

INTERACT Newsletter

Preface

Dear Reader,

We are glad to introduce you the first Newsletter of the INTERACT project. INTERACT is a European Union funded Research & Development Project under the 7th Framework Program (FP7). The project has started on 1st October 2013 and will last until the 30th September 2016. The project engages 8 organizations from various EU countries and the consortium is coordinated by DAIMLER, Germany.

INTERACT will deliver a software platform for the acquirement of knowledge regarding manual processes performed by assembly workers and utilization of this knowledge for the design, verification, validation, modification and continuous improvement of human-centred, flexible assembly workplaces.

The research and development activities of INTERACT are driven by the requirements of the European Industry and more specifically from the automotive and professional appliances sectors. The first phase of the project has focused on the definition of a set of industrial pilot cases based on the needs of the project industry namely Daimler and Electrolux. The definition of the pilot cases have provided the basis for the definition and consolidation of a set of generic system requirements so as to broaden the application scope of the INTERACT technology.

The main goal of this newsletter is to provide an overview of the industrial pilots as well as an overview of next steps. Finally, recent project activities and future events are presented.

Sincerely,

The INTERACT project consortium

INTERACT



The project

INTERACT – Interactive Manual Assembly Operations for the Human-Centered Workplaces of the Future (FP7-ICT-2013-10, Grant agreement no: 611007) is a European Union funded Research & Development Project.

The project started on **1st October 2013**. The overall work plan is divided into work packages and their sub and covers **36 months** of industrial driven requirements, research, development and realization of final demonstrators.

- **Phase 1: Generalized end user requirements: Definition & Assessment**
- Phase 2: Modules development
- Phase 3: Pilot cases setup, execution and assessment

Industrial Pilot Cases



The research activities of INTERACT are strongly driven and are related to the requirements of the European Industry. During the first six months of the project a series of workshops and meetings in industrial sites took place in order to identify, analyze current processes and procedures adopted by the two main project end users (Daimler and Electrolux). The Daimler pilot case focuses on the verification of Mercedes-Benz E-Class:

- a) Middle console pre-assembly and
- b) Tail light assembly.

which are held during the production planning stage preceding the ramp-up phase.

INTERACT technology aims at assuring high product quality and efficient production despite reduction of physical prototypes

Industrial Pilot Cases

Three industrial demonstrators will be realized:

- ✓ **Automotive – Middle Console pre-assembly verification (Daimler):** Support assembly planning verification workshop during the production planning stage.
- ✓ **Automotive – Tail light assembly verification (Daimler):** Support assembly planning verification workshops during the production planning stage.
- ✓ **Professional White Goods – logistic operations (Electrolux):** It deals with warehouse picking operations and material handling procedures.



The Electrolux pilot case focuses on the digital simulation of the logistic operations in the Dishwashing warehouse (DW) of Electrolux Vallenoncello Plant (Italy). This pilot case deals with warehouse operations and material handling procedures; in this case the requirements are to plan and optimize the human activities to improve ergonomic aspects and execution timing in relation to the variety of items to be handled in the warehouse before refurbishing the final assembly lines.

The analysis of the current practice in industry and the definition of the pilot cases have indicated the key problems of using Digital Human Model (DHM) based simulations in current practice. Digital tools are neither sufficient to elaborate precise models to simulate and verify manual processes nor to identify objective criteria to design safe and comfortable workplaces. In Daimler, for instance, classical DHM tools that are currently being used require extensive modeling effort and expertise and are not suitable to illustrate details on tasks and human movements. The project requirements, despite being motivated by the Daimler and Electrolux pilot cases, they are generic enough so that the final project results are valid for other industries as well. INTERACT technology should, in short terms, be able to simulate, sense and recognize the human motions that performed during the pilot cases defined. These motions are similar and are applied to numerous different tasks and different industries than the ones already present in the project.

Next Steps

Following the definition of the pilot cases and the system requirements the project is in its second phase. This phase starts at month 5 and finishes at month 30. During this phase the initial step is to define the software and hardware modules that are required to support the requirements and then to implement those modules. The modules will materialize the R&D objectives of the project and will form user applications/ demonstrators that can be tested and validated upon the industrial pilot cases.

Events

- On 1st and 2nd October 2013, the Kick-off meeting of INTEARCT took place at Ulm, Germany. The participant organizations of the project had the opportunity to better define the research and development activities of the project and outline the interfaces among the different Work Packages of the project.
- On the 2nd and 3rd December 2013, the INTERACT consortium made its first industrial visit in the Electrolux facilities in Pordenone, Italy, where a guided tour of the production facility was performed in order to better understand the industrial needs that the project aims to address, as well as to define an industrial use case that will effectively demonstrate the added value of the project's developments.
- On 25th and 26th February 2014, the first General Assembly meeting took place at Athens, Greece for the purpose of analyzing requirements, industrial pilot cases and for planning the submission of project Month 6 deliverables.
- On March 20th and 21st 2014, LMS participated in the 1st Future Enterprise Brainstorming Workshop "Towards 2030 InterNet Business Innovation" in which a presentation of INTERACT project was given to a research and industrial audience.

Upcoming events

- The next INTERACT General Assembly meeting will take place on 23-24 June 2014 in Saarbrücken, Germany hosted by DFKI.

3

Follow us



INTERACT

martin.manns@daimler.com

Tel: +49 731 505 2975

Daimler AG

HPC U026

Wilhelm-Runge-Str. 11

D-89081 Ulm, Germany

*Interactive Manual Assembly
Operations for the Human-Centered
Workplaces of the Future*

Find us on the Web:

www.interact-fp7.eu



Consortium

DAIMLER

Electrolux

INTRASOFT
INTERNATIONAL

imkautomotive

dp
HADATAP

emphasis
TELEMATICS

LMS
Laboratory for Manufacturing
Systems & Automation
University of Patras



DFKI