

Leading European Robotics

Robotic Visions to 2020 and beyond – The Strategic Research Agenda for robotics in Europe

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EUROP Press Conference
La Bibliothèque Solvay, Brussels, Belgium, 07/07/2009

bios [bible] – a robot writes the bible



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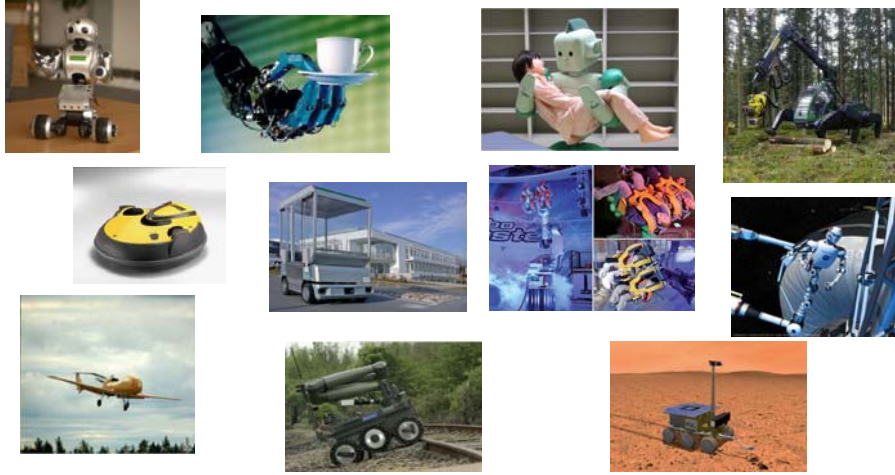
Mission statement

**This Strategic Research Agenda
aims to promote
robotics development and
business activity in Europe**

Why use a robot? – Industrial robots



Why use a robot? – Service robots



European Robotics Technology Platform (EUROP)

EUROP
European Robotics Technology Platform

Vision

- Maintain leadership in industrial robotics
- Take the lead in service and security markets
- Develop a European robotics supply chain
- Ensure public and personal security
- Improve quality of life and expand scientific endeavours

Goals

- Promote European Robotics
- Provide networking support for the European industrial community
- Develop the Strategic Research Agenda of European Robotics and ensure its high quality and environment

<http://www.robotics-platform.eu>

EUROP membership



members' locations

Legend

-  private companies
-  research & education
-  cooperation partners
-  KUKA (EUROP President and EUROP Coordinator)

CARE: Coordination Action for Robotics in Europe



Industrial

Professional
service

Domestic
service

Security

Space

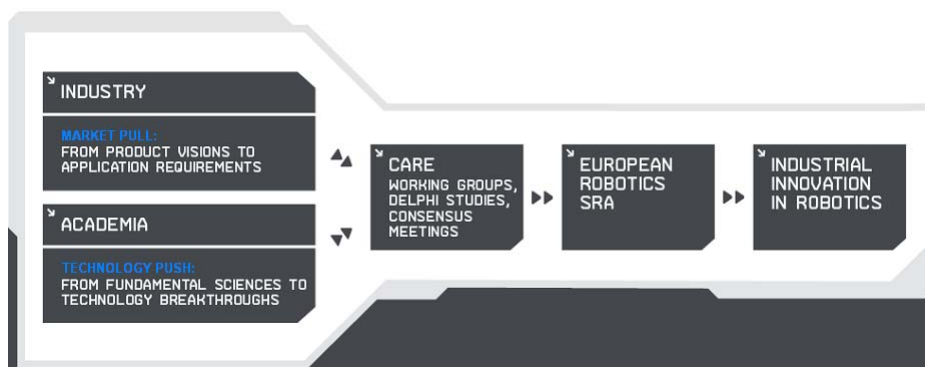
15 CARE partners:



