

# ClaXon

Improving the interaction between people and collaborative robots in factories



**SMART INDUSTRIES**

For safety reasons, robots in a manufacturing environment are typically shielded from humans. However, humans and robots have very complementary skills. Combining the dexterity, flexibility and problem-solving ability of humans with the strength, endurance and precision of robots, the quality of industrial production can be improved – as well as people’s working conditions.

Yet, introducing so-called ‘cobots’ (collaborative robots) to flexibly assist human personnel in a range of tasks faces several technological and acceptance hurdles.

“We explored how uncaged cobots can more effectively be used in factories,” explains An Jacobs (imec - VUB). “One challenge we looked into, was how to make cobots sufficiently robust for use in manufacturing settings – leveraging for instance multimodal sensor input and vision technology to enhance human-machine interaction in noisy environments. Secondly, we investigated the human side of the equation: how do machine operators want to interact with robots? And how do they expect robots to help them with their daily operations?”

## Project outcomes

- New adaptive control software that increases flexible robots’ accuracy by 60%
- Novel ways to tell a robot what it needs to do – using multimodal sensor input, and based on extensive living lab user research
- Putting the ClaXon learnings into practice at Audi Brussels

[Read more](#)

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ClaXon is an imec.icon research project funded by imec, IWT and Innoviris.

It ran from 01.01.2015 until 31.12.2016.

## Project information

### Industry

- Robovision
- Melexis Technologies
- AMS
- Audi Brussels
- SoftKinetic sensors
- SoftKinetic software
- Robotics and MultiBody Mechanics Research Group

### Research

- imec - EDM-IT - UHasselt
- imec - SMIT - VUB
- VUB - R&MM

### Contact

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