Delivering on EU Food Safety and Nutrition in 2050 -

Future challenges and policy preparedness



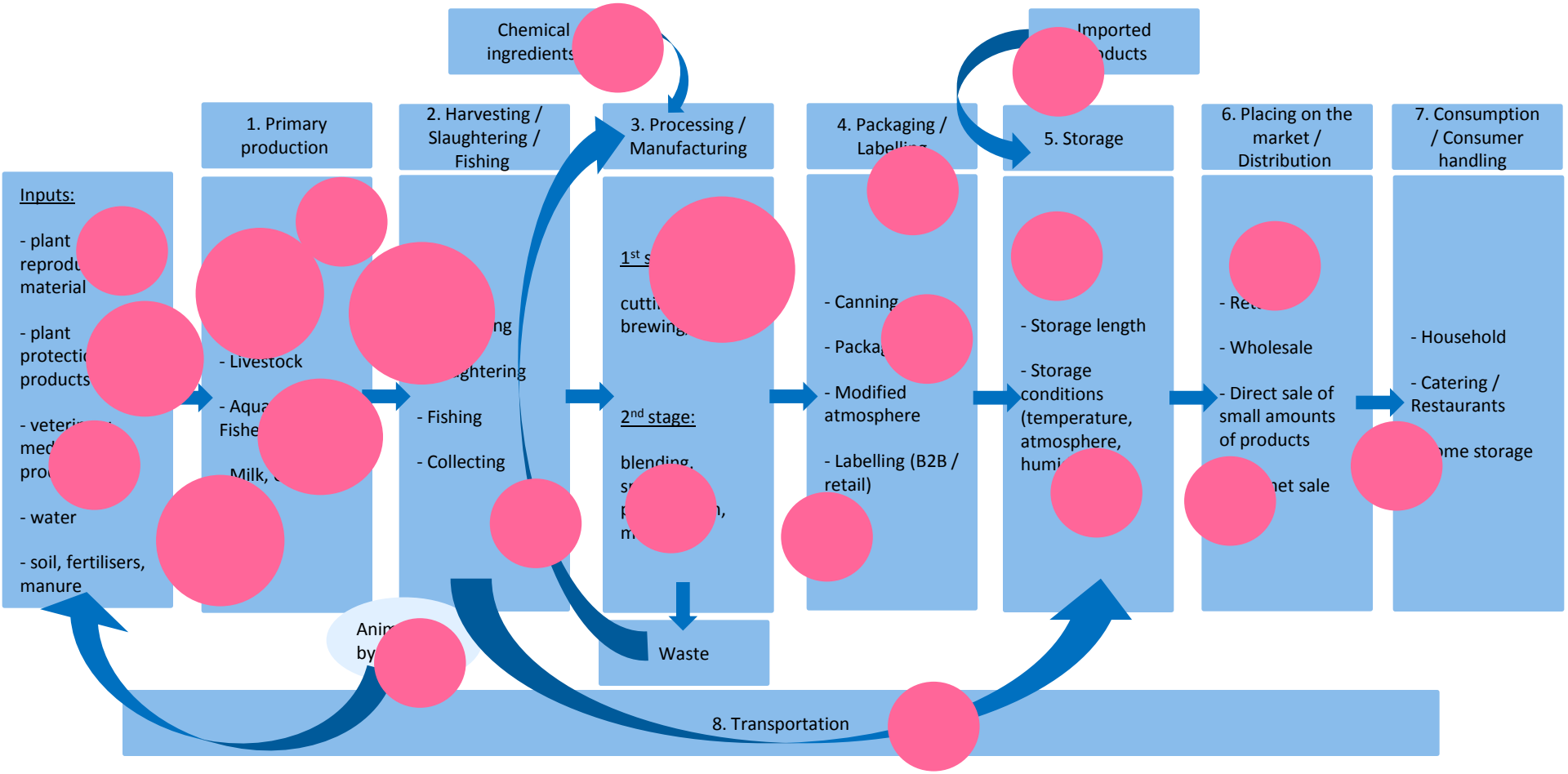

FOOD SAFETY AND NUTRITION

- ***OBJECTIVE OF EU POLICY AND LEGISLATIVE FRAMEWORK***:

