



Stakeholders workshop on microplastic particles

Break out session on Detergents

Roberto Scazzola – A.I.S.E.
Helsinki, 31 May 2018

THE A.I.S.E. NETWORK

(AS OF MAY 2016)

30 National Associations in Europe and beyond, representing more than 900 companies!

IN SHORT

Total number of member companies active in the soaps, detergents or maintenance products domains	1251
Number of companies which are small and medium-sized enterprises	638
Number of companies which are active in the professional cleaning & hygiene domain	535
Number of companies which are active in the consumer product domain	602



TIPS FOR SAVING WATER, ENERGY, CO₂ AND MONEY

- Avoid underfilling the machine
- Use the dosing instructions
- Wash at low temperature
- Save packaging: recycle or refill

WWW.CLEANRIGHT.EU

A truly global issue



A.I.S.E. acknowledges the challenges faced by society in relation to aquatic litter.

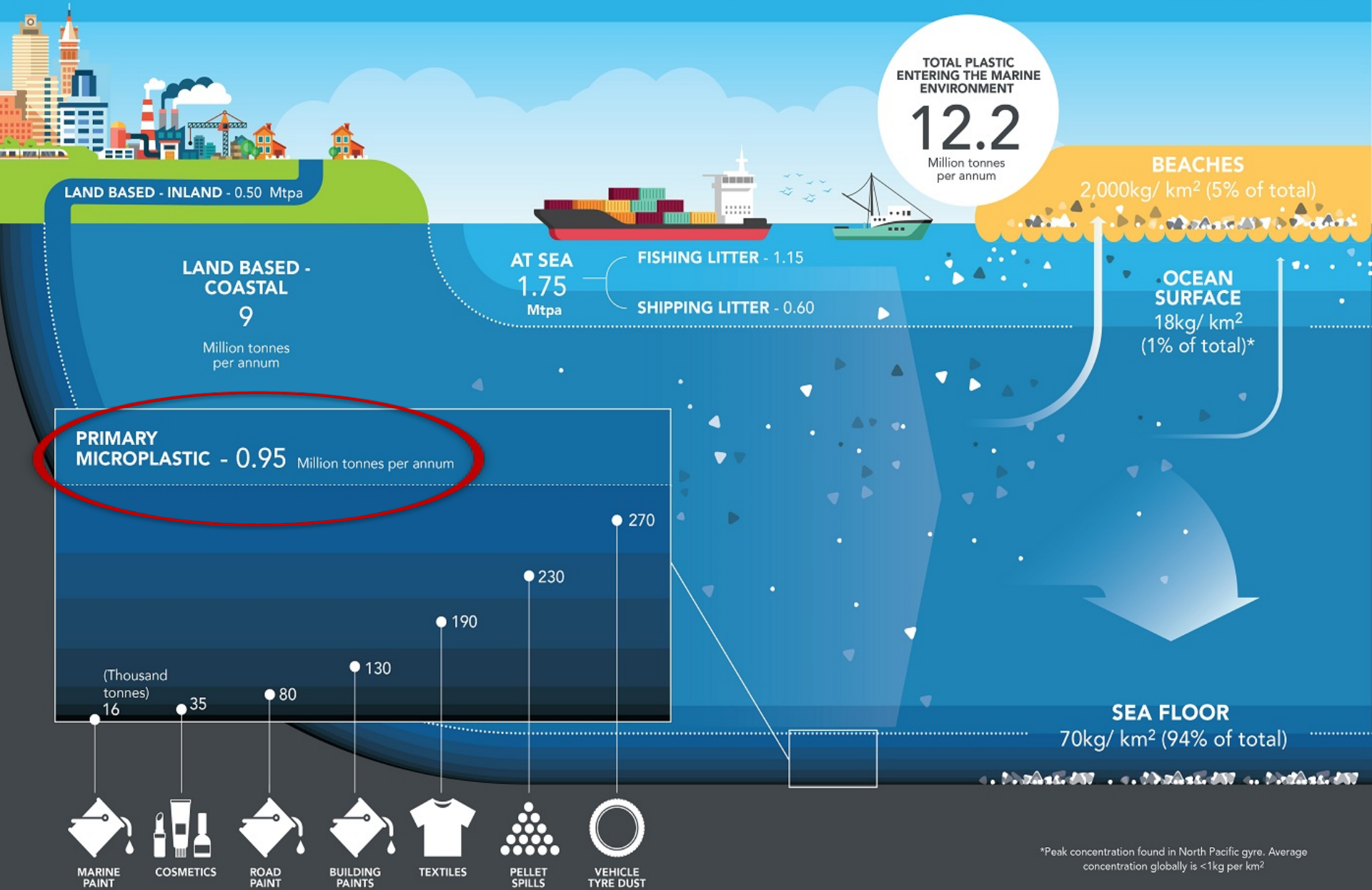
A.I.S.E. is supportive of a multi-stakeholders approach in addressing the issue of aquatic litter and preventing the release of (micro)plastics:

- Promote action at EU-level (Single market)
- Align objectives with other global jurisdictions in order to reduce plastic leakage in the environment and (micro)plastics pollution in the world's oceans
- Ensure that any regulatory action taken is proportionate, effective and science-based.



Voluntary actions should be part of the solution.

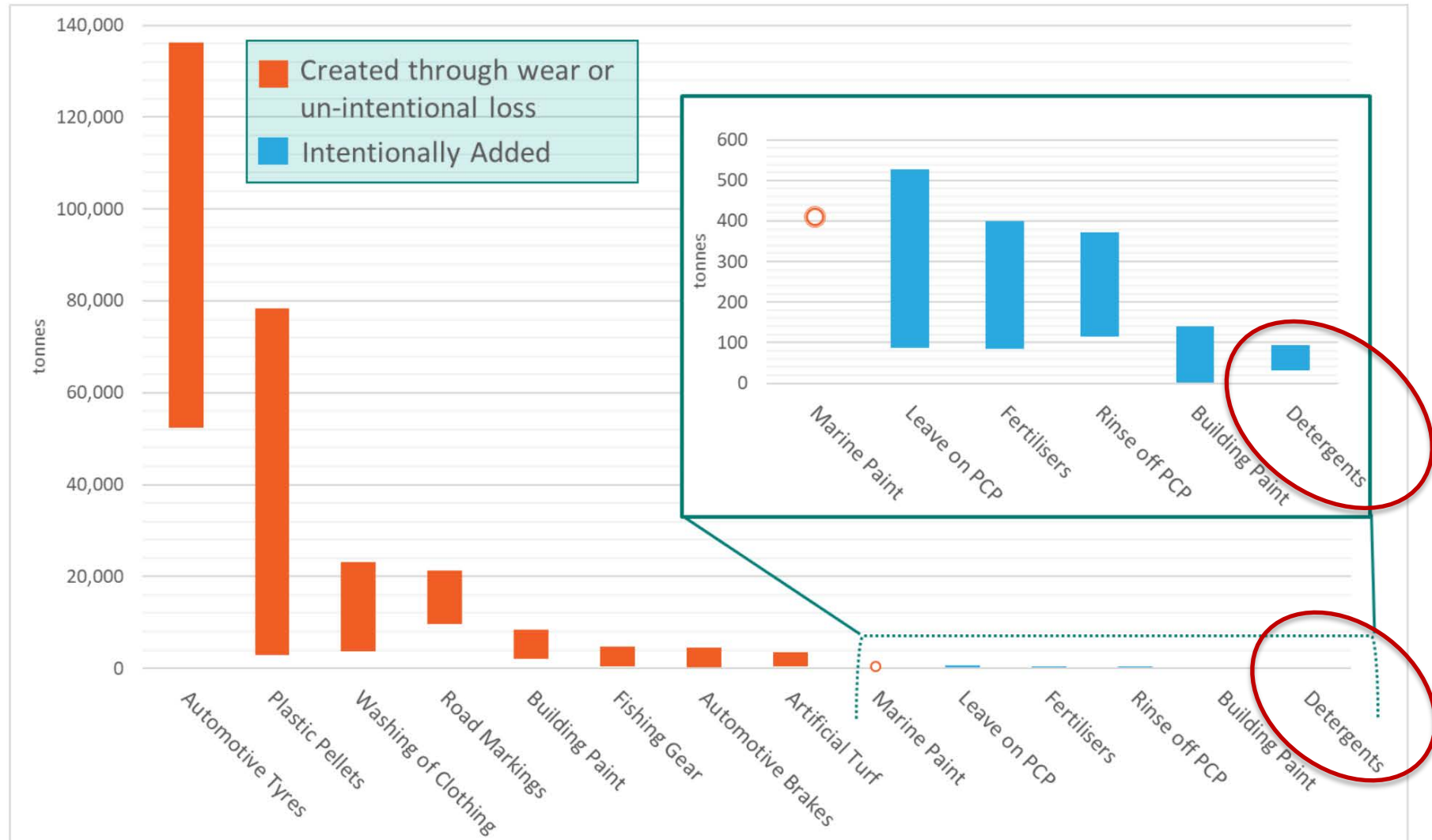
PLASTICS IN THE MARINE ENVIRONMENT: WHERE DO THEY COME FROM? WHERE DO THEY GO?



