

Dialogues among the European Knowledge-Based- Bioeconomy Platforms, la Carta die Milano and other Stakeholders to feed the Planet

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What are the main challenges in food and agriculture for the next decade in Europe and maybe in the world ?

Increase of worldwide demands for food, feed, fibre and fuels

REASONS:

- Continuously growing world population; growing use of oil for energy, mobility, transport and other purposes
 - Growing wealth in US, Canada, Europe and BRICK countries:
increase of meat consumption, dairy products, energy and water intensive food, for example vegetables, horticultural products, fruits, fish, luxury goods and services, with a strong emphasis on health
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Decrease of available arable land worldwide

- Areas to be cultivated per person will be reduced by 50 % until 2020
-> Only one third of cultivated land available per capita compared with 1950 !
 - This trend is going to continue, even worsened by continuous soil erosion, desertification and urbanization activities all over the world, including wrong soil and water management
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The challenge: How to bridge the gap between offer and demand ?

- Sustainable increase of yield per hectare (increase in crop and livestock productivity)
 - Measures of resources efficiency along the whole food-feed-chains
 - Use of hitherto not usable or accessible arid or semi-arid land by plants and animals (deforestation no solution !)
 - Increased use of any kind of existing or dedicated waste based on biological resources
 - Increased use of existing ligno-cellulosic biomass
 - Increased use of microalgae and other ocean seas-potentials
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The challenge: How to bridge the gap between offer and demand ?

- Increased storage capacities for water, food, feed and fodder
- Decrease of post-harvest losses in agriculture (60% in Russia, 35% in India etc.)
- Decrease of other losses along the whole food chain (appr. 20% in Europe)

Conclusions

- **Decrease losses**
- **Increase yields**
- **Increase storage capacities**



But where are the limits ?

**There are inherent contradictions
and/or conflicts to be understood
and to be overcome**

Conflicts

- **Growth – higher yield of plants and livestock vs. Climate friendliness**
 - **Food vs. Fuel**
 - **Meat-based food vs. Non-meat-based food**
 - **Climate vs. Food - Health - Well-Being**
 - **Human health vs. Environment**
 - **Animal welfare and animal health vs. Feeding the world vs. Consumers acceptance and sustainability**
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Food and Innovation Drivers



