

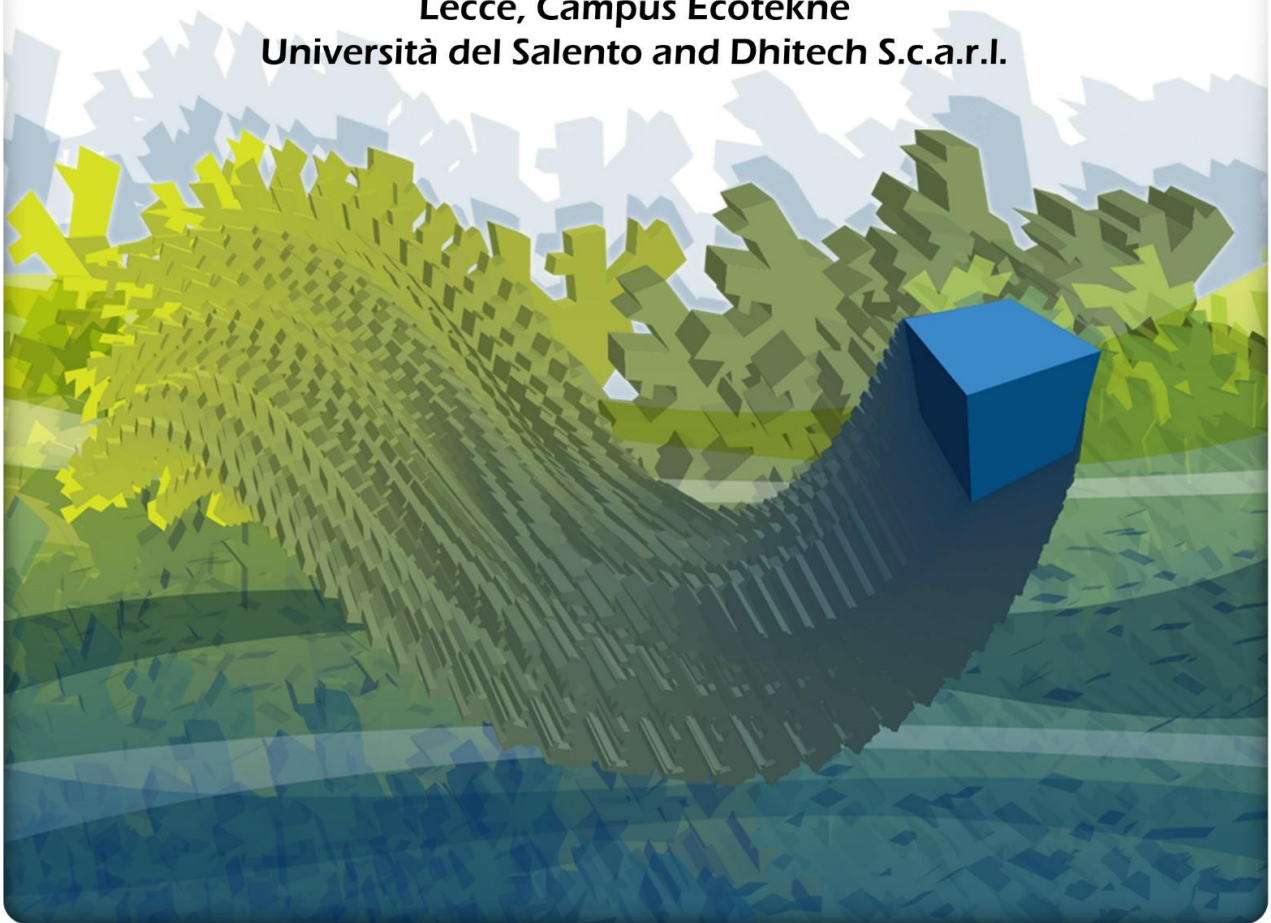
**Workshop**

**Engineering Knowledge Management  
for Product Lifecycle Optimization**  
*trends, approaches and new insights*

**PROGRAM**

**5 - 6 February 2015**

Lecce, Campus Ecotekne  
Università del Salento and Dhitech S.c.a.r.l.



## Topics Introduction

Continuous innovation, global collaboration, risk management in complex projects, and rapid technological changes are challenges that compel large and small enterprises to react by focusing on core-competence, collaborating with partners in product design, engineering and production, or shifting part of the activities in low labor cost countries.

Producing complex products in this scenario requires that information about product and process is accessible to the several actors in the value network such as partners, suppliers and customers. The tendency is to use a PLM strategy to integrate people, processes, business systems and information in order to manage the product development and support its lifecycle.

