27th August 2019

Challenges for global health and development

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Trusted science for safe food

European Food Safety Authority

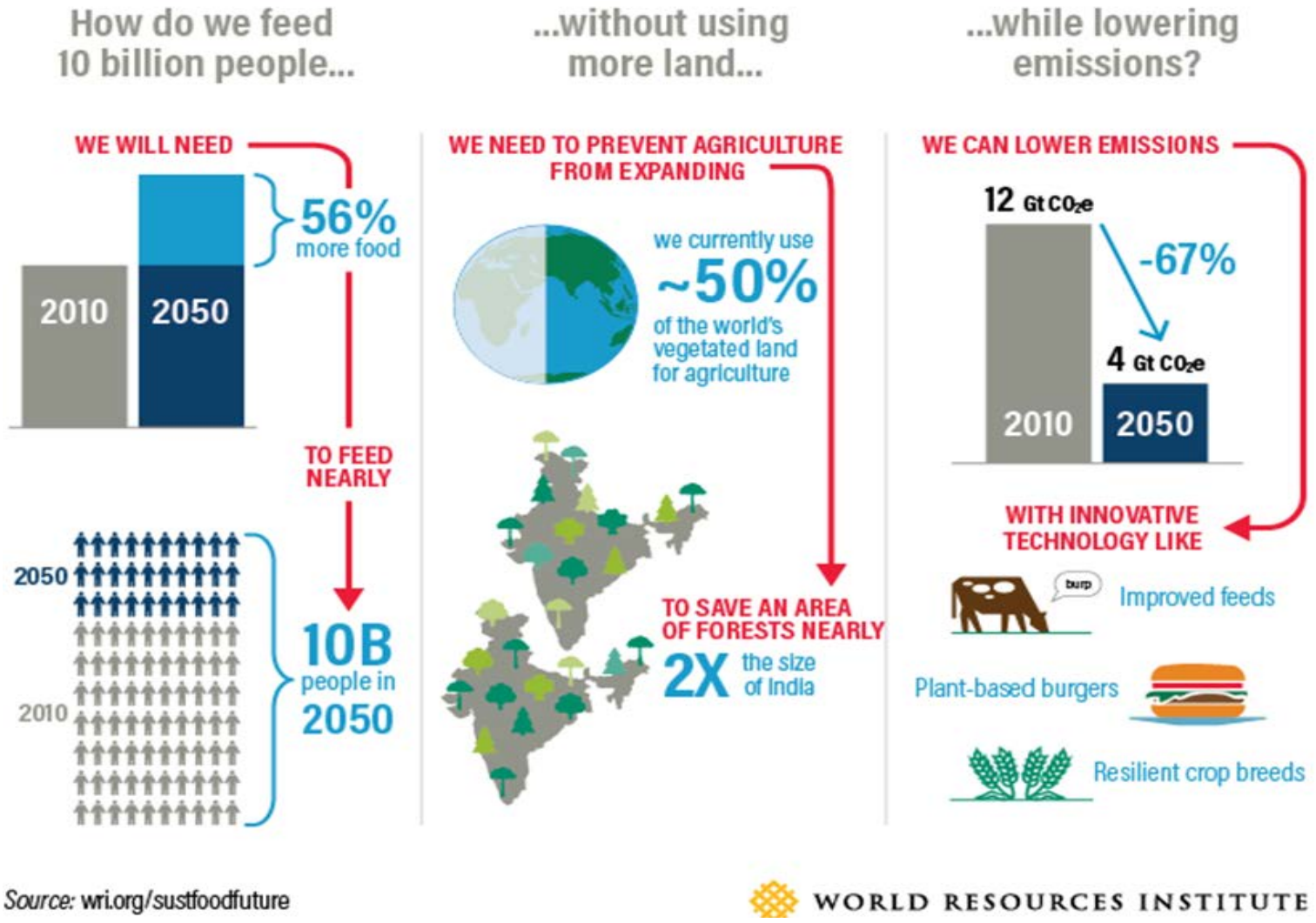
Global Health and Development

...and EFSA's support in achieving the SDGs

Food safety: a human right

SDG 2.1: By 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round

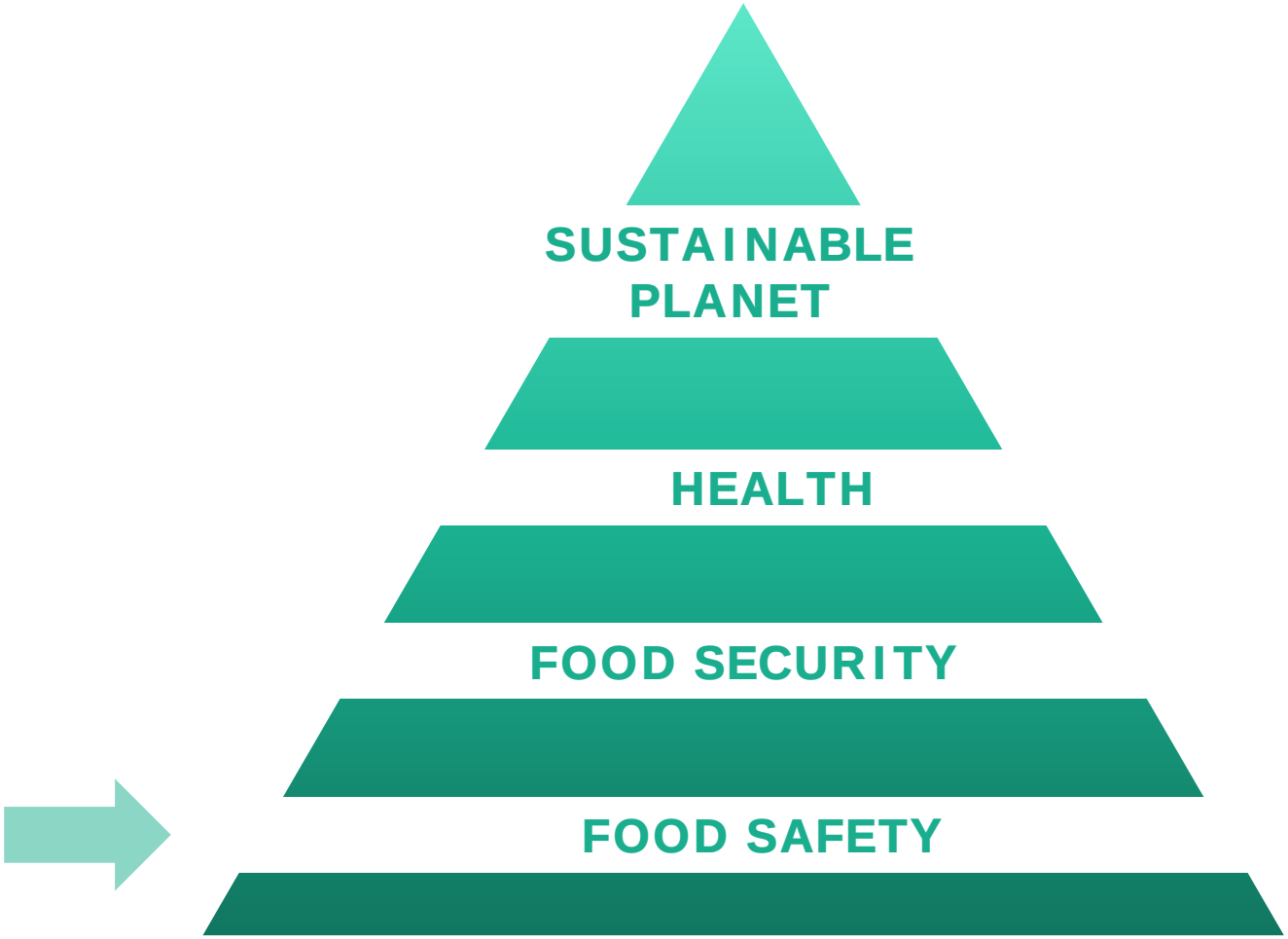
Sustainable food future by 2050



Source: wri.org/sustfoodfuture

WORLD RESOURCES INSTITUTE

Sustainable food future by 2050



Keeping Food Safe in the EU

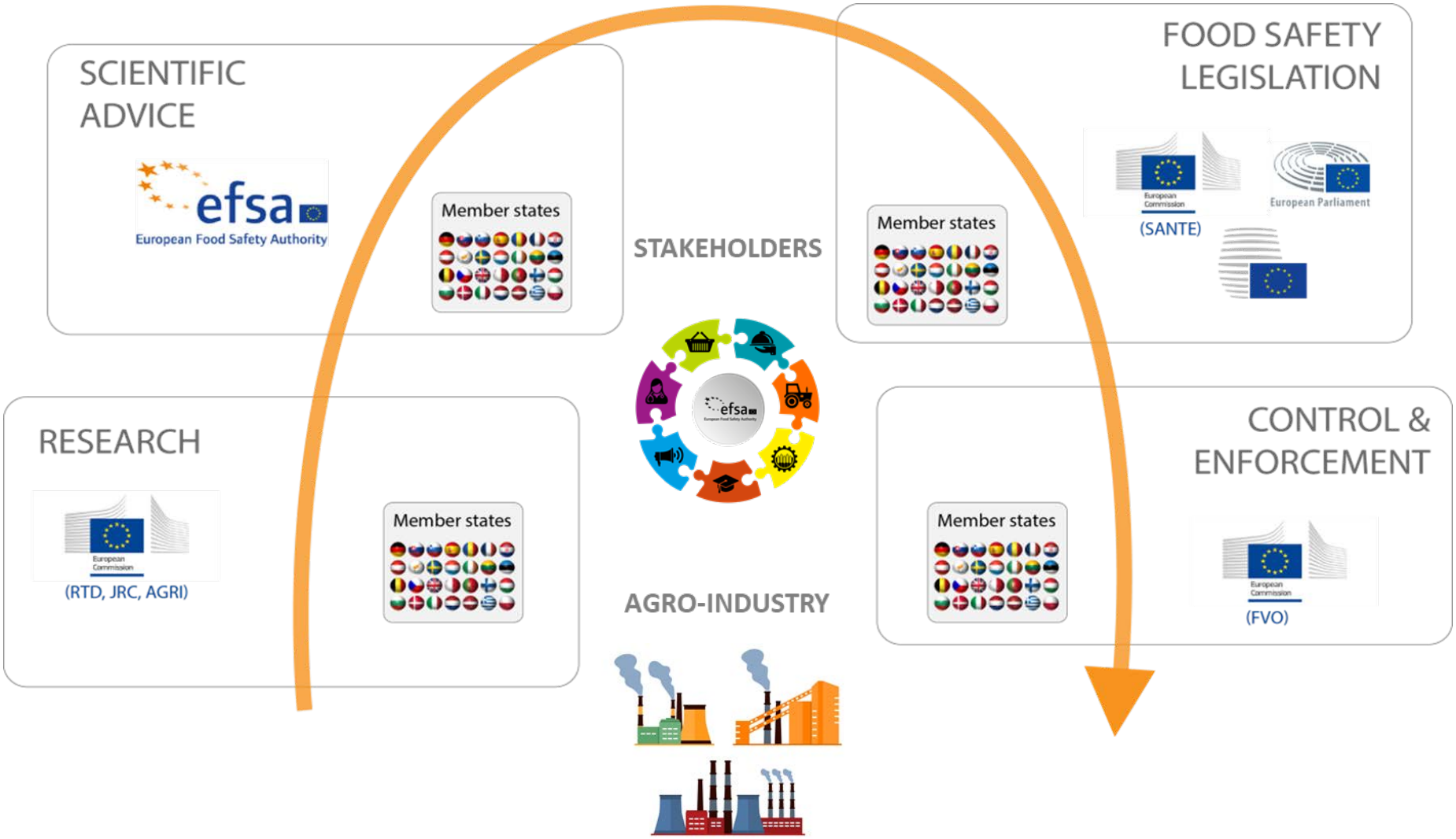
- Established in 2002, following a series of food crises as part of a programme designed to
  - Ensure a high level of consumer protection and restore confidence in the EU food supply
