PAL

COLLABORATIVE PROJECTS

Service Robotics to enhance people's quality of life

BARCELONA | 2025

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Welcome to PAL Robotics, where the future is being reimagined every day.

At the heart of our innovation is a commitment to enhancing human capabilities through service robotics.
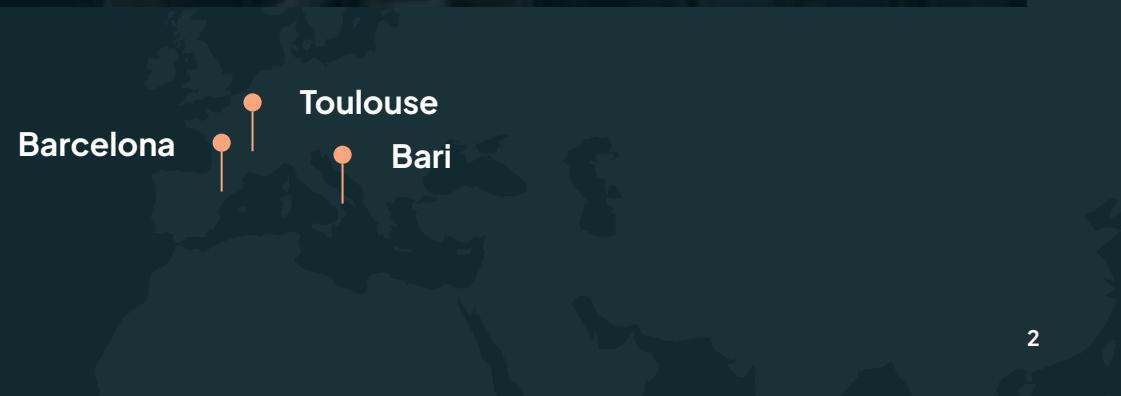

20 years
FOUNDED IN 2004

+100
TEAMPLAYERS

90%
ENGINEERS & PHD'S

Barcelona Toulouse Bari

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Who we are

Associations we are part of

I-RIM	eu ROBOTICS	Adra The AI Data Robotics Association	Hispa Rob.	A35R	IFR International Federation of Robotics	RoboticsPlace
	Francesco Ferro **Industry Director & Treasurer**	Francesco Ferro **Industry Robotics Director**	Francesco Ferro **Board Director**	Francesco Ferro **Board Director**	Francesco Ferro **Chair IFR Service Robot Group**	

Mobile Interaction

RESEARCH | INDUSTRY 5.0 | HEALTHCARE | AGRIFOOD

Products and services
for manipulation and HRI.

Legged

RESEARCH

Humanoid collaborative platforms
for state-of-the-art research.

Intralogistics

**INDUSTRY 5.0 | RETAIL | HEALTHCARE |
AGRIFOOD**

Platforms for automating
transportation of goods,
inventory robots.

Collaborative projects

We cooperate with other European partners in order to boost innovation in several fields through more than 25 EU-funded projects.

Horizon Europe / **H2020** / **Eureka** / **FSTP**/ **CDTi**/ **Spanish Ministry**

R&D
Projects

MetaTool · euROBIN · elsa · ASTIR · CORESENSE · MUSAE · PRIMI · MANOLO · TRAIL · Capsul-AI · PIQASO · PILLAR ROBOTS · SWEET

INBOTS · COVER · eurobench · Deep Robotics · PIRAO · Fast deployment of autonomous vehicles · ROSin · neu touch

Healthcare
Projects

NHoA Never Home Alone · RAADiCal · IROPER · eureka eurostars iCaLo

RobMoSys · SOCRATES · SACRO · SANDRO · SHAPES · safe_ly · growmeup · MR.CLEAN · ENRICH me · ALMI · eurostars SANDRo 2 · SPRING

Industry
Projects

ARISE · ROBO SAPIENS · Centauro · ULTRADRON · AGIMUS

Mr.Clean Cupó · Factory in a Day · SeCollA · memmo · AMDORR · FACTORY NO.1 · 4Robots · SESAME · 5G · TIAGo INDUSTRIAL

Agri-food
Projects

CANOPIES · ROSALYA · agROBOfood SCaFo

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Healthcare and Social robots

Social robotic application to support active and healthy ageing

With the world population ageing and with the number of increasing, healthcare is becoming more costly and, as such, the need to optimise and support independent living for older people is of paramount importance. Our social robots interact directly with humans. These "friendly" robots can be used in long-term care environments to provide social interaction and monitoring.

Sustainable development goals

| 3 GOOD HEALTH AND WELL-BEING | 8 DECENT WORK AND ECONOMIC GROWTH | 17 PARTNERSHIPS FOR THE GOALS |
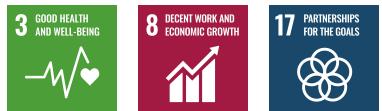
For Good Health and Well-Being

- Encouraging healthy habits, e.g. eatings.

