

10 November, 09:30-12:00

# Micro and nanoplastics in food: EFSA's activities

**Angelo Maggiore**

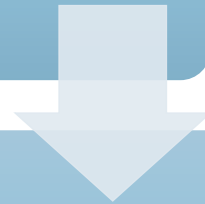
Scientific Officer  
Risk Assessment and Scientific Assistance Department  
Scientific Committee - Emerging Risks Unit

Trusted science for safe food

Micro/nanoplastics  
as an emerging  
risk for food safety



CONTAM Panel  
statement



The EFSA  
Colloquium

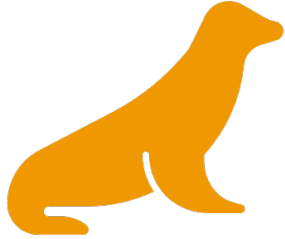


# Preparedness to the future: emerging risks identification

Interacting drivers

- Socio-economic
- Environmental
- Technological
- ...





## EREN meeting – 2013:

- microplastics in marine ecosystem: known as an environmental issue
- potential emerging food safety issue?
- because of lack of data, no decision on food safety risk
- recommendation: EFSA to monitor the issue, consult other bodies and collect info



## BfR's request to EFSA - 2015

EFSA to issue a scientific opinion on the presence of plastic microparticles and nanoparticles in food, with particular focus on seafood.

## ■ Occurrence

- seafood (fish, shrimp and bivalves), honey, beer and table salt;
- digestive tract of marine organisms;
- an average portion of mussels: 7 µg of plastic.

## ■ Effects

- >90% of ingested micro/nanoplastics excreted
- particles >150 µm:  
not absorbed, could cause only local effects on immune system and gut inflammation
- particles < 150 µm:  
could translocate across gut epithelium, causing systemic exposure
- particles <1.5 µm:  
could penetrate organs.



Analytical methods (further) developed & standardised – QA demonstrated



Generation of occurrence data



Research on toxicokinetics and toxicity - including studies on local effects in the GI tract



Research on degradation of microplastics & potential formation of nanoplastics in human GI tract



A coordinated approach to assess the human health risks of micro- and nanoplastics in food



further efforts are needed to generate the data necessary for a comprehensive human health risk assessment.



expertise of different stakeholders, coordinated research initiatives and international cooperation



full life-cycle risk assessment, transparent communication, risk perceptions and stakeholders' priorities.

# Thank you! Questions?