  - Clearly separate risk assessment and risk management functions

General Food Law: Principles and approaches:

- Science-based decisions,
- Integrated approach,
- Precautionary principle,
- Transparency,
- Industry responsibility,
- Traceability

Keeping Food Safe in the EU

EU Food Safety System



How does EFSA work

EU Commission

EU Parliament

Member States

EFSA self mandate

EFSA receives a question

EFSA's scientists evaluate, assess, advise

Adoption and communication

EFSA's values, Strategy and Quality Management System

Quality Management System

ISO 9001 CERTIFIED

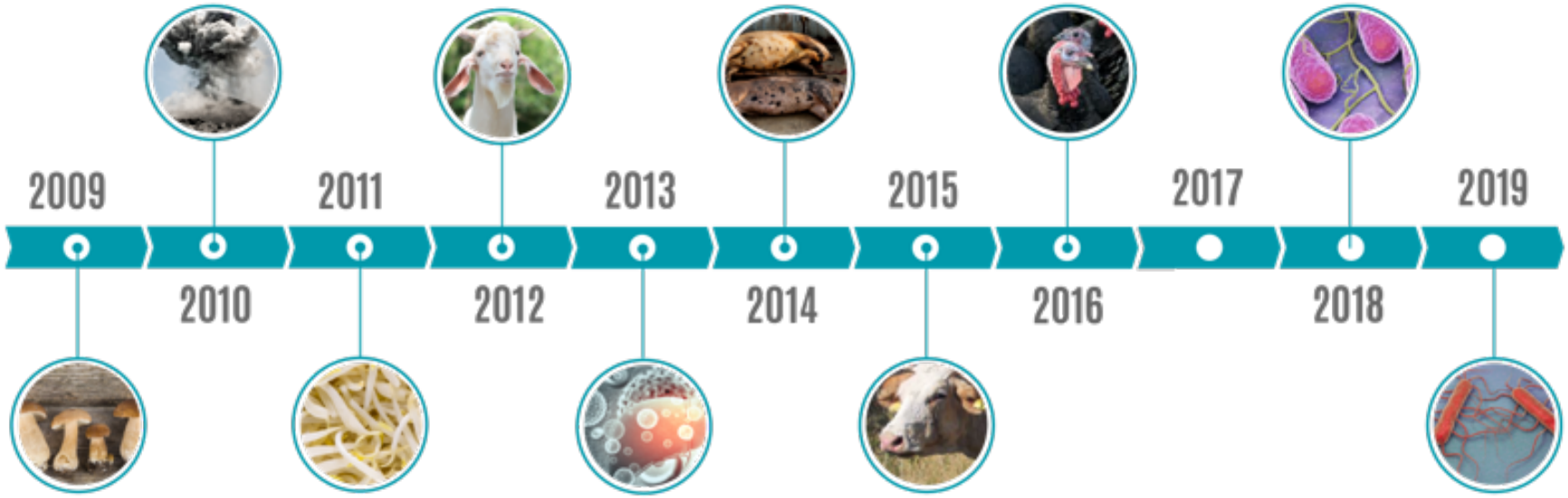
- ✓ Assure customer satisfaction
- ✓ Address societal expectations
- ✓ Guarantee continual improvement

