

tecnalia  
Corporación Tecnológica

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# Real World Robots



# Real World Robots

APPLYING RESEARCH TO THE REAL WORLD



**FATRONIK-Tecnalia designs and develops customised solutions oriented to closing the gap between robotic technology and real market needs.**

**FROM European and national research programs ...  
...TO Contracts with industrial clients**

# Offer in intelligent robotics (I)

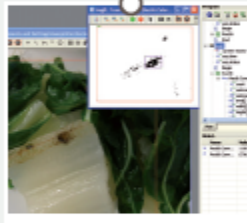
## INDUSTRIAL ROBOTS

### HIGH SPEED MANIPULATION

Pick&Place robots  
based on Parallel kinematics



World's fastest  
robot



Machine vision  
systems

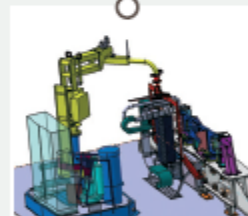


Grippers

### ADVANCED MANUFACTURING

Use of robotic technology  
for advanced production processes

#### ROBOTIC MOBILE CELLS



Robot for  
multiproduct  
drilling in airplane  
structures

#### CRAWLER ROBOTS



Robotic crawler  
for service  
operations on  
large surfaces

# Offer in intelligent robotics (II)

## SERVICE ROBOTS

### INDUSTRIAL SERVICE ROBOTS

Robots working in direct cooperation with people, or sharing the same working environment



