Cefic-LRI Microplastics Research

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LRI Programme Manager

MARII Summit – October 15 2025

Successfully launched in 2021 – Part of the ICCA global initiative (MARII)

Budget of 6M over 6 years to carry out relevant research

Project management:

15 project portfolio

To-date 12 publications and 3 open-source tools developed

Addressing multiple research gaps:

- Environment: Aquatic and terrestrial compartments
- Human Health
- Modelling tools for predictability

Environmental Risk Assessment Models

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Scope: Support decision-making with a **user-friendly model** covering all types of microplastics, **encouraging collaboration** within the scientific community.

Framework Features:

- **Integration** of existing data for dynamic risk assessment updates.
- Modular design for **future expansion** and **sensitivity analysis**.
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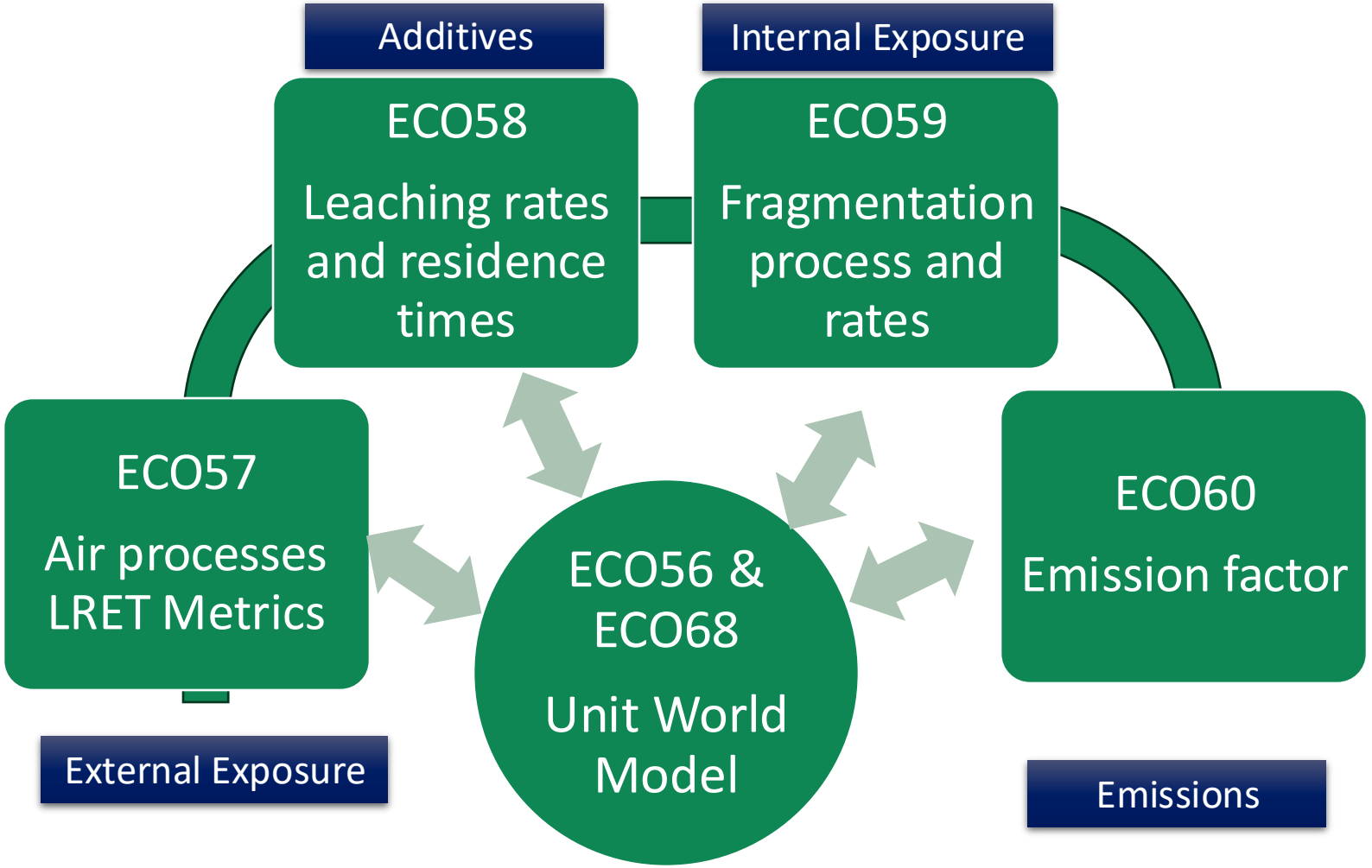
Holistic Assessment

