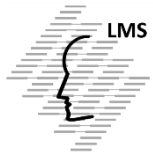


The KNOW-FACT project began on December 2011 and ended on May 2013. It was co-funded under the EAC/19/2011 (Pilot projects for the development of Knowledge Partnerships). The project's Consortium included the following organizations:



LMS Laboratory for Manufacturing Systems & Automation
University of Patras (Co-ordinator)



FESTO AG & Co KG



Volvo Technology Corporation



Fundacion Tecnalia Research & Innovation



**POLITECNICO
DI MILANO**

Politecnico di Milano

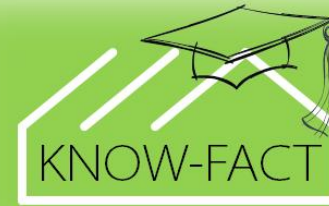


**TECHNISCHE
UNIVERSITÄT
DARMSTADT**

Technische Universität Darmstadt



Consulting and Software Products S.A.



"A Knowledge Partnership for the definition and launch of the European Teaching Factory Paradigm in Manufacturing Education"



Real
manufacturing...

...closer to education



Prof. George Chryssolouris

Laboratory for Manufacturing Systems and Automation

University of Patras, Patras 26500, GREECE

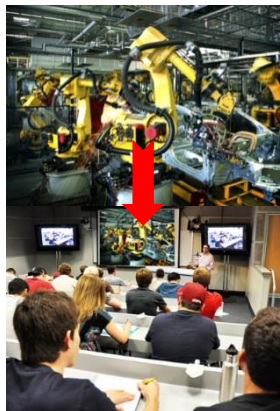
Tel.: +30-2610-997262

www.lms.mech.upatras.gr

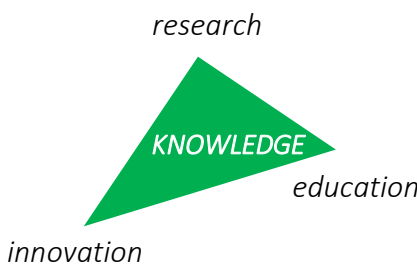
Web site: <http://www.knowfact-project.eu>



The KNOWFACT project aimed at the definition and launch of the Teaching Factory paradigm in manufacturing education. The Teaching Factory concept targets people from academia and industry involved in both the educational and production practice.



... industrial practices to the classroom



The Teaching Factory as a 2-ways “learning channel” communicating



... “new” knowledge to the factory

- **Students** in the classroom act as the **knowledge “receivers”**
- On the industry side, **engineers introduce and present real shop floor problems**
- The **communication and interaction** is done on a **Virtual Operation Scheme**
- **Engineers** at an industrial site act as the **knowledge “receivers”**
- Knowledge communication using both **physical and virtual** operation schemes
- Academic facilities as test-beds for presenting, simulating and proposing **new solutions to industrial problems**

Industrial Pilots

Industry

knowledge transfer

Academia

Location:
Sweden

Number of employees:
1,120

Product lines and models:
Wheel loaders

Type of operation:
Fabrication and assembly

Industrial problems:

- 1. line balancing of a new production area**
 - Station workload balancing
 - How is this effecting the output with a given mean downtime?
 - Deviation in process times, sensitivity
- 2. planning of material kitting area**
 - Kitting area planning
 - Planned location of material containers
 - Proposal on manning

Industrial problem:
new integration and control architecture for industrial robots

5 FESTO engineers
7 LMS research engineers
3 weeks (1h session per week)

Unit Level: Local Autonomous Decision Making

- Local coordination
- Monitoring operations
- Automated robot program generation, retrieval and execution
- Gripper exchange coordination

Plastic Razor handling

Car underbody welding

Industry

knowledge transfer

Academia