



European
Commission



Global challenges for animal production, role of R&I

The European Commission perspective

***Animal Task Force seminar meeting
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Outline

- 1. Challenges and opportunities for EU agriculture and animal production**
- 2. A long term strategy for EU agricultural R&I**

Preliminary statements

- 1. European agriculture is characterised by its diversity: landscape, production systems, farm size, livestock vs crop production, food cultures, standard of living...**
 - No single challenge, no single solution
- 2. Animal agriculture/industry is part of a complex and dynamic production system, part of an economy, part of a territory, part of society: influences, challenges and opportunities depend on many drivers, global and local ones**
 - Multifaceted challenges
- 3. EU is a large exporter of food products, still most of the production is consumed in EU: living with two strands...**
- 4. The presentation should not be seen as an exhaustive review of challenges/needs, nor be considered as the position of the European Commission**



Challenges

**Food
Security**

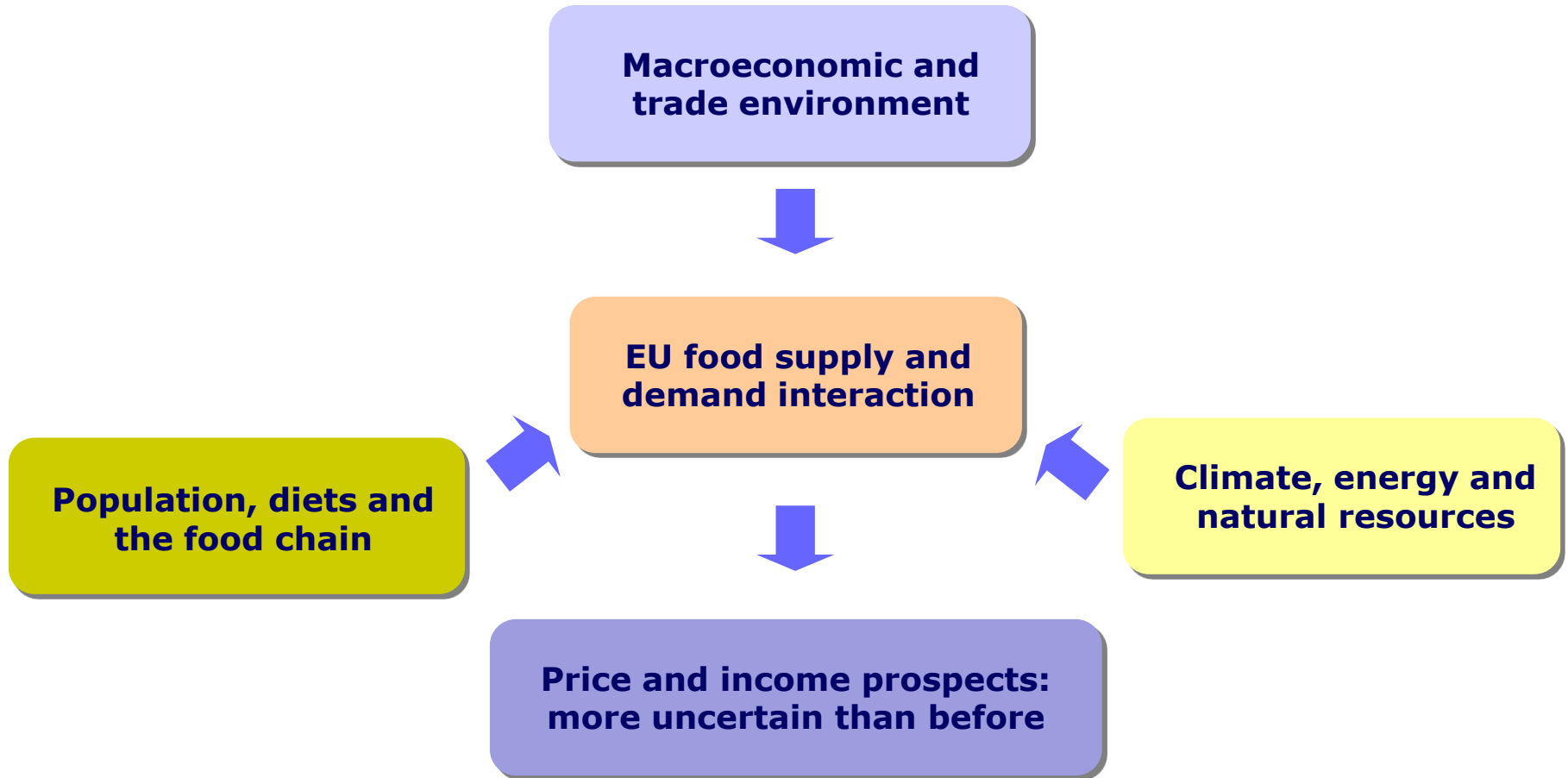
Climate

Environment

Society

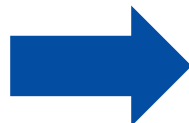
Sustainable rural territories

Drivers of food security



Global Food and Nutrition Security

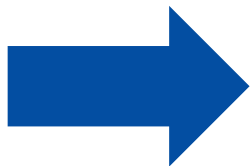
- Still increasing world population,
- urbanization, growing middle classes; increase in demand for (affordable) food and high quality protein
 - *FAO projected a need for 60-70% increase in agricultural production by 2050 compared to 2007*
 - ***This** means 1,1% average increase per year, against past 2,2% per year during 1961-2007*
 - *Three quarters of the expected 60% increase in agricultural production by 2050 would mostly take place in developing countries: agricultural productivity will need to be raised there, in a sustainable manner*
- Food safety (animal health/welfare; new technologies)
- Malnutrition: over and under nutrition
- Food loss and waste
- Finite natural resources (land, water)
- climate change impacts



increasing demand
increasing supply constraints

Climate/Environment

- GHG emissions from agriculture, in particular the livestock sector