- Improving people's emotional well-being.

- Saving resources. Robots handle the same type of work repeatedly without lowering the quality of the output. Relieving the daily burden on people handling routine daily tasks.

- Perceiving the cognitive and social state of humans and learning to interact with multiple humans at the same time.

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**Healthcare
and Social robots**

*Building trustworthy and
human-centric robot assistances
improving people's quality of life*

HIGHLIGHTED PROJECTS

SAFE–LY Project
Enhancing patient safety in healthcare settings
through assistive robotics.

safe_ly

SPRING Project
Adaptation of Socially Assistive Robots, with the
ability to perform multi-person interactions and have
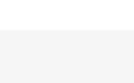an open and extensive dialogue.

ALMI Project
Domestic support of patients with mild cognitive
impairment (MCI) or at early dementia (Alzheimer
Disease-AD) stages.

SHAPES Project
Solutions for assistive robots and pilots in care
homes for healthy and active aging.

SANDRo Project
Robotic assistance for delivering of goods/ supplier,
entertainment, tele-assistance and remote client
monitoring (sound & video).

Assistive robot for care homes
Developed EU Project
SHAPES

ALMI
ALMI PROJECT
Ambient Assisted Living for Long-term
Monitoring and Interaction

HERO
Project
SANDRo
Trial
Badalona 2022

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Agri-Food

Robotic application to
optimize food processing
and precision farming

World population is growing, more needs of technologies and service robotics is needed in the agri-food industry to tackle with the increasing in the food demand and to improve the food production and processing. E.g. some of the work done in agriculture is very slow, repetitive and tiring, the use of robots overcome the labour shortage in the sector and allow the farmers to focus on improving production yields.

Sustainable development goals

| 2 ZERO HUNGER | 8 DECENT WORK AND ECONOMIC GROWTH | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 17 PARTNERSHIPS FOR THE GOALS |

For improving agriculture and food production

- Precision agriculture: harvesting of grapes, harvesting of apples, etc.

- Automatic data collection for process efficiency enhancement.

- Using sensors, vision cameras, machine learning and onboard processing to completely optimize the food production and processing, assuring food quality and safety.

- Labour shortage in the sector.

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**Agri
Food**

*Building robots to improve both
productivity and working
conditions for farmers and workers*

HIGHLIGHTED PROJECTS

Canopies Project
Mobile robotic platforms for a collaborative
paradigm in the field of precision agriculture
for permanent crops where, like harvesting or
pruning in table-grape vineyards. Addressing
the challenges of Human Robot Interaction and
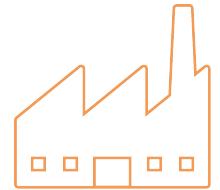Human-Robot Collaboration.

SCaFo Project
Fleet of AMRs to perform food transportation
tasks in the unstructured and dynamic
environment of the food processing industry
in the context of digital transformation of the
European agri-food sector.

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Industry

Mobile robots to support the optimization of industrial processes

Industries across the board need flexibility to respond to global mega-trends, from labor shortages and supply chain uncertainty, to rapidly changing consumer behavior with an explosion of online personalized orders, combined with a growing pressure to operate sustainably. As more robots are installed and more people interact with them, the need for ease-of-use and interoperability will increase.

Sustainable development goals

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

17 PARTNERSHIPS FOR THE GOALS

Cobots for the Industry of the future

- Human-centric approach, providing tools for securing the robots while working with humans. Better balance of speed and safety.

- Overcome the high cost of integration and robots scalability and flexibility to process changes.

- Smaller, more affordable and easy-to-use robots to remove many of the barriers preventing companies from investing in robots.

- Improvements in the data infrastructures and cloud systems to connect robots and to control operations on the factory floor.

- Automatic data collection for process efficiency enhancement.

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Industry

Building collaborative mobile robots to work directly alongside humans to improve both productivity and working conditions

HIGHLIGHTED PROJECTS

ARISE Project
Expanding industrial HRI across Europe by developing Agile HRI, an open-source middleware that enhances efficiency, sustainability, and human-centric collaboration.

AGIMUS Project
Deliver an open-source AI-driven innovation for agile production, enhancing robotics in perception, planning, and control for fast setup, autonomy, and adaptability.

SESAME Project
Developing advanced technologies that will deliver an open, modular, configurable, model-based approach for the systematic engineering of dependable multi-robot systems.