The size of the issue

From Eunomia and Amec Foster Wheeler modelling

Figure 2 – Annual Emissions of Microplastics to Surface Water (Upper and Lower Ranges)³



The definition of Microplastics is critical

- The definition should cover materials contributing to aquatic litter and the potential risks (*adverse physical effects for aquatic organisms*).
- Definition is critical: NOT ALL polymers are plastic (eg starch and cellulose are polymers!).
- A.I.S.E. proposes the following definition:
“Microplastic particles: water-insoluble solid plastic particles with a size less than 5mm that can be found as aquatic litter”.



The definition of Microplastics is critical

- MPs definition across the world: US, Australia, New Zealand, Canada are all based on 'solid', 'plastic', 'insoluble' and '<5 mm'.
- Critical elements to be clarified (ECHA's definition): dimension, solubility, physical state, persistency, synthetic vs natural.
- New Plastic definition (draft EU Directive single use plastic): *"... and which can function as a main structural component of final products "*.



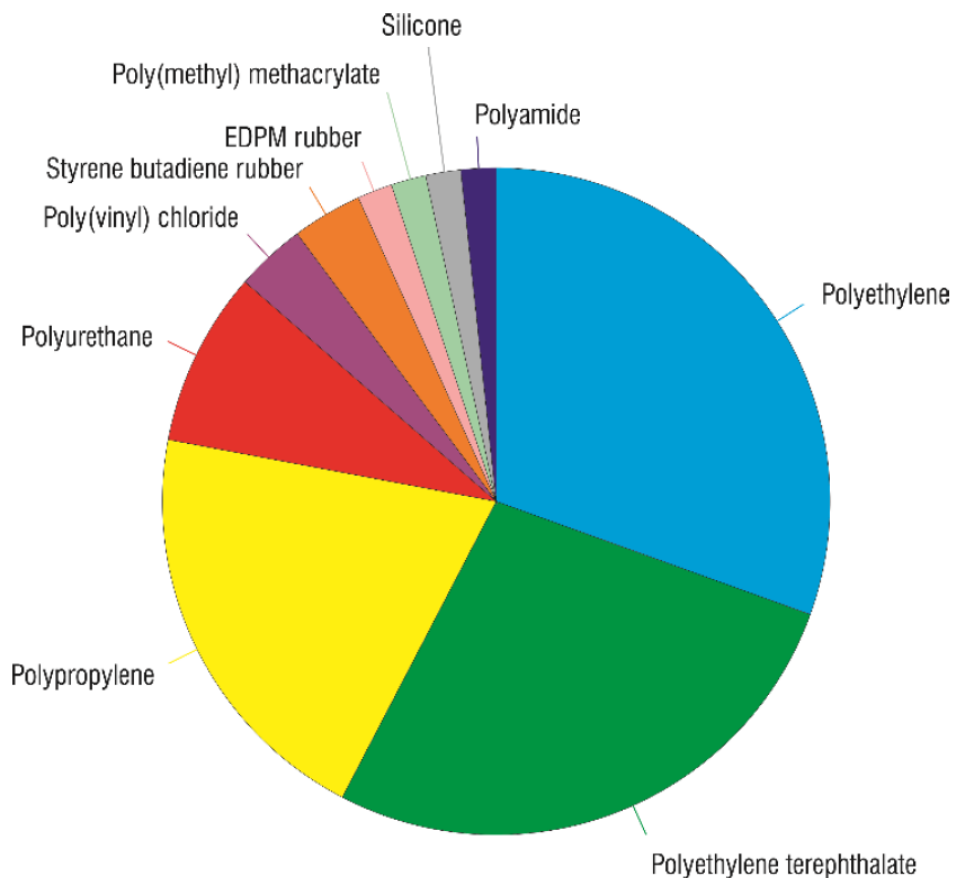
Environmental exposure

- Household and industrial waste waters are subject to wastewater treatment plants (WWTP).
- Several studies conducted conclude that WWTPs remove solids and plastic particles with a high degree of efficiency.
- An extensive study conducted by the Danish EPA concluded that WWTPs removed >99% of microplastic (2017).
- Since microplastics are efficiently removed via WWTPs processes, another potential source is runoff from lands fertilized with WWTP sludge.
- Risk to the terrestrial environment remains to be assessed
- Biodegradability/persistence (McDonough 2017)



MP in sludges

NIVA 2017 identified on WWTP sludges over 75% of MP was composed of Polyethylene (30.5 %), PET (26.7 %) and PP (20.3 %).



Plastic microbeads



Very limited use of thermoplastic microbeads: niche applications (cleaning of ceramic/glass surfaces).

Trend: Decreasing 140 t/y 2017, 66 t/y May 2018.
R&D is ongoing, challenges for SMEs in particular.

Main function: Mostly polyurethane-PE granules for gentle cleaning of hard and delicate surfaces such as ceramic/glass.

Alternatives: Natural ingredients as silica.

BUT: The performance will decrease and instability issues have been reported. Higher hardness leads to be inappropriate for certain applications requiring softer abrasive function's.



=> Companies concerned are already investing in alternatives and phasing out where possible.

Opacifiers

Identity: Polyacrylates copolymers

Trend: Data under assessment.