EFSA's activities

SCIENTIFIC EXCELLENCE

Food crises and urgent assessments

efsa
European Food Safety Authority



2009: Nicotine in wild mushrooms; 4-methly-benzophenone in breakfast cereals

2010: Chlormequat in table grapes; Volcanic ash

2011: STEC in vegetables

2012: "Schmallenberg" virus

2013: Hepatitis A; Salmonella Mikawasima; Phenylbutazone in horsemeat

2014: Swine fever

2015: Lumpy skin disease

2016: Avian influenza

2017

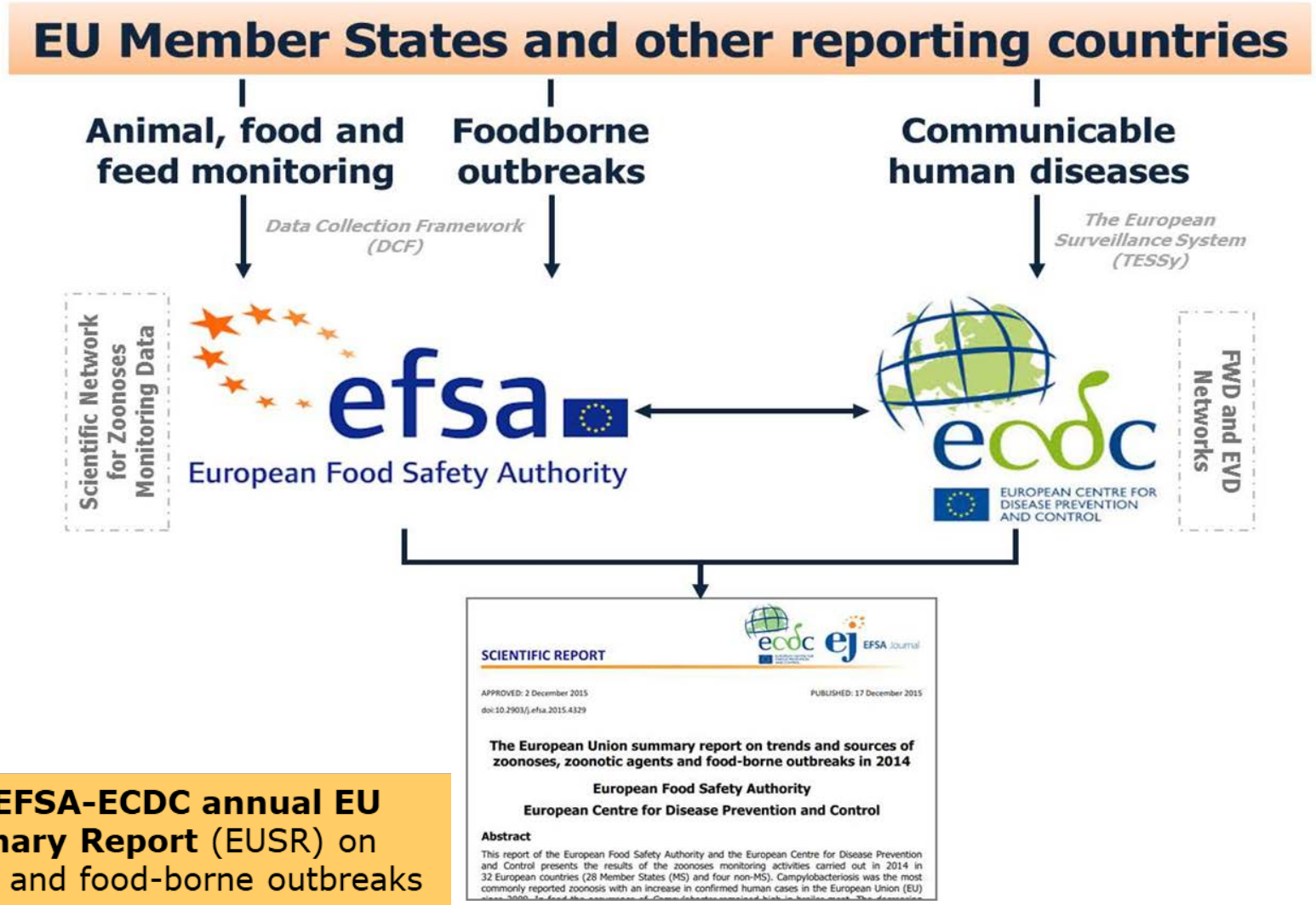
2018: Salmonella Poona

2019: Listeria monocytogenes

Monitoring of zoonoses and FBO in the EU

- **FOOD-ANIMAL DATA**
- **Directive 2003/99/EC on the monitoring of zoonoses and zoonotic agents**
  - Publication of the annual EU Summary Report
  - MSs have an **obligation** to report data each year
  - Mandatory data collection for:
    - 8 zoonotic agents: *Salmonella* (+ AMR), *Campylobacter* (+ AMR), *L. monocytogenes, Brucella,* tuberculosis due to *Mycobacterium bovis,* VTEC, *Trichinella, Echinococcus*
    - for foodborne outbreaks (FBOs) and susceptible animal populations
- **HUMAN DATA**
- **Decision 1082/2013/EU on serious cross-border threats to health**

Zoonoses data collection



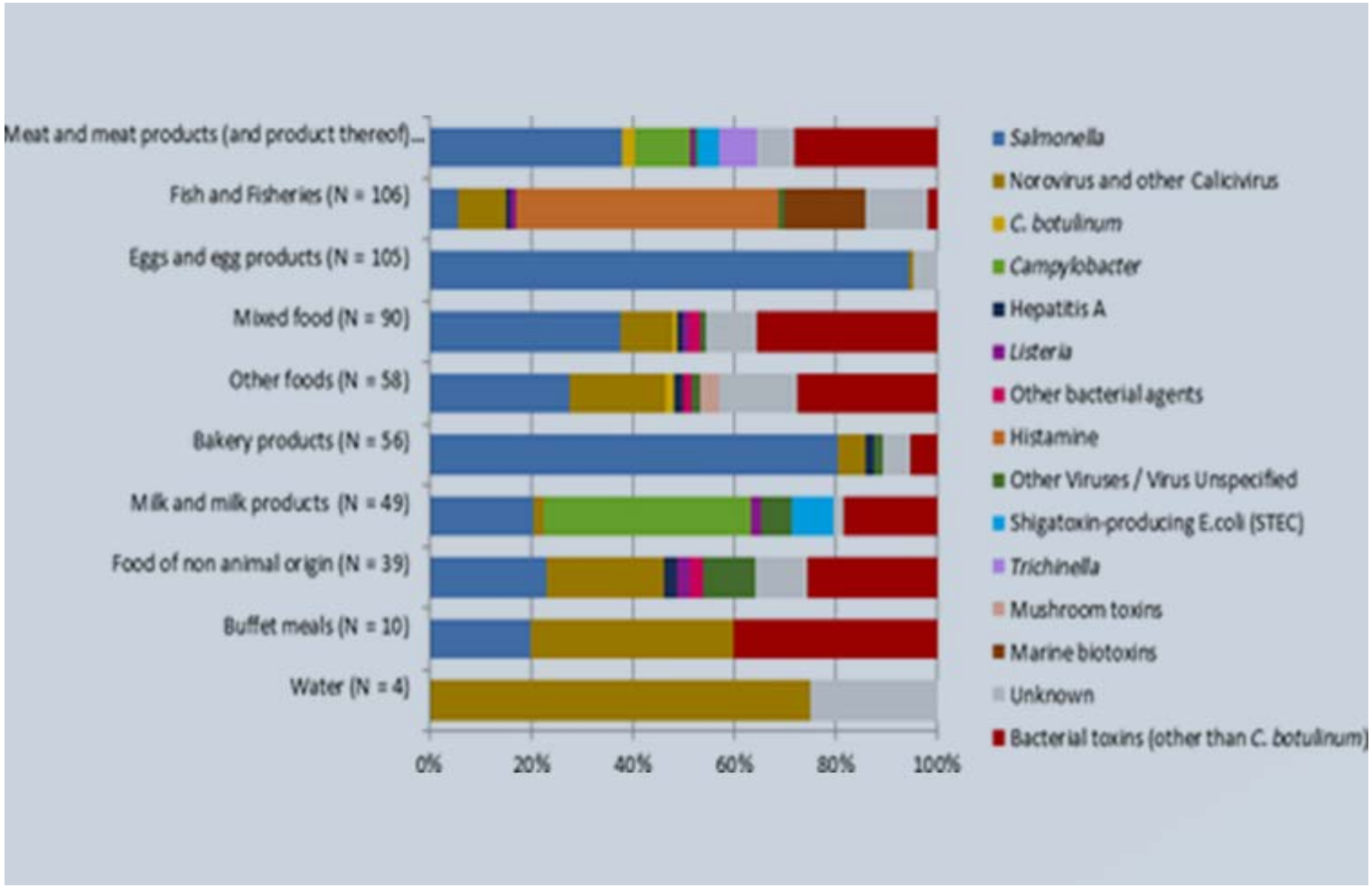
Joint EFSA-ECDC annual EU Summary Report (EUSR) on zoonoses and food-borne outbreaks

[Available online: www.efsa.europa.eu/efsajournal]

Reported hospitalisation and case fatality rates due to zoonoses in confirmed human cases in the EU, 2017