„Provision of safe, nutritious, high quality and affordable food“

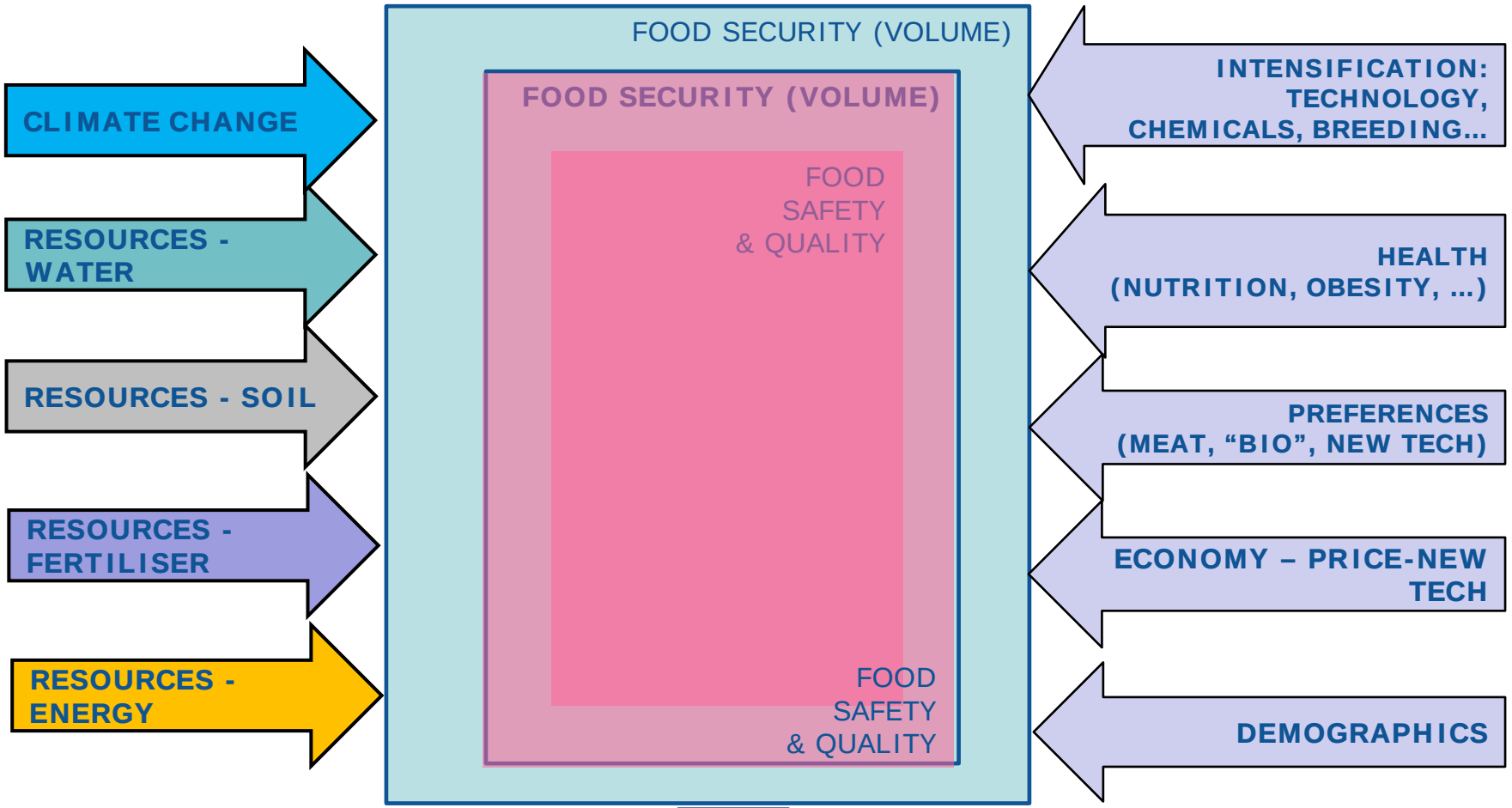
- **High variety of foods available in EU**
- **Food was never so safe as today**
- **Single market, harmonised approach, shared legislative framework**
- **Trends: more information, lower limits, stronger control, more technology …. more unification and abandoning of older approaches / practices (less variation in agri-food chain / process)**

THE FOOD CHAIN SYSTEM OVERVIEW



Modified from: Commission SWD (2013) 516 final 'A fitness check of the food chain: State of play and next steps'

FOOD SAFETY IN FUTURE – IS IT FOR GRANTED?



