Robotics-enabled logistics and assistive services for the transformable factory of the future

Fact Sheet

Project Information

TAPAS

Grant agreement ID: 260026

Funded under
FP7-ICT

Overall budget
€ 5 179 257

EU contribution
€ 3 400 000

Coordinated by
KUKA DEUTSCHLAND GMBH
Germany

Start date
1 October 2010

End date
30 June 2014

Closed project

Project description

Smart Factories: ICT for agile and environmentally friendly manufacturing
Obtaining transformable production by developing new assistive automation and mobile robots

Today’s automation and logistics make it difficult, time consuming, and costly to change the type of the product manufactured and to scale the production up and down in response to market volatility. With the increasing market uncertainties, it becomes more and more difficult to justify new automation lines. To keep production in Europe instead of shifting it to low-wage countries, TAPAS will break new ground in robot-based automation and logistics as the backbone of a
transformable **factory of the future**, enabling an economic production regardless of changes in volumes and product type.

Today’s automation and logistics paradigms make it difficult, time consuming, and costly to change the type of the product manufactured and to scale the production up and down in response to market volatility. Consequently, and with the increasing market uncertainties, it becomes more and more difficult to justify new automation lines. To keep production in Europe instead of shifting it to low-wage countries, this project will break new ground in robot-based automation and logistics as the backbone of a transformable factory of the future, enabling an economic production regardless of changes in volumes and product type. TAPAS pioneers the following tasks in real production environments: mobile robots with manipulation arms will make logistic tasks more flexible and more complete by not only transporting, but also collecting the parts needed and delivering them right to the place where they are needed. Since moving parts around the shop floor does not create value by itself, TAPAS robots go even beyond: they will automate assistive tasks that naturally extend the logistic tasks, such as preparatory and post-processing works, e.g. pre-assembly or machine tending with inherent quality control. Through this additional creation of value and by a faster adaptation to changes with new levels of robustness, availability, and completeness of jobs TAPAS robots promise to yield an earlier return of **investment**. To reach the objectives, the TAPAS consortium will iteratively test and validate the developments with two pilot installations of increasing complexity and scale. The drivers behind TAPAS are a robot manufacturer and a system integrator, providing both their production environments for intensive testing and validation, and a software technology provider. Teaming up with three excellent research partners they will develop logistic and assistive robotic solutions for transformable automation that are generally applicable and scalable.

**Fields of science**

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**Programme(s)**

**Topic(s)**

**Call for proposal**

FP7-2010-NMP-ICT-FoF
Funding Scheme

CP - Collaborative project (generic)

Coordinator

**KUKA DEUTSCHLAND GMBH**

Address
-Zugspitzstrasse 140
-86165 Augsburg
-Germany

Activity type
-Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU contribution
-€ 0

Website

Contact the organisation

Administrative Contact
-Verena Hoermann (Ms.)

Participants (7)

**Convergent Information Technologies GmbH**

Address
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Activity type
-Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU contribution
-€ 365 890

Contact the organisation

Administrative Contact
-Christof Eberst (Dr.)

**KUKA Laboratories GmbH**

Address
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Activity type
-Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU contribution
-€ 910 135
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<td>DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV</td>
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<td>ALBERT-LUDWIGS-UNIVERSITAET FREIBURG</td>
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Denmark
EU contribution
€ 265 174

Address
Poul Due Jensens Vej 7
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Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Website
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(Mrs.)

GRUNDFOS HOLDING AS

Denmark
EU contribution
€ 0

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Activity type
Private for-profit entities
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