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# Microplastic pollution

Plastic particles smaller than 5 mm

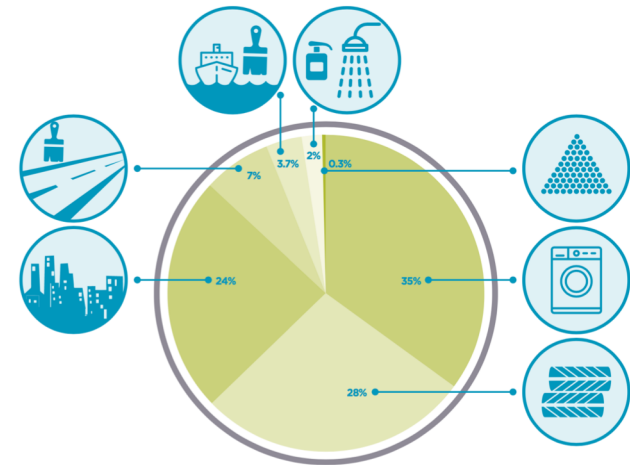
Microplastics everywhere  
water, air, food ... people

High concentrations in rivers, seas, oceans, sediments,  
fragments, fibers, films, foams, beads/granules  
durable and dispersed

An emerging pollutant that will require attention

## GLOBAL RELEASES OF PRIMARY MICROPLASTICS TO THE WORLD OCEANS

BY SOURCE (IN %).



*Boucher, J. and Friot D. (2017). Primary Microplastics in the Oceans: A Global Evaluation of Sources. Gland, Switzerland: IUCN. 43pp.*

## Effects response

Effects on the natural environment (organisms) and humans largely still unknown – intensive research

- Plastic components/additives found in blood/milk

Public concern high >> policy concern >> measures at all levels (national, local, regional, transborder)





