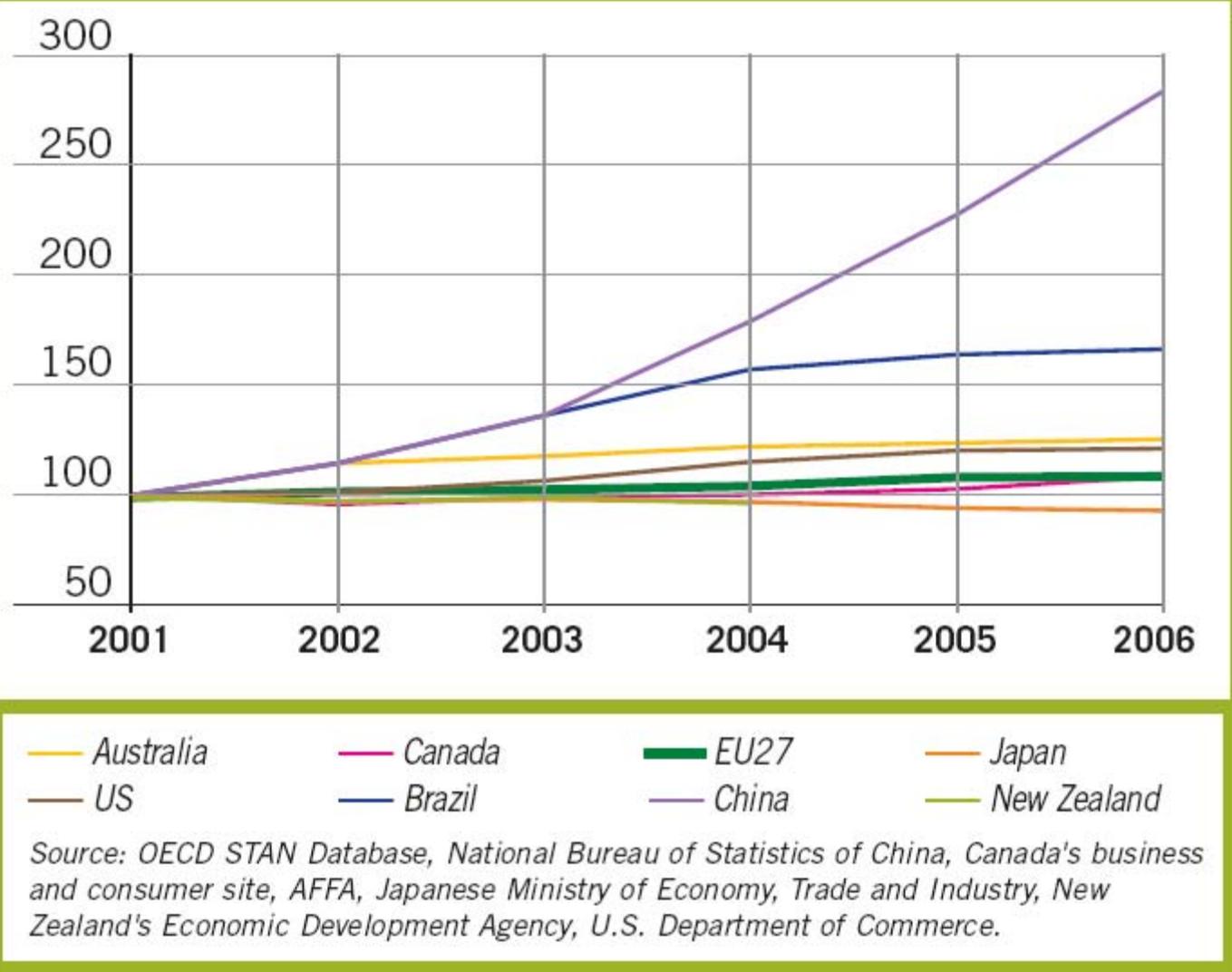
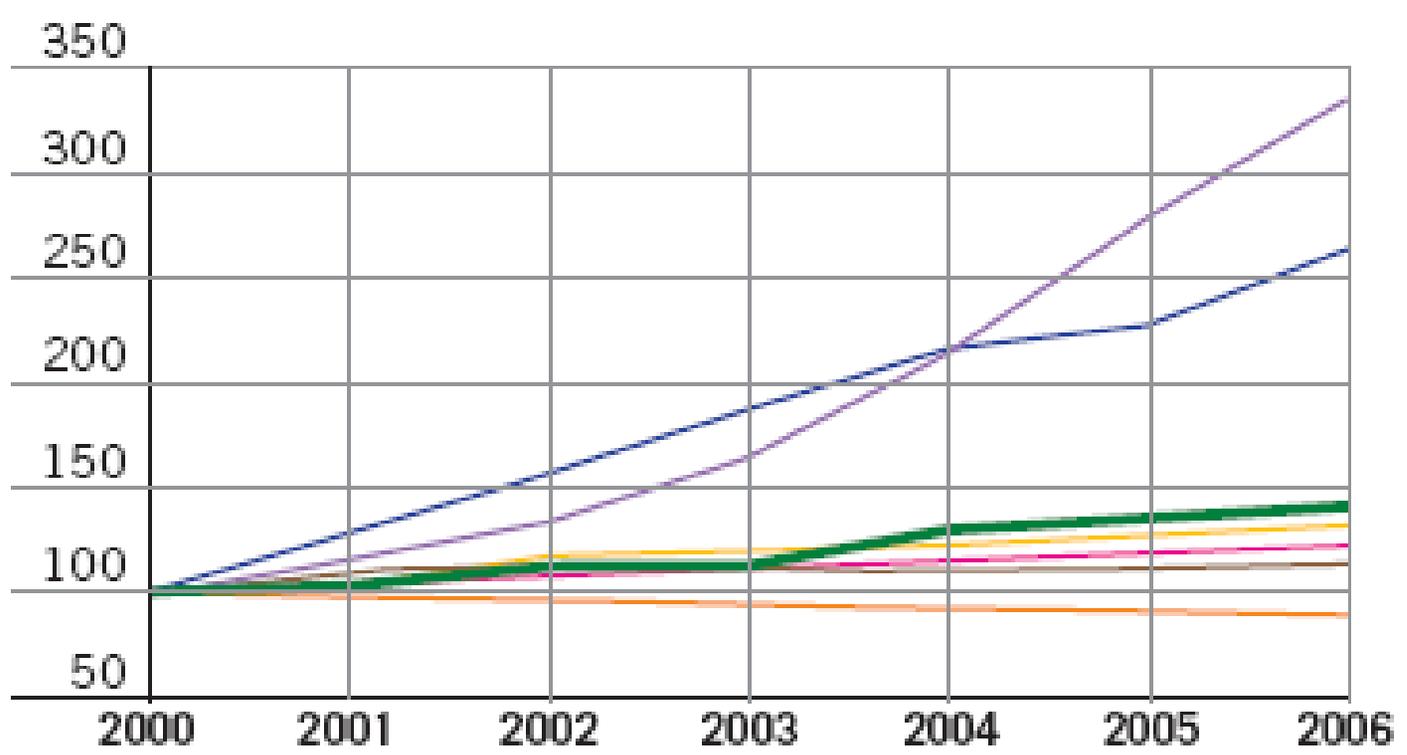