 - *Agriculture accounts for about 10% of EU GHG emissions, but it emits more than half of the non-CO2 gases. It will have to contribute to the reduction (but how far?)*
- Water, soil, air pollution from livestock production (ammonia, nitrate, phosphorus, etc)
- Preserving biodiversity and ecosystems
- Waste management, reuse and recycling
- Energy efficiency, renewable energy

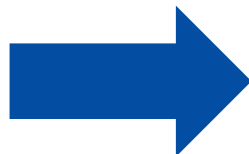


Reducing the environmental and carbon footprint of food (animal) products

Circular (bio)economy

Sustainable rural territories

- 12 million EU farms, 25 million people (5% of EU jobs)
- Livestock sector accounts for nearly half of EU agricultural activity and production value
- Many upstream and downstream connections in the rural economy, agriculture (and forestry) as the basis for the bioeconomy producing food, feed, fibre and biomass for other uses
- Preservation of cultural landscapes, basis for other economic activities, thriving rural communities
- Economic viability of farming and the livestock sector, fair share in value chains, price and market volatility, fragmentation
- Attractiveness of farming for new generations



**Sustainable territorial
development in the EU**

Animal agriculture and society

Animal food provides quality proteins and other important nutrients, but

- (processed) meat products recently presented as carcinogenic!

(Ruminants) providing public goods (ecosystem services), but

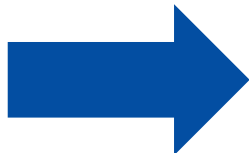
- Grassland area declining in the EU, replaced by croplands used mostly for feed production (+ feed imports)

Livestock increasingly presented as a relatively inefficient way to produce edible proteins in the context of resource scarcity

EU Livestock farmers' income at lower end of spectrum; aging population

Societal concerns over (intensive) livestock production:

- Animal health and food safety: More diseases; over/misuse of medicines (even if EU rules among toughest ones, e.g. AGPs)
- Animal welfare issues (even if EU standards are among highest ones)
- New biotechnologies used for food production purposes (e.g. cloning)



**Public perception of
animal agriculture**

How do we make the transition to more sustainable
food and livestock systems?