EXAMPLES OF EMERGING CHALLENGES

Antimicrobial resistance (AMR)

- **Is a natural biological phenomenon amplified by inappropriate use of antibiotics in human and veterinary medicine**
- **Is a priority for the EC that in 2011 adopted a 5-year plan aiming to strengthen the prevention and control of AMR across all sectors and secure the availability of novel antimicrobial agents; two proposals on medicated animal feed and veterinary medicines are in discussion at the EP**
- **The EU-US Transatlantic Taskforce on Antimicrobial Resistance (TATFAR) shares information and strategies on AMR**

EXAMPLES OF EMERGING CHALLENGES

Renforcement of EU's prevention and containment capacity

- **Crisis Management is a key component of EU food safety policy founded on a robust legislative framework and enforcement tools**
- **Nevertheless recent experience, particularly regarding plant invasive species hazards (e.g. xylella, citrus black spot), has demonstrated the need for more resilient structures that can better respond to emerging risks**
- **As a first step the functioning of the current crisis procedures and Rapid Alert System for Food and Feed (RASFF) are assessed within the regulatory fitness-check of the General Food Law.**
- **Active involvement of EU-funded research (xylella)**

IS THE SYSTEM FIT FOR FUTURE CHALLENGES?

- **Food security studies / foresights: gap in food safety („integral part“)**
- **Are we sure that our direction / development is right and sustainable?**
- ***Foresight* analysis** on ***“Delivering on Food Safety and Nutrition in 2050"*** to:
  - **Identify the critical challenges**
  - **Assess their impact on food (safety) policy framework**
  - **Define the potentially critical changes necessary to maintaining the standards of food safety and nutrition**
  - **Provide insight and guidance towards the development of future policy responses and research needed to support EU policy response to these challenges**

PHASE I OF THE FORESIGHT ANALYSIS

Scoping study on „**Delivering on EU Food Safety and Nutrition in 2050-Scenarios of future change and policy responses identifynd critical drivers and future scenarios**“

- **METHODOLOGY / APPROACH:**
  - Out of box approach, no desired results pre-defined, disruptive futures considered
  - Identification of drivers and pre-scenarios
  - Test of plausibility
  - Definition of unknown – right questions for further work and for research

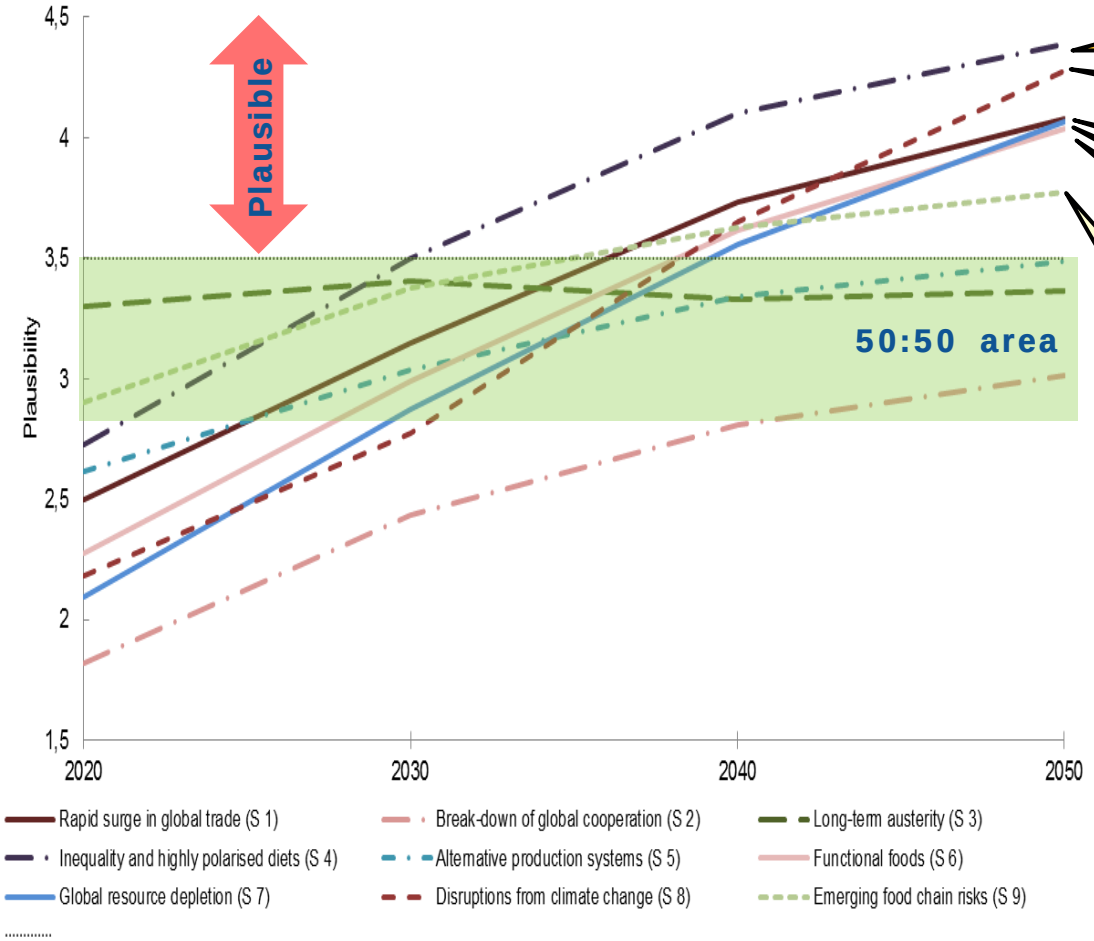
  - **Details: http://ec.europa.eu/food/food/foodlaw/future_en.htm**