Hazard

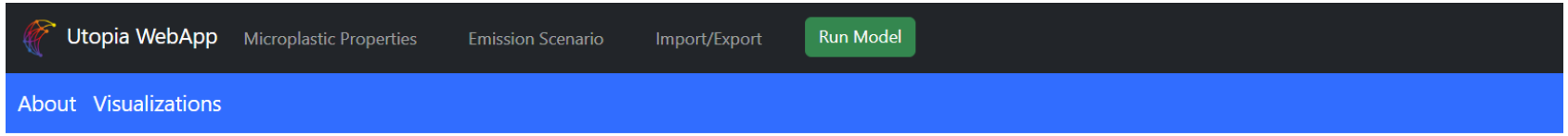
ECO 49
MP Effects
Threshold

ECO 61
Terrestrial
toxicity



UTOPIA

- https://github.com/microplastics-cluster/UTOPIA_model
- UTOPIA WebApp



About the Application

This application provides interactive visualizations and analysis based on the underlying UTOPIA environmental model. The model simulates the fate and transport of microplastics in various environmental compartments.
Key features: scenario setup, model runs, and detailed result exploration.

Application Screenshot

The Team

Researchers

The UTOPIA model was developed by leading environmenta

Researcher 1 Researcher 2

Developers

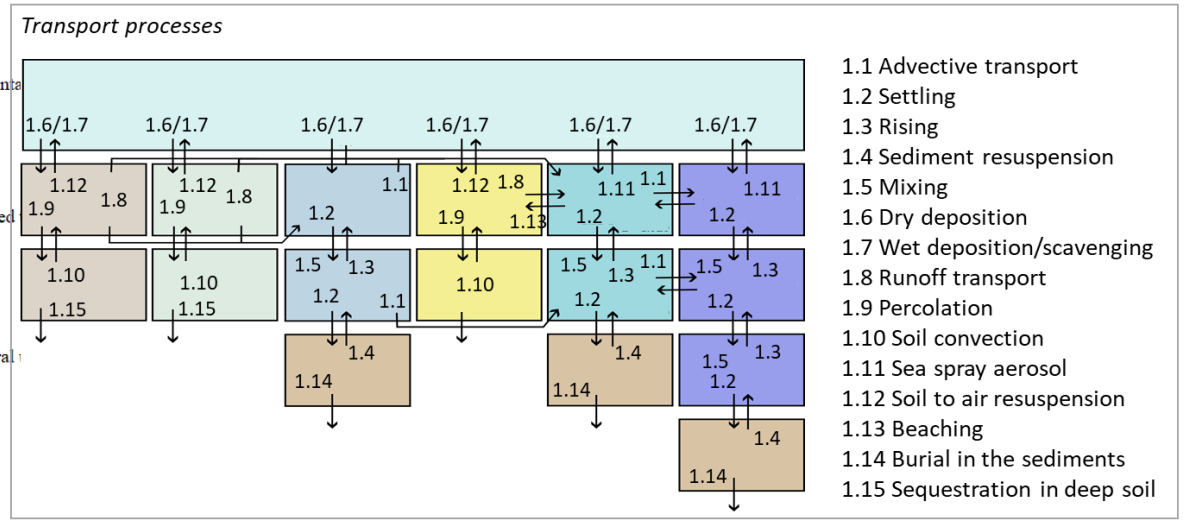
The web tool was designed and implemented by a dedicated