PLM means Product Lifecycle Management and its value is increasing, especially for manufacturing, high technology and service industries. In fact, today PLM is widely recognized as a business necessity for companies to become more innovative in order to meet current challenges such as product customization and traceability, growing competition, shorter product development and delivery times, globalization, tighter regulations and legislation. Being an innovative business, it doesn't simply mean creating innovative products, but it also means improving the processes a company uses to realize its products and how it supports them using innovative approaches for a complete product lifecycle. In fact, the aim of PLM is to trace and manage all the activities and flows of data and information during the product development process and after during the actions of maintenance and support and to identify a new business model that integrates engineering processes and different ICT tools. Working in this direction, PLM enables companies to satisfy the innovative needs of their business.

Different ICT systems contain knowledge about the products (e.g. CAD, CAM, PDM, NC, CM) and the PLM ones allow to integrate all of them. PLM systems are the enabling technology for PLM; they serve as a central hub for product data supporting the collaborative product design and development and the use and management of information in the whole network of actors (i.e. in an extended enterprise) involved in the realization of the product.

Therefore, PLM is a holistic business concept; it is both a business approach and a software solution, that during the last years has evolved from a set of engineering oriented tools into an enterprise-level solution.

This landscape is only partially supported by the state of the art of the current technologies due to a disciplined and silos based organization of work that is not able to streamline and institutionalize processes, dissipates and does not promote reuse of knowledge, and in such a way reduces the capability to manage and support activities in complex programs.

## Aims and Description

Starting from these assumptions, two days of workshop are organized with the aim to share knowledge and experiences about PLM-related tools and methodologies developed within the research project KHIRA (Knowledge Holistic Integrated Research Approach) and the Living Lab KLIO (Knowledge Based Innovation Lifecycle).

The Project KHIRA aims to develop new methods and technologies to overcome the limitations of product life cycle management by proposing an integrated and holistic approach through the development of a technological platform, a methodological framework and a critical mass of capabilities. The project KHIRA addresses the issue of competitiveness and sustainability by focusing on the problem of knowledge management across the Product Lifecycle Management (PLM) paradigm towards a logic able to integrate people, processes, practices, rules and technologies, according a holistic approach, through all steps of the product lifecycle.

The Living Lab KLIO has been established within the KHIRA project with the intention to support the IT companies operating in the aerospace field by providing them with user-centric and user-driven innovation. Due to the presence of both public and private sectors (Public Private Partnership Person), the KLIO Lab is an environment to create, prototype, validate and test new services, products and systems in real life context. The KLIO Lab is member of the ENoLL network (European Network of Living Labs).

During the morning session of the workshop first day, the results originated from the collaboration among universities, industries and software vendors within the KHIRA project are presented and discussed. The afternoon session is instead, focalized on the definition of innovative research streams for the optimization of product design. Keynote speakers will introduce topics and trends for an integrated and extended management of the product life cycle that will be object of a panel discussion with managers and executives of Finmeccanica, GE Avio and GE Nuovo Pignone.

The second day sessions aim to promote and disseminate the KLIO Lab objectives and research activities. During the first session the KLIO Lab background, its goals and its guidelines are presented. The second part of the day will be arranged in a number of parallel sessions called "MiniLabs". In a single "Minilab" companies will bring out some of the relevant issues they are experiencing and participants will have the opportunity to explain their own point of view thus contributing to a possible innovative solution. The day ends with a plenary session dedicated to the presentation of the "MiniLab" results.

Exhibition stands of leading *software vendors* and *demo desks* with prototypes will be available for all the duration of the event.

## Agenda

### 5 February - Session 1 – Research Challenges and Khira Research Results (internal meeting by invitation)

#### Preliminary Program

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|----------------------|---|
| <b>9.00</b>          | Registration  |
| <b>9.30 - 9.45</b>   | Opening – Welcome and program presentation – Lorenzo Vasanelli, DHITECH   |
| <b>9.45 – 10:00</b>  | Research Challenges in the “Cluster Tecnologico Nazionale Fabbrica Intelligente” – Antonio Grieco, Università del Salento |
| <b>10:00 - 10.30</b> | Introduction to KHIRA Project – Angelo Corallo and Danilo Cannoletta, Università del Salento e Alenia Aermacchi           |
| <b>10.30 – 10.45</b> | Introduction to Living Lab KLIO – Antonio Zilli, Università del Salento   |
| <b>10.45 – 11.10</b> | Technical Knowledge Management in KHIRA project – Elena Latino, Università del Salento and Roberta Sicilia, Dhitech Scarl |
| <b>11.10 - 11.30</b> | BPM for Engineering Activities in KHIRA project – Antonio Margarito, Università del Salento                               |
| <b>11.30 - 11.45</b> | <b>Coffee break</b>   |
| <b>11.45 - 12.10</b> | CAD Automation for streamline 3D product in KHIRA project – Manuela Marra, Università del Salento                         |
| <b>12.10 - 12.30</b> | CAD Automation for Electric & Tubing in KHIRA project – Roberto Lombardo, Università del Salento                          |
| <b>12.30 - 13.00</b> | Business & Engineering Intelligence Tools in KHIRA project – Michele Leone and Carlo Torrente, Dhitech                    |
| <b>13.00 - 13.15</b> | PLM Foresight - Claudio Pascarelli, Dhitech   |
| <b>13.15 - 13.30</b> | Virtual design review in KHIRA project – Mario Talesco, Dhitech   |
| <b>13:30 15:00</b>   | <b>Light Lunch</b>  |