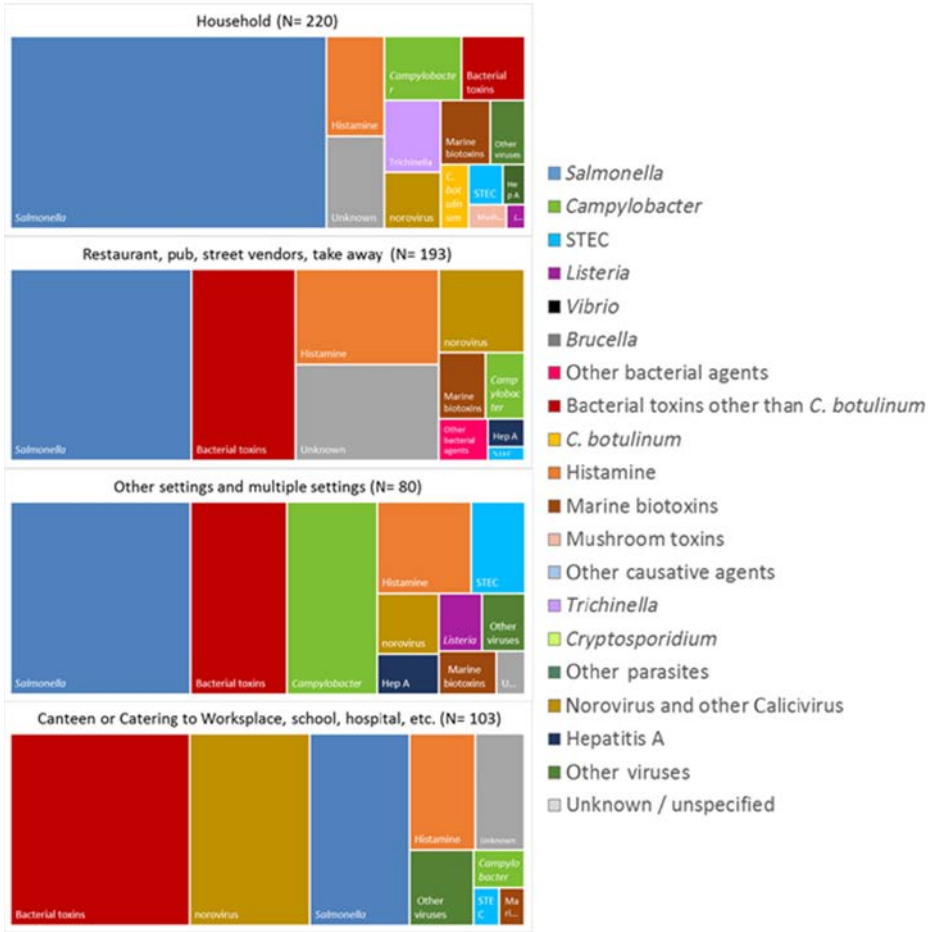
Disease	Number of confirmed[a] human cases	Hospitalisation				Deaths			
		Status available (%)	Number of reporting MSs[b]	Reported hospitalised cases	Proportion hospitalised (%)	Outcome available (%)	Number of reporting MSs[b]	Reported deaths	Case fatality (%)
Campylobacteriosis	246,757	27.6	17	20,810	30.5	72.8	16	45	0.04
Salmonellosis	91,662	43.1	14	16,796	42.5	67.8	17	156	0.25
Yersiniosis	6,823	27.1	14	616	33.4	65.5	15	3	0.07
STEC infections	6,073	41.0	18	933	37.5	66.1	21	20	0.50
Listeriosis	2,480	40.4	16	988	98.6	65.8	18	225	13.8
Q-fever	928	NA[c]	NA	NA	NA	56.0	10	7	1.35
Echinococcosis	827	31.2	14	140	54.3	30.1	14	1	0.40
Brucellosis	378	45.8	10	104	60.1	33.9	10	1	0.78
Tularaemia	321	38.3	9	76	61.8	51.1	9	1	0.6
West Nile fever[a]	212	72.2	8	134	87.6	98.6	9	25	12.0
Trichinellosis	168	44.6	9	56	74.7	40.5	9	0	0.0
Congenital toxoplasmosis	38	57.9	3	18	NA	63.2	3	0	0.0
Rabies	1	NA[c]	NA	NA	NA	0.0	0	NA	NA

Strong-evidence FBOs surveillance data, by causative agent and by food vehicle, EU, 2017

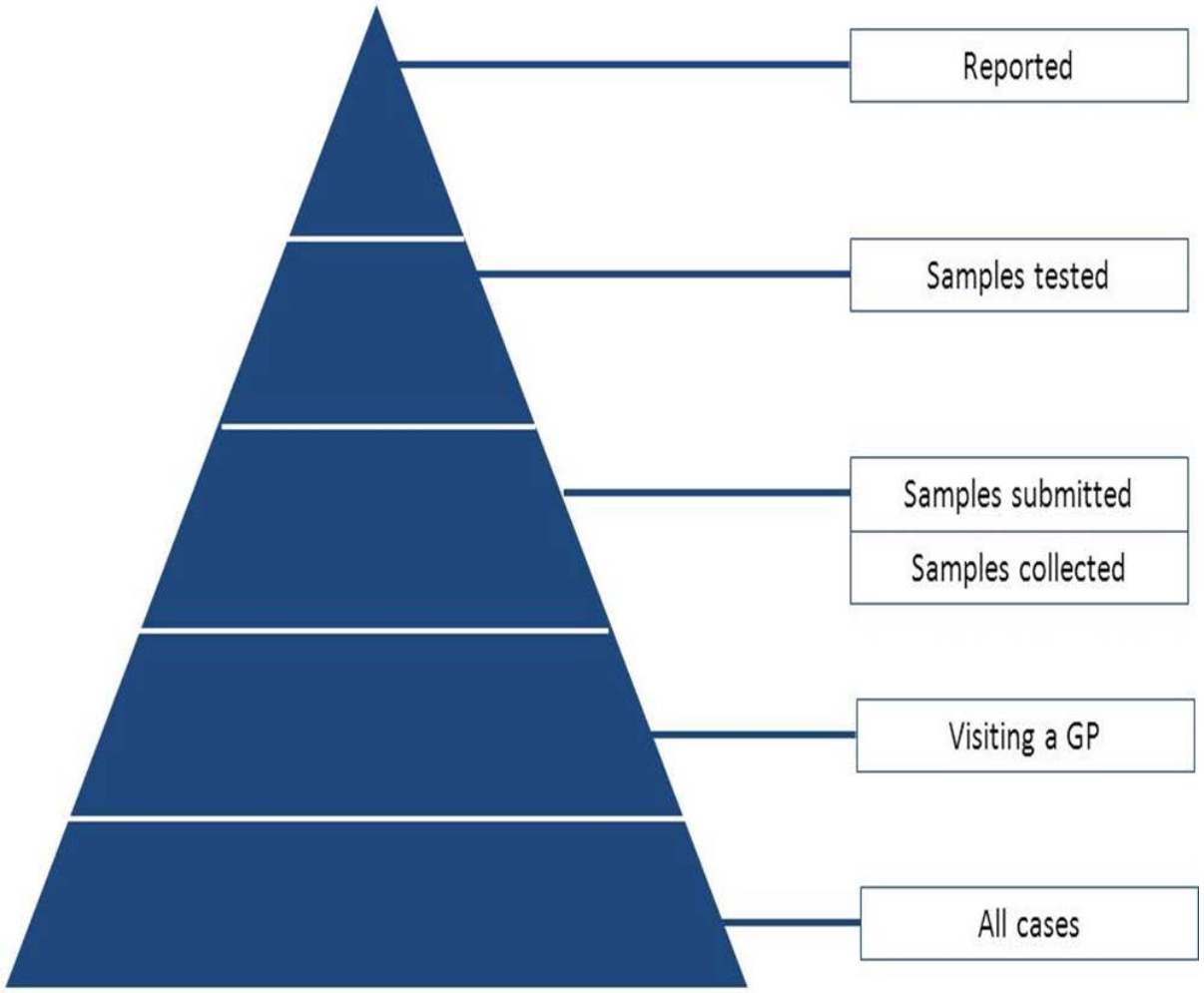


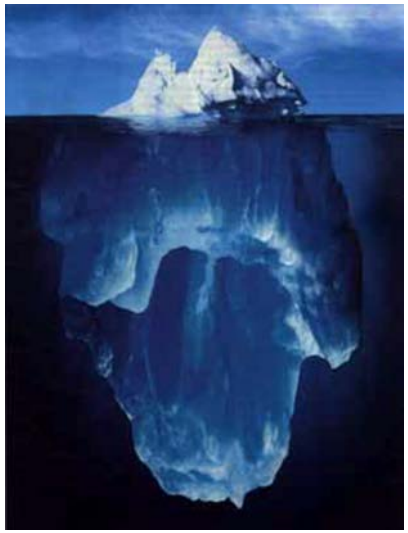
Strong-evidence FBOs surveillance data, by setting, EU, 2017

- What were the locations ('settings') where the food was consumed?
  - ✓ About one in three strong-evidence FBO happened at home ('Household') followed by 'Restaurants, pubs, street vendors and take away' 'Canteen or catering to workplace, school, hospital' and 'Other settings' (such as farms, fairs and festivals, other).
- What were the causative agents of strong-evidence FBO reported in those different settings?
  - ✓ They are shown in the figure to the right: in the home setting, the diversity of agents was largest and Salmonella was more frequently reported compared to other settings.