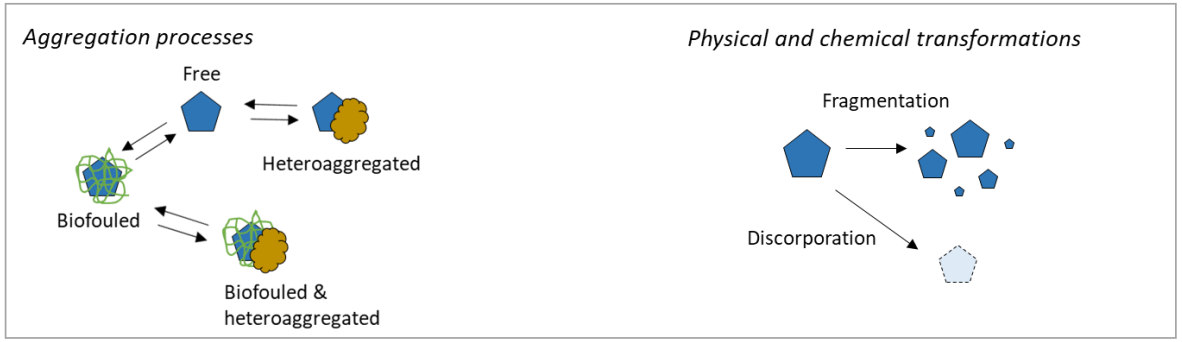
Developer 1 Developer 2

Infrastructure & Funders

This project is supported by a collaboration between several

University 1 University 2





Human Health

Exposure

- B24 – MODELING EXPOSURE AND BIODISTRIBUTION OF MICROPLASTIC PARTICLES IN THE HUMAN BODY
- B26 - DERM – DERMAL EXPOSURE, A REVIEW OF CURRENT KNOWLEDGE ON THE UPTAKE OF MICRO- AND NANO-PLASTICS

Inhalation Toxicity

- C10 : A TIERED STRATEGY TO ASSESS MICROPLASTIC INHALATION

Perspective | Open access | Published: 14 July 2025

Exposure scenarios for human health risk assessment of nano- and microplastic particles

Taylor Lane, Ira Wardani & Albert A. Koelmans

Microplastics and Nanoplastics **5**, Article number: 28 (2025) | Cite this article

1733 Accesses | **18** Altmetric | Metrics

https://doi.org/10.1186/s43591-025-00134-9

NANO · MICRO small

Research Article | Open Access

Microplastic Materials for Inhalation Studies: Preparation by Solvent Precipitation and Comprehensive Characterization

Katherine Y. Santizo, Hannah S. Mangold, Zeynab Mirzaei, Hyoungwon Park, Rajkumar Reddy Kolan, George Sarau, Susanne Kolle, Tanja Hansen, Silke Christiansen, Wendel Wohlleben

First published: 13 January 2025 | https://doi.org/10.1002/smll.202405555

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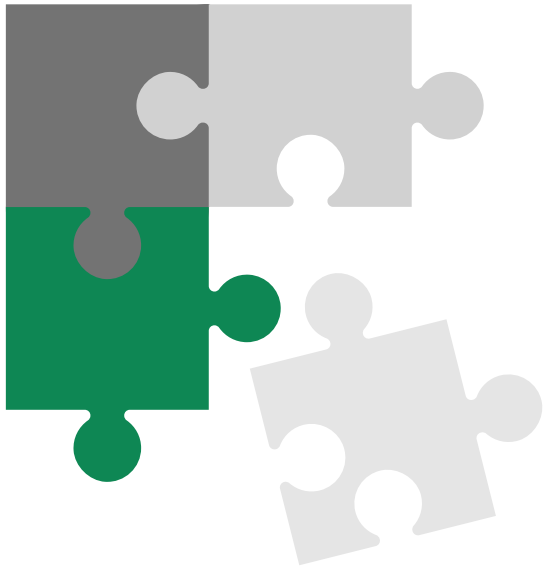
Next Steps and Future Work



- Further work on Environmental Risk Assessment
- Continue efforts on Human Health
- Collaborate with ongoing and upcoming efforts (i.e., EU RTD, JRC, MOMENTUM, etc.)

Thank you

Cefic-LRI Programme

European Chemical Industry Council - Cefic aisbl

LRI Secretariat

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Cefic is registered in the EU Transparency Register under n° 64879142323-90