

# Use case 8: Quick programming and calibration by kinesthetic teaching

Problem/goal	Utilization of kinesthetic teaching for user-friendly programming of assembly tasks
Potential users	Manufacturing companies that need to automate their assembly production processes
NACE	C26.1 Manufacture of electronic components and boards, C27.1 Manufacture of electric motors, ... 29.3 Manufacture of parts and accessories for motor vehicles
Description	Traditional programming of industrial robots based on either teach pendants or off-line programming in a simulation environment is rather unintuitive, tedious, and requires significant expert knowledge. We address these challenges by providing a software framework that includes both front-end and back-end solutions that facilitate the integration of kinesthetic guidance for teaching robot assembly skills.
Hardware	Universal Robots (UR10)
Software	Open source software (ROS), MATLAB Simulink
Standards	Considered: ISO/TS 15066:2016, ISO 10218-1/2
Possible benefits	Operators without expert knowledge in robotics will be able to efficiently calibrate and program new automated assembly tasks.
Partners	JSI – Jožef Stefan Institute, Slovenia
More info	Ales Ude, <a href="mailto:ales.ude@ijs.si">ales.ude@ijs.si</a>

