Emerging Risks

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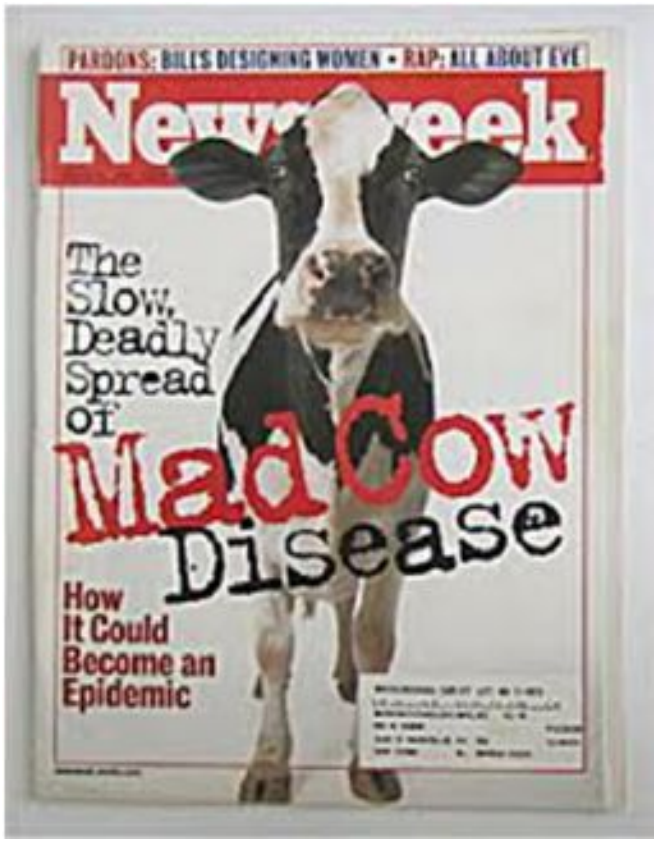
efsa
European Food Safety Authority

- Expectations
- Communication
- Effectiveness

- EFSA, mission and tasks
- Objectives
- Emerging risks definition
- Drivers
- Examples
- ERI procedure
- What works
- What is important

FOOD LAW



Experience has shown that it is necessary to adopt measures aimed at guaranteeing that unsafe food is not placed on the market

EFSA 2020 STRATEGY

- Prioritise public engagement in the process of scientific assessment
- Widen EFSA's evidence base and maximise access to its data
- Build the EU's scientific assessment capacity and knowledge community
- **Prepare for future risk assessment challenges**
- Create an environment and culture that reflects EFSA's values

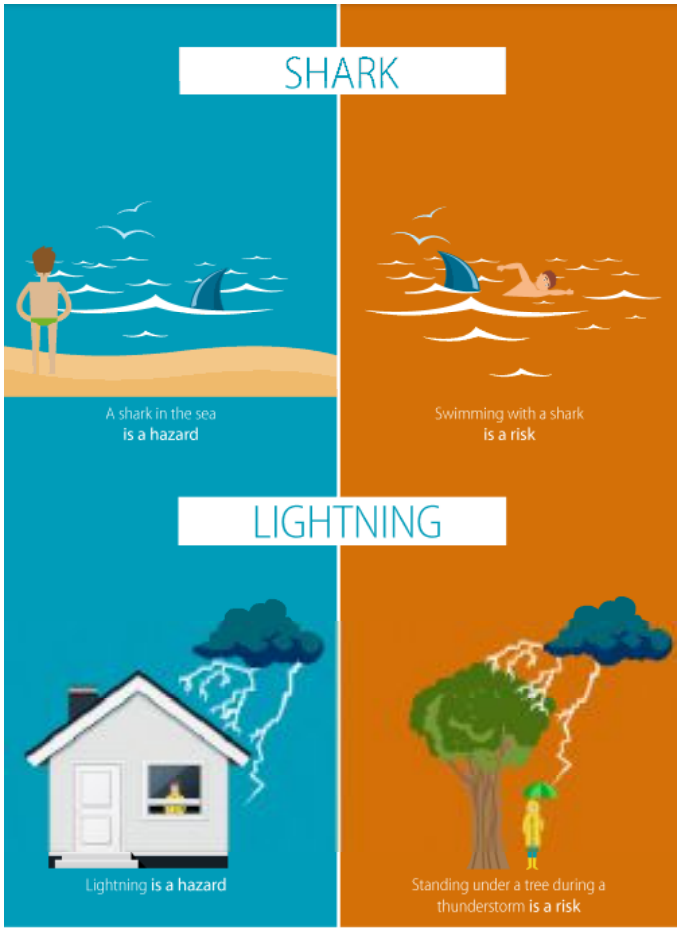
EMERGING RISKS – WHY ARE WE INTERESTED?