Food safety: surveillance pyramid





Knowledge gaps in regulatory science

Challenges ahead

Environmental risks e.g multiple stressors and bees

Development of new assessment methods:

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

Antimicrobial resistance

Evaluation of the safety of new products

- e.g. novel foods

Chemical mixtures/ combined toxicity of substances in food

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

Trends affecting food safety and zoonoses

- Globalized food/animal trade, travel and migration

long-distance transmission of pathogens, long and complex food chains

- Changes in agriculture and food industry

intensification and industrialization of agriculture, new technologies, and handling infected animals during food production

- Increasing vulnerability of humans

ageing population, immunosuppression, poverty, migration, emergencies

- Changing lifestyles

urbanization, eating food outside the home, more raw food

- Climate change

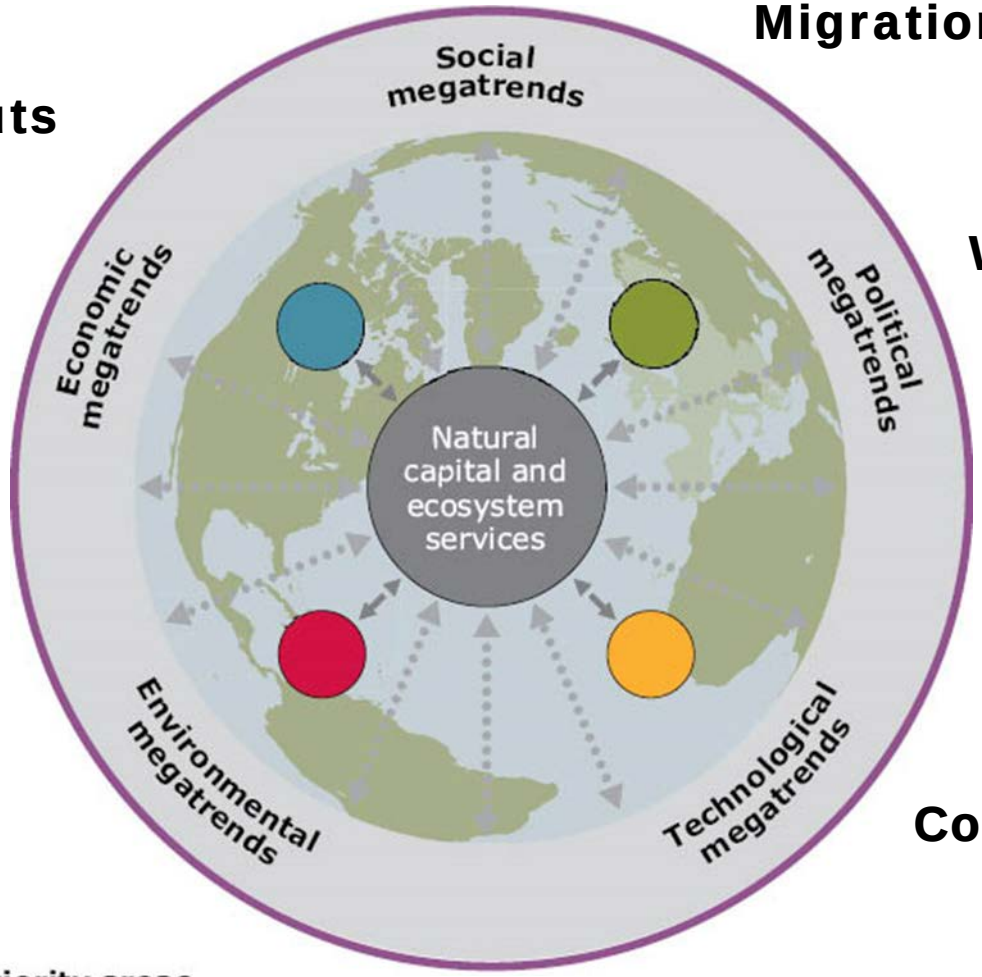
increase in temperature and humidity will affect the ability of many pathogens to survive, grow and/or expand

