

# plasticheal

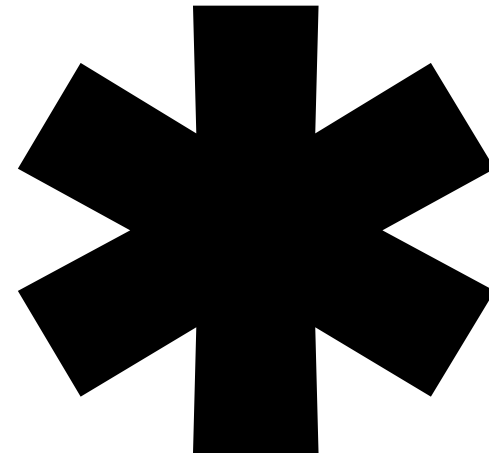


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 965196



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# Description

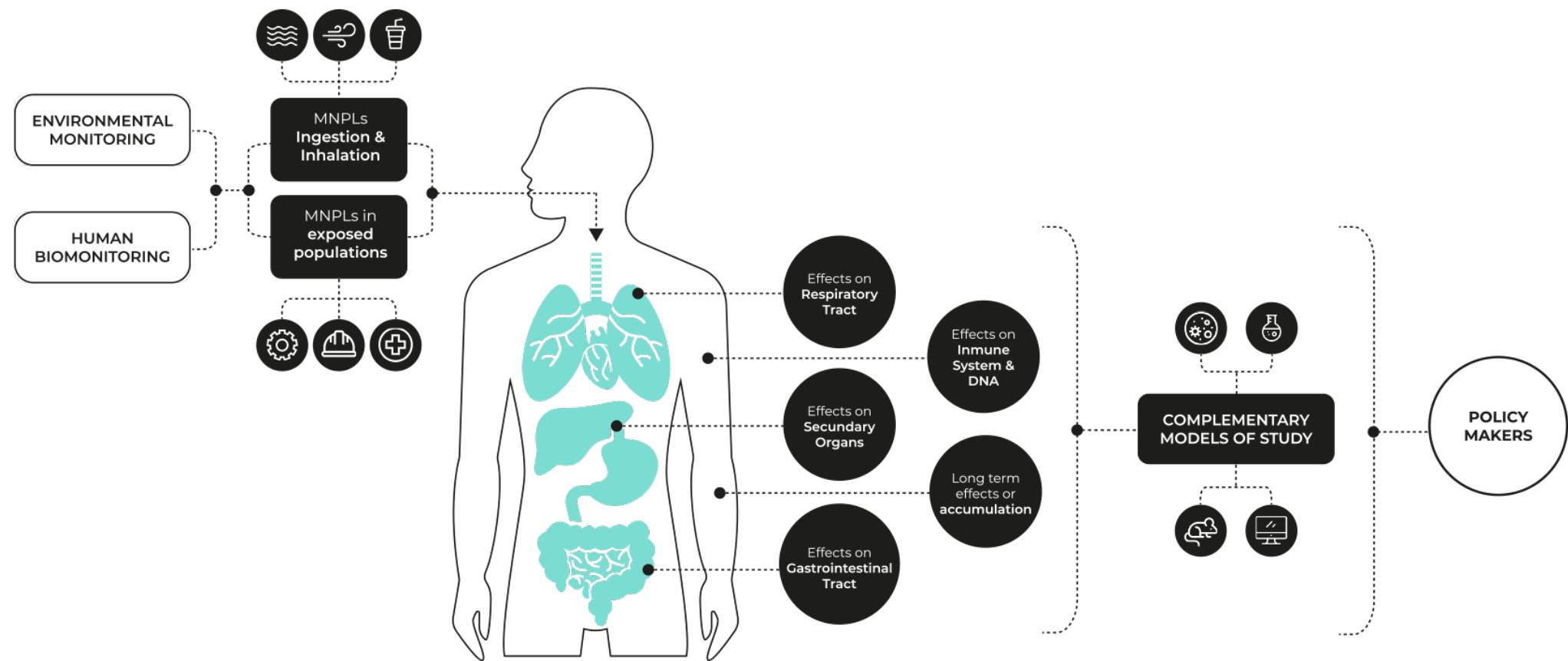
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Description



