

Improved productivity with flexible automation - TEHOJA

TEHOJA PROJECT IS A PROJECT WHICH STUDIES AND DEMONSTRATES FLEXIBLE AUTOMATION SOLUTIONS FOR COMPANIES IN OULU REGION. THE THREE-YEAR PROJECT STARTED IN THE BEGINNING OF JANUARY 2017 WITH A TOTAL BUDGET OF 899 668 €.

Background

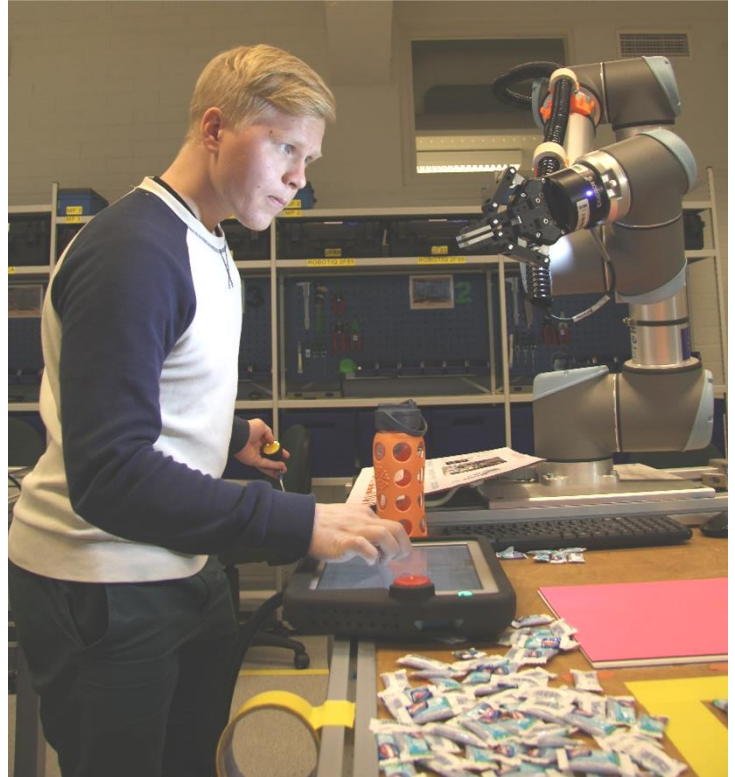
To maintain the Finnish competitiveness and domestic manufacturing, we need to focus on automation and robotics. Traditionally robots are considered as a business for big companies with high volume and high production output. However, a majority of the Finnish companies with their own manufacturing facilities are small- and medium-sized enterprises, with no single target of application for robots that would refund the investment. Modern collaborative robots (Cobot) which are developed during the era of iPhone and apps are affordable, easy to program and safe to work with. Combining these Cobots to suitable grippers, modern machine vision systems, up-to-date safety systems and AIVs give users a completely new point of view of what automation can be - flexible and easy to use. Adding open source software platforms to this equation – we have a combination, a set of tools, that could improve productivity and give a proper payback period for SMEs, too.

Open for all companies

With an investment budget of over 450 000€, the project creates a movable testing, learning and demonstrating laboratory for a proof of concept and live demonstration cells. The project is open for all companies who want to find out the possibilities of flexible automation in their production.

In 2017, 33 students conducted altogether 11 projects for local companies.

This year, 2018, over 40 students are working on 14 projects for local companies.



Way of working

The company can have a specific target for the project, or the project group can analyze their production and suggest a project based on calculations.

Once the target is set, a proof of concept cell for demonstration is designed, manufactured and tested for demonstration. After the demonstration, all engineering data is freely exploitable for the company.

All demonstrations are done by the students of OUMS Mechanical engineering department with the full support of TEHOJA project staff (4 professionals in robotics with solid industry experience) and OUMS personnel consisting of 5 professors.