- Anticipation of future risk assessment needs
  - Data / Knowledge
  - Risk assessment methods

- Help risk manager anticipate and even prevent future safety challenges

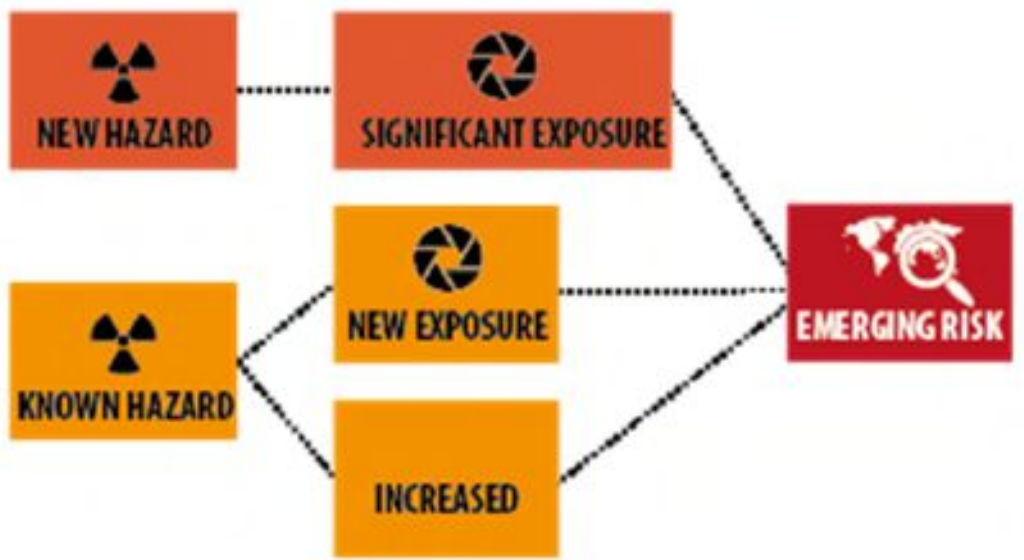
RISK

- A function of the probability of an adverse health effect and the severity of that effect, consequential to a hazard;



EMERGING RISK

an emerging risk to human, animal and/or plant health is understood as a risk resulting from a newly identified hazard to which significant exposure may occur or from an unexpected new **or** increased significant exposure and/or susceptibility to a known hazard" (EFSA 2007).



NEW CHALLENGES AND THREATS

Environmental risks e.g multiple stressors and bees

Evaluation of the safety of new products

- e.g. novel foods

Development of new assessment methods:

- nanotechnology, active and intelligent packaging
- '-omics', less animal testing

