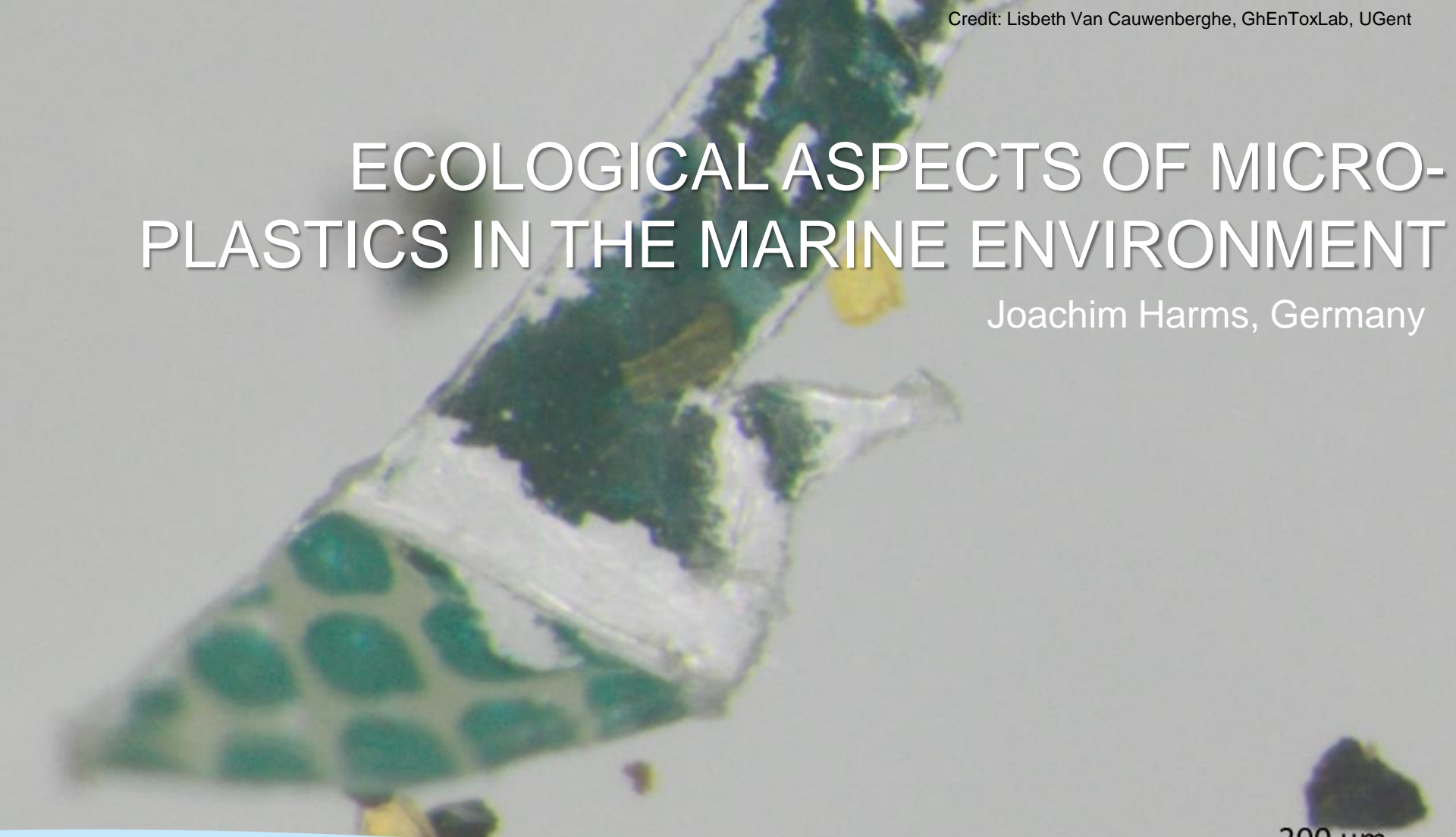


ECOLOGICAL ASPECTS OF MICRO-PLASTICS IN THE MARINE ENVIRONMENT

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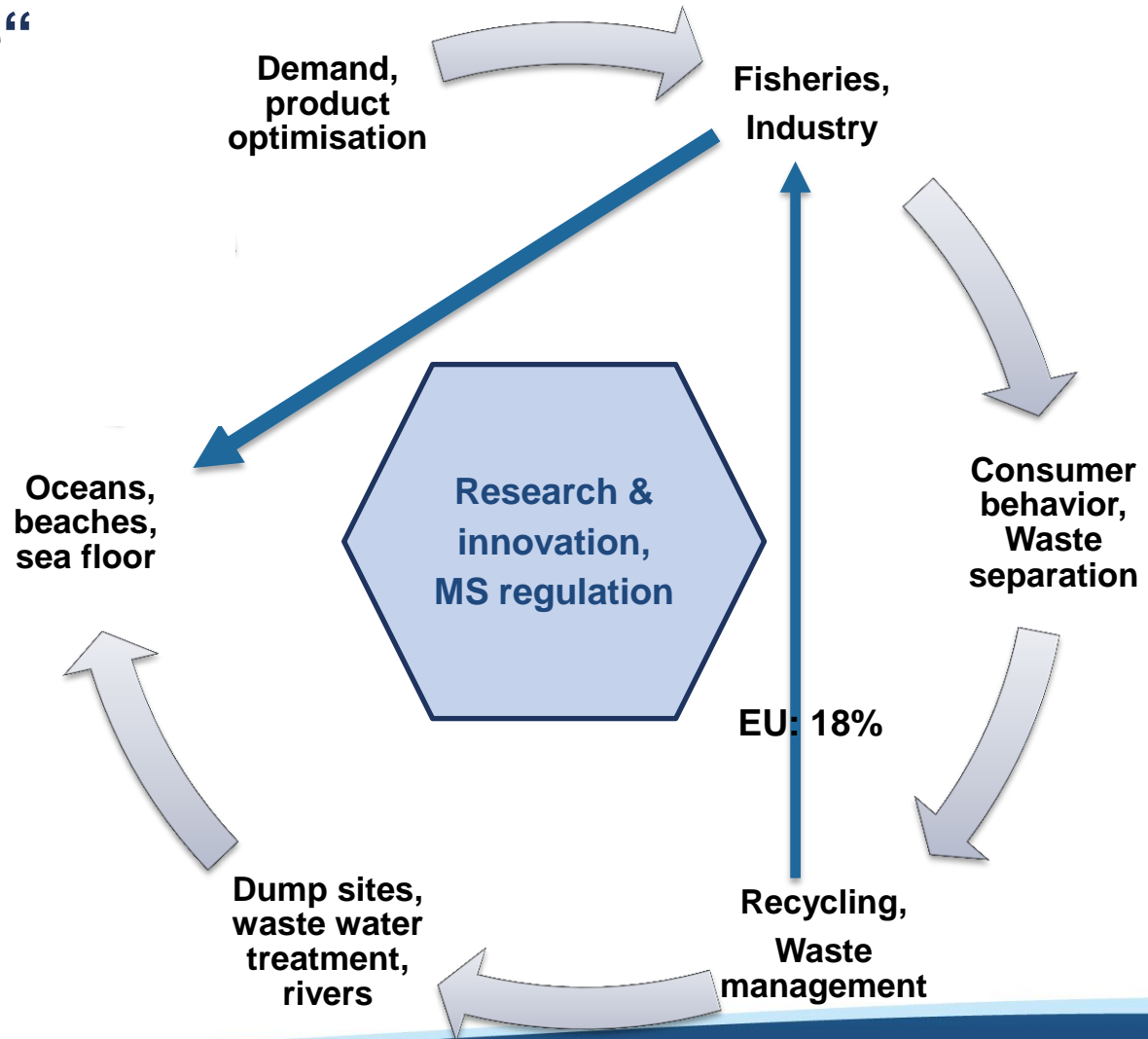
200 μm

A microscopic image showing a fish larva, likely a zebrafish, with a large, dark, irregularly shaped microplastic particle in its gut. The larva is oriented vertically, with its head at the top. The gut is filled with green, granular material, and the microplastic particle is a prominent, dark, irregular shape. A scale bar in the bottom right corner indicates 200 micrometers.

