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*THE EUROPEAN AGRICULTURAL  
KNOWLEDGE AND INNOVATION  
SYSTEM (AKIS) TOWARDS AN  
INTERACTIVE INNOVATION MODEL*

SCAR-swg Agricultural Knowledge and  
Innovation Systems

# CONTENT

- Introduction
- Concepts:
  - Science, R&D and Innovation
  - AKIS
- The EIP-AGRI
- Looking into the future: 3 scenarios for AKIS
- Actions to make the system more robust and more interactive.



Different objectives,  
methods, and public roles

Science

- Science driven knowledge development
  - Basic research
  - Linear model
  - Cross overs sectors
  - Society sets agenda
- PUBLIC TASK**

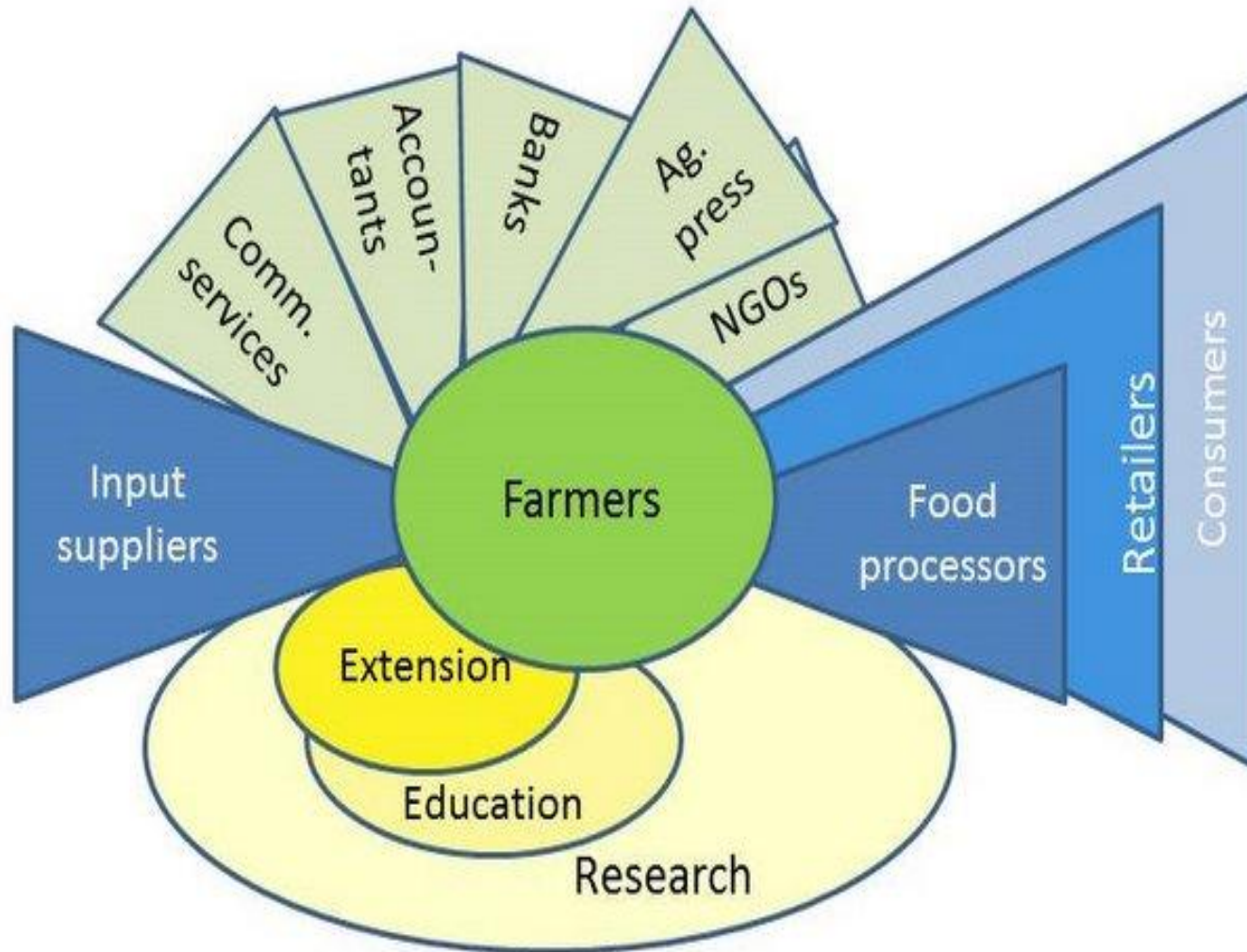
Market  
driven  
R&D

- Science for competitiveness or social issues
- Business sets agenda, helps to steer, uses results
- **PRIVATE-PUBLIC PARTNERSHIPS**

Innovation  
in  
partnership

- Prototypes // Localisation
- Change business models / finance
- Food chain is co-creator
- (De-)regulation, procurement etc.
- **LEARNING AND INNOVATION NETWORKS**
- **INFORMATION BROKERS**

# THE FOOD CHAIN AND AKIS



AKIS ARE QUITE DIFFERENT BETWEEN  
COUNTRIES / REGIONS / SECTORS – E.G.  
EXTENSION

SOME COUNTRIES HAVE RESTRUCTURED  
THEIR AKIS CONSIDERABLY

AKIS COMPONENTS ARE GOVERNED BY  
QUITE DIFFERENT INCENTIVES



# INNOVATION BY INTERACTION IN NETWORKS

- Innovation as a process has strong learning aspects: learn how to do new things, bottom-up.
  - Alternative: force (or pay for) quality standards, mandates
- Thematically-focused learning networks of different actors can help.
- Generating learning and innovation through interactions between the involved actors.