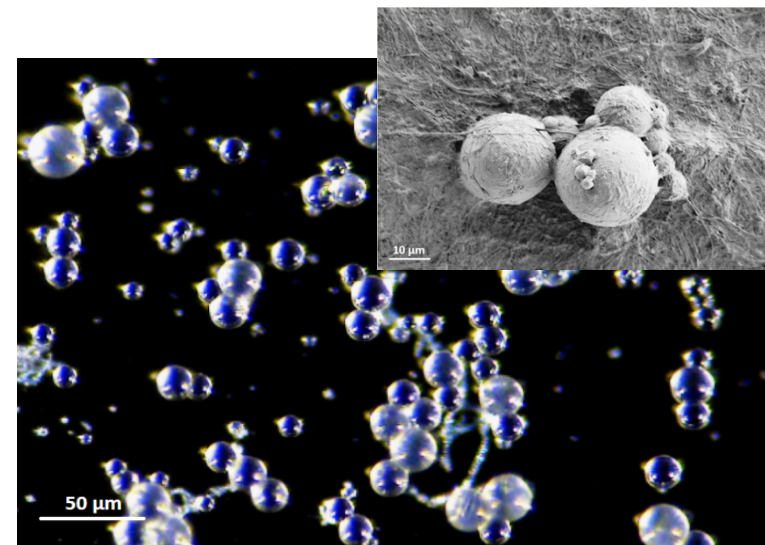
# Stopping microplastics

Dispersed pollution hard (impossible) to clean  
>> preventive measures

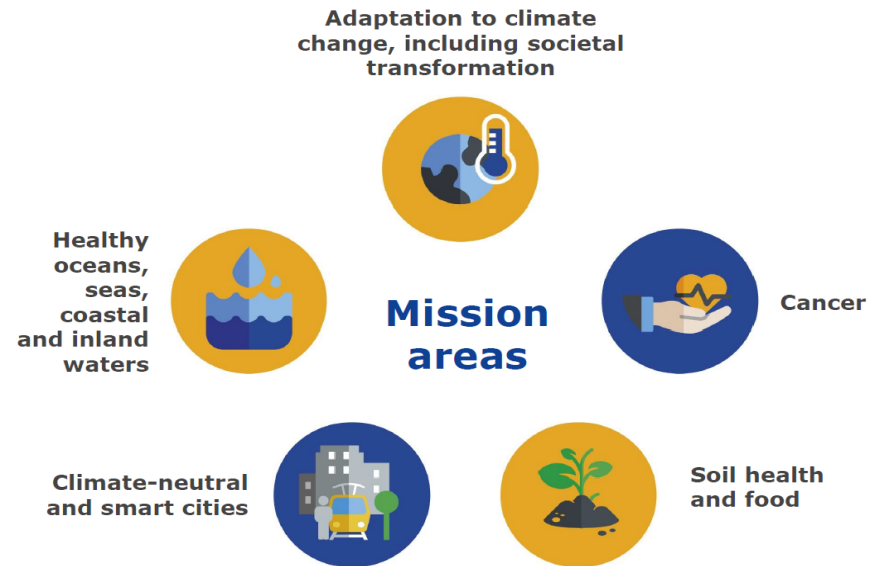
Waste handling, sewage, status of plastics  
identification of sources >> stopping emissions (beads)

Policy attention exists  
(plastic strategy, single use plastic products...)

Solutions slow to come  
capture, biodegradable, design,



# Challenge and opportunity



Interdisciplinary issue

Science, technology, environment health industry economy

Innovation necessary

Policy (plastic strategy, single use plastic products ...)

Implementation of new standards

Shared problem



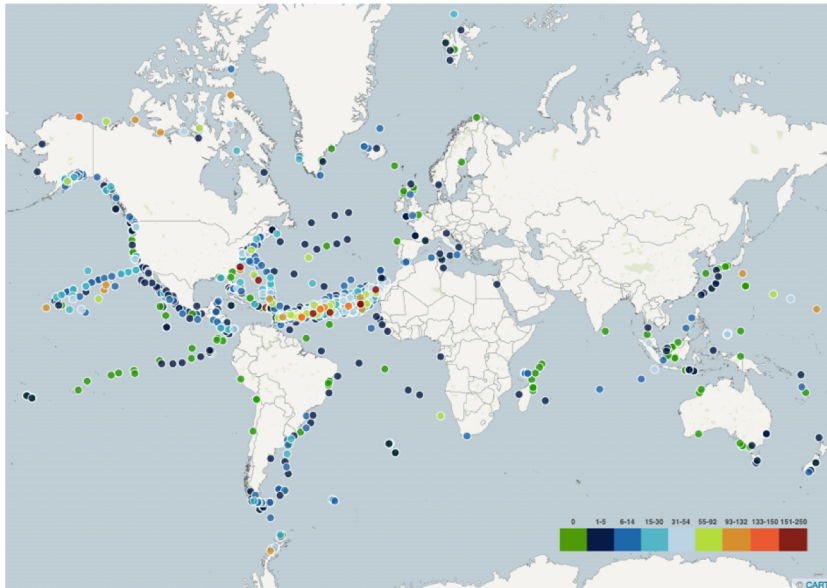
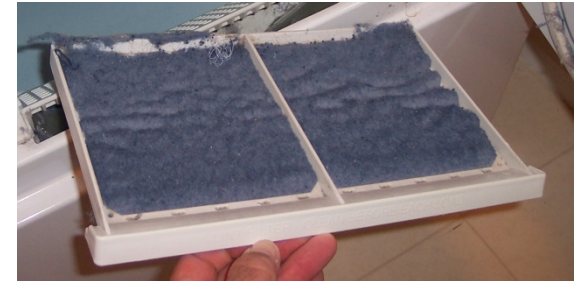
EU leadership in environmental awareness, standards & solutions

# Fibres

Every time we wash clothes and textiles **fibres** are released into the waste water.