Background: Plastic Waste

- Marine plastic and microplastic litter is more and more recognized as a newly emerging problem for marine systems worldwide.
- Plastics are used in food packaging, basic household items, personal care products, agriculture and industry.
- The global production of plastics was 300 million tons in 2013, of which 60 million tons were produced in Europe alone.
- The degradation rate of plastic debris is negligible but larger plastic litter usually disintegrates, by UV radiation and turbulence, into tiny fragments known as microplastics.
- Another source is the shedding of synthetic fibres, e.g. from textiles and fishing related items.
- Full decomposition will take hundreds of years.

Plastic „cycle“



Plastic waste in the marine environment

Plastic waste enters our seas through different pathways:

- Direct or indirect dumping through rivers, harbours and beaches
- Waste from vessels and
- Nets and gear from fisheries

Plastics and microplastics are persistent, ubiquitous and have a high potential to cause **physical harm** and **toxicological effect**.

However, there are a **variety of methodologies** for identifying and quantifying plastics - leading to a **lack of comparable data!**

Therefore, 10 member countries launched a pilot action...



Pilot Action: Ecological aspects of Micro-plastics

Aim

- Testing the harmonisation of research methodologies and protocols for an emerging field and conducting a **first joint call** under the JPI Oceans framework.

Activities & new tools

1. Bibliometric study to map microplastics research field
2. Foresight study to identify research needs
3. International scientific experts workshop organised by Belgium, 14 - 16 January 2015, Ostend
 - Review state of science, develop best practices in methodologies and discuss steps towards a risk assessment framework
 - Report with best-practices and recommendations to be published
4. Joint call for proposals...

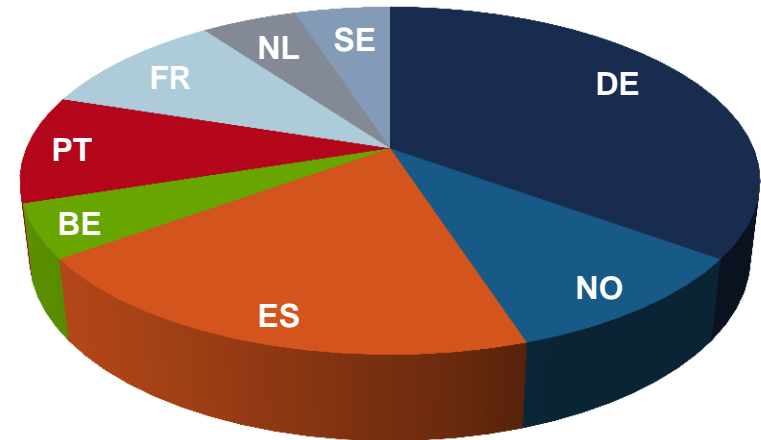
Joint Call on Microplastics

- 10 JPIO member countries (BE, DE, ES, FR, IE, IT, NL, NO, PT, SE) supported the joint call for proposals
- Thematic foci:
 - Validation and harmonisation of analytical methods (inter-laboratory study)
 - Identification and quantification of microplastics
 - Eco-toxicological effects of microplastic – impact on marine organisms
- Total allocated budget of 7.5m €
- Submission deadline closed on 31 March 2015

Joint Call on Microplastics

- 170 partners in 21 joint proposals submitted
- requesting 26m € of funding

- Distribution of Coordinators:



- The successful proposals will be funded from December 2015.

Anticipated Outcome

1. Harmonized and validated analytical methods
2. Improved understanding of regional & ecosystem distribution
3. Improved understanding of toxicological impacts on marine systems