Chemical mixtures/ combined toxicity of substances in food

Antimicrobial resistance

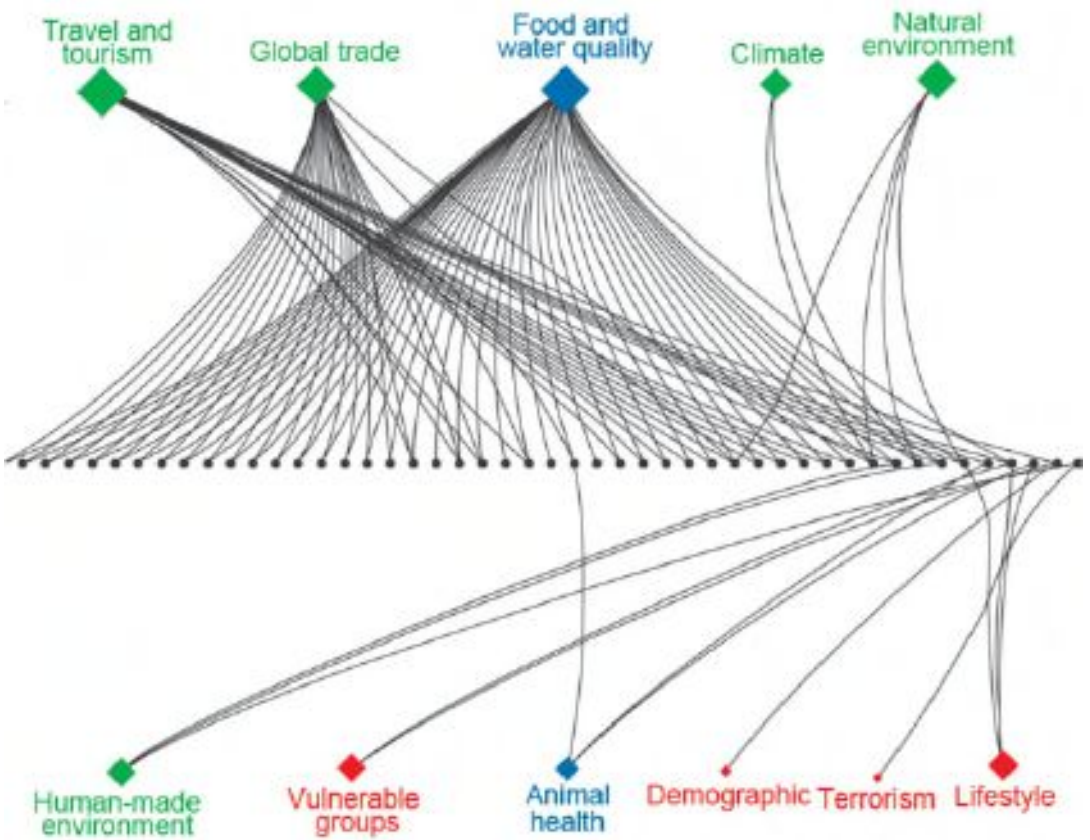
Hazards linked to globalisation: plant pests, animal diseases, vector-borne diseases

WHY DO THINGS CHANGE?

- Drivers
- Pathways
- Sources
- Outcome

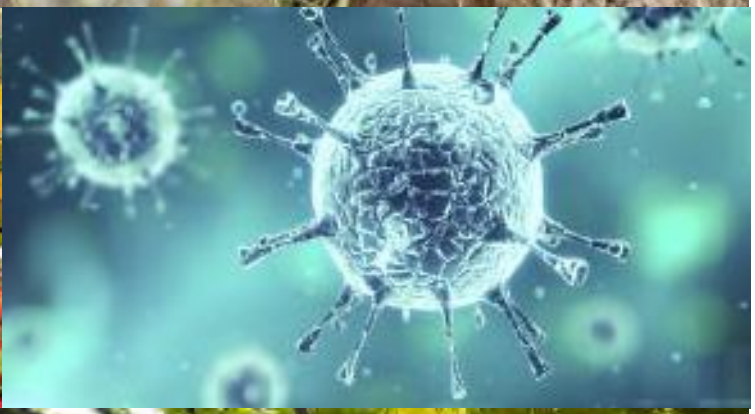
DRIVERS OF INFECTIOUS DISEASE THREAT EVENTS

Foodborne and waterborne IDTEs (Semenza et al 2016)



EMERGING RISK DRIVERS

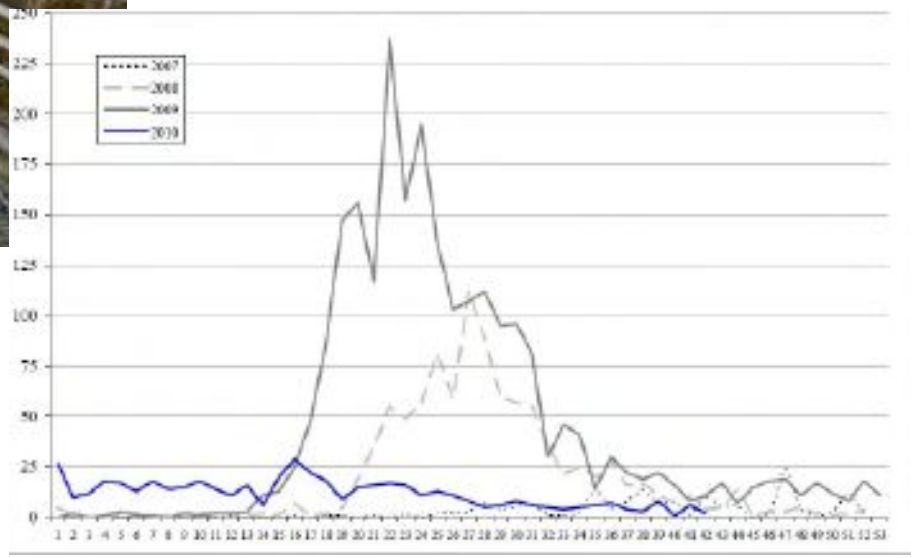
- How do we recognise changes?
- How can we anticipate changes? Is prediction possible?
- What are the implications of changes for managing risk?
- Can we learn from the past?