PHASE I: Drivers and pre-scenarios

Rapid surge in global trade, high concentration of agri/food industries	GLOBAL ECONOMY AND TRADE
Break-down of global cooperation, multipolar world	COOPERATION AND STADARD SETTING
Long-term austerity, shift to private food safety controls	EU GOVERNANCE (FAILURE)
Severe inequality linked to food insecurity of vulnerable, polarised diets	DEMOGRAPHY AND SOCIAL COHESION
Strong shift of consumer preferences – food from alternative production systems	CONSUMER ATTITUDES: ALTERNAT. FOOD CHAINS
Wide-spread consumption of high-tech functional foods	CONSUMER ATTITUDES: NEW FOOD TECHNOLOGIES
Global source depletion (absence of minerals, water etc.)	COMPETITION FOR KEY RESOURCES
Global disruptions of agriculture from climate change	CLIMATE CHANGE
Break-down of consumer trust in food following the emrgence of food chain risks (new diseases etc.)	EMERGING BIO-RISKS AND DISASTERS

PLAUSIBILITY OF PRE-SCENARIOS

(1=not plausible to 6=highly plausible)



OBESITY/MALNUTRITION

DISRUPTIVE CLIMATE

GLOBAL TRADE

RESOURCE DEPLETION

HIGH-TECH FOOD

NEW DISEASES

MEASURES / COURSE OF ACTION BY THE EU:

(1=not needed to 6=highly needed)

Scenarios / Measure/ Course of action	1. Rapid surge in global trade	2. Break-down of global cooper-ation	3. Long-term austerity	4. Inequa-lity and highly polarised diets	5. Altern-ative produc-tion systems	6. Fun-ctional foods	7. Global resource deple-tion	8. Dis-ruptions from climate change	9. Emer-ging food chain risks	*Average*
Research	4,7	4,3	4,3	4,6	4,5	5,3	5,3	5,3	5,2	*4,8*
Education, awareness raising & training	4,6	4,2	4,5	5,1	4,8	4,6	4,5	4,7	5,0	*4,7*
Improving communication	4,7	4,3	4,3	4,6	4,6	4,7	4,3	4,4	5,0	*4,6*
Promoting international governance	4,9	4,7	4,4	3,8	3,4	4,2	5,1	4,8	5,0	*4,5*
Legislation	4,4	3,7	4,2	4,3	3,9	4,4	4,2	4,1	5,0	*4,2*
Economic incentives	3,7	3,8	3,8	4,4	3,8	3,3	4,1	4,0	4,0	*3,9*
Institutional changes	3,7	3,7	3,9	3,8	3,5	3,5	3,8	3,7	4,0	*3,7*
Promoting self-regulation	3,6	3,3	4,1	2,9	3,7	3,6	3,1	3,1	3,7	*3,4*

PHASE II OF THE FORESIGHT ANALYSIS – ON-GOING

(IN COLLABORATION WITH THE JRC)