Role of Research and Innovation in meeting the challenges

Why a long-term research strategy?

- Challenges are **long-term** and research and innovation **take time**
- Need for **continuous investment** to cope with major challenges in the long-run (as opposed to more *ad hoc* research programming)
- Need for **synergies** with other research funders in and outside the EU

A long-term strategy will improve consistency, efficiency and impact

- Better articulation of research policy with CAP and other EU policies (climate, environment, energy, health, international development)
- Better articulation with activities of Member States
- Better use of various instruments: more impact
- Provide ground for continuity
- Enhance the role of Europe as a key global player in a field for which attention is increasing (UN, G20 etc.)



Cross cutting issues

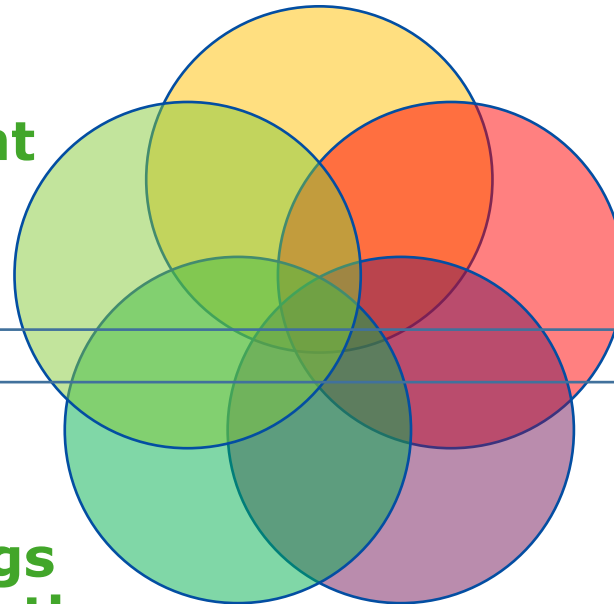
- Systems approach
- ICT as an enabling technology
- Enabling science and infrastructures
- Socio-economic research, support to policies