# PLASTICHEAL. The Project.

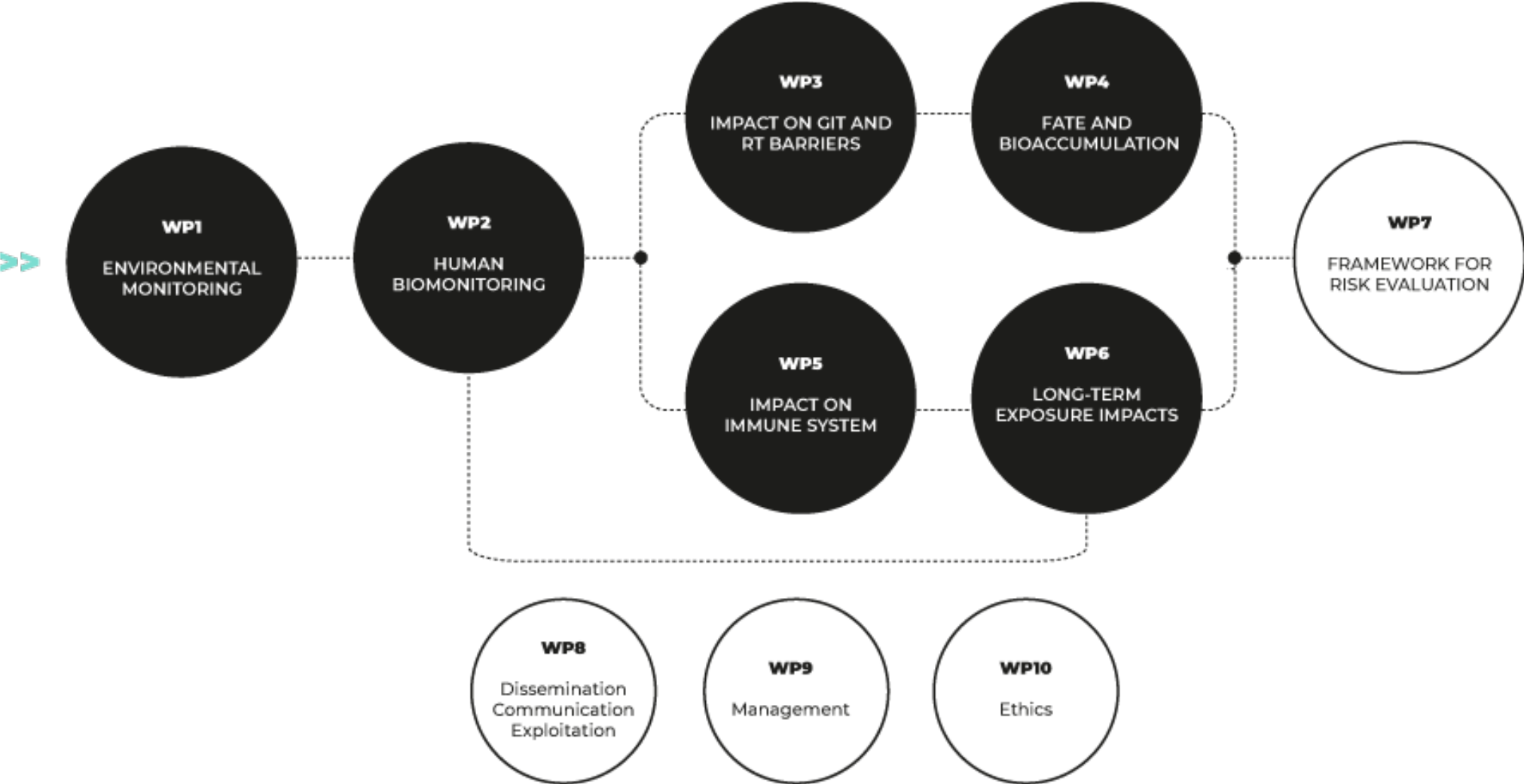
EU funded project PLASTICHEAL aims at developing innovative tools to study the impact and mode of action of micro and nanoplastics on human health.







