

STAMINA project presents innovative robotic solution for mobile manipulators at AUTOMATICA trade fair

An autonomous mobile manipulator for kitting operations in the automotive sector will be presented by the STAMINA project at the AUTOMATICA trade fair from 21-24 June in Munich. Coordinated by Aalborg University, this EU project showcases a robotic system demonstrating advanced sensing, on the fly robot programming, autonomous part handling and navigation as well as integration in the manufacturing execution system of the factory.

Part handling in the automotive industry is a difficult problem with automation levels below 30%, due to the variability of the production and the diversity of suppliers and parts. The full automation of this task will not only have a huge impact in the automotive sector but will also act as a cornerstone in the development of advanced mobile robotic manipulators capable of dealing with unstructured environments, thus opening up new possibilities for manufacturing SMEs. The STAMINA project (“Sustainable and Reliable Robotics for Part Handling in Manufacturing Automation”), an EU-funded project which started in March 2013, is attempting to address this problem by developing a fleet of autonomous and mobile robots for industrial kitting operations. Building on the complementary expertise of technology suppliers, R&D institutions, and industrial users from several key fields, STAMINA uses a holistic approach to design robot systems with advanced sensory, planning and physical capabilities. The robot systems are being developed in a lean manner using an iterative series of development and validation tests that not only assess the performance and usability of the system, but also support the application of cutting-edge research. Special attention is given to system integration, to promote the development of sustainable and scalable robotic systems, and ensure a clear path for the future exploitation of the developed technologies.

Taking place in Munich from 21-24 June 2016, AUTOMATICA is an international trade fair for robotics and automation, and the central meeting point for manufacturers and users of integrated assembly solutions, robotics, industrial machine vision and professional service robotics. At the event in 2014, a total of 724 exhibitors from 42 countries presented their products and solutions. 34.493 visitors from more than 100 countries came to the Munich trade fair. Due to the size and scope of this event, AUTOMATICA was selected as the primary venue to showcase the latest results of the STAMINA project.

The STAMINA consortium includes partners from Aalborg University (Denmark), Peugeot Citroën Automobiles SA (France), BA Systèmes SAS (France), INESC TEC (Portugal), the Albert-Ludwigs-Universität Freiburg (Germany), the Rheinische Friedrich-Wilhelms-Universität Bonn (Germany), and the University of Edinburgh/Heriot-Watt University (United Kingdom). With an overall budget of 5 million euros, the STAMINA project is funded by the European Union's 7th Framework Programme. The project began in October 2013 and will run until March 2017.

Visit STAMINA at AUTOMATICA, Munich, 21-24 June 2016: Hall B5, booth 129.

Website: www.stamina-robot.eu



More information about the STAMINA project:



Project title: “Sustainable and Reliable Robotics for Part Handling in Manufacturing Automation”

Project website: stamina-robot.eu

Project run time: 01.10.2013 – 31.03.2017

Project Coordinator	Project Secretariat
Volker Krueger, Professor Aalborg University	Anna-Grethe Bloch, Project Manager
Aalborg University Copenhagen, A.C. Meyers Vaenge 15 2450 Copenhagen	Fundraising and Project Management Office Aalborg University Niels Jernes Vej 10 DK-9220 Aalborg
Phone: 0045-9940-2495	
Email: vok@m-tech.aau.dk	Email: agb@adm.aau.dk

The STAMINA project has received funding from the European Union’s 7th Framework Programme for research, technological development and demonstration under grant agreement no 610917.





Figure 1. The autonomous robot composed of a mobile platform, industrial robotic arm, and a three finger gripper.

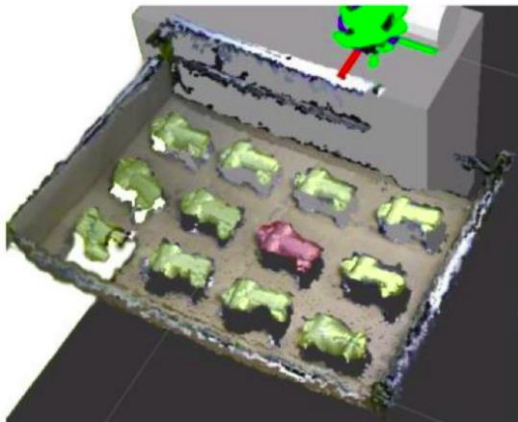


Figure 2. 3D sensing for intelligent part picking.

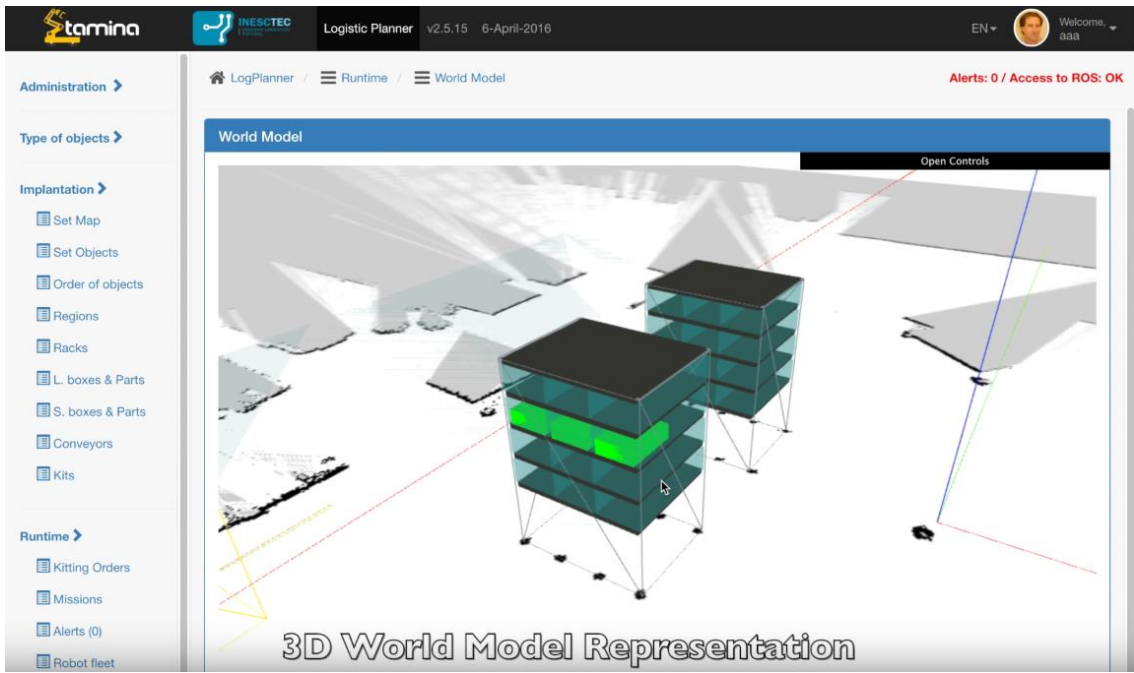


Figure3. 3D view of the robot's knowledge base.