EMERGING BIOLOGICAL RISKS

- **Micro-organisms**, **pests**, **parasites** and **prions** having a direct or indirect impact on the safety of the food and feed supply chains, animal health and welfare, and plant health

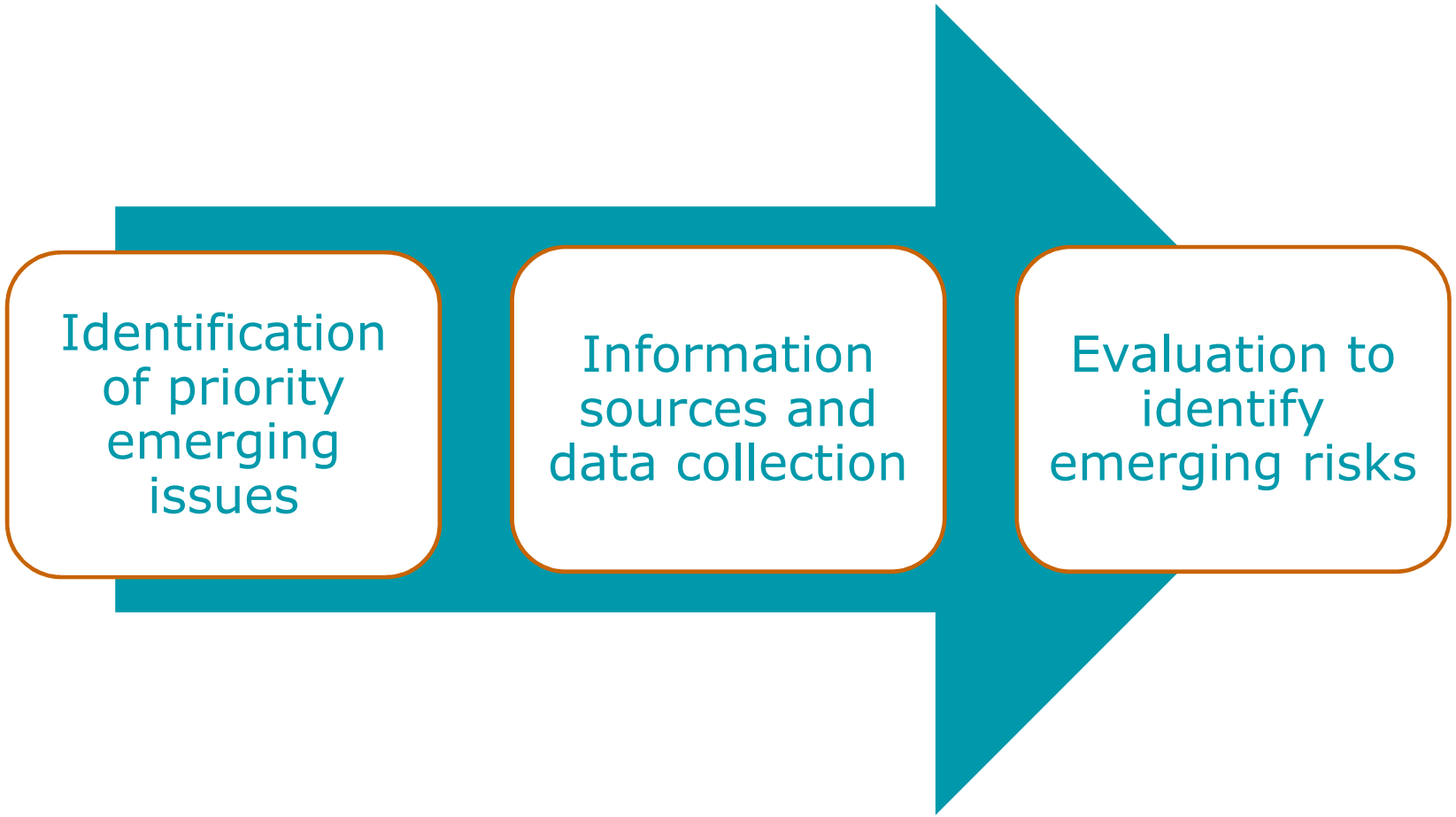
Q FEVER



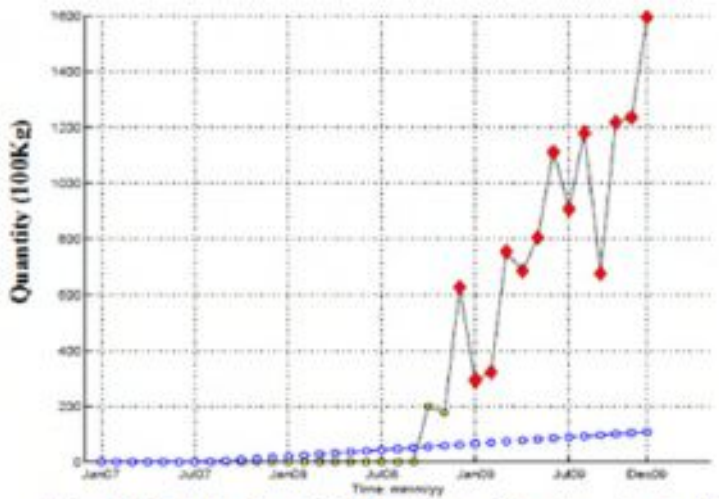
CULTURAL AND METHODOLOGICAL CHALLENGES

- Emerging disease risk is a local issue with a global dimension.
