

The IDEAS project is divided into seven work packages. The individual packages contain the following points:

IDEAS Framework: The aim of this work package is to develop the underlying IDEAS multiagent based framework. Hence the architectural aspects regarding how the individual agents will be defined and designed in order to accommodate the adaptive control requirements will be considered within this work package. Work package leader is UNINOVA. Other participants are KTH, Festo, Electrolux, UNOTT, Masmec, Elrest, Teks, and KIT.

Process Design: The aim of this work package is to develop the underlying semantic models for the seamless operation and interaction between all the agents within the IDEAS system. There is a clear need for the different actors/agents to be able to expose their functional capabilities in the form of standardised skill templates and be able to assess and evaluate their joint emergent capabilities. Work package leader is UNOTT. Other participants are KTH, UNINOVA, Electrolux, Masmec, Elrest, KIT, and Teks.

Control System Component Development: This work package is concentrated on the development of computer software and hardware to support the IDEAS MAS framework. Therefore it can be regarded as the work package which is focused on executing infrastructure. Work package leader is Elrest. Other participants are KTH, Festo, UNINOVA, Electrolux, Masmec, KIT, and CRF.

Evolvable Process Control: Applying MAS control architecture requirements to advanced mechatronic mechanisms that will allow pluggability and interoperability of IDEAS modules. This work package will deal with the following issues: embedded agent development, adaptive control algorithms, self-configuring. Work package leader is Masmec. Other participants are KTH, Festo, UNINOVA, Electrolux, UNOTT, Elrest, Teks, KIT, and CRF.

Integrated Design of (Legacy) Modules: IDEAS main task is to develop and prove a methodology by which a manufacturing process can be improved if compared to the past as it has the option to adapt material flow, equipment, equipment performance, use of human resources and real time simulation of the process. This will be done under consideration that the underlying control concept enables easy reconfiguration, short response times due to the quality of data available and ad hoc control sequence adaptation. Work package leader is Festo. Other participants are KTH, Electrolux, Masmec, Elrest, Teks, KIT and CRF.

Industrial Validation and Testing: This WP focuses on industrial validation, from the end user point of view, of the innovations developed in the work packages five and six system. The activities carried out in work package two, three, four and five will be fully characterised measuring: the final technical performances in real industrial applications, reliability and repeatability, cost effectiveness, environmental impact. Work package leader is CRF. Other participants are KTH, Festo, UNINOVA, Electrolux, UNOTT, Masmec, Elrest, Teks, and KIT.

Dissemination: Dissemination includes the internal and external communication strategy of IDEAS. It is the task of this work package to keep all project partners and all probably interested external partners updated by offering all relevant and dedicated information to all partners all the time. Work package leader is KIT. Other participants are KTH, Festo, UNINOVA, Electrolux, UNOTT, Masmec, Elrest, Teks, and CRF.