Mechatronic components



Mobile platforms



Motion control and navigation components

### ASSISTIVE ROBOTIC DEVICES

Products for assistance and/or rehabilitation of elderly and disabled people

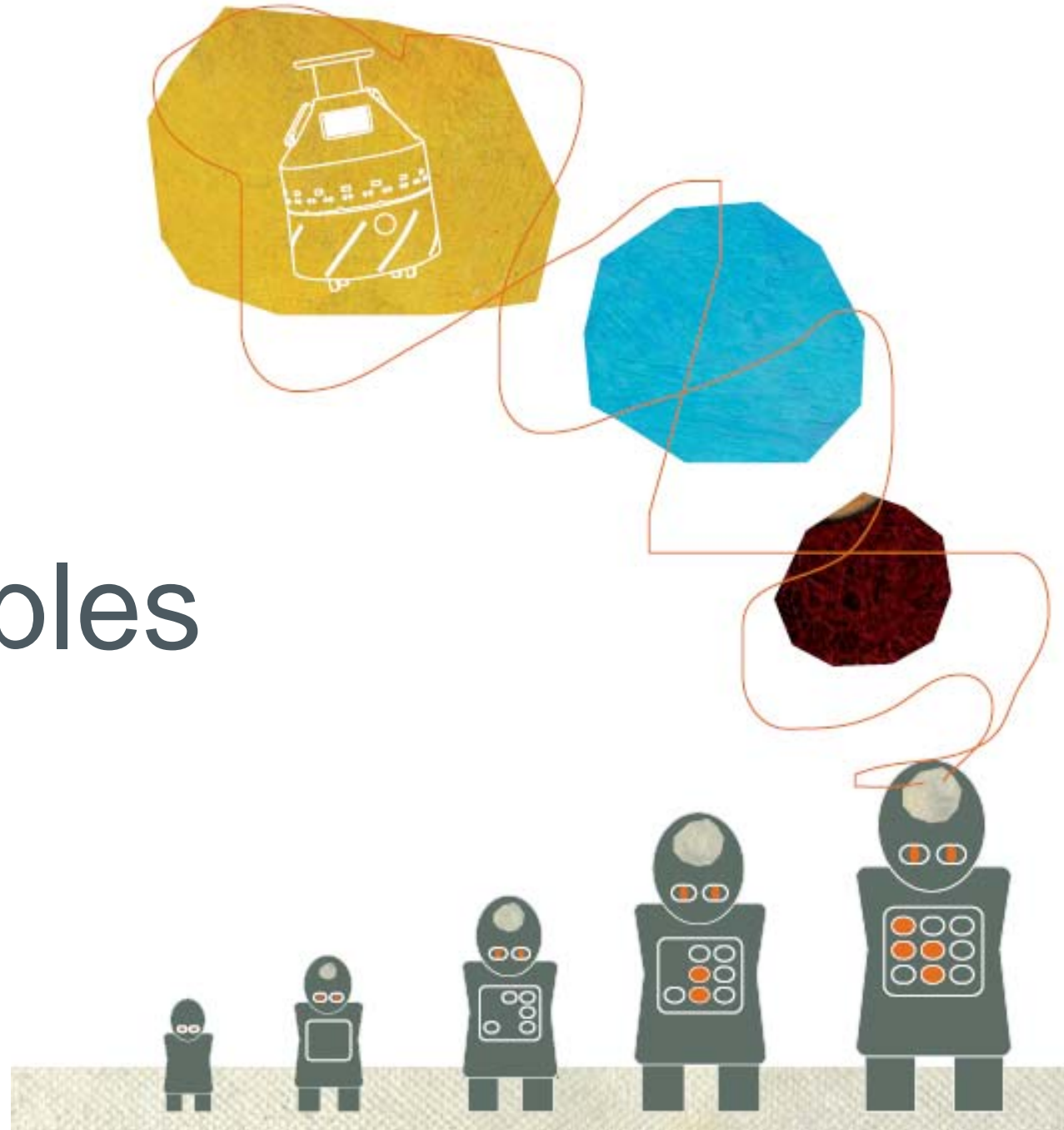


Rehabilitation robotics to accelerate the recovery



Robotics to support daily activities in hospitals and health care centres

# Some examples



# World's Fastest Parallel Kinematics Manipulator



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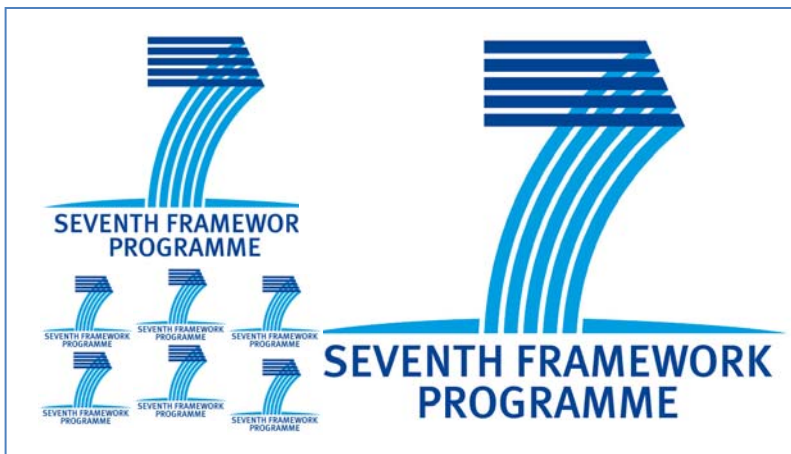


Patent licensed to Adept  
Robot commercialised by Adept.

roboconcept  
<http://www.roboconcept.com>

FATRONIK SPIN-OFF to integrate the Adept Quattro solution to real industry applications

## European Robotics Coordination Action



### FP7 EC PROJECT

Improving cooperation between industry and academia and enhancing the public perception of European robotics.

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## Portable crawling robot for drilling different types of aircraft spars



Shared risk project:



Drilling different spars without structural modifications

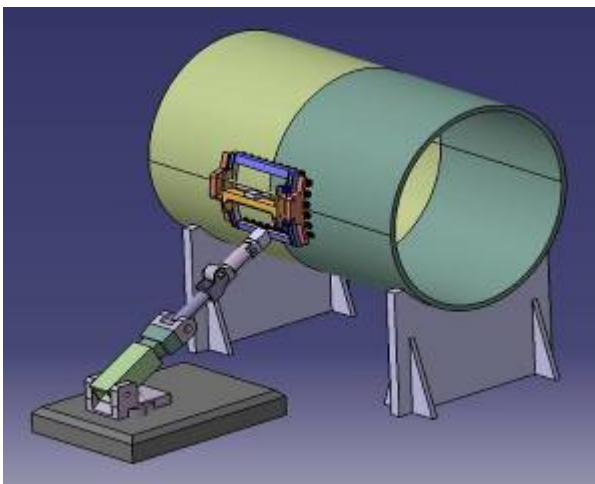
Winner of International Strategic Manufacturing Awards 2008



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## MAAXIMUS: More Affordable Aircraft through eXtended, Integrated and Mature nUmerical Sizing



### FP7 EC PROJECT

Fast development and right-first time validation of a highly-optimised composite fuselage.

FATRONIK-Tecnalia is in charge of the full automation task up to demonstrator and prototype validation.