- The emergence of a pathogen involves a combination of changes in key drivers.
- Most drivers for emerging issues are common to human, veterinary, plant and ecosystem health
- Pathogen discovery - Pathway discovery

ERI PROCEDURE



ACCESSIBLE DATA



Signal FS-1. Product: 01112; Meat of bovine animals, fresh or chilled, boneless. Origin: Paraguay

BIG DATA

CROWD SOURCING

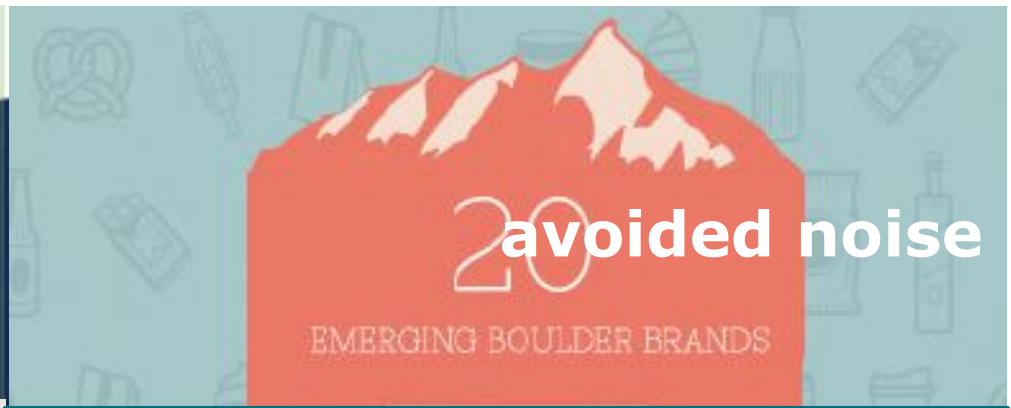
TEXT MINING: "EMERGING RISK FOOD"

