



Undergraduate Project 2017-2018

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Project title: Integrating Logistic Systems and Producing Systems of High Speed Shoe Factory

Background

Manufacturing is a key part of the economy. To remain competitive or become even more so, automation that supports innovation is also essential for the manufacturing sector. Advanced ICT supported manufacturing is currently gaining a lot of traction with initiatives such as Industry 4.0 in Germany, Factory of the Future in Italy, the High Value Manufacturing Catapult the UK etc. Part of this development is advanced coordination of manufacturing allowing for increased flexibility and reduced costs.

EU H2020 “vF Interoperation supporting buSiness innovaTion” (FIRST, <https://www.h2020first.eu/first/bin/view/Main/>) aims to provide new technology and methodologies to describe manufacturing assets; to compose and integrate existing services into collaborative virtual manufacturing processes; and to deal with evolution of changes. Under EU H2020 FIRST project, we propose a final year project, which is to develop IT application experiments that address advanced added value production process and systems, which incorporate industry 4.0 concepts.

Project description

The project is in the area of system design and process modelling. High speed shoe factory components, such as integrating logistic systems into single production phase, need to be reviewed. More specifically shoe process interoperability standard (SPRINTS) could be applied to the final potential design. The final thesis provides an overview of related technologies, i.e. which are used logistic systems, ERP systems, producing systems used in a SME shoe factory. What are potential platforms, and standards of implementation of integrating logistic systems into single production phase at a shoe factory?

Project aims

- Identify existing logistic systems, ERP system and producing systems used in a SME shoe factory
- Critical reviewing of integrating logistic systems into a shoe factory used ERP and producing systems.
- Mastering technologies of integrating logistic systems into ERP and producing systems in a shoe factory
- Designing a shoe factory system model with integration logistic systems using new

integration technology

Artefact

- Research report
- Overview of integrating logistic systems into ERP systems and producing system at a shoe factory
- Design of a shoe factory system model with integration logistic systems using integration technology

Evaluation

- Are related key issues of integration logistics systems with a shoe factory identified and compared?

References:

- [1] http://icams.ro/icamsresurse/2016/proceedings/VI_Economics_04.pdf
- [2] <https://www.economist.com/news/business/21714394-making-trainers-robots-and-3d-printers-adidass-high-tech-factory-brings-production-back>
- [3] <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=6011690>
- [4] <http://ieeexplore.ieee.org/document/1458327/>