CyberFactory#1 Project
Cybersecurity and learning by demonstration for robots to promote optimisation and resilience of the Factories of the Future (FoF)

COVR Project
Protocols to reduce the complexity in safety certifying cobots in retail. This project aids the progression of robots operating in crowded spaces with lots of people.
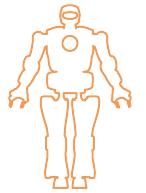
R&D

Robotic platforms to enhance your research projects

Our reliable and cutting-edge humanoid and mobile robots help boosting R&D projects providing the best robotic companion and the engineering services to have the right tools in your research.
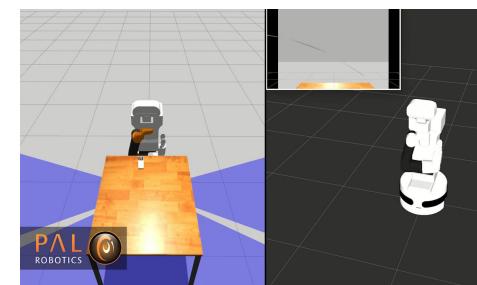
Sustainable development goals

Open-source and customizable cobots

- Fully ROS-compatible robots where you can install your own packages, drives and controllers.

- Open-source libraries for simulation, control and perception.

- Hardware and software adaptation.

Open Software
Use your own packages, drivers and controllers

Open source simulation for Gazebo:
URDF models / Controllers / Tutorials

Available on *TIAGo ROS Wiki*

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R&D

Building the best robots to boost your research projects

HIGHLIGHTED PROJECTS

PIQASO Project
Deliver a fully operational and optimized platform-as-a-service solution that implements an ensemble of quantum-safe cryptographic algorithms.

OpenDR Project
Deep learning open source toolkit to provide advanced perception and cognition abilities in robotics.

PRIMI Project
Merges neuroscience, psychology and AI to develop advanced, socially interactive robots to be tested in stroke rehabilitation to enhance precision, speed, safety.
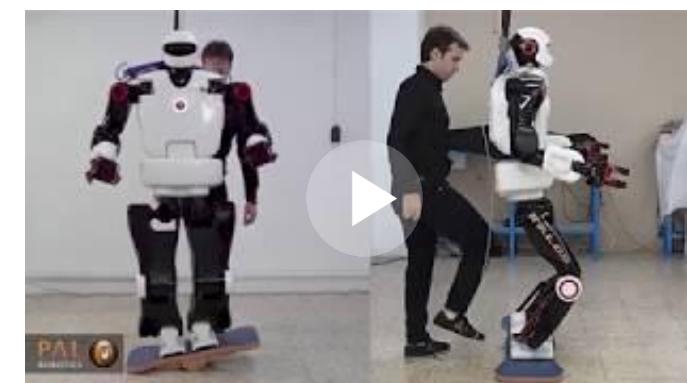
PILLAR Project
Purpose acquisition and learning of skills and models by the robot for purpose-related deliberative and reactive decision processes.

euROBIN Project
European ecosystem of robots that share data and knowledge to jointly learn to perform tasks in human environments.

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EU Projects

Where and how we can help
your project to grow

01.

Call Scouting

Calls evaluation for
matchmaking with
potential project
ideas.

02.

Proposal
redaction

Crafting and refining
project narratives of
EU Proposals through
effective writing.

03.

Submission
& follow up

Streamlining EU Project
processes through
efficient
documentation and
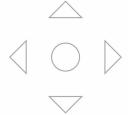monitoring.

04.

Project
implementation

Driving success through efficient execution
and effective stakeholder collaboration.

Requirement definition | Software development | Software
integration | Hardware adaptation | Testing, use cases & validation
| Dissemination & exploitation.

PAL

Our expertise

Navigation
SLAM
Navigation
Localization

Software
DevOps
Continuous integration
Perception
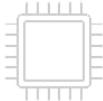
Embedded
Motor & Sensor
Control boards
Connectivity

HRI
Social AI
Human Perception
Interaction Design

Control
Real Time
Manipulation
Walking

Electronics
Firmware
Sensor boards
Integration

Mechanics
Bio-inspired
and actuation designs
Integration

Sales
Flexibility
Adaptation
Customised solutions

Post-sales
Training sessions
Technical assistance
On-demand programs

Community
Collaboration
Open Source
R+D

We help you integrate cutting-edge robotics

- R&D
- RETAIL
- INDUSTRY
- LOGISTICS
- ASSISTED LIVING
- HOSPITALITY
- AUTOMOTIVE
- AEROSPACE

LOOKING FOR PARTNERS?

Working together is key to innovation

Strong partnerships are essential to demonstrate research excellence and tackle societal challenges through robotics.

FACTORY OF THE FUTURE
COLLABORATIVE ROBOTS
INDUSTRY 4.0

COMPETITIONS
BENCHMARKING

ARTIFICIAL INTELLIGENCE

IOT

SMART CITIES
BIG DATA
RETAIL

HEALTHCARE
ASSISTED LIVING
SMART HOSPITAL

PAL
20 YEARS OF ROBOTICS

thank you

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