



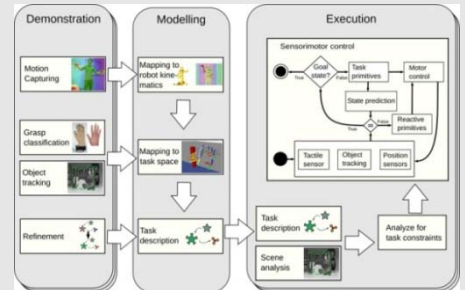
Smart robotics for high added value footwear industry



Manual final operation to iron the leather without last.



Manual packaging of the shoes.



After the demonstration of a task, the robot learns the necessary work steps in order to execute them autonomously.

Multi-fingered robotic hands and dual-arm robots for the manipulation of shoes

Footwear industry in Europe is one of the most important sectors in terms of the number of people employed. A large part of the production of such shoes is still handcrafted. One of the main difficulties to automate this area is the high number of product variants because of a large number of models, sizes, and colors. Additionally, footwear manufacturing requires complex manufacturing and assembly processes as well as an extensive demand for labor during quality and packaging operations.

The ROBOFOOT project addresses the urgent need for intelligent solutions to automate complex and still mostly manual processes in industrial production. In this case, the project ROBOFOOT aims at introducing robotics in the manufacturing of footwear which is still mainly handcrafted. The project develops robotic solutions to optimize and automate the production process in order to allow higher-quality products at competitive prices. The target area is the production of fashion and other high added-value shoes where Europe still maintains its leadership. ROBOFOOT brings together a consortium composed of 10 institutions from 3 European countries (Italy, Spain and Germany).

Within the project, DFKI Robotics Innovation Center will mainly address the problem of manipulating shoes which as deformable objects require high levels of dexterity. More specifically, Robotics Innovation Center

will evaluate the use of multi-fingered hands and dual-arm robots in these scenarios. In order to provide the robot with flexibility, a learning component will allow the possibility to learn new manipulation skills and task sequencing.

Duration: 01/09/2010 – 28/02/2013

Partners:



Sponsors:



Funded by the European Commission; Grant agreement No. 260159 under the Call FP7-2010-NMP-ICT-FoF

Contact:

DFKI Bremen & University of Bremen Robotics Innovation Center

Director: Prof. Dr. Frank Kirchner
 Phone: +49 - 421 - 17845 - 4100
 E-mail: robotics@dfki.de
 Website: www.dfki.de/robotics