## **5 February - Session 2 – PLM Strategic Research Landscape (internal meeting by invitation)**

### **Preliminary Program**

- 15.00-15.15** Afternoon Program introduction – Sergio Terzi, Osservatorio GECO (Gestione dei Processi Collaborativi di Progettazione), Politecnico di Milano
- 15.15-16.00** Digital Twin - Seamlessly Designing, Engineering, and Manufacturing Products that are Virtually Perfect – Michael Grieves, Florida Institute of Technology
- 16.00-17.30** Panel Session: Michael Grieves and Sergio Terzi discuss with relevant stakeholder of the Living Lab KLIO - Attilio Di Giovanni, Finmeccanica, Leonardo Borgianni and Michele Vallesi, Nuovo Pignone, Alejandro Mayoral, Avio Aero
- 17.30-18:00** An Innovative Landscape in Unisalento – Angelo Corallo, Università del Salento
- 18.00 – 20.00** Welcome at Dhitech and visit at spin-offs EKA, APPHIA, ADVANTECH
- 20.00** Social dinner

## **6 February - Session 3 – Knowledge Lifecycle Innovation Living Lab (Open Day)**

### **Preliminary Program**

- 9.00** Registration
- 9.15 – 9.30** Welcome and program presentation - Lorenzo Vasanelli, Dhitech
- 9.30 – 9.50** Introduction to Living Lab KLIO and KHIRA project – Antonio Zilli, Angelo Corallo, Università del Salento
- 9:50 – 10.20** Compete with Knowledge: Innovate with Method – Sergio Terzi, Osservatorio GECO, Politecnico di Milano
- 10.20 – 10.40** Processes and IT impact analysis in the PRO Lab – Mariangela Lazoi, Antonio Margarito, Università del Salento and Giovanni Pantalone, Alenia Aermacchi
- 10.40 – 11.00** **Coffee Break**
- 11.00 – 11.30** PLM - An information Ecosystem that Drives Innovation and Collaboration – Michael Grieves, Florida Institute of Technology

- 11.30 – 12.00** Trend IT for the Product Lifecycle Management in Alenia Aermacchi – Italo Pinzan, Alenia Aermacchi
- 12.00 – 12.30** Product Configuration Management by KBE – Michele Vallesi, Nuovo Pignone
- 12.30 – 13.00** Avio Aero Research Network: looking forward – Maria Rita Petrachi, Avio Aereo
- 13.00 – 14:00** **Light Lunch**
- 14:00 – 16:30** Parallel Sessions – Mini Labs
- Session A: Improving Product Lifecycle through Lean Methodologies – Massimo Scalvenzi, Finmeccanica**
- 14:00 – 14:30** Problems presentation
- 14:30 – 16:00** Brainstorming and Focus Group
- 16:00 – 16:30** Results elaboration
- Session B: Measure and Analyze Engineering Performance – Franciscantonio Buonincontri, Alenia Aermacchi and Emiliano Calcagni, Dassault Systemes**
- 14:00 – 14:30** Problems presentation
- 14:30 – 16:00** Brainstorming and Focus Group
- 16:00 – 16:30** Results elaboration
- Session C: Product Lifecycle Assessment – Pierpaolo Pontrandolfo, Politecnico di Bari and Claudio Rocco, Unisalento**
- 14:00 – 14:30** Problems presentation
- 14:30 – 16:00** Brainstorming and Focus Group
- 16:00 – 16:30** Results elaboration
- Session D: Simulation Driven Product Development – Luca Bertoletti, Ansys**
- 14:00 – 14:30** Problems presentation
- 14:30 – 16:00** Brainstorming and Focus Group
- 16:00 – 16:30** Results elaboration
- 16:30 – 17:00** Plenary session presenting the ‘Minilabs’ results and Conclusions

# LOCATION

IBIL and Dhitech S.c.a.r.l  
Università del Salento - ECOTEKNE  
Via per Monteroni – 73100 Lecce

