

The logo for LABPLAS, where 'LAB' is in white and 'PLAS' is in a colorful, pixelated font. The background of the entire top half of the image is a collage of puzzle pieces showing an underwater scene with blue and yellow fish and floating plastic bottles.

LABPLAS

AGAINST PLASTIC POLLUTION

Land-Based Solutions
for Plastics in the Sea.



Horizon 2020
European Union Funding
for Research & Innovation

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003954



Expected outcomes

- ▶ To support the achievement of the EU Plastics Strategy by studying the potential direct sources of microplastics (MP) into the different environmental compartments.
- ▶ To assess the effectiveness of micro-nano plastics (MNP) capture and removal in WWTP, and to contribute to revise the Urban Waste Water Treatment Directive by improving monitoring and mapping of marine litter on the basis of EU harmonised methods.
- ▶ To significantly contribute to understanding the potential transfer of regulated and emerging organic contaminants sorbed on land-based MNP to seawater, including plastic additives but also contaminants sorbed from the environment.
- ▶ To contribute to understanding land-based sources, transport, distribution and sinks of MNP pollution in environmental compartments.
- ▶ To provide new knowledge on the impact of MNP in surface waters, mainly on the incidence of atmospheric deposition, the contribution of road traffic and how its run-off affects the distribution of MNP and associated chemical contaminants in surface continental waters.
 - ▶ To provide a foundation for the development of mitigation solutions, based on improved and new knowledge on plastics pollution.
 - ▶ To close the gaps on scientific knowledge related to the risk and occurrence of MP in the environment, drinking water and food.
 - ▶ To improve the plastic waste management and circular economy.

The **LABPLAS** project is focused on understanding the sources, transport, distribution and impacts of plastic pollution in all environmental compartments (freshwater, marine, terrestrial, atmosphere and biota).

LABPLAS will apply technological advances (sampling, analysis, quantification), promote biodegradable novel materials, develop innovative and up-scalable models (for assessing the fate, effects and risks of plastics), and present results to national and international authorities and industry for decision making.

LABPLAS will study the smaller fractions below 100 μm (small micro and nanoplastics (SMNPs)), which are commonly not monitored in the environment, since they are more easily taken up by organisms. Plastics are not just polymer, and LABPLAS will additionally pay attention to chemicals added to plastic objects to enhance their physical properties, and assess their potential effects on organisms and ultimately human health.

LABPLAS will support the decision making in regulatory efforts and inform consumers within the current legislative initiatives prompted by the EU Plastics Strategy and the Plastics Directive by providing solid scientific evidence and novel technical developments rather than by misperceptions and false myths on plastic properties

LABPLAS will address current challenges by creating capacities to evaluate the interactions of plastics with the environmental compartments and natural cycles leading to the development of effective mitigation and elimination measures for a scientifically sound Plastic Governance.

The concept



LABPLAS

CASE STUDIES

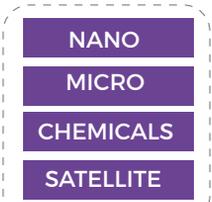
FIELD WORK MODULE



Field materials

Field materials

ADV. ANALYTICS & SMART HUBS MODULE



IMPACT ASSESSMENT MODULE

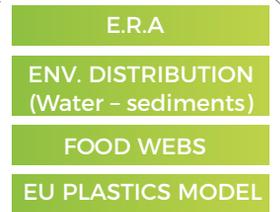
Eng. materials — Biodegradation

Eng. materials

Environmental Risk Assessment



MODELLING MODULE Ecotox data



GOVERNING PLASTICS MODULE



Decision making - Circular Economy

- PUBLIC OPINION
- PUBLIC AUTHORITIES
- INDUSTRY

Scientifically sound information

SCAN QR
website



Key points

- **Prevention better than cure:** Since plastics in the environment cannot be easily removed, strategies should be developed to prevent them from entering the environment. LABPLAS will assess and estimate current trends in MP loads and provide quantitative insight regarding the impact of (future) mitigation measures.
- **Small size matters:** Plastic litter fragments into smaller and smaller pieces with increased availability to biological systems. LABPLAS will be focused on SMNP (particles below 100 μm).
- **Watch the hidden chemicals:** In addition to intentionally added chemicals, plastic debris in the environment is understood to represent a potential sink for hydrophobic organic chemicals (HOCs). LABPLAS will be focused on particles below 100 μm (SMNP).
- **The cure may be worse than the disease:** The biodegradation and ecotoxicity of different biopolymers will be assessed in unintended end-of-life scenarios, and compared with conventional polymers.
- **Sediments are also a sink for plastics:** LABPLAS will define time trends of plastic pollution in dated sediment cores, and estimate retention rates of MP in river sediments.
- **Plastic pollution is a global issue:** Plastic pollution is a global issue: LABPLAS aims to provide policy makers with scientifically-sound tools to contribute to a more sustainable approach to plastic governance/economics.



Horizon 2020
European Union Funding
for Research & Innovation

www.labplas.eu

Solutions for a better **FUTURE.**



Universida deVigo



UNIVERSIDADE DA CORUÑA



KU LEUVEN



SORBONNE
UNIVERSITÉ
CRÉATEURS DE FUTURS
DEPUIS 1217



Open Universiteit
www.oa.nl



Radboud Universiteit



UNIFESP
UNIVERSIDADE FEDERAL DE SÃO PAULO



bfg
Bundesanstalt für
Gewässerkunde



INL
INSTITUTO NACIONAL DE
Tecnología



GEOMAR
Helmholtz-Zentrum für Ozeanforschung Kiel



National
Oceanography
Centre



Leading Institute for
Digital Engineering
Manufacturing
iow



AIR CENTRE



egi
Advanced
Computing
for Research



BASF
We create chemistry



TO ENVIRONMENTAL
RESEARCH



contactica
innovation



@LABPLAS_H2020



/company/labplas-project

Get in touch with us for further information: cynthia.gomez@uvigo.gal