13th CDTI - NEDO Joint Workshop
"AI-Equipped Collaborative Robot Technology"
December 11, 2025 Tokyo

Robots for Improving Logistics and Quality of Life in any Environment

PAL

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CEO
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Tokyo | December 2025

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CDTI INNOVACIÓN

NEDO

Company Overview

https://www.youtube.com/watch?v=n9rsokx_oXQ

+20 years
OF SERVICE ROBOTICS

+120 TEAMPLAYERS

80% ENGINEERS

Barcelona
Toulouse
Bari

FOUNDED IN 2004

Associations

I-RIM Italian Institute of Robotics and Intelligent Machines
eu ROBOTICS
The AI Data Robotics Association
Hispa Rob.
AER automation
IFR International Federation of Robotics
RoboticsPlace

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Business Units

Mobile Interaction

RESEARCH | INDUSTRY | HEALTHCARE

ARI & TIAGo
Products and services
for industry & research.

Legged

RESEARCH | UNIVERSITIES

KANGAROO & TALOS
Humanoid service platforms
for state-of-the-art research.

Intralogistics

INDUSTRY | RETAIL | HEALTHCARE

StockBot & TIAGo Base
Platforms for automating
transportation of goods.
Inventory robots.

Business Units

Mobile Interaction

https://www.youtube.com/watch?v=SttzPpc_LLg

https://www.youtube.com/watch?v=PC7Vuh00sfA

Legged

https://www.youtube.com/watch?v=n2F-APM-u9I

https://www.youtube.com/watch?v=xUeApfMAKAE

Intralogistics

https://www.youtube.com/watch?v=ha4sPrshjzU

https://www.youtube.com/watch?v=b2Pq5f8RSLk

Mobile Interaction Robots

Diverse Applications
From mobile manipulators in industrial environments to social assistive platforms.

Interactive Service Robots
Robots working together with humans in industry settings.

User-friendly
Easy to use and ready for deployment.

Modular and Adaptable
Our robots are platforms that solve real-world challenges

TIAGo Pro

https://www.youtube.com/watch?v=PC7Vuh00sfA

Intralogistic Robots

Increase productivity
Guarantees constant production, automating low-value tasks

Optimise resources
Increases time available for workers on tasks that deliver added value

Easy to implement and use
Installation is fast and easy without changes to space, no technical knowledge needed

Flexibility
Possibility of modifying the robot's programmed tasks on the go to suit changing needs in production

TIAGo Bases

https://youtu.be/ha4sPrshjzU?si=fcf3v1SUeSlg3MwM

StockBot

https://youtu.be/b2Pq5f8RSLk?si=C0H3PCQAw9C6k-6-

Legged Humanoid Robots

PAL

Advancing Locomotion Research
Cutting-edge platforms for walking, balance, and agility research

Versatile Control
From model-based algorithms to AI-driven approaches

Adaptable Bipeds and Humanoids
Adaptable platforms used across assistive, industrial, and academic domains

Trusted by Leading Institutions
Used globally in top labs driving robotics, AI, and human-centered tech

KANGAROO

https://www.youtube.com/watch?v=G7riD4yb1tg

TALOS

https://www.youtube.com/watch?v=xUeApfMAKAE

Collaborative Projects for Real-World Challenges

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R&D Projects

Healthcare Projects

Industry Projects

Agri-food Projects

Robotic Platforms to Enhance R+D Projects

PAL

R&D Robots

4 QUALITY EDUCATION

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

17 PARTNERSHIPS FOR THE GOALS

Co-creating the Future

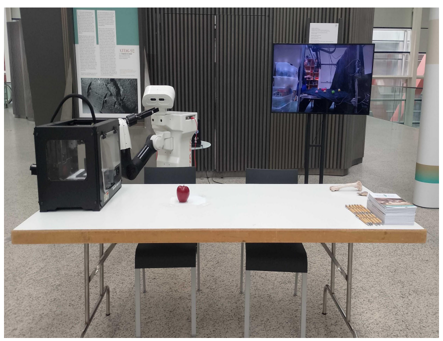
Boosting R&D projects providing the best robotic companion and the engineering services to have the right tools in your research.