Main function: Opacifiers give products a unique appearance that is desired by consumers creating a pleasant, milky opaque appearance that radiates efficacy, mildness and care to the consumer.

Product appearance is a key driver for consumer choice; it is an important consumer cue for essential product attributes (often this used for mild products, sensitive skin etc.).



Alternatives: Titanium dioxide (TiO₂) is a well known alternative to polymers and polyacrylates.

BUT: TiO₂ is in the process of being classified as suspected as causing cancer by inhalation (Cat. 2).

=> Regrettable substitution?

Encapsulants for fragrances



Identity: Perfume with polymeric coating (e.g. Melamine Formaldehyde copolymer)

Trend: Data under assessment.

Main function:

~1% of the perfumes added survive the washing, rinsing and drying process (with encapsulants, up to 20%).

Used in fabric enhancers and detergents, encapsulants reduce the quantity of perfume required (~ 30% less).

■ Encapsulation allows further progress in laundry product compaction

■ **Alternatives:** see IFRA presentation

For **71%** consumers, **perfume** is top decision factor when buying laundry detergents



Costs of reformulation

Majority would attempt to reformulate as a result of a restriction; however, if alternatives are not known this could drive closure of product lines (e.g. waxes). In addition 'forced reformulation' of several products in a limited time period is likely to cause high disruption (especially SMEs)

Reformulation can require from 2 to 5 years (due to issues on stability, compatibility, efficacy and availability of alternatives etc.).

RPA estimated 63k-103k total formulations in EU

Rough estimations indicate that ECHA's definition could result in costs of €320m-1.1bn€: up to 25% sector value added and 50% of its profits (to be confirmed via SEA).



Final remarks

- The right definition is KEY and needs to be based on proportionate, enforceable, effective and science-based action.
- Use of MP ingredients is limited (A.I.S.E. definition); however, a too large scope could disrupt competitiveness of EU industry with limited/no added value.
- Alternatives are often not readily available or unknown (SMEs dimension over 700 companies).
- Reformulation costs will be significant for an already over-regulated Industry (EU Cumulative cost assessment).
- Transitional period to be calibrated on impacts.



Recital 1 REACH

«*This Regulation (**restriction**), should ensure a high level of protection of human health and the environment as well as the free movement of substances, on their own, in mixtures and in articles, while enhancing competitiveness and innovation.*»

