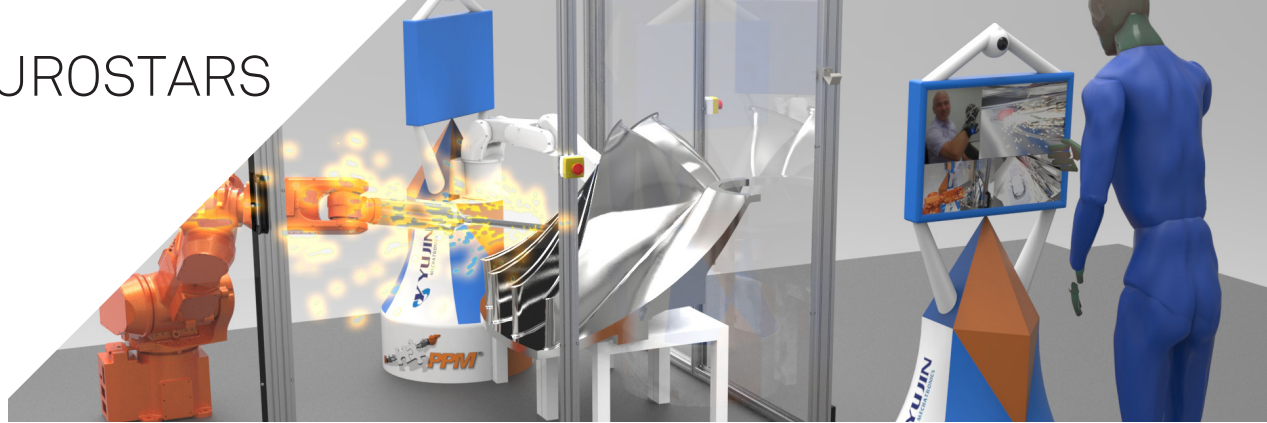


EUREKA EUROSTARS PROJECT 9692 iVAR



MEET iVAR – A ROBOT FOR ROBOTS

Increasing uptake of robotic systems is vital for competitiveness in European manufacturing. The unique iVAR avatar robot can help smaller companies cope with installing and fine-tuning their robotic systems reducing cost of ownership and eliminating barriers to wider use of robotics in industry.

In manufacturing around the world, industrial robots are becoming increasingly common. This is especially so in higher wage cost countries, where robots have made a significant impact releasing the human workforce from repetitive and strenuous production line operations.

Digitisation of industry is important for increasing competitiveness in Europe and the use of industrial robots is now moving into smaller companies. However, introducing robotics to SMEs is a challenge as, typically, they have more complicated production operations, often needing to change processes and production, and they may also often lack the necessary technical competence and capacity.

“This introduces bottlenecks to the introduction of robots as there is a higher installation cost due to the need for experts to tune the production system on site and any change in production may also require the presence of an expert – which can be a significant cost,” explains Professor Trygve Thomassen, Managing Director of Norwegian high-tech robotics system integrator, PPM AS.

Enter iVAR

iVAR, the Intelligent Versatile Avatar Robot, aims to solve this bottleneck and enable wider use of robots in manufacturing. iVAR is an intelligent mobile platform with multimedia communication and a robot arm, providing autonomous or tele-operated, inspection, diagnostics, training and programming for industrial robot and automation systems. The aim is to provide instant services to reduce production stoppage time. iVAR can carry out its services inside or outside the industrial robot cell, or be a collaborative assistant to the local industrial robot.

“The iVAR solution means issues can be solved remotely, providing instant help and saving cost,” says Trygve. “This makes clients happier and more motivated to install more robots in the future.”

Remote assistance is the key element of the iVAR concept, which is being developed in a Norwegian-South Korean collaboration. The iVAR avatar is designed to interface fully with the vast majority of robot systems available commercially, accessing cameras in the robot cell and other sensors. Data is acquired locally and then transmitted to an expert who could be situated anywhere in the world.

A local communication interface is also available to enable the company’s engineers to do any necessary physical adjustments on the spot such as reconfiguration and reprogramming.

Black box

iVAR is very much a black box system. The

software behind iVAR – its brain – is called FlexGui 4.0 and can acquire data from all types of devices on the market using an open source interface, ROS Industrial. It is intuitive and with just a half-day training, customers can get iVAR working for them logging data fast. FlexGui can be run on all tablets, smart phone or laptops and is being commercialised now.

The iVAR avatar robot itself is in its final



Issues can be solved remotely, providing instant help and saving cost

development phase and able to move autonomously in the robot cell. It is envisaged that customers would only need this assistance on site temporarily during the commissioning phase of a new process. So, the robot would be rented to most customers with a few, larger companies purchasing.

iVAR recently won a prestigious robotics prize in Korea and Trygve is working with his Korean partners to commercialise iVAR. “Now we are testing the market and in good discussions with potential partners in Korea and Japan and starting to talk to European manufacturers,” says Trygve. Commercialisation will start to ramp up during 2018 and Trygve hopes to conclude between 500 to 2 000 licences for iVAR’s tablet software from 2019-20.

This project has received funding from the Eurostars-2 joint programme with co-funding from the European Union Horizon 2020 research and innovation programme



MAIN PARTNER

PPM AS, Norway
<https://www.ppm.no/ppm-Home>
Prof Trygve Thomassen
tth@ppm.no

OTHER PARTNERS

Kyungpook National University, South Korea
The Arctic University of Norway, Norway
Yujin Mechatronics, South Korea

TOTAL R&D INVESTMENT

€ 2.1 M

DURATION

July 2015 to June 2018

COUNTRIES AND NATIONAL FUNDING BODIES INVOLVED



Research Council Norway



KIAT

EUREKA is a European network for market-oriented R&D.



www.eurekanetwork.org