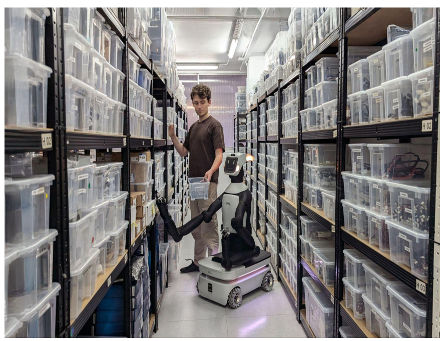
Open-source Software

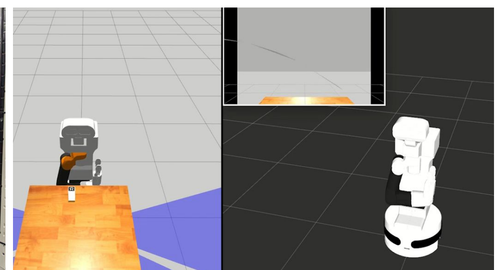
Fully **ROS2-compatible robots** where you can install your own packages, drives and controllers.

Embodied AI for Robot learning

Our platforms are adaptable. Robust and reliable hardware that can be tailored to suit perform your required tasks and a software architecture that allows you to deploy and validate your research with real-time data







Our Robots work with:

ROS2, ubuntu, GAZEBO, Jenkins, GitHub, GitLab, OpenCV, The Orocos Project, pcl, MoveIt

Projects:

Click to Learn More

MetaTool, euROBIN, elsa, Capsul-IA, PiQASO, STIR, CORESENSE, MUSAE, PILLAR ROBOTS, PRIMI, MANOLO, TRAIL, INBOTS, COVR, eurobench, OpenDR, PERSEO, HERO, ROSin, neutouch

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Social Robotic Solutions to Support Active and Healthy Ageing

PAL

Healthcare & Social Robots

3 GOOD HEALTH AND WELL-BEING

8 DECENT WORK AND ECONOMIC GROWTH

17 PARTNERSHIPS FOR THE GOALS

Routine Care Automation

Medication delivery, vitals monitoring, and room sanitization | Frees human staff for higher-value care

Emotional Support

Robots engage with patients, especially elderly or isolated individuals, to provide companionship

Object Manipulation

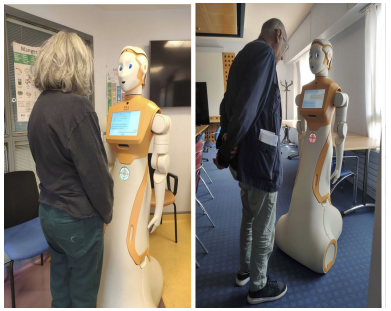
Robots help patients or caregivers by retrieving objects, assisting in feeding, or repositioning items

Logistics and Delivery

AMRs transport medical supplies, lab samples, or meals improving efficiency and hygiene

AI Powered Personalized Care

Integrate AI to our social robots to adapt robot interactions to patient history and preferences



Projects:

Click to Learn More

NHoA Never Home Alone · IROPER · RAADiCal · eureka eurostars iCaLo · RobMoSys · SOCRATES · SACRo · HERO · SHAPES · safe_ly · growmeup · Mr. Clean · ENRICHme · AMI · eurostars · SPRING

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Robotic Solutions to Optimize Food Processing and Precision Farming

Agri-Food Robots

2 ZERO HUNGER

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

17 PARTNERSHIPS FOR THE GOALS

Precision Farming

Cameras, sensors, and AI are used for **selective harvesting of crops**. Picking without damaging fruit and working closely with humans

Pruning & Maintenance

Automated pruning of high-value crops, reducing manual labor and improving consistency of cuts

Food Transportation

AMRs move packaged goods and raw materials **between workstations.** Improves hygiene and workflow efficiency

Cold Storage & Distribution

AMRs move goods inside **temperature-controlled warehouses** Reduces exposure and enhances supply chain tracking

Projects:

Click to Learn More

Mobile Robots to Support the Optimization of Industrial Processes

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Industry Robots

8 DECENT WORK AND ECONOMIC GROWTH

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17 PARTNERSHIPS FOR THE GOALS