Creating value from
land: sustainable
primary production

Integrated ecological approaches from farm to landscape

**Resource
management**

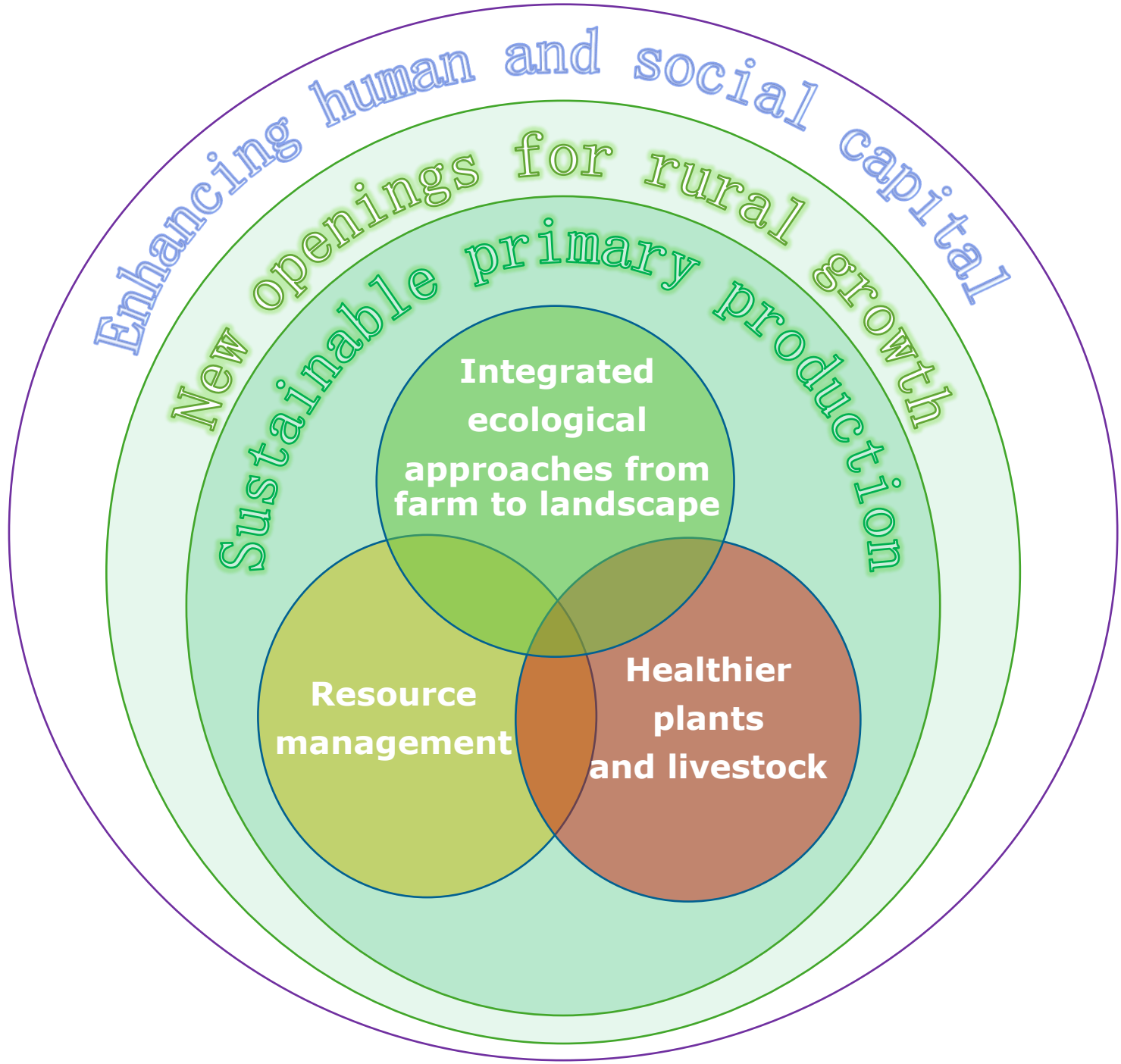
**Healthier
plants and
livestock**



Enhancing rural
innovation

**New openings
for rural growth**

**Human and
social capital**





Efficient resource management

Resource management

Resource-use efficiency: reducing inputs and waste; recycling
*(e.g. feed and feeding; energy; water; breeding for efficiency; manure management)**

ICT, predictive tools & precision technology
*(precision livestock farming)**

Climate change: strategies for adaptation and resilience
*(e.g. breeding for robustness)**

Mitigation strategies
*(e.g. improving GHG balance by feeding and breeding for lower emissions, manure management)**

