Project Description:
The LeanPPD project is addressing the need of European manufacturing companies for a new model that goes beyond lean manufacturing to ensure the transformation of the enterprise into lean environment. This is to respond to customers and market demands for value creation incorporating sustainability, culture and customisation. A significant change in enterprise performance can come from the adoption of lean thinking throughout the entire product life cycle. The aim of LeanPPD is to develop a new model based on lean thinking that will consider entire product life cycle, providing a knowledge based environment to support value creation to the customers in term of innovation and customisation, quality as well as sustainable and affordable products. This will be called Lean Product and Process Development (LeanPPD) paradigm. The required knowledge for value creation in LeanPPD model will be developed based on the European standard and open architecture to ensure data and knowledge integrity and to provide a lean environment across the product life cycle and the supply chain. The project proposes to develop novel set-based lean design tools that ensure the concurrent consideration and development of lean product design as well as it associated lean manufacturing system. The user driven approach will be ensured by the six business cases (BC) provided by the end-users from different sectors in the consortium. These BCs will serve to derive requirements upon the tools, methodology and models being developed, to test the solutions developed and will serve as industrial demonstrators of the proposed concept.

Project Objectives:
• Identify the added value activities in product development through surveying and analyzing the state of the art in Lean Product & Process development and synthesizing industrial best practices.
• Develop generic tools for product development value mapping and lean assessment.
• Develop an approach for knowledge acquisition, re-use and creation to enable a knowledge-based environment for product development.
• Develop a set-based process and tools to ensure the design of lean products, which could be manufactured in a lean manufacturing environment.
• Develop a System Architecture Reference Model that will guide manufacturing companies in implementing Knowledge Based Engineering (KBE) system to enable a lean development process and lean product designs.
• Develop a new product & process development model that is lean and validate it through industrial case studies.
• Propose a route map for the incorporation of the model into organizations at different levels of development.

Project Partners:

Project Coordinator:
Dr. Mikel Sorli
Head of Design Engineering
Fundación Labein/Tecnalia - C/Gelda - Parque Tecnológico de Bizkaia Edificio 700 48160-Derio (Bizkaia) - Spain
Tel. +34 94 607 33 00 (switchboard)
Fax. +34 94 607 33 49
e-mail: sorli@labein.es

Technical Supervisor:
Dr. Ahmed Al-Ashaab
Decision Engineering Centre (Building 50) - Manufacturing Department
Cranfield University
Cranfield Beds - MK43 0AL - UK
Tel. +44 (0) 1234 750 111 Ext. 5622
Fax. +44 (0) 1234 754 605
e-mail: a.al-ashaab@cranfield.ac.uk

Dissemination and Exploitation Manager:
Prof. Marco Taisch
Department of Management, Economics and Industrial Engineering - Politecnico di Milano
P.zza Leonardo da Vinci 32 20133 Milano - Italy
Tel. +39 02 2399 4815
Fax. +39 02 2399 2700
e-mail: marco.taisch@polimi.it