Human-Robot Collaboration

Robots explore **safe collaboration** with humans in research environments to develop collaborative workflows

Construction & Infrastructure

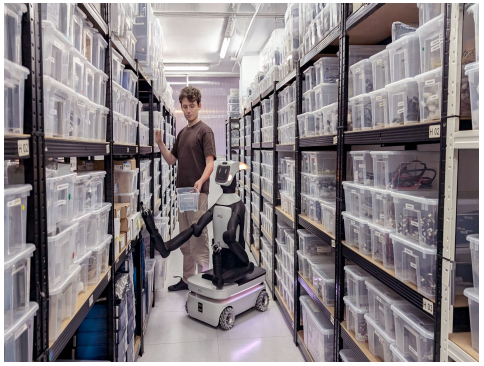
Robots are used in pilot projects to explore **robotic assistance, on site inspection and task coordination** for industrial facilities

Intralogistics Automation

AMRs transport bins, tools, or goods across factory floors, improving **internal logistics** and reducing manual load

Quality & Safety Research

AMRs are used to monitor environments, assist in data capture, and help in testing **safe integration protocols** for robots working in human-shared spaces



Projects:

Click to Learn More

ARISE · ULTRADRON · AGIMUS · Mr. Clean · Factory in a Day · SeCoIA · memmo · AMDORR · 4Robots · SESAME · evolved 5G · TIAGo INDUSTRIAL

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Japan – Spain Collaboration Ideas

1. Joint R&D Project: *Assistive Logistics Robotics*

- **PAL Robotics:** Expertise in humanoid and mobile robots, AI, and HRI.
- **Japanese partner:** Robotics manufacturer or tech company (e.g. advanced sensors, industrial robots).
- **Goal:** Co-develop next-generation assistive logistics robots (navigation, safety, HRI, AI features).

2. Industrial Pilot in Logistics Centers

- **PAL Robotics:** Providing robots, software and integration.
- **Japanese partner:** Large logistics operator / 3PL / e-commerce warehouse.
- **Goal:** Deploy PAL Robotics' assistive logistics robots in Japanese warehouses to validate:
  - productivity gains,
  - worker ergonomics,
  - cultural and operational adaptation.

3. Joint "Human–Robot Symbiosis in Logistics" Lab

- **PAL Robotics:** Robot platforms, software stack, and UX.
- **Japanese partner:** University, research institute, or innovation lab.
- **Goal:** Study ergonomics, safety, acceptance, and best practices for human–robot collaboration in logistics.

4. Co-development of Safety & Certification Framework

- **PAL Robotics:** Experience with CE marking and EU safety standards.
- **Japanese partner:** Robotics manufacturer or certification-oriented partner in Japan.
- **Goal:** Define shared safety procedures and guidelines for collaborative mobile robots in warehouses (for EU&Japan).

Japan – Spain Collaboration Ideas

5. Engineer & Researcher Exchange

- **PAL Robotics:** Hosting Japanese engineers for hands-on work with platforms.
- **Japanese partner:** Robotics or logistics company – hosting PAL engineers at test sites or R&D centers.
- **Goal:** Share know-how on AI, perception, logistics processes, and deployment at scale.

6. "Quality of Life at Work" Robotics Use Cases

- **PAL Robotics:** Assistive robots focused on load handling and support.
- **Japanese partner:** Logistics company with strong focus on workers' health and safety.
- **Goal:** Co-design robots that:
  - reduce physical strain,
  - assist with repetitive tasks,
  - improve quality of life and retention of warehouse workers.

7. AI & Perception Technology Transfer

- **PAL Robotics:** AI for localization, mapping, navigation, and environment understanding.
- **Japanese partner:** Hardware / sensor manufacturer.
- **Goal:** Combine advanced sensors with PAL's perception and navigation stack to create high-performance logistics robots.

8. Joint Product for Global Market

- **PAL Robotics:** Core robotic platform and software.
- **Japanese partner:** Manufacturing and distribution partner in Asia.
- **Goal:** Co-branded assistive logistics robot line, designed in Europe, industrialized and localized for Asian markets.

PAL | 20 YEARS OF ROBOTICS

thank you

Let’s continue reimagining the future, together

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TOKYO | 2025

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