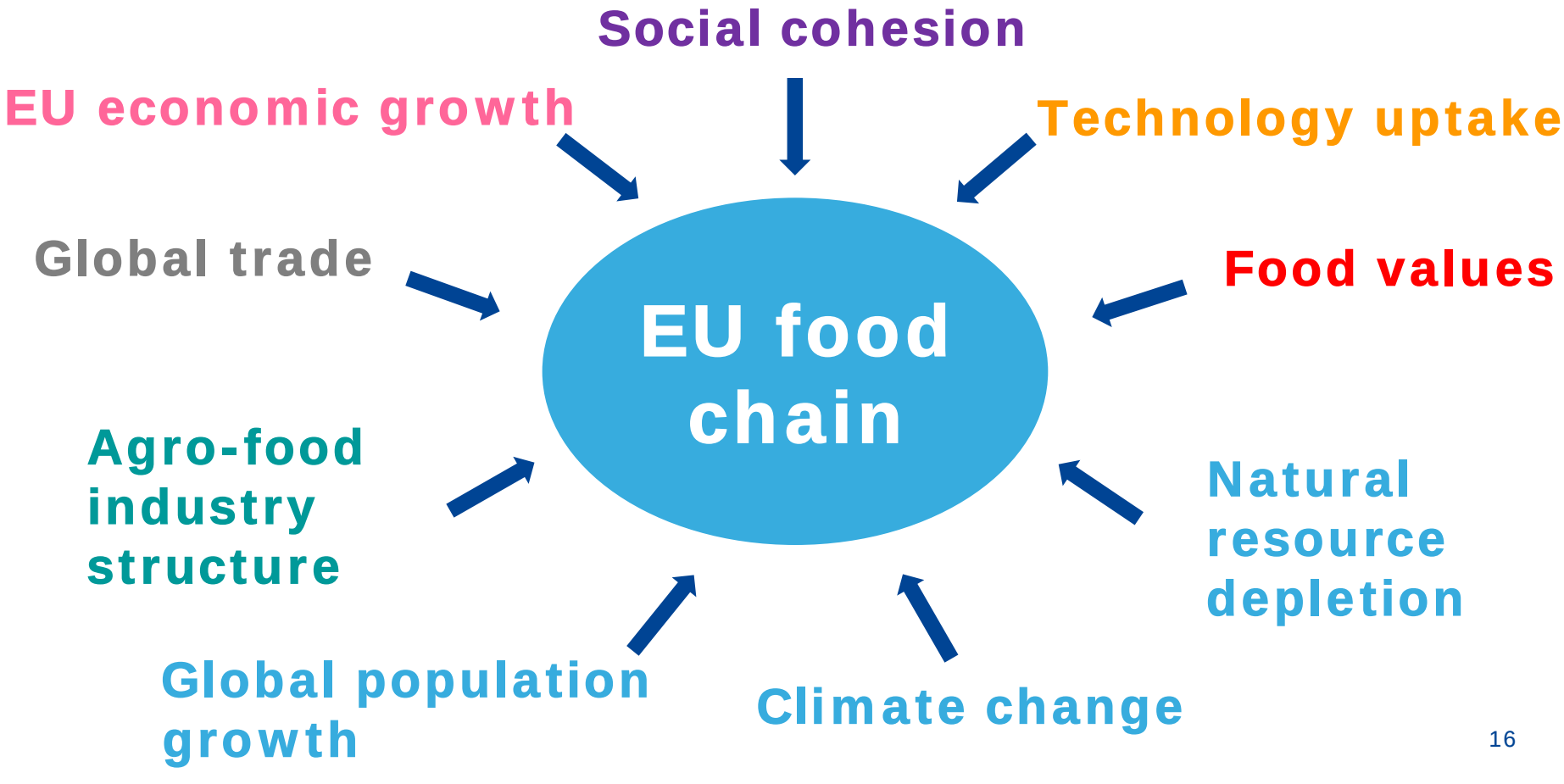
- **Consolidation of scenarios** focusing on their interdependences and **identification of their impact** on food safety and nutrition in the EU
- **Assess the capacity of the EU's current food policy** instruments (compliance, control and enforcement) to **respond successfully to the challenges**
- **Identify appropriate (optimal) policy responses**, **transition pathways** and the **requisite research** for the development of a **future food safety and nutrition policy and legislative framework** necessary to safeguard the high standards of safe, nutritious, high quality and affordable food for EU consumers

- **Timeline for completion of the project: 2nd half of 2015**

II. Phase - Approach

- Based on scenario building, explore, in a participatory way, possible futures (in contrast to predictions or preferred futures)
- Use of four challenging, contrasting scenarios as a tool for identifying future challenges and defining today's actions
- Consider the whole food and feed chain, time horizon 2050

