

## Community Research and Development Information Service - CORDIS

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### Seventh Framework Programme (FP7)

#### FIND A PROJECT

**Innovative proactive Quality Control system for in-process multi-stage defect reduction (*MUPROD*)**

Funded under 7th FWP (Seventh Framework Programme)

**Research area:** FoF.NMP.2011-5 Towards zero-defect manufacturing

#### Coordinator

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#### Project description

This project aims at developing an innovative Quality Control System that will drastically change the current concept of End Of Line quality control, going beyond currently established methodologies such as Six-sigma and SPC. It will prevent the generation of defects within the process at single stage and the propagation of defects between processes at multi-stage system level. This Quality Control System will be proactive, offering three different solution strategies to avoid End of Line defects: (i) elimination of the predicted defect through adjustment of process characteristics by proactively intervening on the inputs to the process (process parameters, etc.), (ii) on-line reworking of the product in order to eliminate the defect, (iii) on-line work piece repair through defect elimination at consecutive process stages.

Technological developments will be based on the design and development of new hardware technologies, techniques and software solutions that in turn are based on real-time multi-data gathering by the integration of new sensor and inspection equipment, development of intelligent actuators and the of new monitoring and prognosis knowledge-based models. To develop a universal system able to be integrated into different production processes, its feasibility will be demonstrated in machining and assembly processes at both macro and micro product scales.

The integration of the in-process Quality Control system into the production chain will minimize the amount of defective part production, reaching process capability values of more than 2.0 in mass production, and equivalent reduction of defect amount in small-lots and customized product manufacturing.

Application domains will include emerging strategic European sectors such as the production of electrical engines for sustainable mobility, large-part manufacturing for the wind power sector and the production of customized micro-intravascular catheters as high value medical products for the aging society.

### Project details

**Project Acronym:** *MUPROD*

**Project Reference:** 285075

**Start Date:** 2011-11-01

**Duration:** 36 months

**Project Cost:** 7.99 million euro

**Contract Type:** Large-scale integrating project

**End Date:** 2014-10-31

**Project Status:** Execution

**Project Funding:** 5.3 million euro

### Participants

GAMESA ENERGY TRANSMISSION SA	SPAIN
ENKI SRL	ITALY
MARPOSS SPA	ITALY
UNIVERSIDAD DEL PAIS VASCO EHU UPV	SPAIN
TRIMEK SA	SPAIN
MACH4 LAB SRL	ITALY
POLITECNICO DI MILANO	ITALY
UNIVERSITAET STUTTGART	GERMANY
ROBERT BOSCH GMBH	GERMANY
TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY.	ISRAEL
ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	SWITZERLAND
IBM ISRAEL - SCIENCE AND TECHNOLOGY LTD	ISRAEL

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