Flagged

noise

spot on

Overlooked



avoided noise

false negatives

PRIORITIZATION

- Novelty
- Soundness
- Severity
- Imminence
- Scale

UNCERTAINTY

AMBIGUITY

RISK PERCEPTION

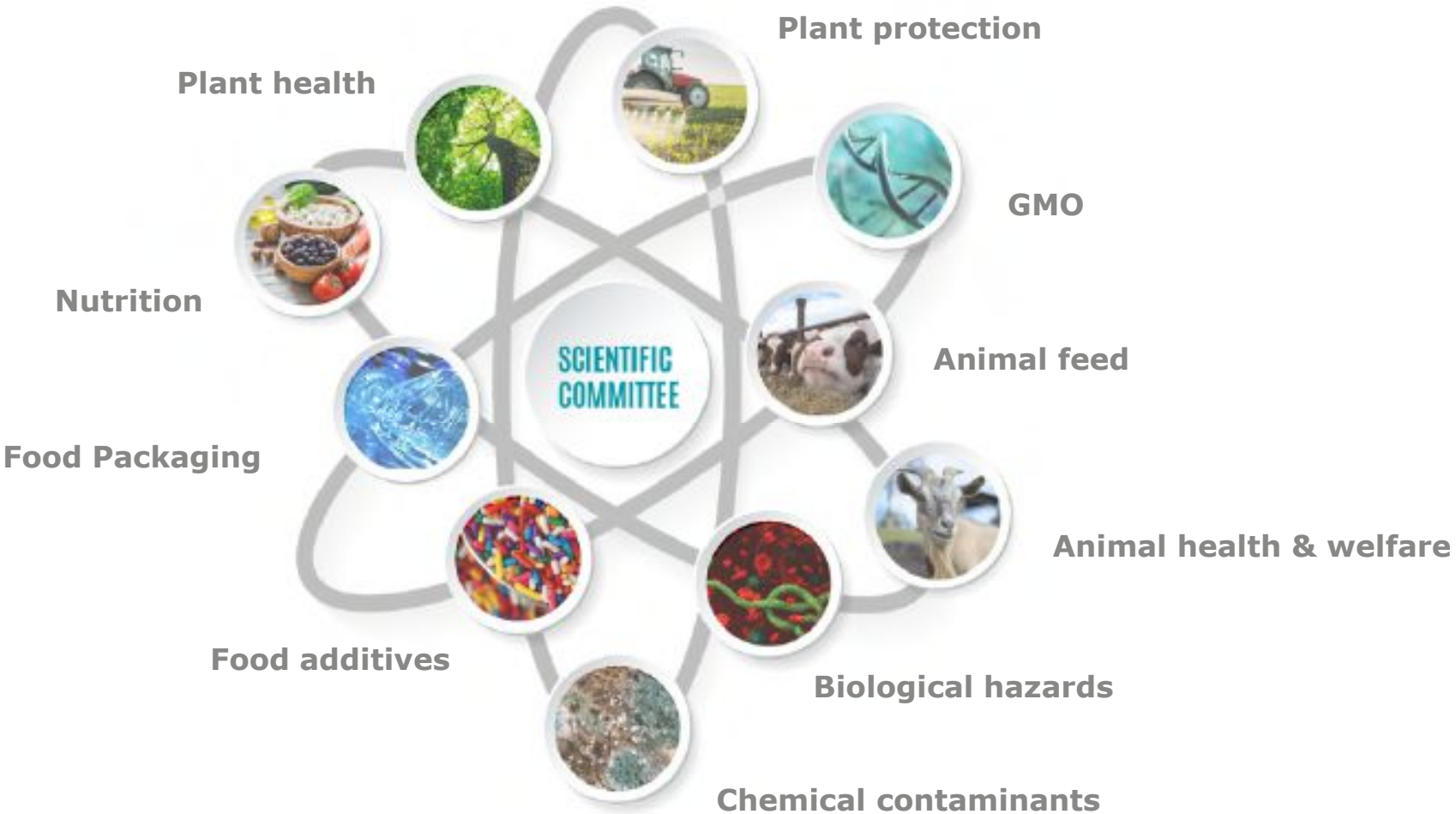
Where is the life we have lost in living?

Where is the wisdom we have lost in knowledge?

Where is the knowledge we have lost in information?