# PLASTICHEAL. The Project.



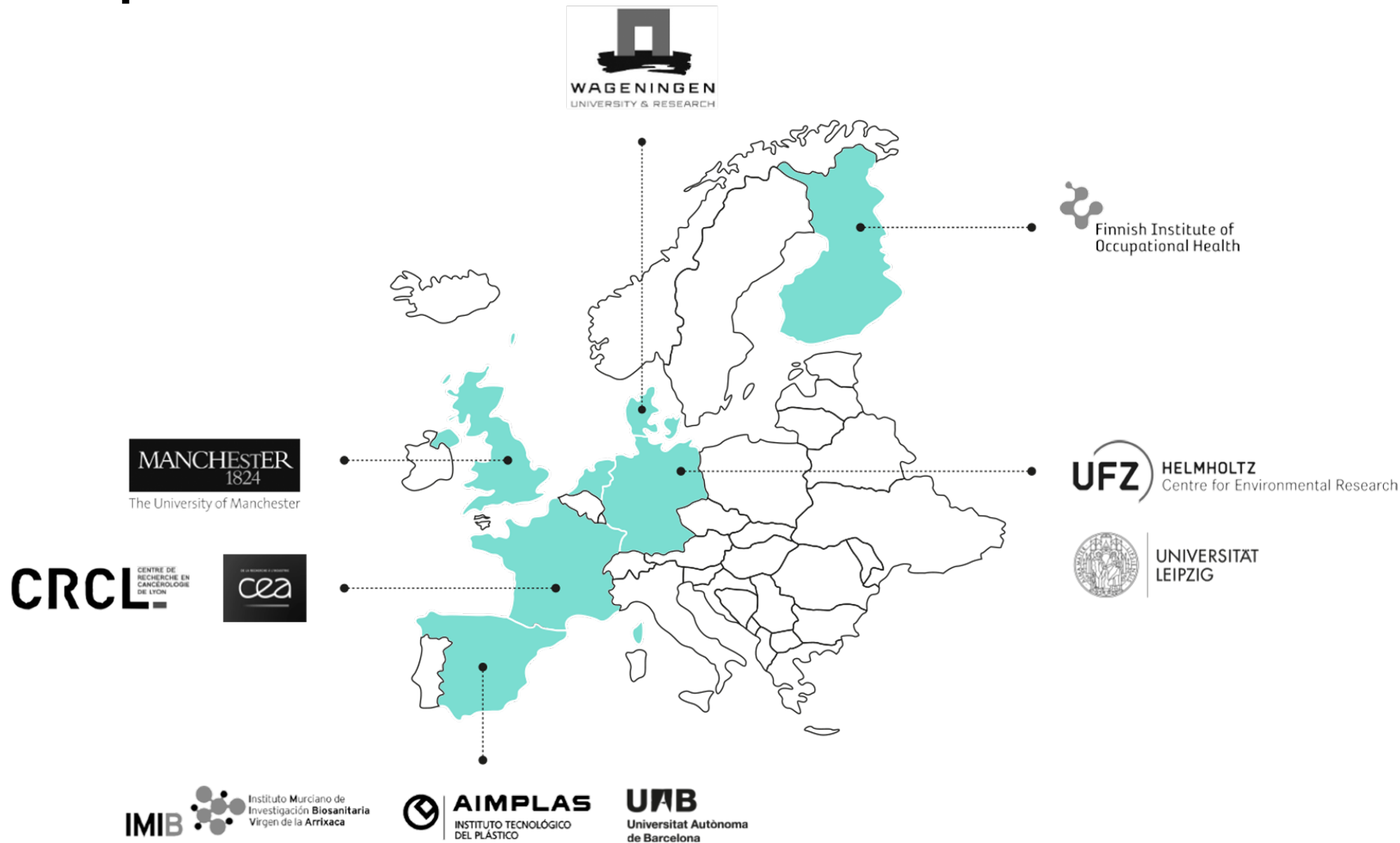


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02

02 Consortium.  
/Meet the partners.



# Meet the partners





# Objectives

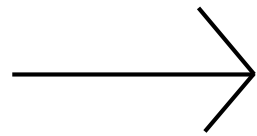
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03

- 03 Objectives.
- / General aims of the Project.
  - / Specific objectives.





## Main objectives



# 01.

To provide legislators with **data, methodologies, experimental models** and **biological endpoints** of effect for risk assessment and decision-making.

**Pilot exposure and risk assessment** for MNPLs in the environment.

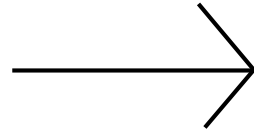
# 02.

To develop new **more comprehensive methodologies, experimental models** and **biological endpoints** to provide a more solid understanding of MNPLs action and adverse outcome pathways in humans.

For supporting regulatory decision-making and have a potential more prominent role in future frameworks.