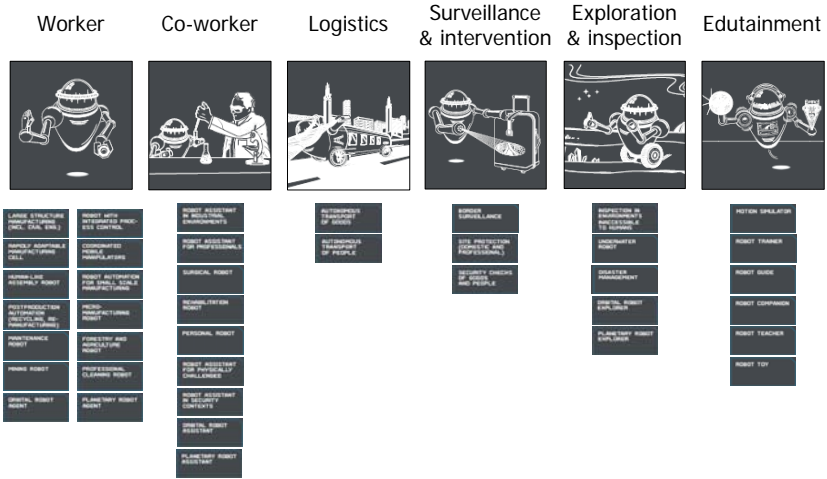
The eight SRA commandments

- Take advantage of robotics technology in all aspects of life
- Master the challenge of system integration
- Create a European robotics supply chain
- Focus on the right research and technologies
- Create new markets through SME support and technology transfer
- Support cross-fertilisation to maximise the impact of R&D
- Enhance robotics training and education
- Avoid ethical, legal, and societal issues becoming barriers

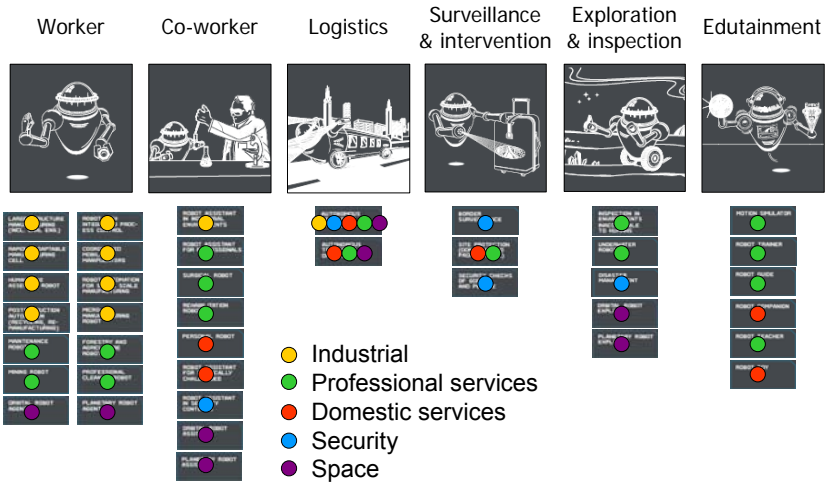
Setting up a joint Research Agenda for robotics in Europe



Product Visions grouped by Application Scenarios



Application Scenarios cover all market sectors



18 Technologies needed to realise Product Visions

Mostly driven by others	Driven by robotics and others		Mostly driven by robotics
SYSTEM ARCHITECTURE	(REAL-TIME) COMMUNICATION	MATERIALS	COOPERATING ROBOTS & AMBIENT INTELLIGENCE
POWER MANAGEMENT	HUMAN-MACHINE INTERFACE	PLANNING	
		CONTROL	
SYSTEM ENGINEERING TOOLS	SAFETY	LEARNING	END EFFECTORS
	ACTUATION	SENSORS	NAVIGATION
MODELLING	LOCOMOTION	SENSING & PERCEPTION	

Ethical, legal, and societal issues

- Ethical issues
 - Robot or robotic device does “wrong”
 - Robot or robotic device is applied inappropriately
- Legal issues
 - Who takes responsibility for the robot’s/devices’ actions?
- Societal issues
 - Changing labour profiles
 - Social division

→ potential barriers to market

Summary and conclusions

- Europe is ready to lead worldwide robotics developments
- This SRA will help to guide investment
- Stakeholders are asked to implement the common strategic vision
 - Follow conclusions of the SRA
 - Focus all robotic stakeholders (industry, academia, private & public investors)
- EUROP is ready to facilitate the process