T. S. Eliot

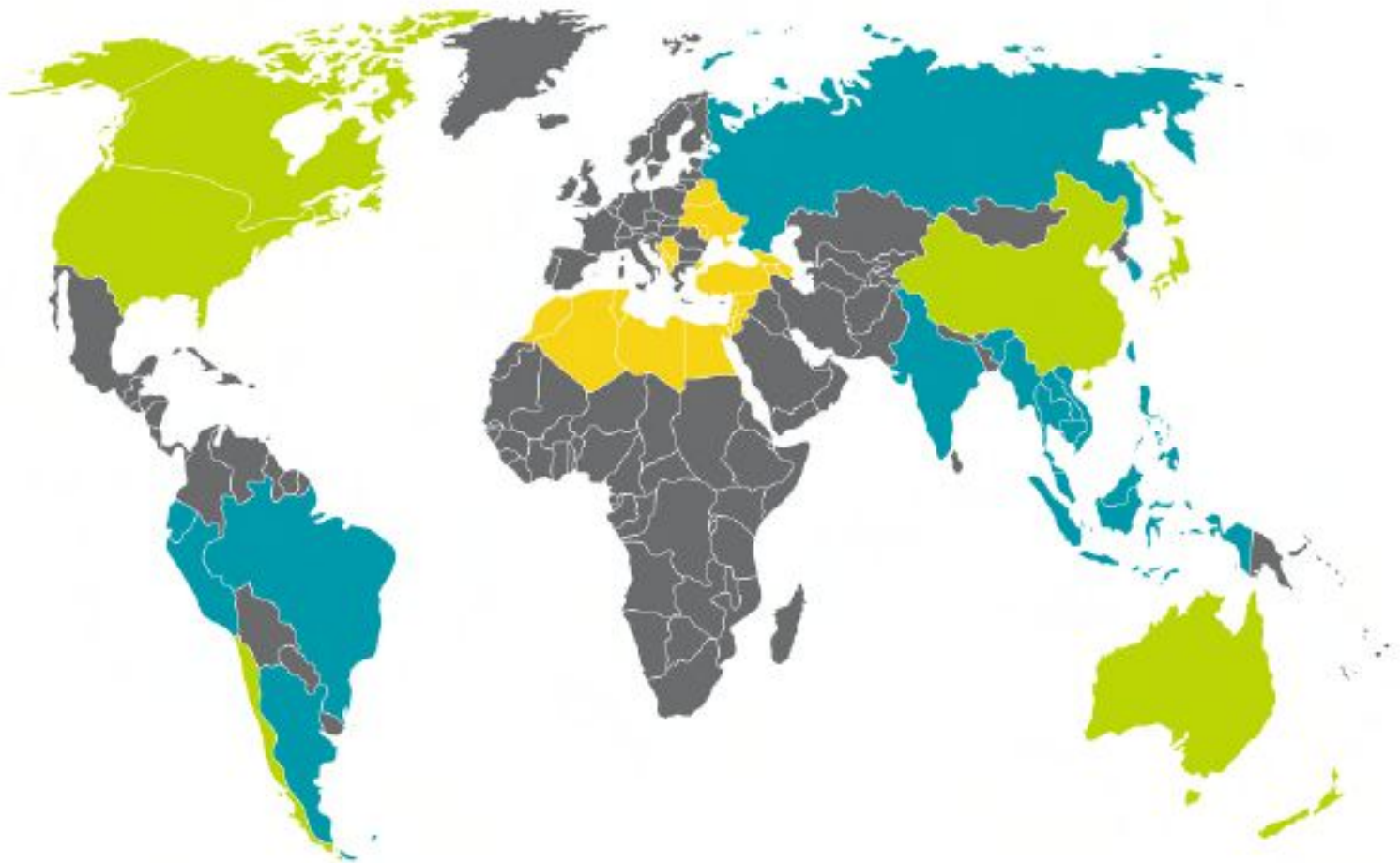
EFSA SCIENTIFIC PANELS



WITHIN EUROPE…

- National food safety agencies from 28 EU Member States
- 400 research institutes
- EU Agencies