Challenge for the future Action to protect health

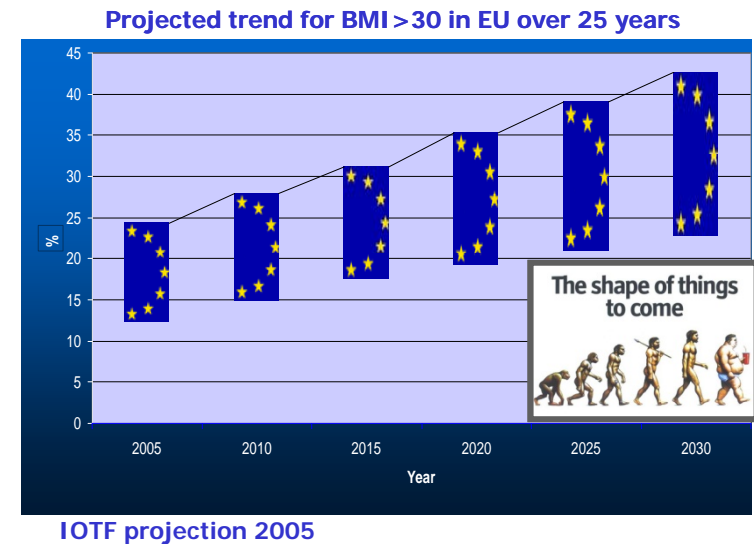


**Increasing world
Population
(and migration)**



**Ageing population
(cognitive decline)**

**Diet-related
diseases (metabolic
disorders, allergies,
obesity)**



**Interactive,
personalised
food**

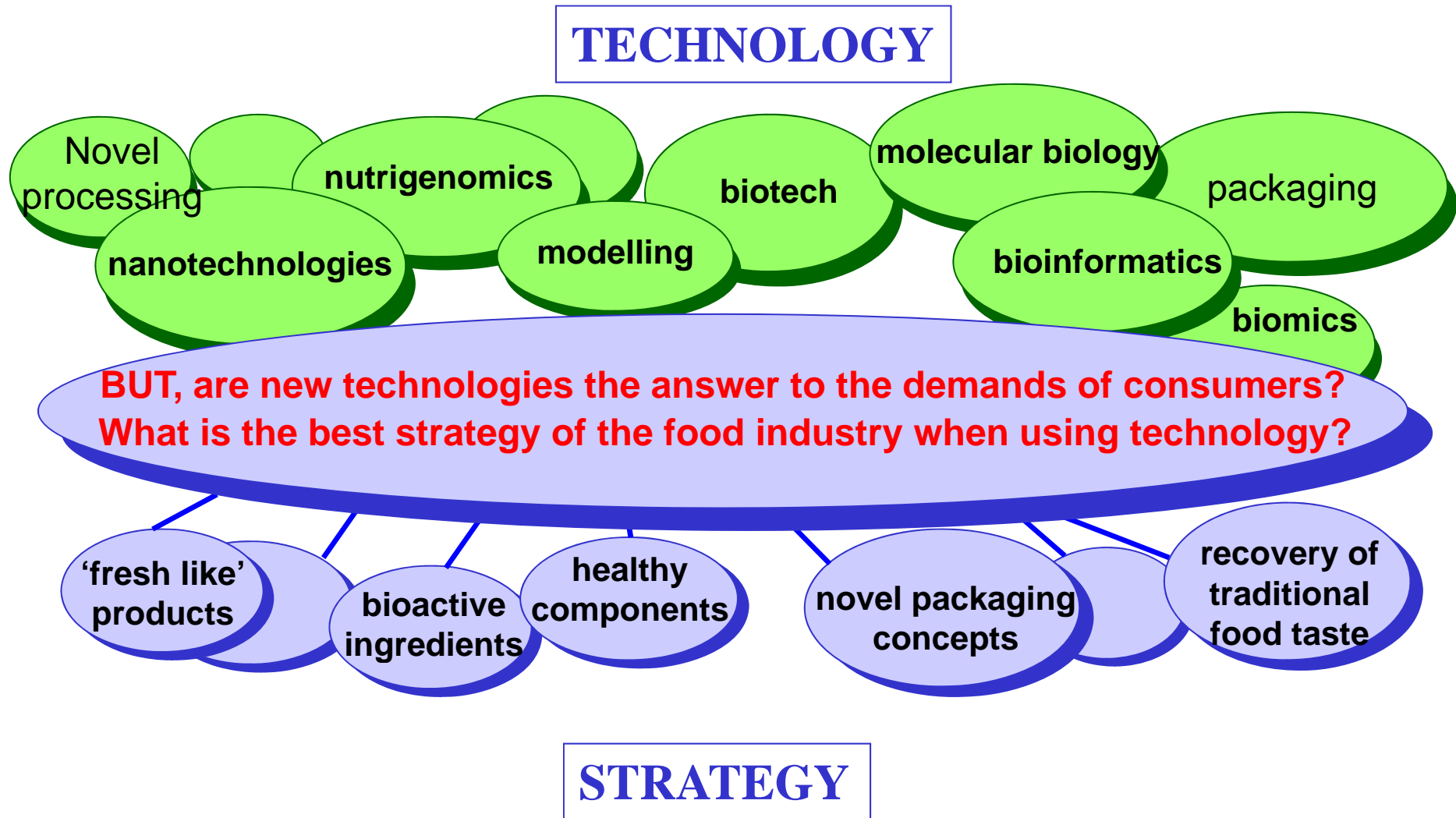
From curative to preventive health care

**Healthier lifestyle, fresher, healthier and
safe foods, lower on fats etc.,
incorporating new ingredients, bioactive
components, with enhanced availability**