- Antimicrobial resistance

Changing world

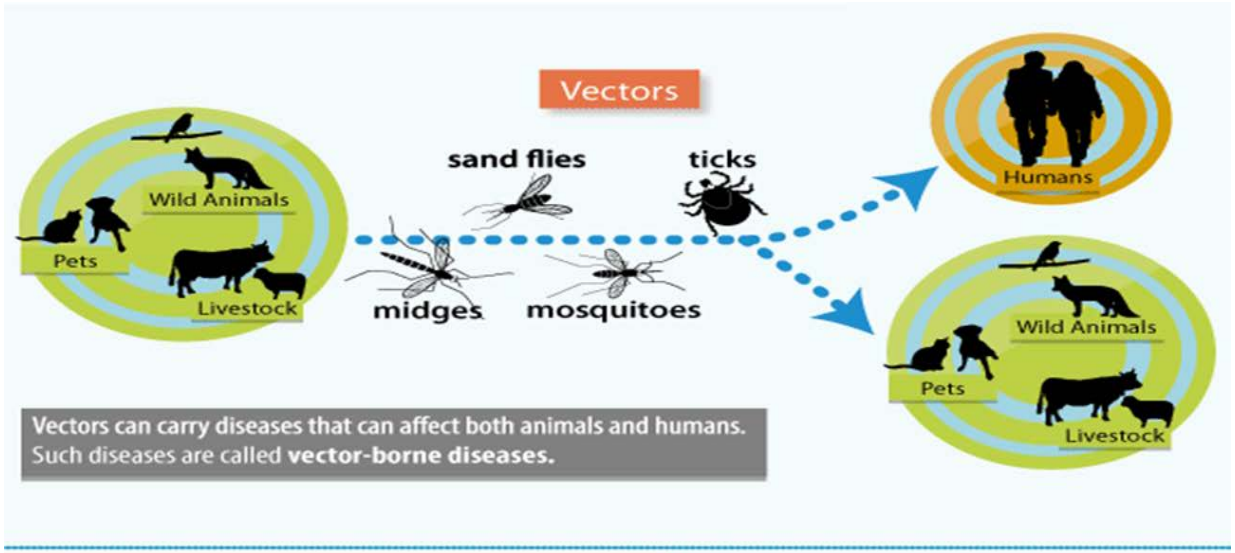
One health

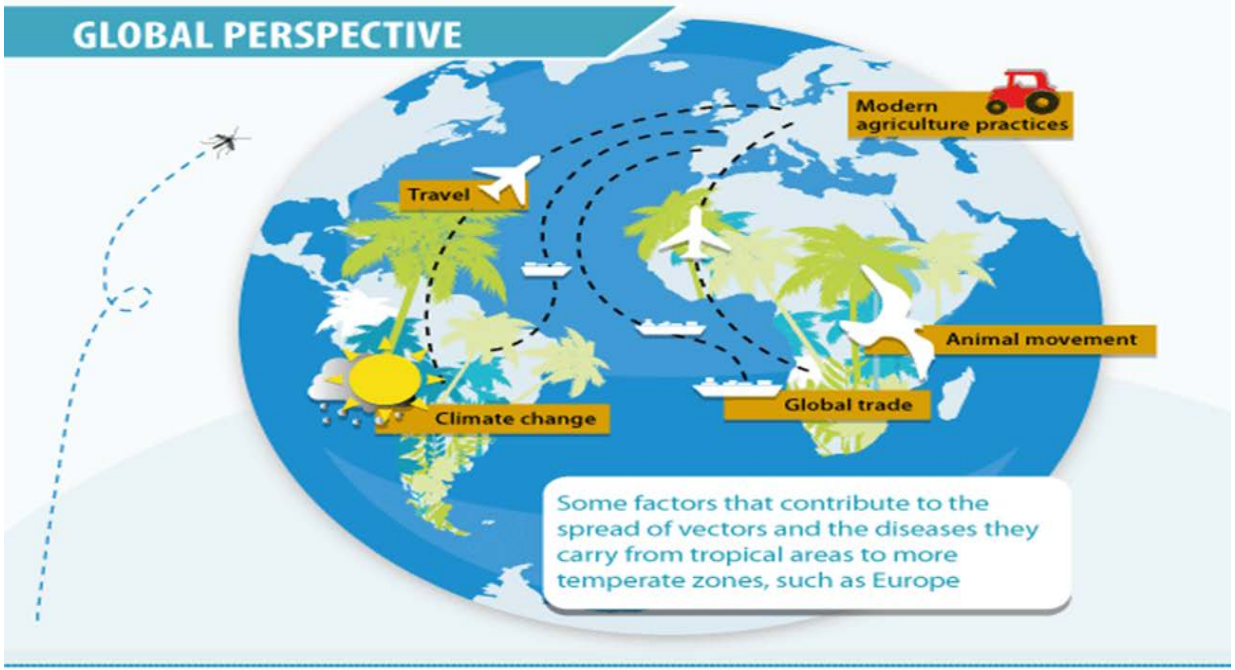
Global change drivers and trends



from **EEA (2010)** The European environment – state and outlook 2010 – Assessment of global megatrends.

Vector-borne diseases





Joint activities for preparedness

Case study: AMR

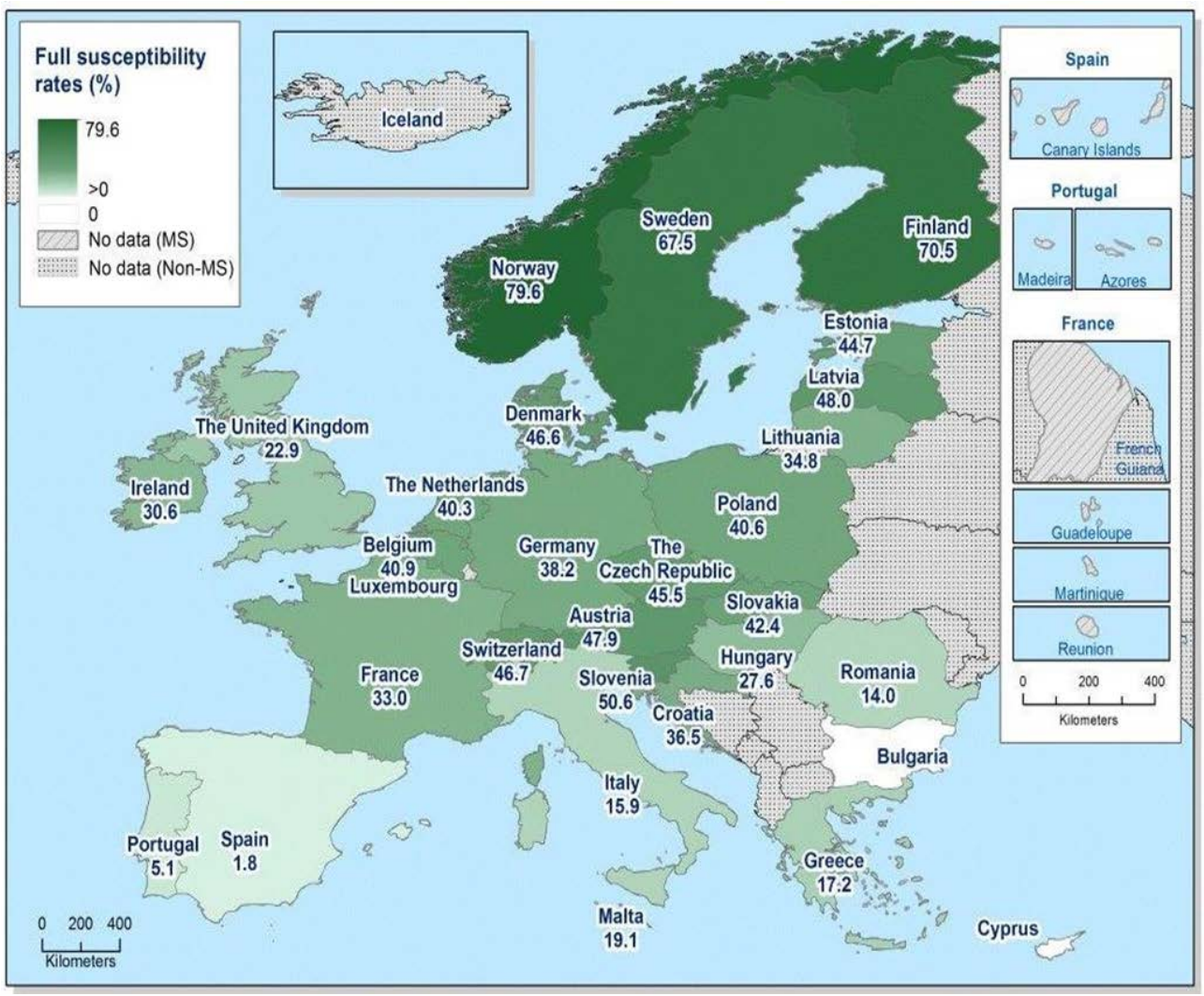
Why is AMR a serious threat to public health?

- 25 000 patients die annually in the EU alone as a result of infections caused by resistant bacteria.
- Globally this number could be as high as 700 000.
- 10 million deaths per year are projected between 2015 and 2050 if current infection and resistance trends are not reversed. Only 0.7 million of these additional deaths would occur in North America or Europe, with the largest numbers in Africa and Asia.

Number of deaths per year attributable to AMR by 2050 if current resistance rates increased by 40%

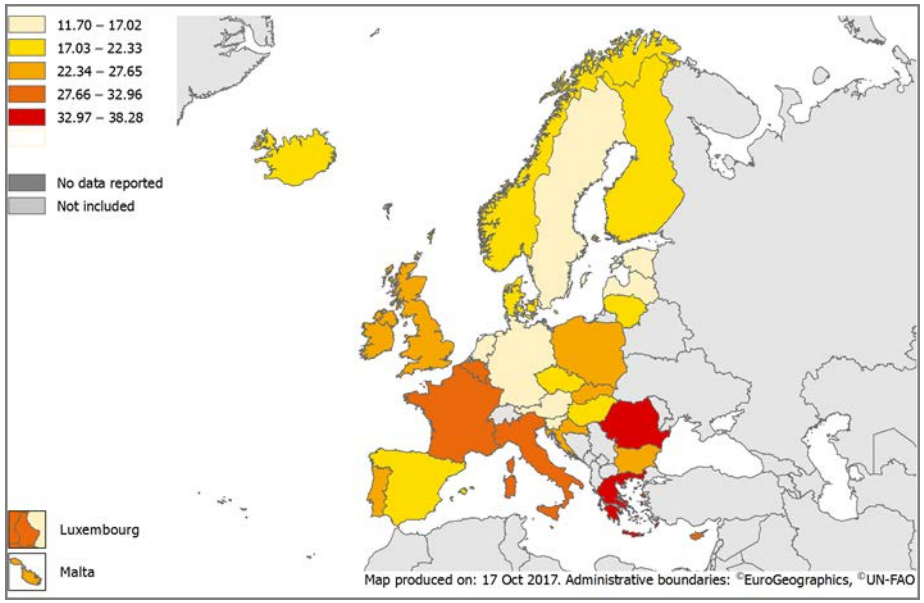
European Commission. AMR: a major European and Global Challenge, https://ec.europa.eu/health/amr/sites/amr/files/amr_factsheet_en.pdf

Complete **susceptibility** indicator
E. Coli from pigs (2015)



Considerable variations in consumption between countries within the animal and human sectors, respectively

Consumption of antibacterials for systemic use (ATC group J01) in the community and hospitals, EU/EEA countries, 2015, expressed as DDD per 1 000 inhabitants and per day