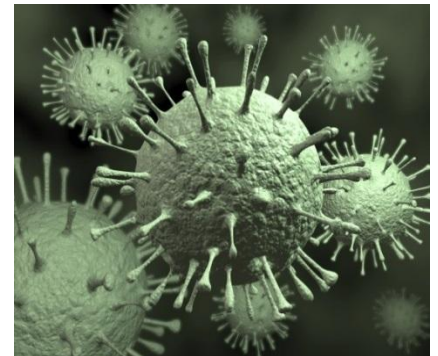
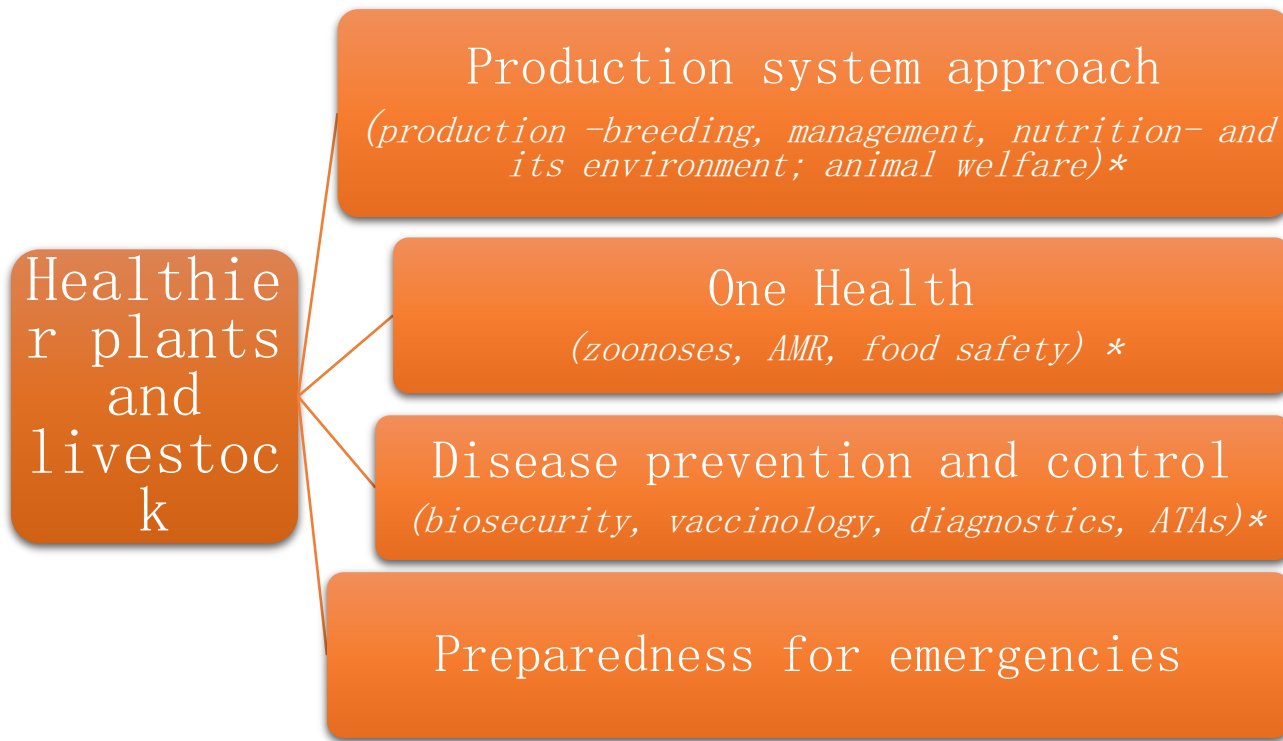
Genetic resources
*(e.g. conservation and use of biodiversity; genomic selection)**



* : examples of domains of interest for livestock



Improve plant and animal health



** : examples of domains of interest for livestock*



Better use of ecosystems

Ecological approaches at farm and landscape levels

From concept to design of sustainable farming systems based on optimized ecosystem services