DRIVERS USED FOR SCENARIO BUILDING

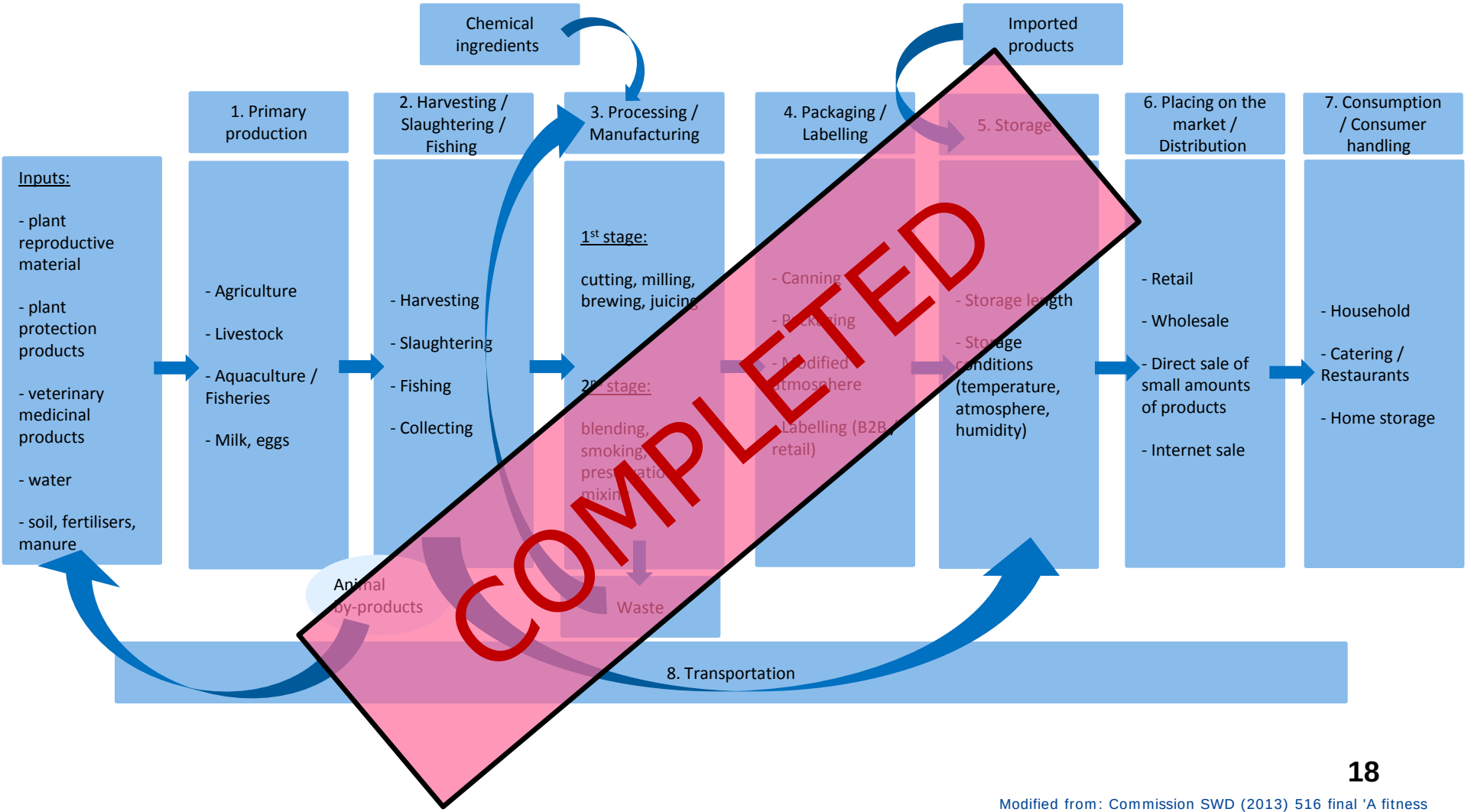


Scenario building

Different directions of the drivers have been combined so as to achieve plausible, consistent, challenging and distinct scenarios

Driver	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Global Trade	Full liberalisation	Fragmented	Transatlantic trade	Full liberalisation
Technology uptake	High	Focus on sustainability	High	High with health focus
Agro-food industry	Concentration	SMEs, alternative food chains	Concentration	Concentration
Food values	Low	High	Low	High
Economic growth	Medium	Decoupled	Low	High
Social cohesion	Low	High	Medium (local)	High
Climate change, nat. resources	Severe climate change and resource shortages			
Population growth	World population 9 billion by 2050			