- Members can include farmers, extension workers, food industry, researchers, government and ngo representatives and other stakeholders.

*Is reflected in EIP-Agri: Operational Groups, Thematic Networks, Multi-actor projects*



## ***EIP-AGRI's Key Entities: Operational Groups (OG)***

- Built around concrete innovation projects
- A combination of different competencies (practical and scientific), chosen in view of implementing concrete project objectives
- Action- and result-oriented groups aiming to benefit from interaction for co-creation and cross-fertilisation (interactive innovation)
- An OG may have various sources of funding:



## ***Key Acting Entities Within the EIP***

### ***- Operational Groups -***



*"Operational Groups" are no stakeholder networks, no stakeholder boards, no thematic coordination groups, nor discussion groups*

*An OG = actors working together in a project targeted at innovation and producing concrete results*



## ***Thematic networks under Horizon 2020***

- Projects **involving all concerned stakeholders** (researchers, farmers, advisors, enterprises, education, NGOs, administration, regulatory bodies...): no pure research networks
- Stocktaking, mapping and **state-of-the-art of existing scientific knowledge & best practices**: what do we have/what do we miss to make used
- **Projects must develop end-user material** to facilitate the discussion on, sharing and dissemination of knowledge in an easy accessible way: **input for education and a research database for end-users** (long term availability of results in a common format)

