

— IAEA —

NUTE^C PLASTICS

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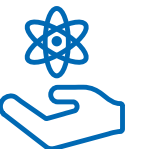


Worldwide Challenges

Microplastic Marine Monitoring



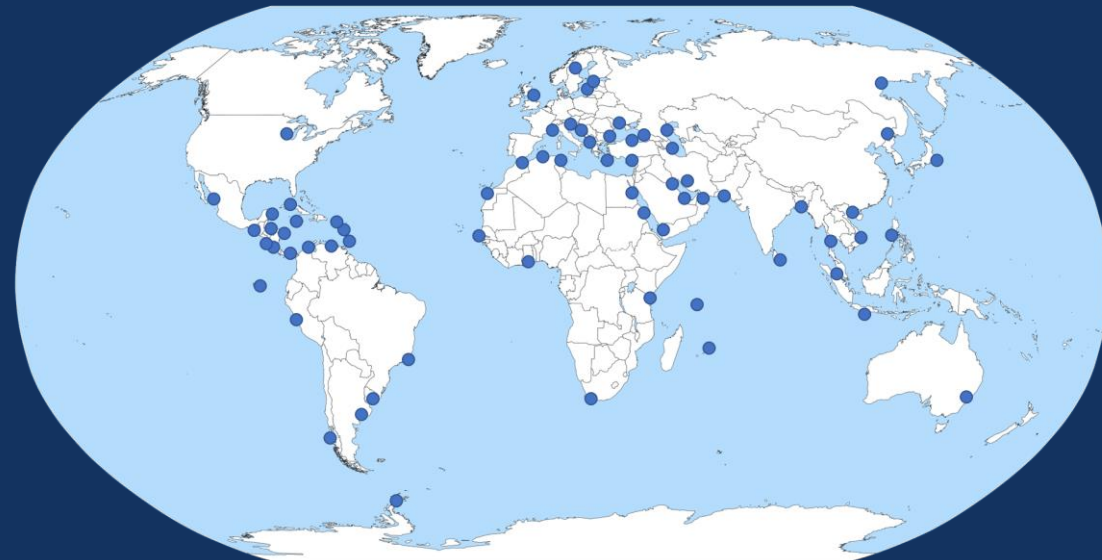
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- **Data deficiency:** Lack of comprehensive and reliable data on microplastics abundance, origin, and trends.
 - **Global approach:** Lack of harmonized procedures for the collection and validation of data on microplastics abundance.
 - **Insufficient awareness:** Low awareness among the general public, scientific community, and policy makers on the scale and impact of microplastics pollution.
 - **Evidence-based interventions:** Support policy development based on scientific evidence.



NUTEC Plastics – Approach



We provide **equipment and training** to labs around the world to help them **monitor marine microplastics** and share data through a global marine monitoring network



We refine **new techniques** and perform research on the **impact of microplastics** on marine life at our labs in Monaco



We work with national labs and experts to **develop, test protocols and validate harmonized protocols** for monitoring marine macroplastics

We build a global network



1

R & D



2

Capacity Building



3

Global Network



NUTEC Plastics – Marine Component

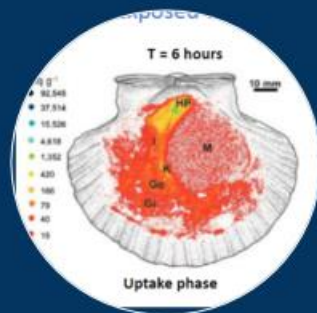


IAEA
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Research & Development



Monaco Reference lab
unique in UN system



Research on impacts
radiotracers & isotopic tools



Development & Validation
of Protocols



2 dedicated CRP and
PUI
(Endorsed by all MSs)



Scientific
communications
(>40 publication & 30
communications)

This aspect is clearly beneficial for IAEA Member States
High-level expertise, access to top-notch facilities, direct transfer of knowledge



Capacity building approach – Technical cooperation



NUTEC Plastics – Marine Component



IAEA
NUTEC
PLASTICS

MS Capacity building effort & Global network



Capacity Building
(> 400 people trained in
four regions)



State-of-the-Art Technology
(Equipment delivered
to >79 labs)



Global Collaboration
(>120 labs in four regions)



Data produced
(Endorsed by all MSs)

