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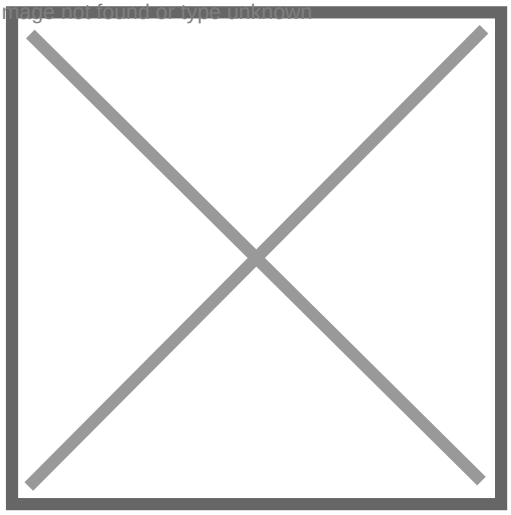

HORIZON-CL4-2021-TWIN-TRANSITION-01-21

FLEX4FACT

Full Title: Industrial Cluster FLEXibility platform for sustainable FACTories to reduce CO2 emissions and to enable the Energy Transition

Aim:

FLEX4FACT aims to make industrial sites and processes more flexible through digitisation, automation, and smart control systems. It will support industrial stakeholders integrate more renewable sources into their industrial energy systems and to provide flexibility to the electrical systems via demand response measures. The developed tools and knowledge are expected to accelerate the digital and energy transformation of the industrial sector in Europe and support the uptake of new renewable sources in the EU power grid. The project gathers 23 partners from Norway, Spain, Germany, Italy and Ireland and is co-funded by the EU with nearly €M 18.

Concept:
FLEX4FACT builds on a modular and multi-level architecture that leverages the provision of flexibility from the industry through digital process twinning, machine learning techniques and novel algorithms supporting modern manufacturing planning and scheduling. FLEX4FACT will develop an end-to-end solution made of: - Tools supporting the definition of pathways for increased renewable penetration in industrial sites, - Digital twins of 5 different industrial sites based on real use cases from the industrial partners of FLEX4FACT, - a module for manufacturing process planning & control and - a cloud platform allowing industrial sites to participate in the ancillary energy market. The innovative solutions featuring cutting-edge technologies such as edge computing, AI and machine learning will be demonstrated and validated within 5 use cases. The modular development approach followed during the project will allow for easy replication and upscaling in EU.

Start date:
01/06/2022

End date:
30/11/2025