## Specific objectives 1/2



Continuous **dialog with stakeholders and regulators.**

**Reference materials** for MNPLs safety assessment.

**Analytical methods** for detection, identification and quantification of MNPLs.

**MNPLs occurrence.** Determination and monitoring.

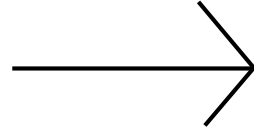
**MNPLs effects** in biological samples from individuals occupationally exposed to MNPLs.

**Influence** of MNPLs structure in the potential hazard.

**Determination of MNPLs-induced alterations** on the human gastrointestinal microbiota.



## Specific objectives 2/2



**Adaptation of complex systems** of *in vitro* RT barrier and GIT barrier to the MNPLs field.

**Toxicokinetic and toxicodynamic** of MNPLs.

**Ex vivo blood model** to explore MNPLs effects in immune blood cells.

**Action of MNPLs in immune system** function.

**Long-term MNPLs effects.**

**Integration of data** for PBPK modelling and bioinformatics/computational analysis.

**Framework for risk assessment..**

**Gender dimension** on the MNPLs- associated effects.



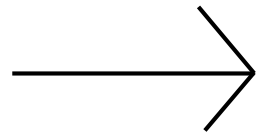
# Expected impacts

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04

- 05 Expected impacts.
  - / General impacts.
  - / Social impacts.



## Expected impacts. General



01.

**Better understanding** of health impacts of exposure to MNPLs, including preliminary investigations into long-term impacts.

02.

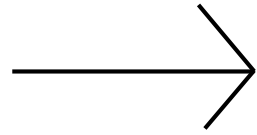
**Innovation** in human health hazard and risk assessment methodologies of MNPLs.

03.

**Contribution** to the health-relevant aims of the **European Strategy for Plastics in a Circular Economy** and of the **Bioeconomy Strategy**.



## Expected impacts. Social



01.

### **GENERAL POPULATION.**

Contribution to determine MNPLs 'acceptable' levels and main sources of MNPLs human exposure.

02.

### **OCCUPATIONALLY EXPOSED POPULATION.**

Occupational risk assessment and management frameworks for decision-making to protect individuals exposed at the workplace.

03.

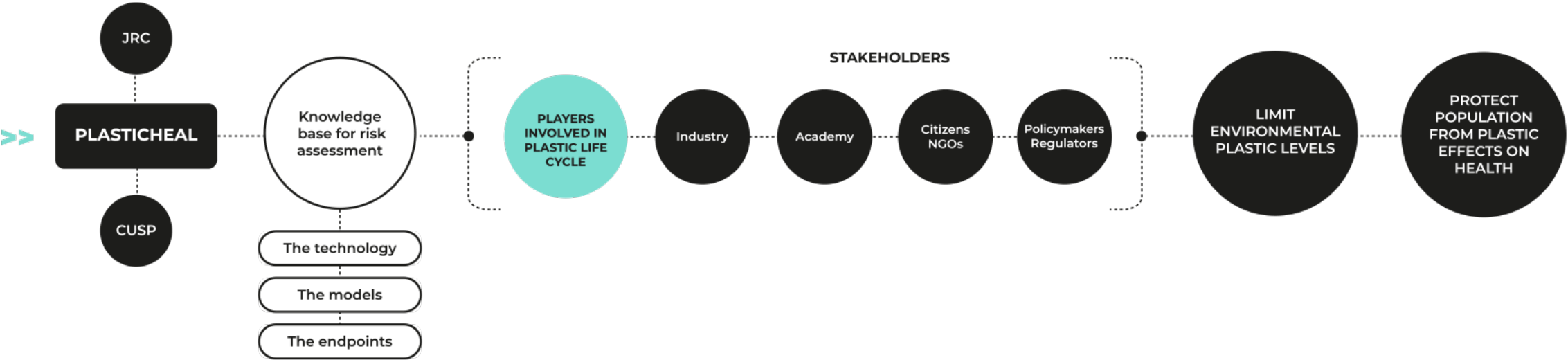
### **HIGHLY SUSCEPTIBLE POPULATION.**

Individuals with compromised immune systems or chronic inflammatory status could present a higher individual susceptibility to MNPLs associated effects





# Expected impacts. Evidence-based policy making





# The CUSP

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05

06 The CUSP



# The European Research Cluster to Understand the Health Impacts of Micro- and Nanoplastics - CUSP

**75**

Organisations

**21**

Countries

**05**

Projects

**30<sub>M</sub>**

1 H2020 call



**CUSP**







**Thank you**  
for your attention!



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