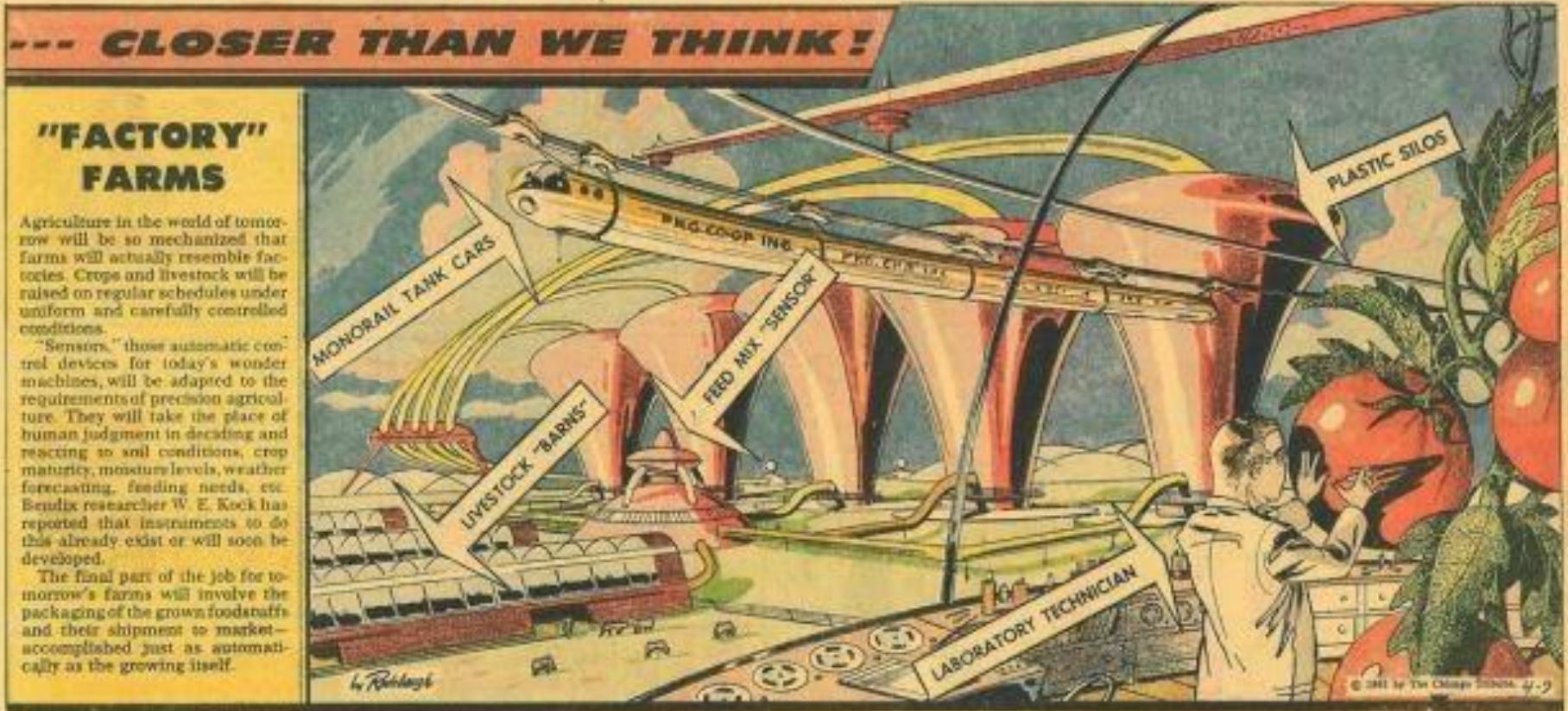
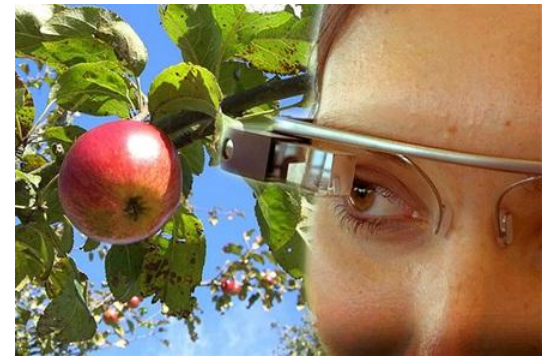
## ***Multi-actor projects in Horizon 2020 Work Programme 2014-2015***

- "multi-actor" is more than a strong dissemination requirement or what a broad stakeholders' board can deliver
- "all along the project" \*: **a clear role for the different actors** in the work plan, from the participation in the planning of work and experiments, their execution up until the dissemination of results and the possible demonstration phase.
- Project proposals should illustrate sufficient quantity and quality of **knowledge exchange activities**


This should generate **innovative solutions that are more likely to be applied** thanks to the cross-fertilisation\* of ideas between actors, the co-creation and the generation of co-ownership for eventual results.