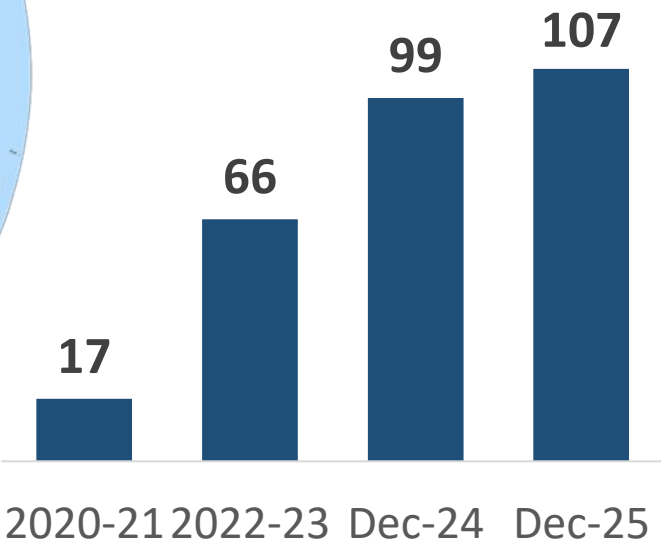
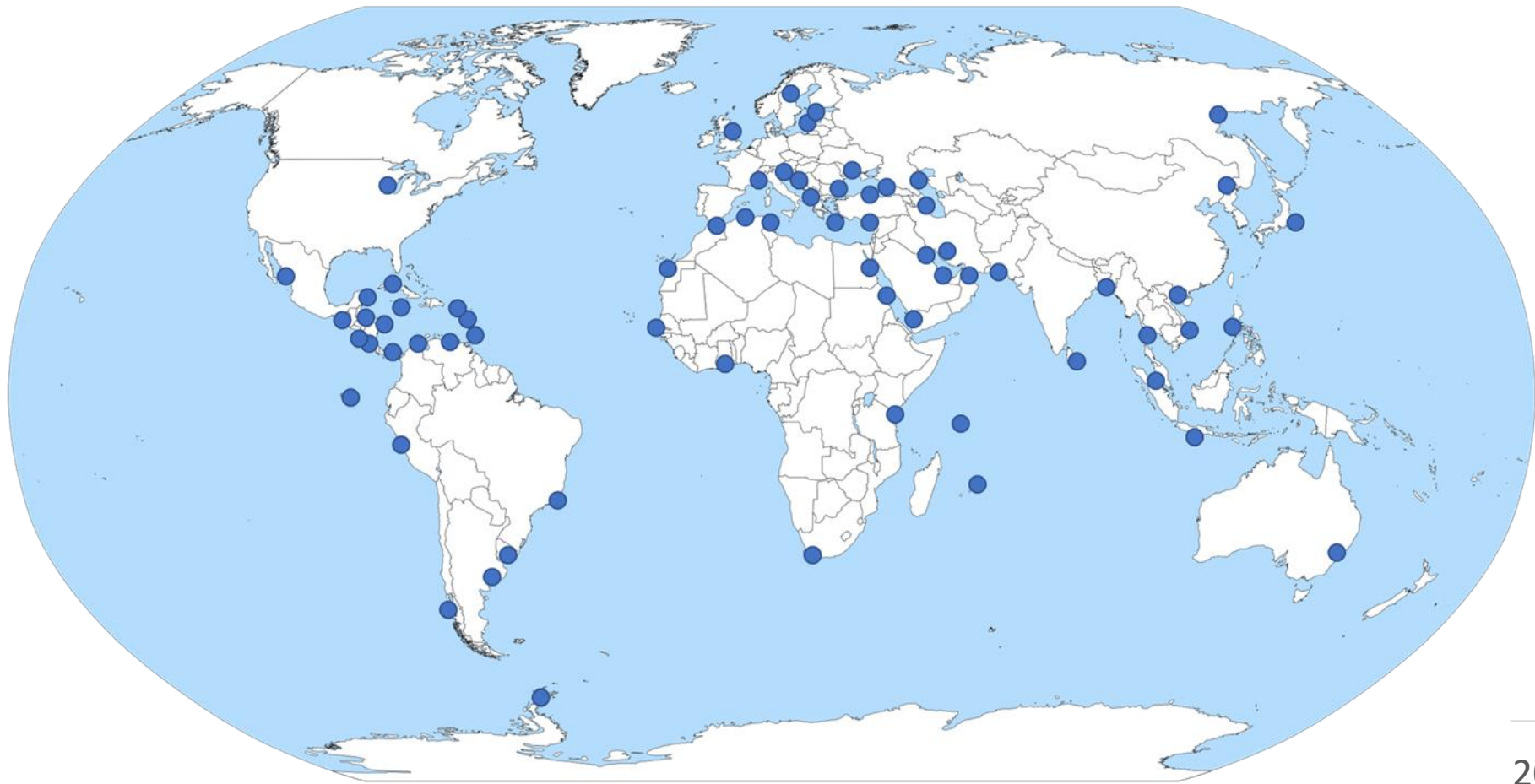


NUTEC Database
(Version 1 to be launched
end of 2025)

This aspect distinctly separates NUTEC Plastics from other platforms
in the field of marine microplastic monitoring.

New major objective 2027 :
to get 100 laboratories equipped to be able to nationally report microplastic levels - UN SDG 14
(Plastic Treaty?)

Global NUTEC Plastics - Marine Monitoring Network



Total of MS involved : **107** (Nov 2025)



Marine sediment

Work on the last 2 years on an Harmonized approach

Concept – simple approach for multiple uses (e.g. surface & sediment core)

Interface between science and convenience for users

For now, 2 types of approach (5mm> 300microns & 300> 20 microns)

But many testing are still required, especially for the small fraction

Fresh vs freeze dried materiel ?

Extraction ?

Digestion (compounds used) ?

Amounts of materials ?

Sampling design is also under review

Marine sediment

“elephant” MP (5 mm > 300 microns)



1 kg

Sieving

5mm

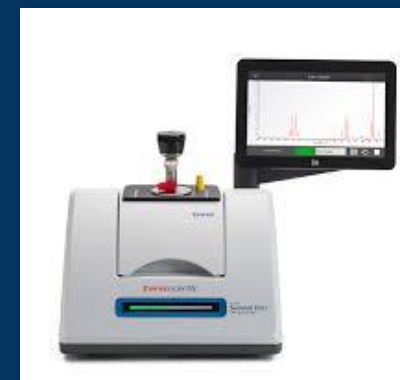
1mm

300 µm

Density
separation
(>1.5)

Digestion

Analyses



Marine sediment

Small MP (300 to 20 microns)



1-5g

Digestion

**Density
separation
(>1.5)**

+Digestion ?

**Cascade
filtration**

2 filters
20-100 μm
100-300 μm

Non destructive ?



Analyses

NUTEC Plastics – Join or Partner with us!



Equip a laboratory/Build a pilot plant

Develop a database



Co-create a fellowship programme

Help scientists connect



Push research forward

Speak at our events



Share information and opportunities

Member State donors





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Thank You!