Challenge for the future Food and Climate

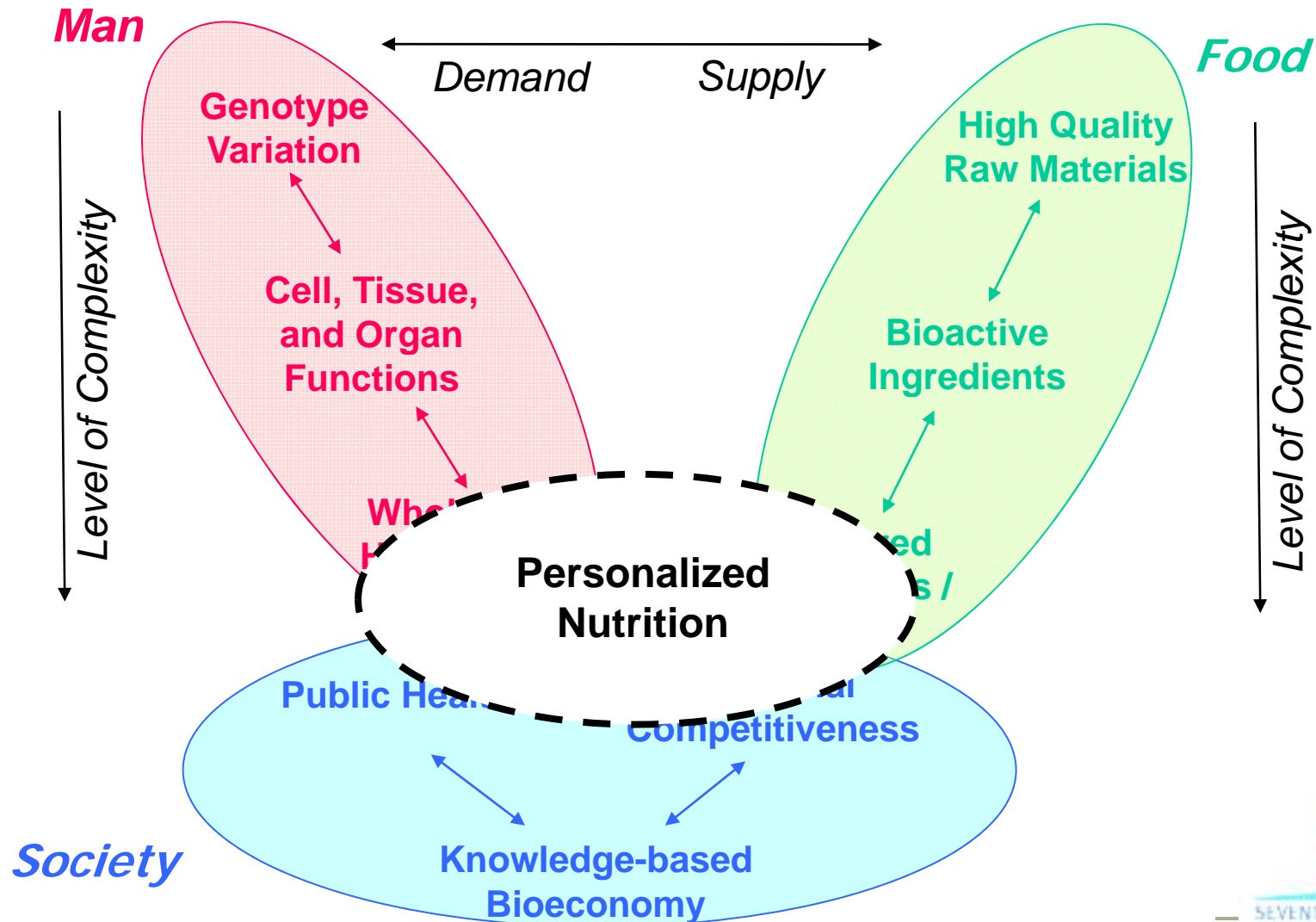
- Sustainability within the total food production chain
 - „Climate-friendly menu“: from barley-based beer to soya (not-animal) based food !
 - Defining and measuring of the carbon footprint, accountability, labelling ?
 - New role for innovation ?
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Effective tools for implementation



'Personalized Nutrition' - A Lead Vision for Food and Nutrition Research

Applying individual genetic profiling and systems biology knowledge in order to provide tailored food products and/or dietary recommendations as a contribution for personalized health care and disease prevention



Recent developments in Europe

- **Joint Programming:**
 1. **Health, Food and the Prevention of diet related Diseases**
 2. **Agriculture, Food Security and Climate Change**
 - **Renaissance of Innovation in the EU as a Driver for the Future:**

„Building the Bioeconomy until 2020“ as one of the three European Innovation Partnerships within the new Innovation Union in the „Europe 2020 Strategy“ replacing the Lisbon Strategy
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How are we going to implement these new developments to feed our planet?

Will and can the Technology Platforms contribute ?

Technology Platforms KBBE Family