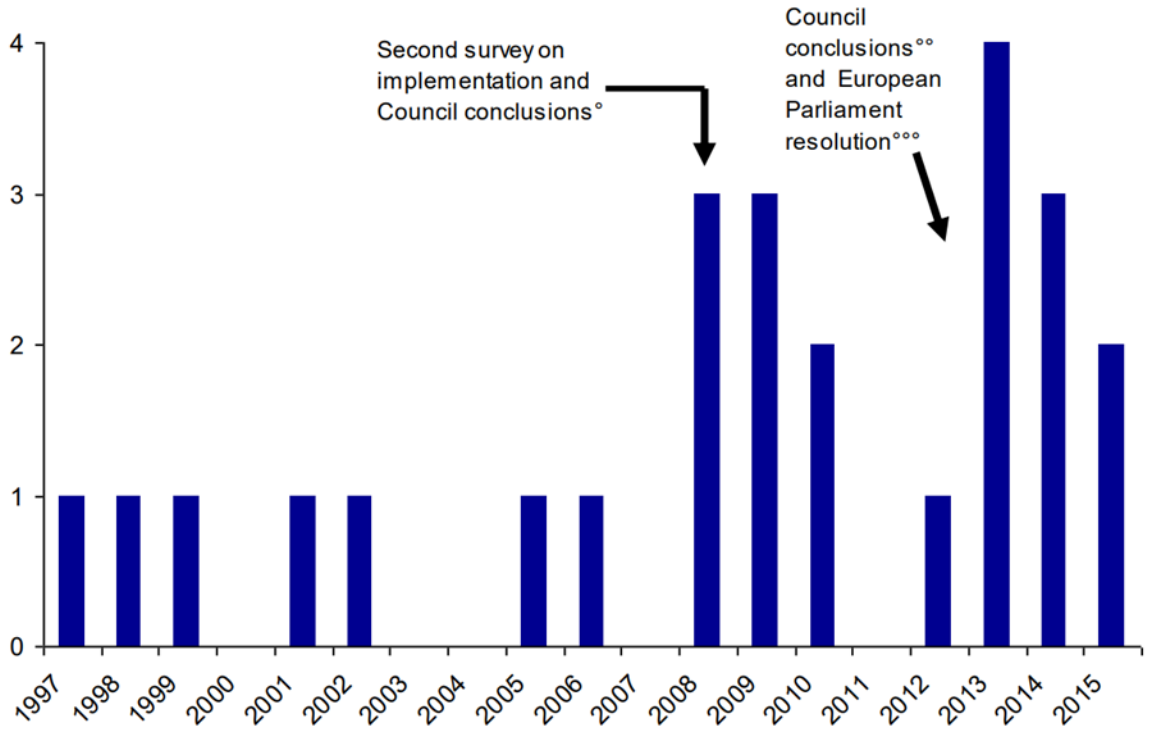


Spatial distribution of overall sales of all antimicrobials for food-producing animals, in mg/PCU, for 30 countries, 2015

For Austria, Czech Republic, Germany, Iceland and Spain , only community data were reported.

- Indicates that there is an obvious potential for reduction in other countries, particularly among the highest users.
- Several countries have reduced their consumption substantially, in particular in the animal sector

Implementation of Intersectoral Coordination Mechanism (n=25 countries)
Prudent use of antimicrobial agents in human medicine: third report on implementation of the Council recommendation - SANTE 2016
Periodic or annual reports from the ICMs.



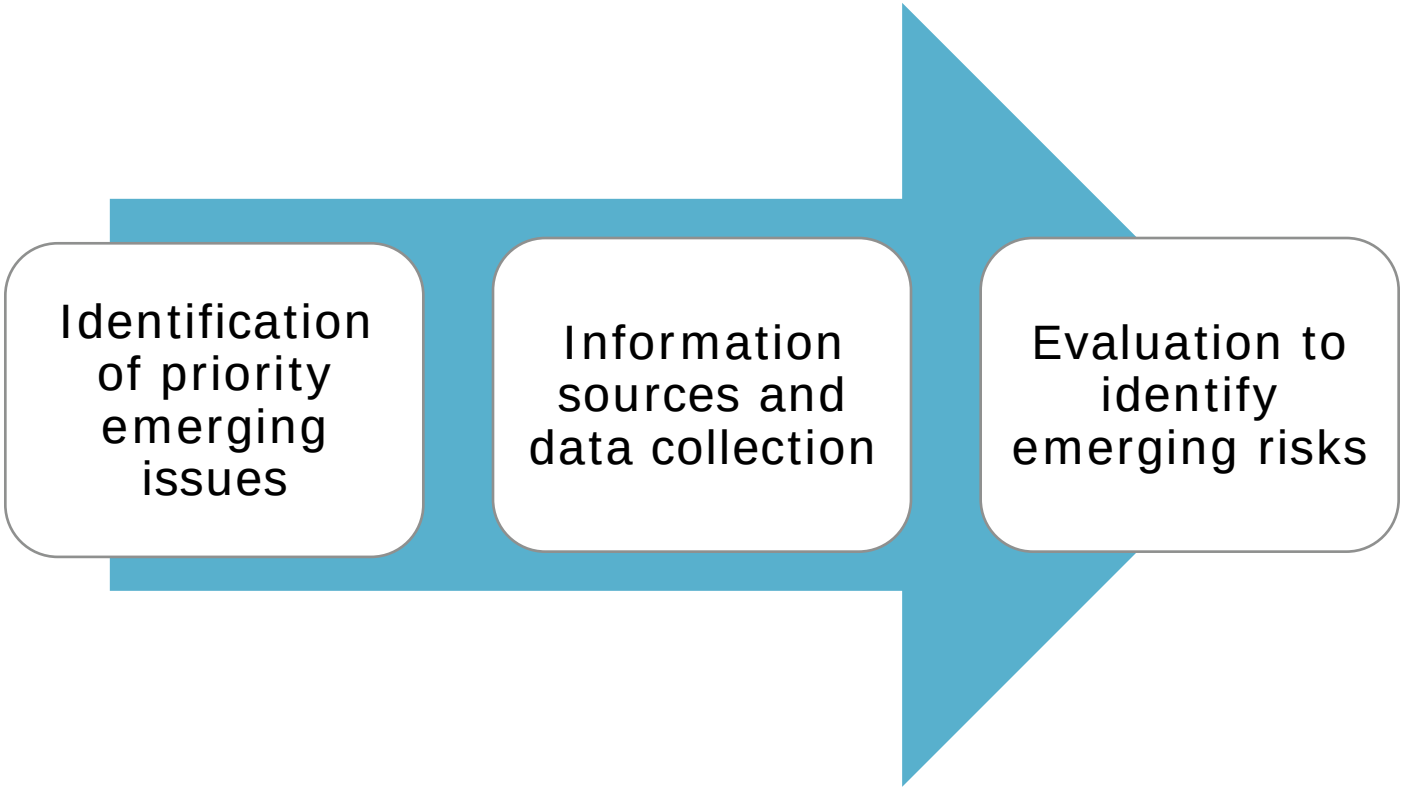
https://ec.europa.eu/health/amr/sites/amr/files/amr_projects_3rd-report-councilrecprudent.pdf