(\*legal base in Specific Programme)

# BACK TO THE FUTURE



### 3 SCENARIO'S TO EXPLORE THE FUTURE

- **HighTech:** strong influence new technology owned by multinationals. Driverless tractors, contract farming and a rural exodus. US of Europe. Rich society with inequality. Sustainability issues solved. Bio-boom scenario.
  - **Self-organisation:** Europe of regions where new ICT technologies with disruptive business models lead to self-organisation, bottom-up democracy, short-supply chains, multi-functional agriculture. European institutions are weak, regions and cities rule. Inequalities between regions, depending on endowments.
  - **Collapse:** Big climate change effects, mass-migration and political turbulence leads to a collapse of institutions and European integration. Regional and local communities look for self-sufficiency. Bio-scarcity and labour intensive agriculture. Technology development becomes dependent on science in China, India, Brazil.
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# AKIS IN THE 3 SCENARIO'S

	HIGH TECH	SELF-ORGANISATION	COLLAPSE
Uni- versity	A few big Life Science Uni's. Intense collaboration with companies. MOOCs and TEDx's (3 <sup>rd</sup> generation model: innovation)	Many regional universities that specialise. 2 <sup>nd</sup> generation (teaching and research).	Reduced public funding, struggle to keep alive and stay relevant. Back to first generation university (teaching).
Applied research	Moves into (applied) universities.	Moves into applied (higher) education.	Relatively important over fundamental research..
Farm research stations	Public and collective funding ends; disappear	More intertwined with applied research and advisory service.	disappear
Advisory service	Service provided by multi-nationals and their computer-generated advice.	Mix of public extension service and commercial advisory organisations.	Disappear, some help from local do-gooders / lead farmers. Big role of donors



## CAN WE MAKE AKIS MORE ROBUST ?

- Experiment with public-private partnerships
- Welcome regions, cities and NGO's as partners
- Create links (cross-overs) with other sectors: Bio-economy, energy, ict, food & health, logistics etc.
- Transdisciplinary, Social dialogue, Governance issues
- Create research-infrastructures that foster collaboration (ERA), that support national / regional research and innovation and help to introduce E-Science
- Don't forget education - link it better in AKIS
- Collaborate with international partners (US, China, India) and better integrate AR and ARD



## Role of EU policy

### Science

- Countries are too small, large spill overs: pool funds
- Compete and collaborate with US, China, India, Africa etc.
- Help re-organisation process in Europe (infrastructures)

### Market driven R&D

- Collaborate with business in Food Chain in PPP
- Experiment with cities, civil society
- Manage spill overs between EU regions

### Innovation in partnership

- AKIS are REGIONAL
- Innovation, not dissemination
- Social dialogue, transdisciplinary
- Organise international exchange for spill-overs (farmers, extension)
- Empower innovation groups in CAP
- Don't forget monitoring (learning)

# EU MARKET FOR RESEARCH AND INNOVATION

- Cross-border collaboration in research could benefit from harmonisation of rules and procedures for commissioning research, to help to create to a more integrated 'market' for research.
- Common research-infrastructures could help to reduce costs, introduce E-Science, create markets for research projects.
- That does not mean that national or regional authorities should give up their strategy and agenda setting processes - but they could adopt such procedures that research institutes could easier match national and international funds.





Thanks for your attention

**SEE THE WEBSITE OF THE SCAR:**

[HTTP://EC.EUROPA.EU/RESEARCH/AGRICULTURE/SCAR/INDEX\\_EN.HTML](http://ec.europa.eu/research/agriculture/scar/index_en.html)

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