PRESS RELEASE

21 February 2023, Turin

DigInTraCE

SIGIT

The EU project DigInTraCE kicks off to deliver a novel transparent and interoperable Decentralised Traceability platform for circular economy

- **The project gathers 22 partners from 7 European countries**
- **Dynamically updated Digital Product Passport schemes that support certification and quality validation will be developed**
- **The disruptive approach of the project intends to exploit obtained results through 3 different use cases**

The new EU-funded Horizon Europe project held its kick-off meeting on 07-08 February 2023 in Athens. The two-day meeting started with a welcome note from Dr Angelos Amditis, R&D Director of ICCS and project coordinator and continued with presentations and fruitful discussions on the partner's involvement in the project activities and future steps.

Coordinated by the Institute of Communication & Computer Systems (ICCS) in Greece, DigInTraCE consortium includes 22 organisations (21 partners, 1 affiliated entity) from 6 EU members and 1 Associated country (8 Academic and Research Technology Organisations, 6 Industrial partners, 3 novel digital technology providers, 1 Standardization, 2 certification (association & affiliated body) and 2 pioneer SMEs). The project runs from 1 January 2023 to 31 December 2026 and has a budget of €7.6M.

Process industries are working to find solutions to achieve low emissions and promote circularity through waste reduction and secondary raw materials use. The EU-funded DigInTraCE project will use innovative tracking, sensing and sorting techniques to develop a transparent and interoperable decentralised traceability platform focusing on the pulp and paper and chemicals sectors. The project will also develop dynamically updated DPP schemes supporting certification, quality validation, AI-based decision-making mechanisms for process and life cycle optimisation, and up-cycling, reuse and upgrade technologies for improved secondary raw materials use. DigInTraCE will concentrate on composite wood and furniture, wood and pulp and paper, plastic parts from ICT equipment and the automotive market, and polymers and textiles.

'Relying on a holistic framework for the digitalisation of circular value chains, in DiginTraCE, novel and near real-time sensing and sorting mechanisms and immersive novel technologies will enable the exchange of crucial data on materials and will lead to optimized secondary uses for these materials. Aspiring to promote circularity and waste reduction by delivering a transparent and interoperable decentralised platform that traces, sorts and dynamically updates materials used in different value chains, we have a lot of work ahead of us' mentions Dr. Angelos Amditis, Project co ordinator, Research & Development Director of ICCS.

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The role of Sigit in the project

Sigit daily transforms more than 700 different thermoplastic polymeric compounds to components for automotive and appliance market. At the end of the life cycle, these goods are partially recovered by recycling collecting supply chains and become secondary raw materials by recycling processes.
The Sigit contribution at this project, as owner of the Italian demonstrator in connection to the other international partners, is to increase the efficiency during the polymers recovering and efficiency during the reuse of the secondary polymeric raw materials obtained.
In addition to reducing the not currently reusable materials going to incineration, the Italian demonstrator offers to improve the efficiency of a circular economy flow of recycled polymeric through the testing on a real scale model of innovative detection solutions. The aim of the contribution will be to get back more pure polymers by a large mechanical sorting plant and some high added value polymeric blend and compounds through machines learning developed by the DigInTraCE team.
The contribution will also be to support the development and implementation of data driven by specific AI algorithms in the existing IoT infrastructure used by SIGIT to increase the efficiency and the quality of the transformation process of the secondary raw materials.
The implementation of AI algorithms will allow to understand issues and automatically optimize process parameters during injection molding processes.
Processes that use the recycled polymeric materials that are inherently inhomogeneous and non-constant in some properties of different batches.
End targets of the research are to obtain, through the AI prediction of errors and corrections in real time during the production process, more stable and efficient uses of second life materials in order to achieve possibility to extend the reuse for more product in a concrete Circular Economy flow.

DigInTraCE project partners

Institute of Communication and Computer Systems (ICCS) , National Technical University of Athens (NTUA), UST Global (UST), Fundacion CIRCE, Centro Centro De Investigacion de Recursos Y Consumos Energeticos (CIRCE), Fonden Dansk Standard (DS), IRIS Technology Solutions, Sociedad Limitada (IRIS), Teknologian Tutkimuskeskus VTT OY (VTT), Merit Consulting House PC (MERIT), Hypertech SA (HTECH), Chimar Hellas SA (CHIMAR), Agroinvest (AGRST) Menexes S.A. (MXS), TECNALIA Research & Innovation (TCNL) and Tecnalia Certification (TCNLCERT), ASTIGARRAGA KIT LINE (ASTI), Centexbel (CTB), Sioen Industries (SIOEN), DGS S.p.A., SIGIT Societa Italiana Gomma Industriale Torino - SPA (SIGIT), Università degli Studi dell'Aquila (UVQ), European Plastics Converters (EUPC), Brunel University London (UBRUN)

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