Fig. 3 Evolution of value added (value added/employee) growth in various food and drink industries (2000=100)

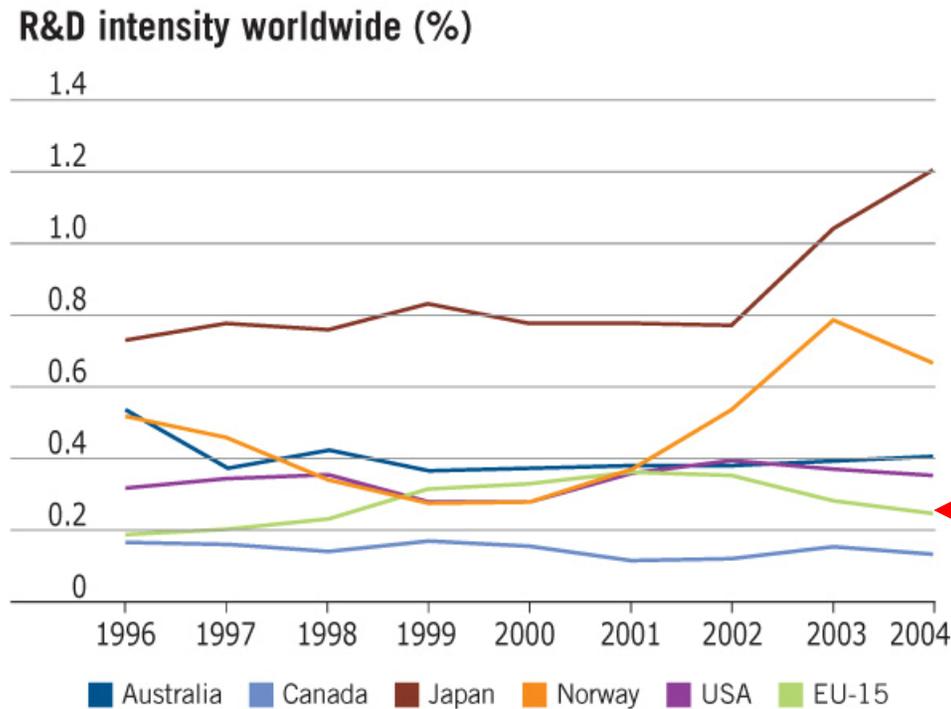


— Australia — Canada — EU25 — Japan — US — Brazil — China

Source: US Census Bureau, Chinese Yearbooks, National Bureau of Statistics of China, Statistics Bureau Japan, Statistics Canada, Australian Department of Agriculture, Fisheries and Forestry, Eurostat. Instituto Brasileiro de Geografia e Estatística.