60+ % of clothes made of synthetics

Est. 35 % microplastics are fibers



A.P.W., Barrows, S.E., Cathey, C.W., Petersen, *Microfiber contamination in the marine environment: global patterns and the emergence of a new pollutant, Environmental Pollution* 237 (2018) 275-284



PLANET CARE SOLUTIONS

## Mission

We **stop microfibres** from leaving the washing machine by providing a convenient **filter solution** that helps us stop polluting the oceans

Washing machine **not cause** but convenient **choke point** for removal

Challenge:

**efficient** (high fibre retention)

**practical** (ease of use for customer)

**affordable** (small additional cost)





# Solutions

Filters for:  
domestic and commercial washing machines  
existing or new

B2C (domestic retrofit, **external**: market ready, in-drum)

B2B (new machine installation, **commercial**)

housing + replaceable cartridge





# Efficiency

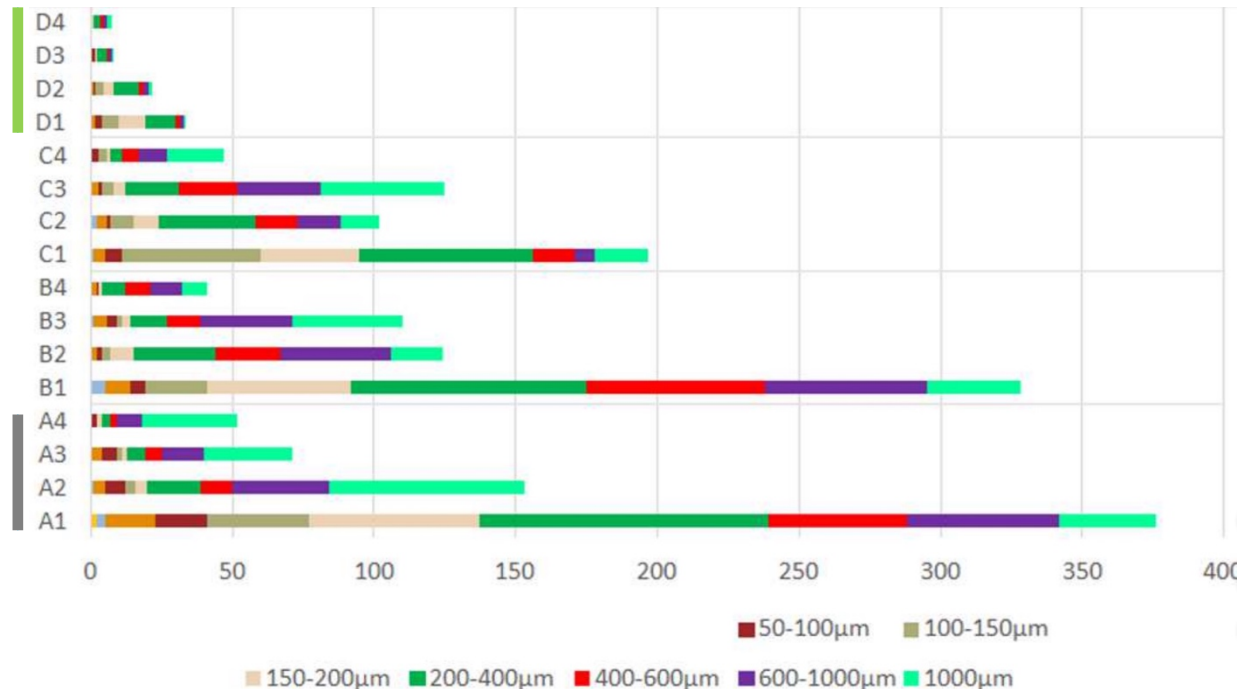
90% retention, cartridge 20 washing cycles

External, independent, **third-party** testing

National Inst. Of Chemistry Slovenia, CNR-IPCB Italy, **Swedish Environmental Protection Agency** <http://www.swedishepa.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/plast/1003-09-report-filters-for-washing-machines.pdf>

PlanetCare  
Filter avg (4)  
88,5%

Reference  
No filter



# Turning real

Prepared for launch in the Netherlands (starting Sept. 21<sup>st</sup>)

## External filter

Subscription model 9,95 € /month



By end of year:

Beta test 20 **commercial filters** in dry cleaning outlets in California.



Slovenia: 9 S3 topics

Best fitting: Circular economy (technologies)

<https://srp-krozno-gospodarstvo.si>





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