The food chain system overview: validation



Modified from: Commission SWD (2013) 516 final 'A fitness check of the food chain: State of play and next steps'

Scenario 1 („as expected now“)

- Liberalised trade and global food chain
- EU one of many players
- Raw materials sourced globally– long complex food chains

- Broad technology acceptance

- Concentration of agro-food industry; mass production of processed, affordable foods

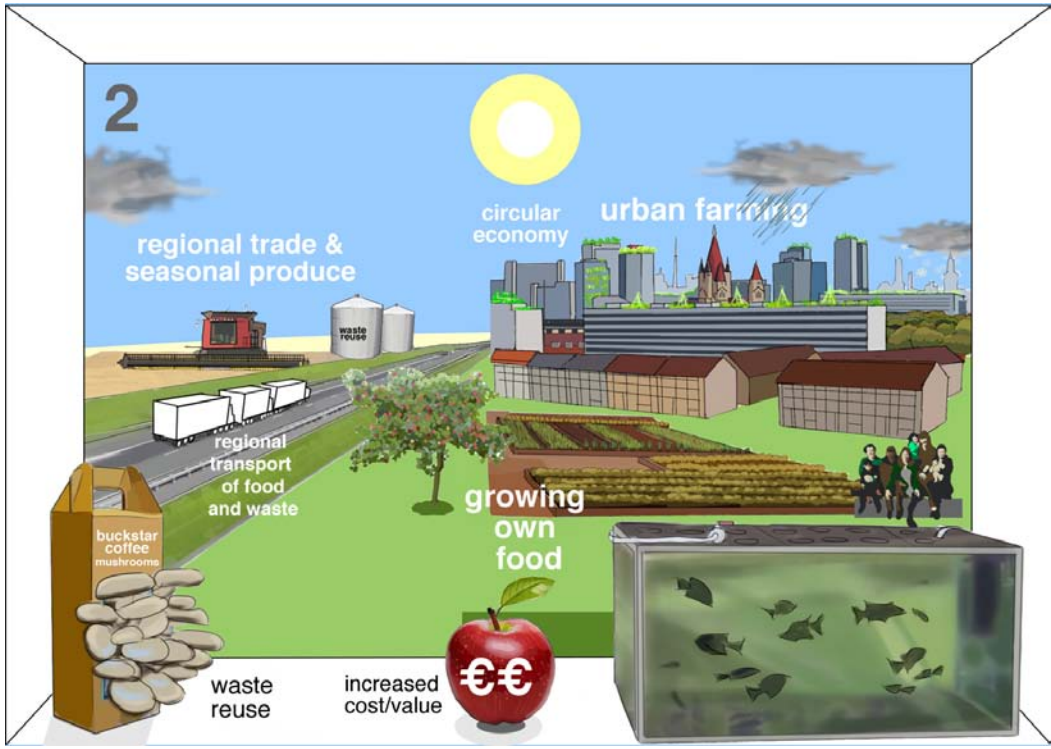
- Diets driven by price, taste, convenience

- Health and Social Inequalities

- CC, natural resources depletion, global population growth

Scenario 2 („slow food world“)

- Localisation / regionalisation / homesteading
- Technology for sustainable use of resources
- Mix of large entities and localised food production
- High social value of food; diets low in animal protein
- Strong sense of communal values and community responsibility
- CC, natural resources depletion global population growth