R &D and innovation (1)

World trends



Source: OECDSTAN database and CIAA calculations

R&D in the EU: 0.24%; in the US 0.35%; in Australia 0.4%; in Japan 1.21%

Challenges for the Food Industry

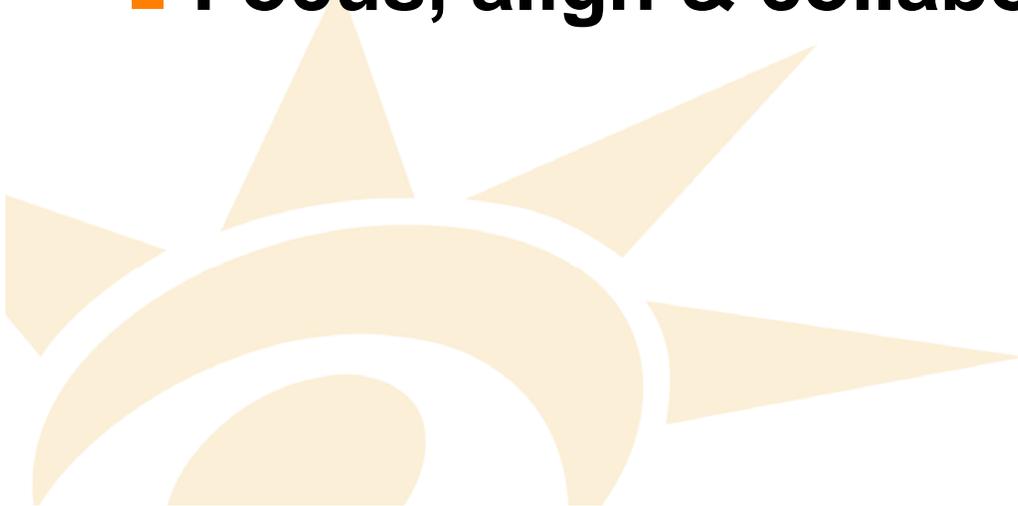


- H2 improve competitiveness of the food industry?
- H2 contribute to a healthier society?
- H2 arrive at “Food–you-can-trust” and “sustainable solutions”?
- H2 obtain the right personnel and sustain careers?

Steps to take



- **Increase speed & quality of innovation**
- **Increase R&D spending**
(Nutrition & Health research is expensive)
- **Focus, align & collaborate**

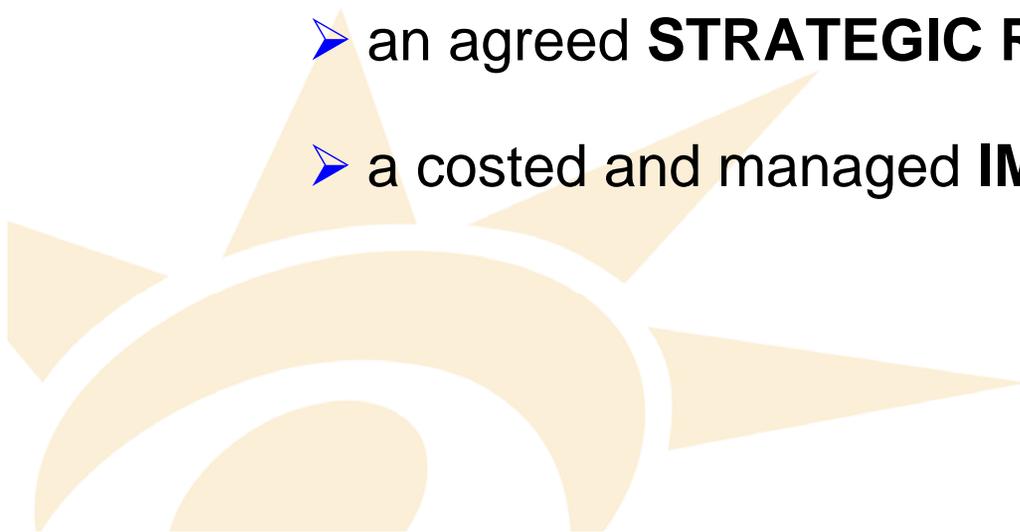


European Technology Platform

Central concept



- A new instrument to strengthen the European-wide innovation challenge (and address the so-called European Paradox),
- An (industry-led) framework to unite stakeholders around:
 - a common **VISION** for the technology concerned,
 - an agreed **STRATEGIC RESEARCH AGENDA**, and
 - a costed and managed **IMPLEMENTATION PLAN**.



The Basis of ETP Food for Life



- *The agro-food sector is the **largest manufacturing sector** in Europe with a turnover of 870b € and a positive trade balance of (E52-I48) 3.7b € (2006), but its share of food & drink exports in the world is reducing (24 → 20.8%)!*

→ *need for more “Added value”*

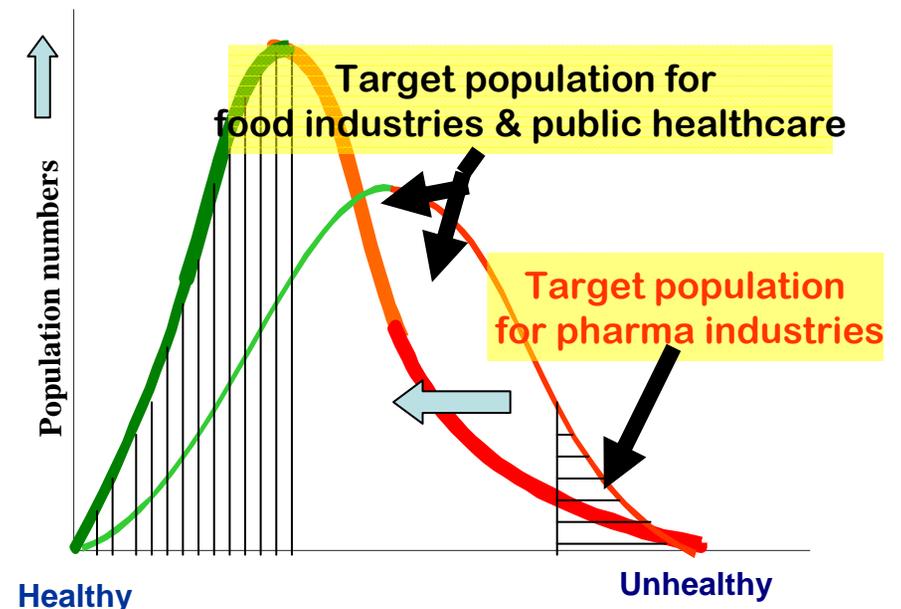
- *The ageing population and changes in lifestyle and dietary patterns have increased the incidence of chronic non-communicable diseases*

