20-21/02/2013, Zurich, Switzerland: Smart Manufacturing Optimizer: Sixth meeting of Work Package 4 at ETHZ

23 people representing 11 beneficiaries of the collaborative FoFdation project (The Foundation for the Smart Factory of the Future) met on 20th and 21st of February 2013 in Zurich at ETHZ (Eidgenössische Technische Hochschule Zürich) to present and discuss the status of the research and experiments within the Work Package 4.

Work Package 4 of the FoFdation project focuses on two main tasks. The first one, led by Delcam, focuses on developing realistic kinematic and dynamic models to achieve a realistic estimation of machining time and representation of surface quality. The second task, led by ARTIS, focuses on monitoring and processing real-time process information during machining to enable corrective actions to avoid damage to the tool/part/machine.

Tour of the ETHZ IFW lab showing an energy efficiency monitoring solution on a production machine

For the past one and a half years the team has achieved good and innovative results and in the last six months all activities merged together into the collective Smart Manufacturing Optimizer (SMO). Realistic kinematic models are implemented into the CAM software and the achieved results are now validated against captured process data using real-time process monitoring hardware, which links both tasks within Work Package 4. During the meeting a tour of the lab of the Institute of Machine Tools and Manufacturing (IWF) was included where ETHZ showed the on-going work on the development of machine tool monitoring system which is related to Work Package 5 and energy efficiency and optimization in manufacturing (E monitoring).

The FoFdation team meeting in Zurich, Switzerland

On the second day of the meeting, a workshop on the PLM system Teamcenter was organised by project partner Siemens, also based in Zurich. During the workshop the participants got an introduction by presentation and a chance to for a hands-on session using the Teamcenter PLM in action using some of their own generated data files. PLM is considered to be one of the main components of the overall digital factory of the future, the aim of the FoFdation project. Interfacing with PLM was discussed, together with the required data backbone of the digital factory: the manufacturing information pipeline (MIP).

In May 2013 members of this working group will again meet at Delcam in Birmingham (UK) for the final meeting of this work package to close two years of R&D. After completion of the work package in June, the consortium will focus on practically demonstrating their work in the final project year, and proving and validating the results of research and experiments by setting up demonstrators at Ecole Centrale Nantes, Centro Ricerche Fiat and GF Agie-Charmilles. Preparations for the demonstration phase have already started within the individual tasks.

For more information about the FoFdation project visit **http://www.fofdation-project.eu** and the project's social media pages, including Facebook (**#fofdationproject**) and Twitter (**@FoFdation**).

Acknowledgements:
This project is co-funded by the European Commission as part of the European Economic Recovery Plan (EERP) adopted in 2008. The EERP proposes the launch of Public-Private Partnerships (PPP) in three sectors, one of them being Factories of the Future (FoF). Factories of the Future is a EUR 1.2 billion program in which the European Commission and industry are collaborating in research to support the development and innovation of new enabling technologies for the EU manufacturing sector.

For further information please visit:
http://ec.europa.eu/research/industrial_technologies/factories-of-the-future_en.html