



HORIZON-CL4-2023-TWIN-
TRANSITION-01-36

TRANSIENCE

Full Title: Transitioning towards an efficient, carbon-neutral circular European industry

Aim:

TRANSIENCE will create an open, integrated, modular framework to simulate pathways toward achieving the transition of European industries to climate neutrality while fully integrating material efficiency and circular economy measures in energy and climate models, and addressing concerns related to broader sustainability. This framework will bring together the consortium's high-level expertise behind, and backbones of, well-established models in actively informing climate, energy, and industrial policies in Europe. Apart from being co-informed by stakeholders' needs, the tools will be fully opened, enhanced to represent diverse agents' strategies, driven by a novel conceptualisation and mapping of industrial sustainability, coupled with environmental lifecycle assessments (LCAs) and material flow analyses (MFAs), and, finally, integrated in a unified, open, modular model. The end product, the Model for European Industry Circularity and Climate Change mitigation (**MIC3**), will allow to establish the required capacities and provide useful insights for industrial circularity performance and decarbonisation by combining different modelling paradigms, including system dynamics, agent-based, bottom-up techno-economic, and macro-economic modelling. **MIC3**, the 'satellite' modules comprising it, and the scenario exercises stemming from it will be entirely co-developed and validated with relevant stakeholders from industry, policy, and civil society, as well as used to inform assessments and transition strategies, at EU and country level, at global level, and within 4 heterogeneous regional industry clusters in Europe, to ensure their usability and exploitation in real-world use cases.

Concept:

Start date:

01/01/2024

End date:

31/12/2027