→ *need for “Food & health / Add life to years”*

- *Consumer concerns over food safety and environmental issues*

→ *need for “Food you can trust” and “Sustainable food production”*

A vision for improving population health

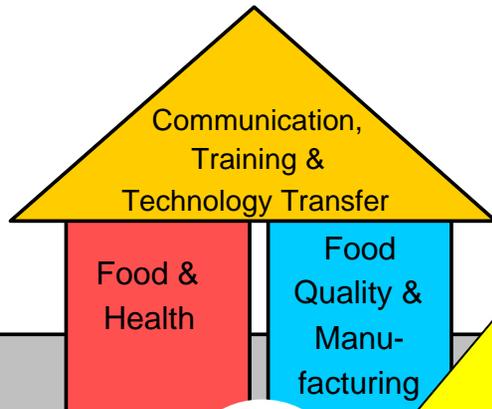


From "House" to "Key Thrusts"



improve health, well-being and longevity

Ensuring that the healthy choice is the easy choice for consumers,



New products, processes and tools that.....

...enabling a healthier diet, ... quality food products,



build consumer trust in the food chain

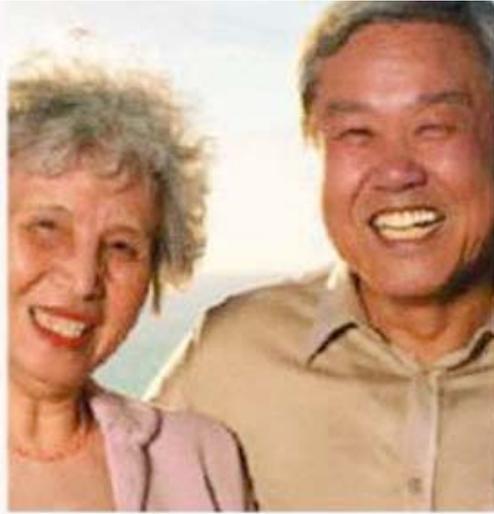


...that ... food ... derive from sustainable and ethical production

6. Mana

Optim training ... education, technology transfer.





Key Thrust 1: Improving health, well-being and longevity



Key Thrust 1: Improving health, well-being and longevity



Aim

- Deliver a healthier diet by developing new, quality food products that consumers will choose because it is the healthy and easy choice

Objectives

- To develop new and effective food-based strategies to optimise human health and to reduce the risk or delay the onset of diet-related diseases
- Widespread implementation and use of innovative processes, for the creation of value-added food products to provide the consumer with *the right type of food at the right time and in the right place.*
- To improve consumer confidence and trust in foods, so that effective strategies to induce healthy eating can be launched

Key Thrust 1: Improving health, well-being and longevity



Three priority research areas

Optimal development, wellness and ageing

- brain function: mental health, reduced cognitive decline

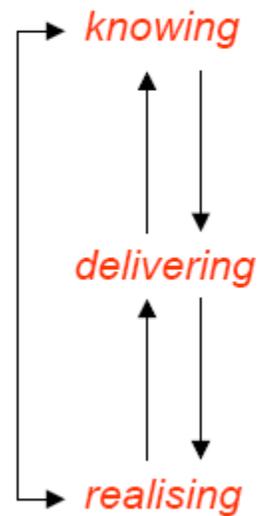
Intestinal health and immune functions

- gut health: diet induced immune modulation

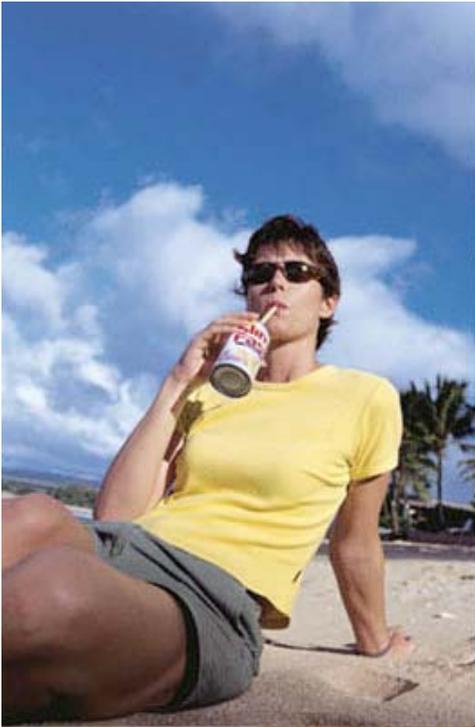
Weight management and obesity

- metabolic function: regulation of food intake

Structure of the research activity



	Optimal development, wellness & ageing	Intestinal health & immune functions	Weight management & obesity
Food & Health	<i>Identify nutrients, mechanisms & effects</i>		
Food Quality & Manufacturing	<i>Develop product and process design & principles</i>		
Food & Consumer	<i>Identify and manage consumer resistance & uptake</i>		



