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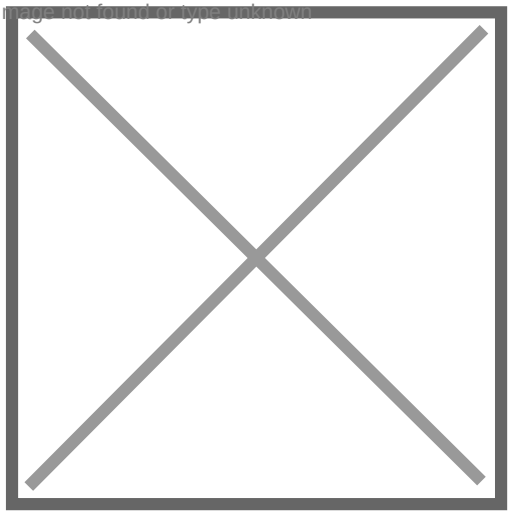

HORIZON-CL4-2021-TWIN-TRANSITION-01-21

TRINEFLEX

Full Title: Transformation of energy intensive process industries through integration of energy, process, and feedstock flexibility

Aim:

TRINEFLEX is an integrated energy intensive industries (EIIs) transformation toolkit following the `X as a service model´. For the end-users (EIIs), TRINEFLEX will function as an end-to-end service managing the plant?s digital lifecycle and the process of transition to flexible and sustainable operation. This process will be enabled by advanced and green data acquisition, Big Data Infrastructures, process analysis, model development and finally Digital Twins with integrated multi-agent decision support systems.

Concept:
TRINEFLEX will be implemented at each of five demonstration sites with unique challenges, from 4 sectors: glass, copper, aluminium and water industries. The implementation will be supported through the integration of transformative technologies (from the energy efficiency, clean energy, sustainable fuels and feedstocks and CCUS sectors), that synergise with the powerful digital solutions to demonstrate flexibility measures towards energy neutrality. Additionally, TRINEFLEX is designed for rapid replicability in these sectors and high transferability in other P4Planet sectors centred on energy flexibility on the short term and industrial symbiosis on the long term. 8 large companies, 7 SMEs will work with RTOs and supporting entities to achieve over 8% reduction of energy costs, 18% peak reduction, flexibility cost below 1.2 €/kWh, over 8% energy demand reduction that are projected to yield over 330GWh of energy savings, 45M€ in energy costs and CO2 tax, over 110kt of CO2 averted and over 800 jobs created by 2030.

Start date:

01/09/2022

End date:
31/08/2026