



www.arflexproject.eu

Concept

The ARFLEX project is focused on the sector of industrial manipulators.

Starting from an existing industrial robot – without requiring any specific innovation in the robot mechanical design and in the already existing tool pose control system – ARFLEX introduces a multilevel hierarchical control based on visual and non visual sensors.

Mission

High Accuracy in TCP Positioning: 0.1 mm

High Flexibility and Adaptability

High Modularity

The ARFLEX basic idea is to get a significant improvement of accuracy, flexibility and adaptability of the actual industrial manipulators by providing the industrial robot field with new technologies, such as advanced control theory, new sensor devices and electronic embedded systems.

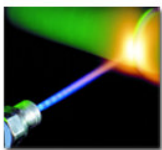
High Accuracy Applications



Deburring Applications



Riveting Applications

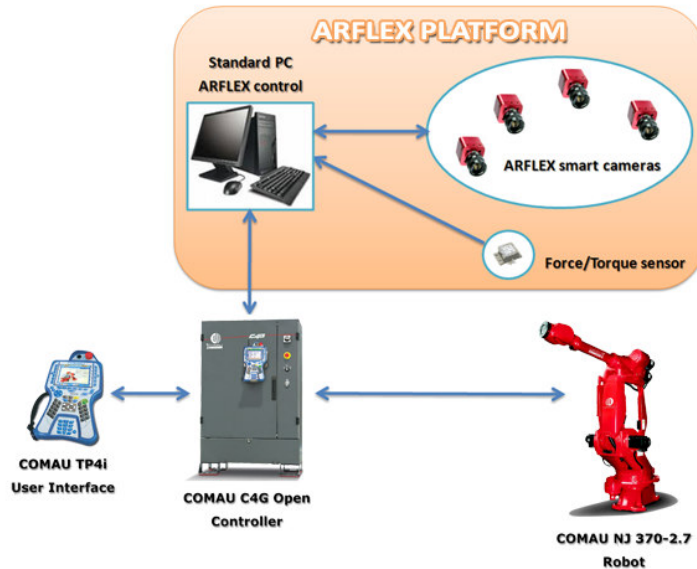


Laser Welding Applications

... and more

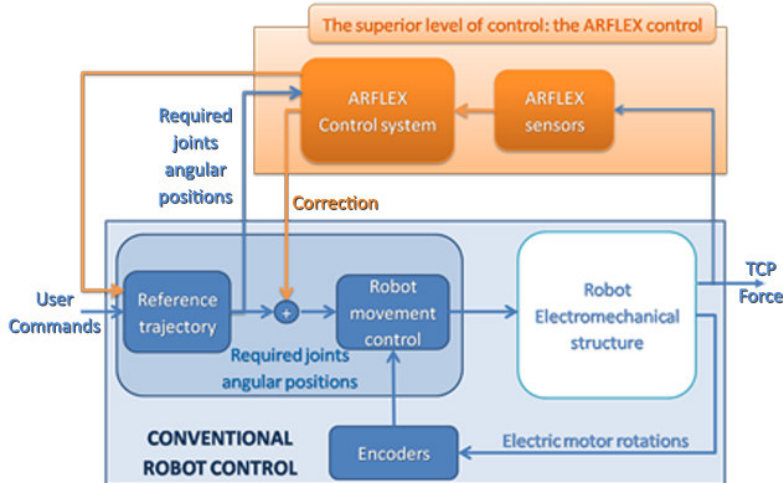
Adaptive Robots for FLEXible manufacturing systems

ARFLEX Demonstrator



ARFLEX Platform Architecture

The basic idea consists in introducing a new superior level of control which commands the existing robot control system acting on the control reference input.



The already existing tool pose control system is maintained unchanged as the first low control level.

Funded by the European Community in the context of the



SIXTH FRAMEWORK PROGRAMME

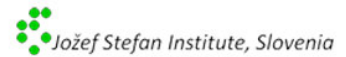
Start date of project: 01/09/2005
Duration: 3 years

Thematic priority 3 - NMP2-CT-2005-016680
Instrument: STREP

Consortium



Fraunhofer Institut Produktionsanlagen und Konstruktionstechnik



High Flexibility Applications



Manual Guidance



Human/Robots Interaction



Quick Re-programmable Tasks for SME's

... and more