Key Thrust 2: Consumers' trust in the food chain



Key Thrust 2: Consumers' trust in the food chain



Problems to be solved:

- The emergence of new and under-recognised biological hazards.
- Uncertainties concerning importance of low-level chemical contaminants in the food chain.
- Immature tools for risk and risk-benefit studies.
- Consumer engagement and trust levels are low thus impeding introduction of novel quality, health and safety driven solutions.
- Many SMEs: usually not too strong in research and innovation

Key Thrust 2: Consumers' trust in the food chain



Aim

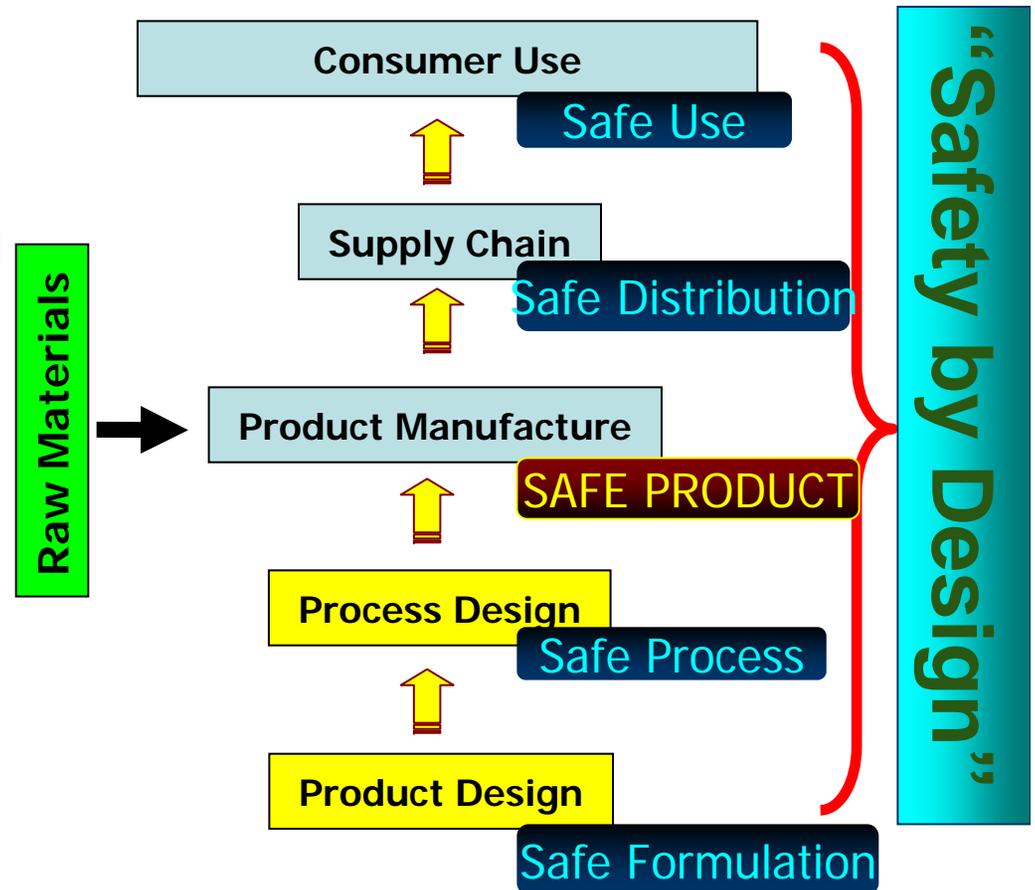
- Provide the European population with a safe and secure food supply, by implementing an integrated and holistic approach to safe food production, taking the total food chain into account.
- Develop effective ways to communicate food quality, (health) and innovation with the European consumers, thus contributing to an increase of the consumers' trust in the food chain.

Key Thrust 2: Consumers' trust in the food chain



Aim

- Provide the European population with a **safe and secure food supply**, by implementing an **integrated and holistic approach to safe food production**, taking the **total food chain** into account.
- Develop **effective ways to communicate food quality, (health) and innovation** with the European consumers.



Key Thrust 2: Consumers' trust in the food chain



Three Priority areas:

Evaluation of Risks versus Benefits

- To understand and describe **(micro-) biological and chemical risks** and develop and validate appropriate science based quantitative risk assessment, risk management and risk communication tools and the **evaluation of benefits versus risks** of novel foods, ingredients and technologies.

System innovation methodologies in the food production chain

- To deliver new methods to support chemical and microbiological food safety; technologies for tracking and tracing and their integration into management systems; predictive and probabilistic models for food microbial stability and safety; novel/natural preservation and mild processing methodologies, including the role of food refrigeration and cold chain.

Consumer studies

- To identify and quantify determinants of **consumer trust and confidence in the complete food provision system** (including trust in actors and institutions) for an understanding of consumer confidence and its changes over time, and to understand the consumers' perception of risk issues, particularly in the context of risk-benefit trade-offs and the amplification of risk perceptions beyond the available scientific evidence.