*(e. g. benchmarking; multi-criteria assessment of farming; grasslands)**

Organic sector and other farming systems

*(e. g. mixed farming incl. agroforestry)**

Collaboration with other parts of food/non food supply chain



** : examples of domains of interest for livestock*



Foster rural growth

New openings for rural growth

Strengthening the competitiveness of agro-food chains

Development of new value chains on biomass and waste

Enhancing the delivery of public goods and ecosystem services to the society

Territorial interactions

Information and Communication Technologies





Developing skills and innovation systems

Developing human and social capital in rural areas

Developing agricultural knowledge and innovation systems

Instruments to implement the EIP-AGRI



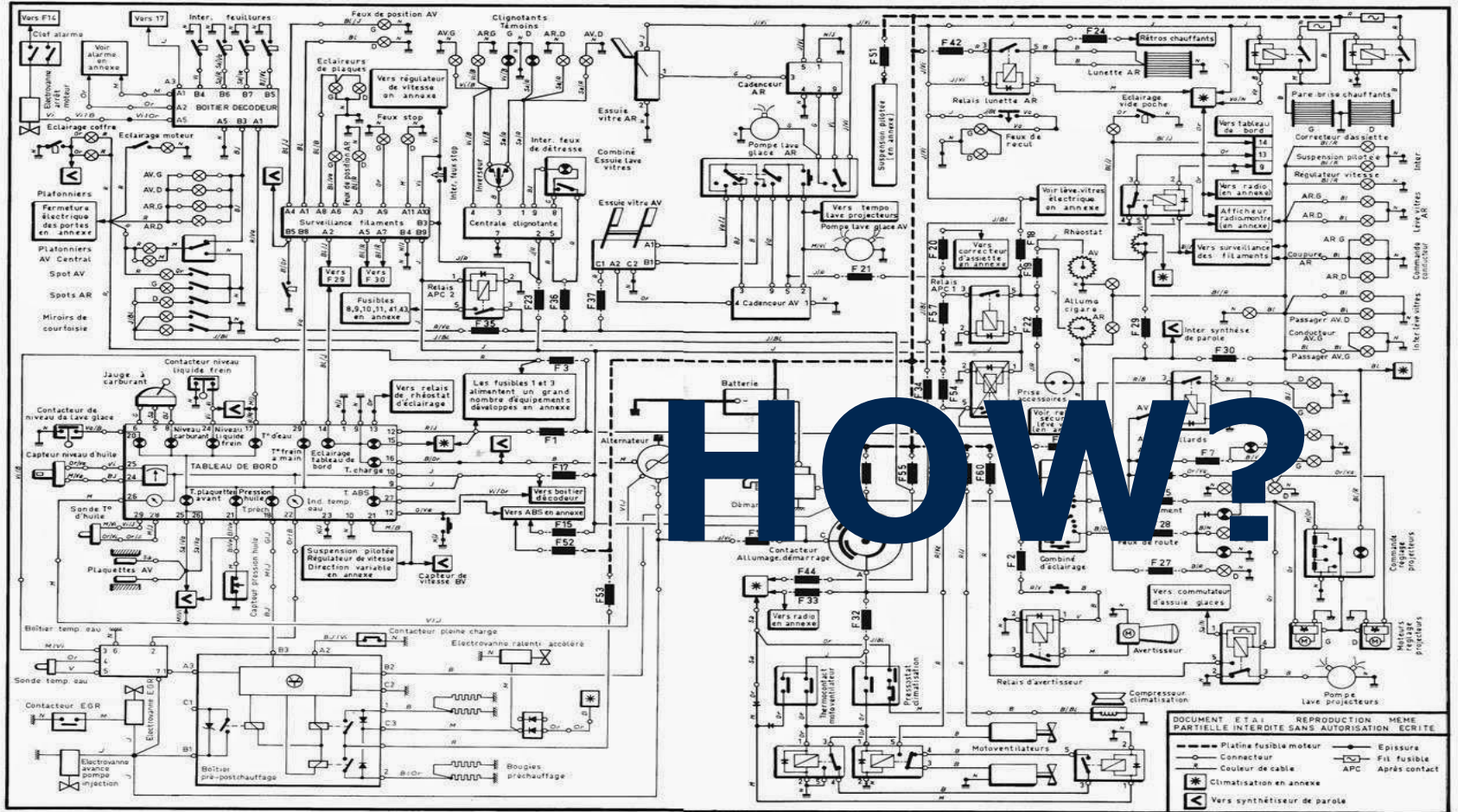


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SCHÉMA ÉLECTRIQUE GÉNÉRAL DES SAFRANE 2.5 dt (finition RXE)

— ÉQUIPEMENT ÉLECTRIQUE —

RENAULT « Safrane »
moteurs Diesel



HOW?



- Strategic programming / programme management
- Fostering synergies with Member States
- The international cooperation dimension
- Fostering the implementation of research and innovation (MAA, knowledge exchange)
- Developing synergies with the private sector



(Animal) agriculture

+ Food security

+ Environment protection (finite natural resources, biodiversity)

+ Climate protection

+ Health

+ Societal demands

= (im)possible equation ?

(with the current developed world consumption pattern)

1) Food has never been so plentyfull

2) Food has never been so safe

3) Environment, climate, health have never been so much looked after

4) New technologies and biological understanding provide new avenues

Let's (re)search further solutions, innovations with a systemic, multidisciplinary, multiactor approach



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Thank you

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Agriculture
and Rural
Development