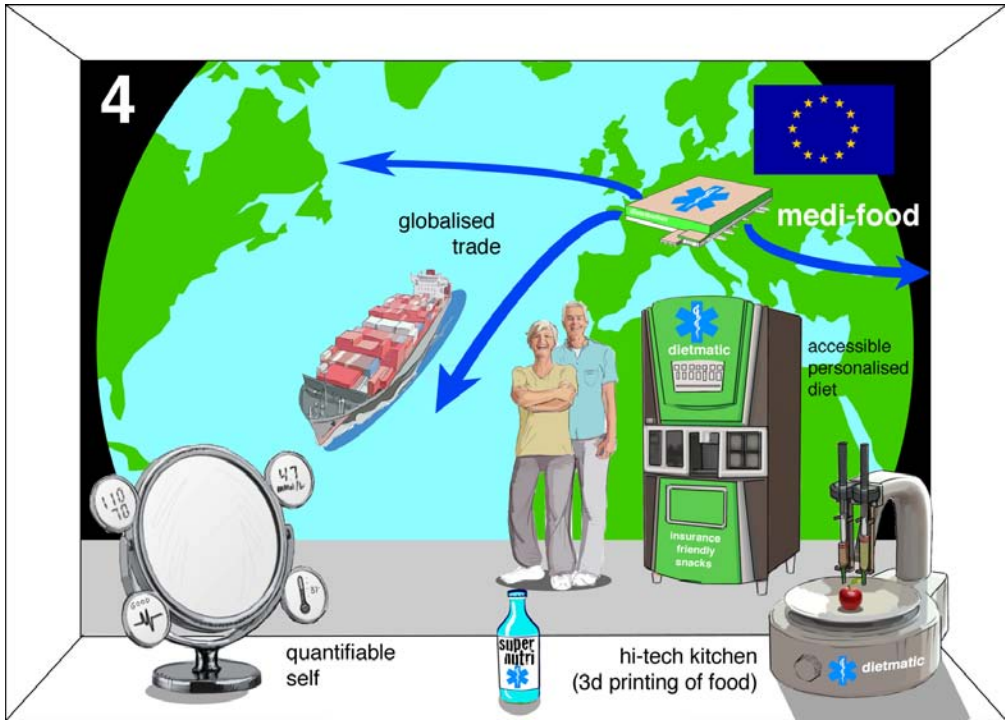


Scenario 3 („transatlantic“)

- Economic stagnation in EU
- Transatlantic trade block
- Novel technologies are imported, and accepted
- Big corporations dominate food chain (efficient mass production)
- Price and convenience drive food choice, trans-atlantic food culture
- Inequalities
- CC, natural resources depletion, global population growth

Scenario 4 („high-tech & phood“)

- High-tech world – maximise HLY, CC adaptation, diversity
- "Phood": Pharma & food sectors converge + ICT; concentration
- EU is a strong player worldwide
- Global trade and global food chains
- Health is the main driver for food choices, personalised nutrition
- Social well-being?
- CC, natural resources depletion, global population growth



PARTICIPATORY WORKSHOP

18 & 19 March 2015

Ca. 40 participants from academia, public institutions, NGOs, European Commission (DGs SANTE, AGRI, MARE, RTD)

- Validation of scenarios
- Identification of challenges for food safety and nutrition

EXAMPLES FOR POTENTIAL CHALLENGES

➢ Intensive primary food production systems

- Increased use of agro-chemicals and veterinary drugs to control disease transmission:
  - Increase of antimicrobial resistance and more residues in primary produce (Scen. 1,3,4)
- Recycling of organic waste (Scen. 2)

➢ New / alternative food sources

- Safety of novel protein sources such as insects, microorganisms, plants etc. (all Scen.)
- Allergenicity of pure food components used in new food production processes such as 3D printing (Scen. 4)

EXAMPLES FOR POTENTIAL CHALLENGES (2)

➢ Food retail

- Complex food labels (all scen.)
  - New processes, novel materials, voluntary and obligatory schemes, additional requirements (e.g. ethical, environmental footprint)
  - New forms of retail affect labelling
  - Increasingly complex food labels; impact on consumer understanding

➢ Nutrition and diet

- Misuse of functional or “phoods” (Scen. 4):
  - Misconception of eating "healthily" – overconsumption of nutrients, calories;
  - Health risks - unforeseen interactions of combinations of active components in body (cocktail effect);
  - Consumer segregation - cheaper alternatives potentially of lower safety/quality

Examples for potential challenges (3)

Consumers

- Unregulated food chains (Scen. 1 & 3):
  - Not all consumers may accept extensive use of novel technologies
  - Part of population, looking for alternatives, may turn to unregulated, parallel food chains
  - Lack of knowledge for food production, lack monitoring systems
  - Food safety and nutrition quality risks

- Loss of cooking skills (Scen. 1, 3 & 4)
  - Loss of social value of food
  - Over-reliance/dependence on technology,
  - Weakening of ability to make healthy food choice- low-quality diet risk
  - Loss of knowledge for hygienic preparation of food – food safety risks

NEXT STEPS

- Consolidation of identified potential challenges for food chain for scenarios

- Workshop in October 2015:
  - Assess the readiness of the current food policy and regulatory system to deal with the potential challenges

- Final report: December 2015

Interested?

Disagreement?

Want to contribute?

LET US KNOW, JOIN THE DEBATE!

Thank you for attention!