<http://www.maaximus.eu>

## Multipurpose mobile platform



Building a Mobile Robot Platform  
Intelligent wheel modules electronically  
synchronised  
Advanced control  
Autonomous guiding system  
Autonomous path learning

## Robot software



Members of the Developer Team of Orca Robotics  
Platform: <http://orca-robotics.sourceforge.net/>

B&R, Technosoft for Real Time demanding hardware  
control.

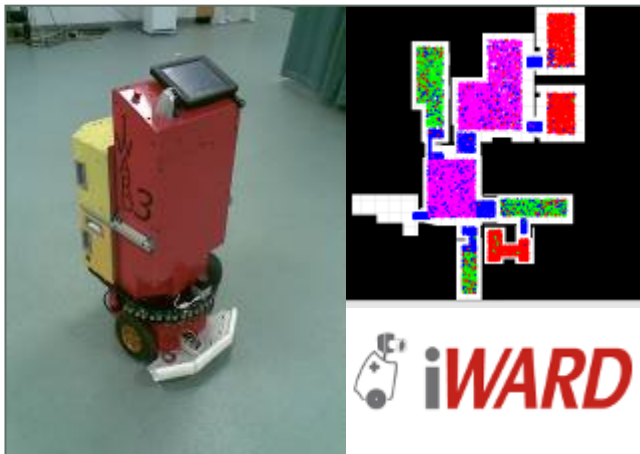
## Intelligent Industrial Cleaning Machine



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Programming the Cleaning Route by  
Demonstration.

## IWARD: Intelligent Robot Swarm for Attendance, Recognition, Cleaning and Delivery



FP6 EC PROJECT

FATRONIK-Tecnalia:  
Towards a Situation Aware Navigation

<http://www.iward.eu>

**ROBOSWARM:** Open knowledge environment for self-configurable, self-learning and robust robot swarms.

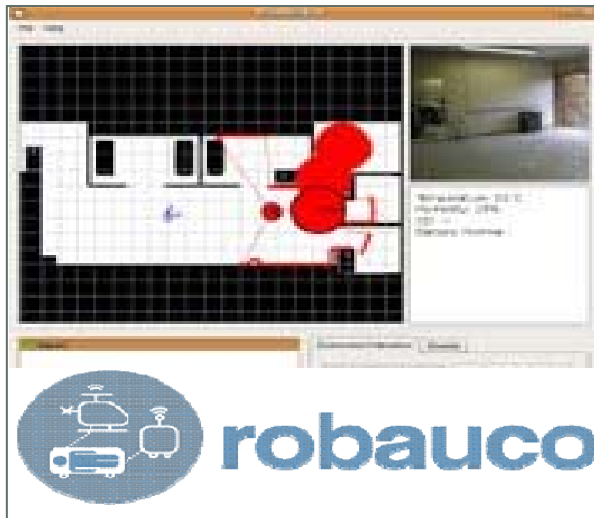


### FP6 EC PROJECT

FATRONIK-Tecnalia:  
Web based interfaces, hardware abstraction layer for robowarm robot platform.

<http://www.roboswarm.eu>

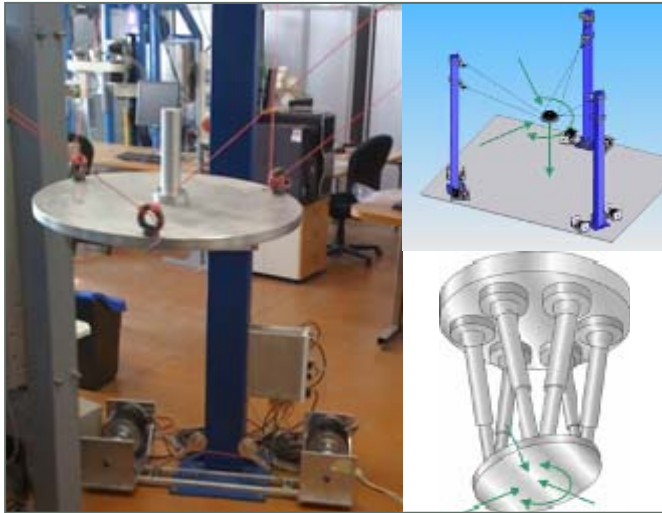
**ROBAUCO:** Mobile, autonomous and collaborative robots



FATRONIK-Tecnalia:  
Interoperability MSR-Orca, User interfaces, Platform Health Monitoring

<http://www.robauco.es>

# CABLE ROBOTS



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Developing cable driven robot technologies for new market and industrial applications.

Robots with large workspace and easy re-configuration.

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