Global Health Risks
International cooperation is key

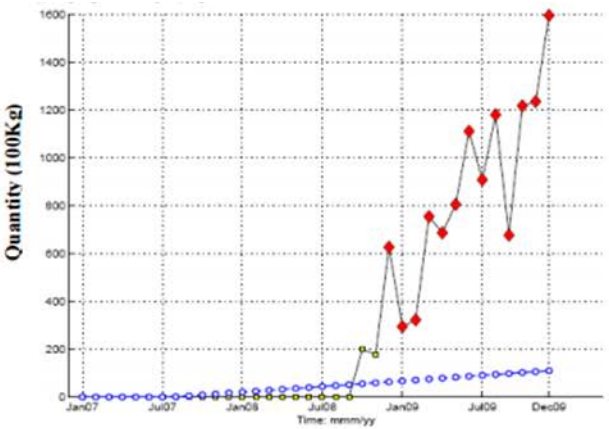
Cultural and methodological challenges

- 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



Data – Information - Knowledge

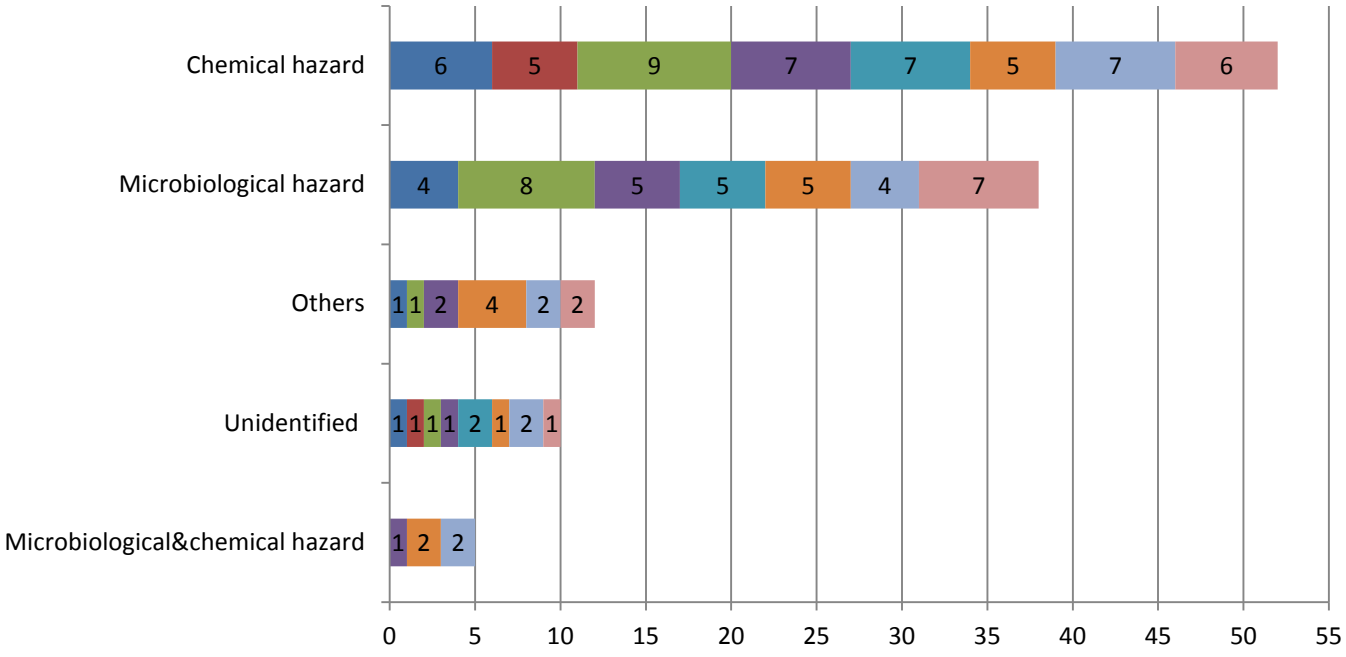


Signal FS-1. Product: 01112; Meat of bovine animals, fresh or chilled, boneless. Origin: Paraguay

BIG
DATA

CROWD
SOURCING

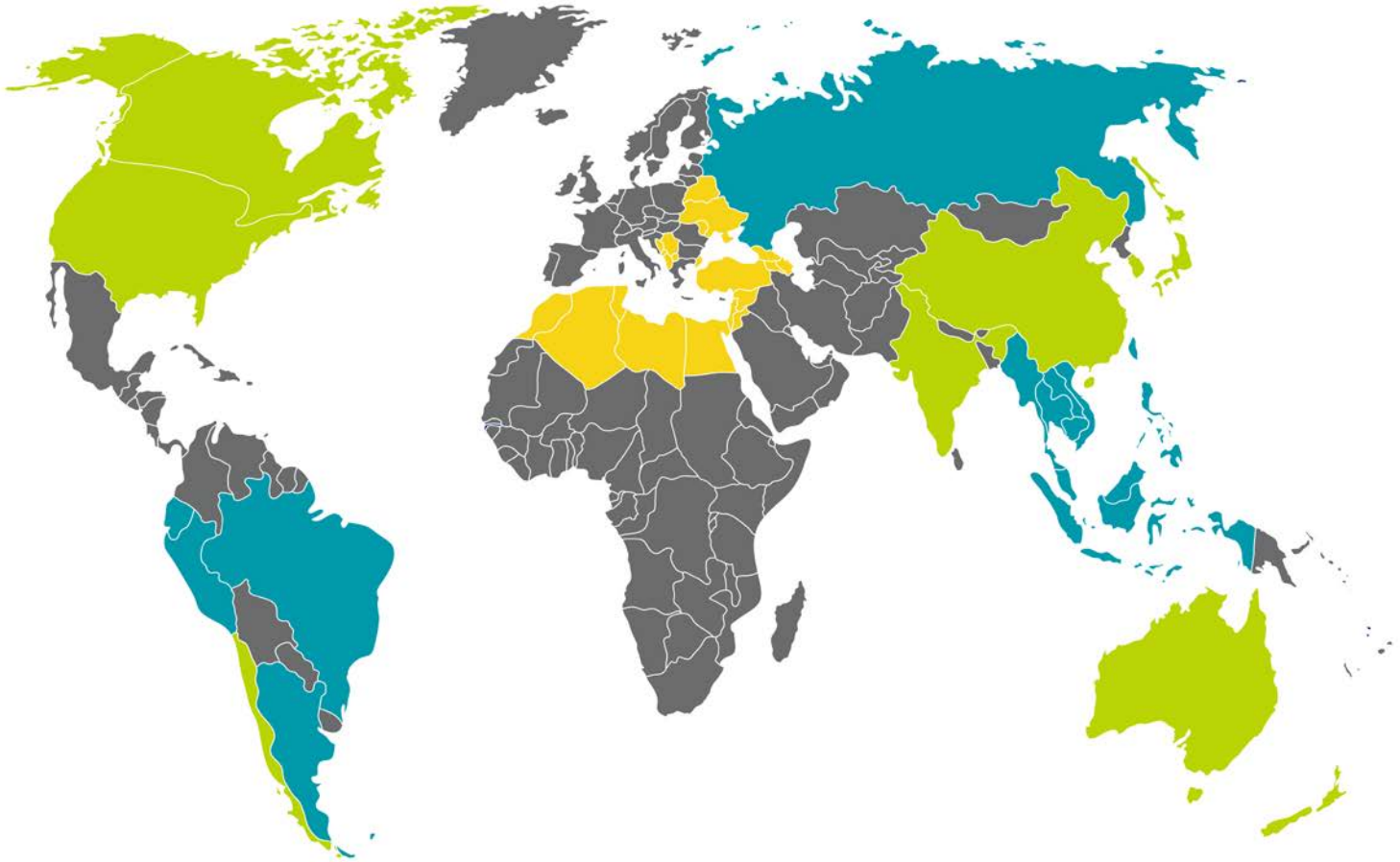
1.Identification of emerging issues 2010-2017 (1)



Conclusion	N	%
yes	49	41.88
no	27	23.08
inconclusive	19	16.24
no conclusion	22	18.80
total	117	100.00

Others (e.g. antimicrobial resistance, allergies and nutrition)

EFSA International cooperation



Partners | Established cooperation | IPA/ENP countries

Work together

Harmonized Methodologies & interoperability

Case study: FoodEx2

Organic yoghurt, cow milk, semi skimmed, with cereals and raspberries

Risk communication is

Bridging the gap between science and the consumer

Promoting and disseminating consistent messages

Understanding consumer perception of food and food safety risks

Who does EFSA communicate with?

RISK MANAGERS

POLICY MAKERS

RISK ASSESSORS

efsa

STAKEHOLDERS

PARTNERS

CONCERNED INDIVIDUALS

MEDIA

How?

MULTIMEDIA

- Videos
- Interactive tools
- Infographics,
- Data visualisation

EFSA JOURNAL

- All EFSA scientifc outputs

SOCIAL MEDIA

- Twitter,
- LinkedIn
- YouTube

EFSA WEBSITE

- News,
- Topics
- Alerts,
- Newsletter
- Lay Summaries
- Factsheets
- Events

SCIENTIFIC OUTREACH

- Science networks
- Infosessions
- Scientific Conferences
- Webinars

Understanding the societal context

Case study: stakeholders engagement approach

Permanent mechanisms

Stakeholder Fourm
Bussels, November 2018
Parma, October 2019

Stakeholders Bureau
Brussels, May 2019
Brussels, September 2019

Stakeholders engagement approach

- Boarder range of registered stakeholders
- Balanced approach to representation of interests
- Diverse ways of interaction through permanent and targeted mechanisms:
  - Scientific Colloquia
  - Discussion Groups (e.g. EU Bee Partnership for Data Sharing)
  - Roundtables (e.g. NGO roundtable, Industry roundtable),
  - Communicators Lab, Info sessions, Framing of Questions
- Equal opportunity to provide input to EFSA's work

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