D4.1 Virtual factory platform – Executive Summary (September 2017)

This deliverable provides an overview of the work developed in Task 4.1 up to M12 in creating the Virtual Factory model. The Virtual Factory model is one of the core components of Factory2Fit as it will provide the collaboration platform for engaging the work community, testing adaptive solutions, enabling collaborative job design, sharing knowledge and improving learning at work.

Simulation is one of the core technologies of Industry 4.0[1] allowing to create in the virtual world the digital replica of the real system. This digital twin mirrors the physical factory and seamlessly integrates other technologies for connecting the virtual and the physical factory. The development of the Virtual Factory under the Factory2Fit perspective will extend the scope of Industry 4.0 as it integrates the human worker, providing the technologies for making the work place more attractive and productive.

Creating the Virtual Factory models has been done taking into consideration the industrial pilot scenarios provided by the industrial partners participating in Factory2Fit – Prima Power, Continental and UTC. Each pilot has different characteristics and levels of automation, as well as covering different application domains, which allows the results of the project for creating the Virtual Factory models being easily applicable in new domains.

Visual Components 4.0 is the platform used to build the Virtual Factory. As a mature simulation tool, it has already several functionalities available that can be used in the creation of the Virtual Factory models for the different pilots. Nevertheless, by M12 new functionalities have been integrated to meet the requirements of Factory2Fit:

- New Components Library which makes it easier and faster to create new Virtual Factory models
- KPIs visualisation for evaluating the performance of the Virtual Factory models and validate the configurations
- Connectivity with other tools using communication interfaces
- Sharing knowledge between the project's stakeholders

The work in Work Package 4 Task 4.1 will be active until the end of the project, continuing the evolution of the functionalities already incorporated and developing new ones, as required according to the evolution of the project.

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[1]   M. Rüßmann et al., "Industry 4.0: The Future of Productivity and Growth in Manufacturing Industries," The Boston Consulting Group, Apr. 2015.