Key trust 3 Sustainable food production



Key trust 3 Sustainable food production



Major Issues

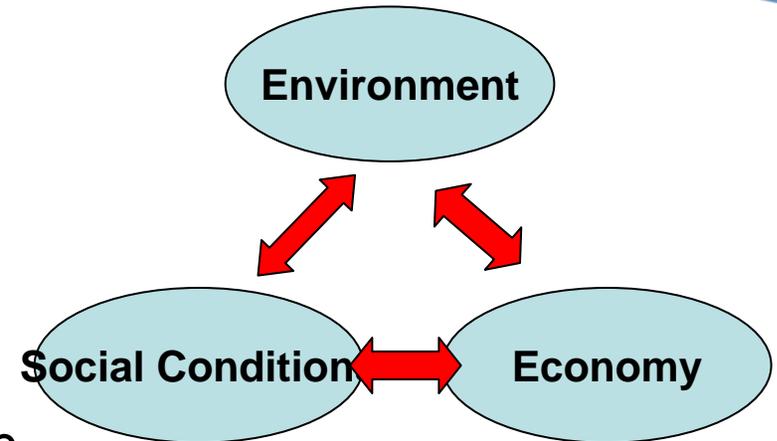
- European food production heavily relying on input of non-renewable resources such as fossil fuels
- Environmental impact of production methods used including use of chemicals
- Insufficient integration of SMEs, the rural environment and the developing countries into the global food chains
- Lack of coordination towards sustainability among the actors in the food chains
- Lack of communication with consumers on sustainable produced foods

Key trust 3 Sustainable food production



Aim

- Improving the **competitiveness** of the European food production system by promoting research and development to create synergies between the **sustainability** elements throughout the food chain
 - **Economic efficiency** of the food chain actors and between the chain actors
 - **Social responsibility** among the actors in the chain and by the consumers
 - **Environmental protection** and minimal use of resources throughout the chain actions



Key trust 3 Sustainable food production



Three Priority areas:

Sustainability of European food systems

- system analysis/success factors/dynamics; scenario studies; life style analysis

Solutions for sustainable food systems

- dynamic modelling tools; novel (primary) food production systems; consumer behaviour; design organisational network alternatives

Food system efficiency and effectiveness

- value chain analysis; improve utilisation/reduce waste; transparency schemes, SME knowledge transfer

Enabling Activities



- **Competitiveness of Europe** (LMI, SMEs involvement)
- **Effective use of resources** (ERANets, National Food Platforms, Mirror Group, Food-Pharma interaction, International Cooperation, Joint Technology Initiative) & **Infrastructure**
- **Communication, Training & Education and Technology Transfer**



Build research infrastructures and enabling technologies.



- **Establish a European Nutrition Research Council**
 - *integrate nutrition, humanities and social sciences,*
- **Foster cross-disciplinary research centres**
 - *integration and collaboration (including public-private partnerships), dietary surveys, risk-benefit models,*
- **Develop, maintain and exploit facilities**
 - *develop libraries, databases, bio-banks, standardized protocols, networks of facilities, bio-informatics European stable isotope standard repository,*
- **Foster prospective cohort studies (using the EPIC study as an example)**
 - *broaden virtual centre of food epidemiology,*
 - *link to European Clinical Research Infrastructure Network,*
- **Exploit standardized and updated European food tables (e.g. EuroFIR),**
- **Initiate scenario studies.**

National Platforms



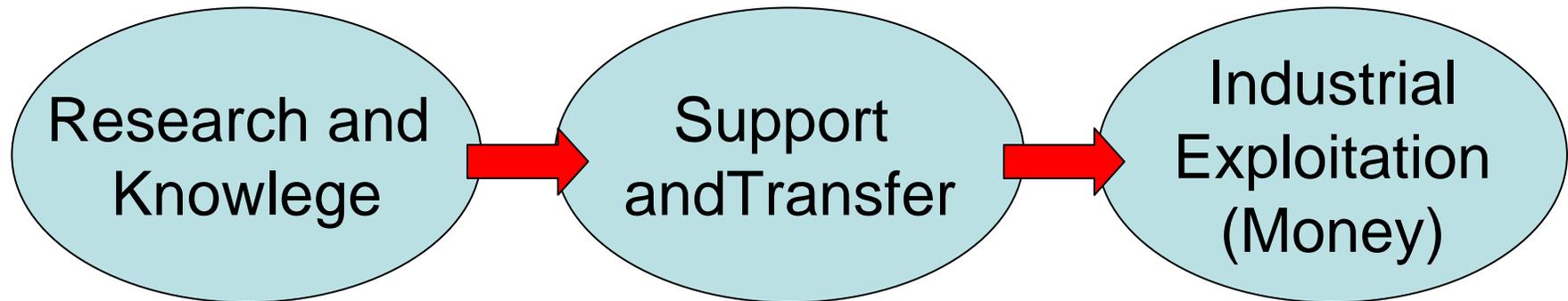
- Build national Vision, SRA and Implementation Action Plan

Network

- exchange experiences and best practices, link individual stakeholder groups across national boundaries & cooperate



Communication, Training and Technology Transfer



Improved competitiveness through:

- support of research exploitation by best practice transfer models for optimum impact.
- effective and direct communication strategies (between research, industry and consumers).
- promotion of “innovation use” by raising personnel expertise via specific training and education schemes.
- **special focus on SMEs**

ETP Food for Life -1



- First ideas for an agri-food ETP discussed **October 2004**,
- ETP Food for Life launched **July 2005** on basis of **Vision Paper** under auspices of the CIIA
- **Board, Operational Committee and Working Groups** formed with good representation of all stakeholders across Europe, **December 2005**, (*Chair Board with Nestle; chair OC with Unilever*)
- **Strategic Research Agenda** **September 2007** after extensive national, regional and web-based consultations,
- **Implementation Action Plan**; **release October 2008**. Estimated budget 2 billion Euros / 5 yrs
- Recognition by the EU of the ETP's programme on the basis of:
 - financial support through a FP6 Specific Support Action (SSA)
 - > 90 % inclusion of SRA-based priorities in all calls of the FP7 KBBE theme 2

ETP Food for Life - 2



- Development of 30 **National Food Technology Platforms** and **NTP-network**.
- Workshops on **Public/Private Partnerships**, [January 2007](#). and **Food/Pharma interactions**, [February 2008](#).
- Creation of **SME Task Force**, [April 2007](#).
- Creation of **Member State Mirror Group** to aid implementation through alignment and coordination of national funding, [July 2008](#),
- Initiatives taken towards establishment of:
 - Lead Market Initiative for Foods,
 - Knowledge & Innovation Community re EIT
 - Joint Technology Initiative
- Support will be given to High Level Group Agro-Food of DG Enterprise



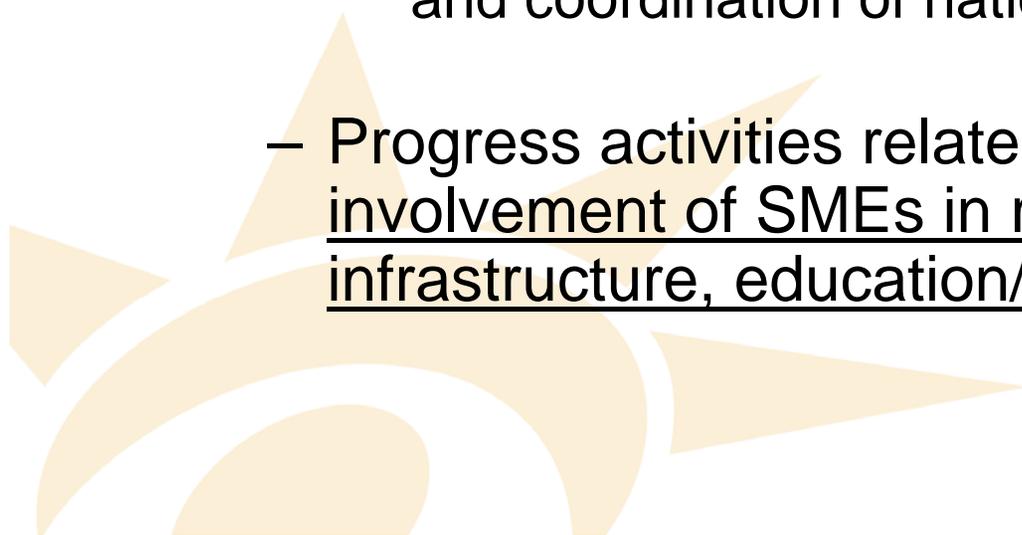
ETP Food for Life beyond 2008



ETP Food for Life beyond 2008



- **Custodian of the Implementation Plan, e.g.**
 - Identify and stimulate (orchestrate) funding sources research & innovation at
 - public (European, national and transnational) level and
 - public/private level based on the three key thrust areaswhich includes
 - the stimulation of the formation of food related ERANets and coordination of national platform activities
 - Progress activities related to lead markets, enhanced involvement of SMEs in research and innovation, infrastructure, education/training, communication