OUTSIDE EUROPE…



- Partners
- Established cooperation
- IPA/ENP countries

NETWORKS OF KNOWLEDGE

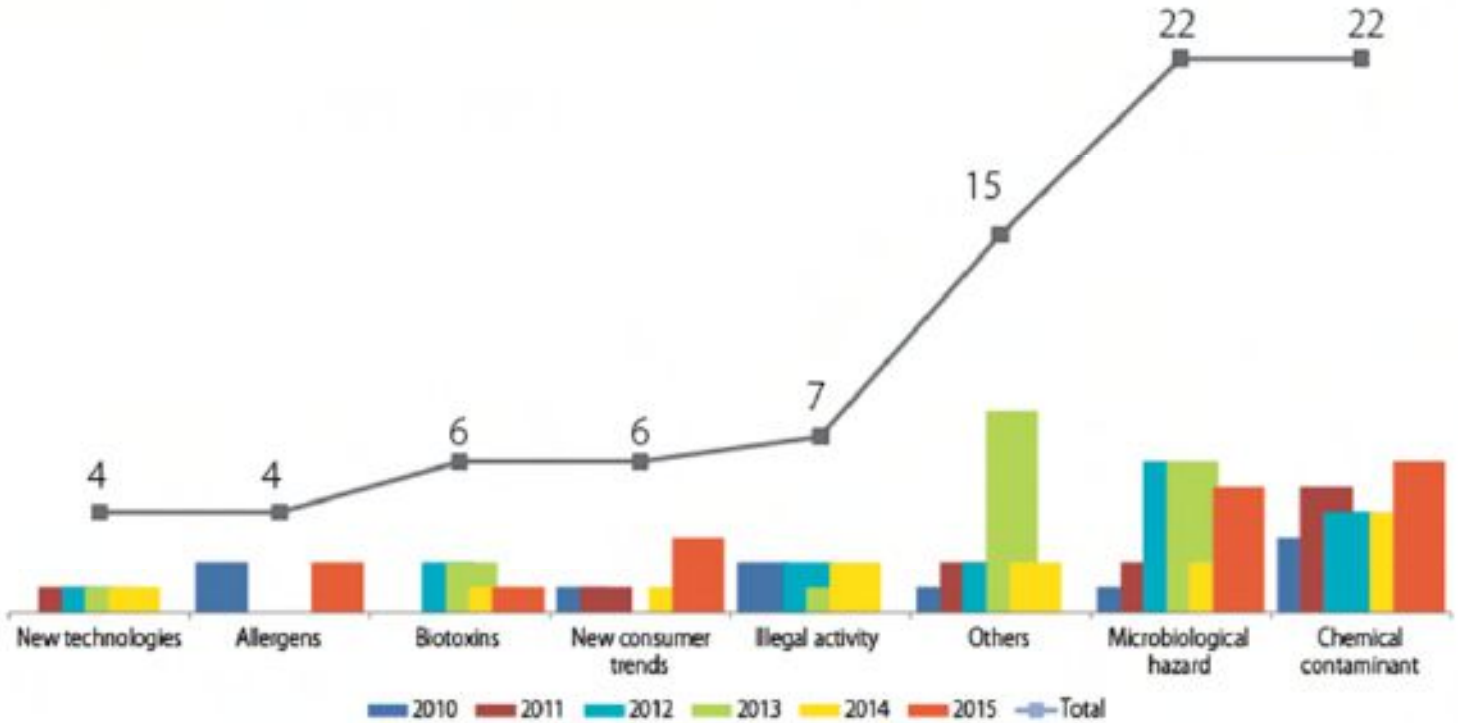
Emerging Risks Exchange Network (EREN) Member states

Stakeholder Consultative Group on Emerging Risk (StaCG-ER) - Civil society & Private sector

WHAT HAS WORKED

- Identification of relevant **issues**
- **Expertise and networking** are a vital part of the process, particularly for filtering signals
- **Sharing information** without creating unnecessary scares
- **Focused monitoring** and **follow-up activities**

IDENTIFICATION OF EMERGING ISSUES



EVALUATION

- Evaluation of the collected information and identification of emerging risks

- Avoided risks are often “invisible”

IMPORTANT

- Aim (and defining success)
- How to handle uncertainty
- It is not only risk assessment

Emerging risks

The successful identification of emerging risks is at the heart of protecting public health and the environment. By identifying emerging risks in the food chain early, EFSA supports risk managers in anticipating risks and taking effective and timely prevention measures to protect consumers. Identifying emerging risks also helps to improve EFSA's ability to meet future risk assessment challenges.
EFSA defines an emerging risk as: "A risk resulting from a newly identified hazard to which a significant exposure may occur, or from an unexpected new or increased significant exposure and/or susceptibility to a known hazard."

Networks | Activity reports | Methodologies | Completed work

Emerging risk identification is a complex process requiring broad expertise and close cooperation with Member States, stakeholders, and EU and international agencies. Dedicated networks provide the structures needed to exchange experience, methods and data and to assess emerging issues.

- Emerging Risks Exchange Network
- Discussion Group on Emerging Risks

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Subject area

Cross-cutting science ›

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News
Cross-cutting science
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Climate change and food safety – complete the EFSA survey
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Cross-cutting science
published: 21 Feb 2018

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EFSA Staff

EFSA experts

- Emerging Risks Exchange Network
- Stakeholders discussion group
- JRC
- DG SANTE
- ECDC
- FAO……..

THANK YOU