ROBOT FORCE COPILOT

Application for the manufacturing industry - collaborative robotics

SUMMARY

Force Copilot is an intuitive software to operate the embedded force torque sensor in a human-robot-collaboration setting. Complex robot movements are programmed in minutes without the need for robotics expertise. This results is a reliable and flexible robot cell. The sensing functions increase the flexibility and reliability in machine tending, assembly, finishing, and pick-and-place applications.

CURRENT SITUATION

Industrie 4.0 in the field of Cobots is advancing with high-wages and the shortage of skilled labor. Automation has become enormously important for manufacturing. The applications with this combination are vast and meets many industrial needs including high precision assembly, pick and place, quality testing, and machine tending.
The industrial polishing is a repetitive process that requires the operator to apply appropriate pressure for a long time.
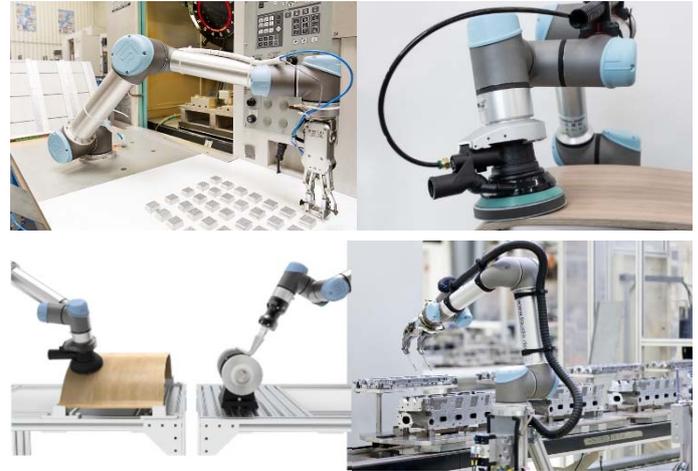
PROJECT DESCRIPTION

This is where Cobots and Cobot accesory manufacturers tactically support manufacturing. Cobots with the inclusion of Force Sensors promise and show how the new automation can take place. The complete and flexible automation of certain processes is now possible.

REFERENCES

https://www.procobot.com

PARTNERS

Politechnika Wrocławska

ProCobot smart robotic solutions

ROBOTIQ

SOLUTION

The robot is equipped with a polishing tool that uses a force sensor located in the robot tool flange. This sensor can maintain a constant pressure force in every position of the tool in relation to the polished detail. This solution provides the versatility of using the polishing which is equipped with plug & play abilities. A software suite of setup tools allows the user to hand-guide the robot on complex trajectories. The software makes it easy to place objects precisely in jigs, trays, and chucks, and it facilitates assembly applications through its alignment, indexing, and insertion functions. Finally, the intuitive interface unlocks finishing applications, with adjustable adaptive compliance and constant force for all robot axes.

CONTACT

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INDUSTRY 4.0 FEATURES

Digitally networked and automated small-batch production based on collaborative robots as pioneers for new automation on the shop-floor.

STANDARDIZATION APPROACHES

Interoperability of the robot with the production systems and the external connections is based on open standards OPC UA and companion specifications.