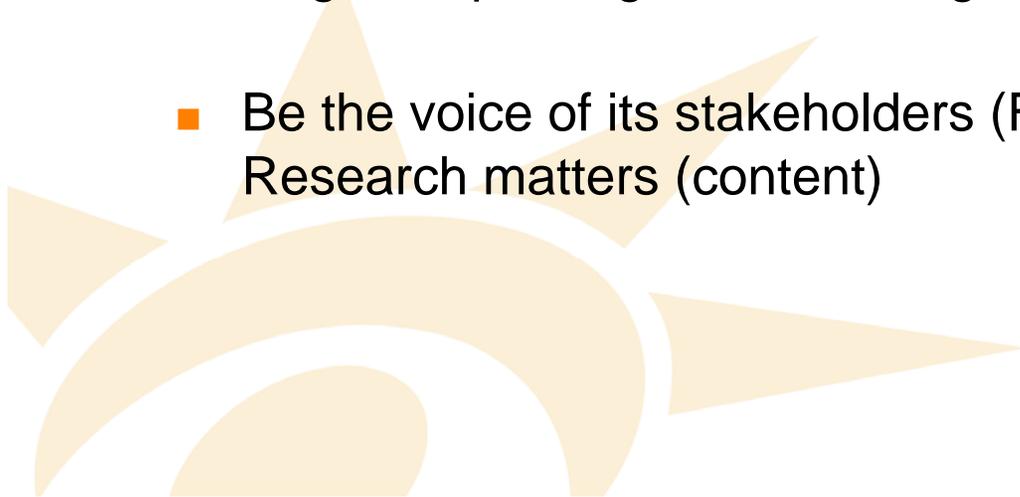
ETP Food for Life beyond 2008 - 2

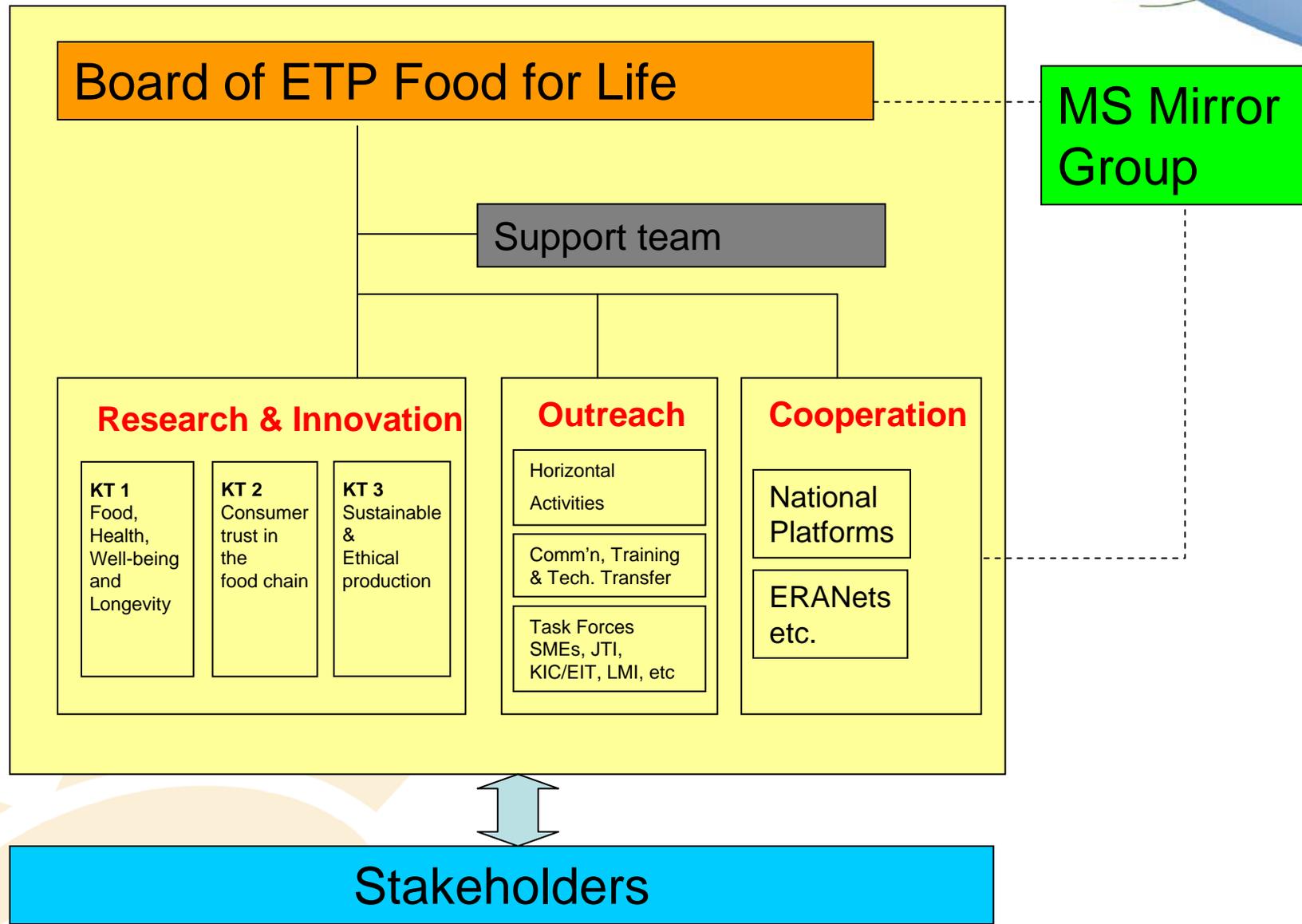


- **Explore opportunities in and eventually coordinate the execution of**
 - A public/private partnership in Food Science and Technology in the form of a Joint Technology Initiative (program)
 - A Knowledge and Innovation Community for the Key Thrust Food, Health & Wellbeing as part of an European Institute for Innovation and Technology (EIT) (knowledge and education infrastructure)

- Regular updating of the Strategic Research Agenda

- Be the voice of its stakeholders (Food Industry & Academia) on Research matters (content)





Yes, the ETP Food for Life will



- ***Drive European competitiveness*** based on the size of the European food and drink sector and the transition foreseen to high value- added product portfolio (including services) with a major impact on **well-being and welfare**.
- ***Impact positively on Community policies*** (Environment, Research integration, Lisbon Council, SMEs).
- ***Boost research performance*** to effect the transition to high added-value products.
- ***Sustain career development*** in food R&D in Europe and promote entrepreneurial activity.
- ***Prevent fragmentation*** by creating a shared **Common Vision** and managing an effective long-term **Implementation Plan** for a **Strategic Research Agenda**.

Effective public-private partnerships will be essential to achieve this impact.