Industrial Partners

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Academic Partners

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MODENA E REGGIO EMILIA

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Social Media

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First

Virtual Factories - Interoperation Supporting Business Innovation

A Research Project funded by the European Union

Goals of the FIRST Project

FIRST's main focus is the topic Industry 4.0. The goal of the FIRST project is to find significant business innovations for digital transformation. The project is aiming to provide new technologies and methodologies to describe manufacturing assets, to compose and integrate the existing services into collaborative virtual manufacturing processes, and to deal with evolution of changes.

The expected result is to define a framework to help enable the description of the virtual factories' assets by means of a description language. Moreover, the description of interoperability among data, services and processes and the discovery and composition of services is a desired outcome of the FIRST project.

"And I believe that Europe is in pole position for this next wave of innovation. Our scientific strengths will be a huge asset."

– European Commissioner Carlos Moedas

About the FIRST Project

The project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 734599. The programme started in 2017 and will end in 2020. Within the span of those three years researchers are delegated abroad in order to work on the project, as well as explore the culture of a foreign country. The participants spend at least thirty days abroad at one of the project's partner universities or companies, where they work on one of the project's seven work packages.

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Main Research Topics

The project is focusing on researching the topic Industry 4.0 and its most important components, which are virtual factories, digital factories, data interoperability, service oriented computing and business process management.

Definition of Virtual Factories

Virtual Factories are abstractions of real factories. They provide a multi-layered integration of the information related to various activities along the factory and product lifecycle. Creating virtual factories requires the integration of product design processes, manufacturing processes and general collaborative business processes between factories, enterprises and people.

The FIRST project adds an interoperability framework to this approach. It will enable communication among heterogeneous software components of the virtual factory, as well as exploitation of services and data according to business process objectives.