EUROPEAN ROBOTICS FORUM
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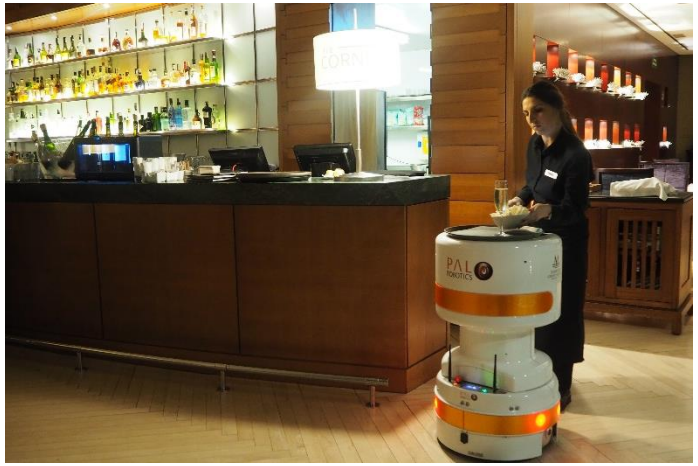


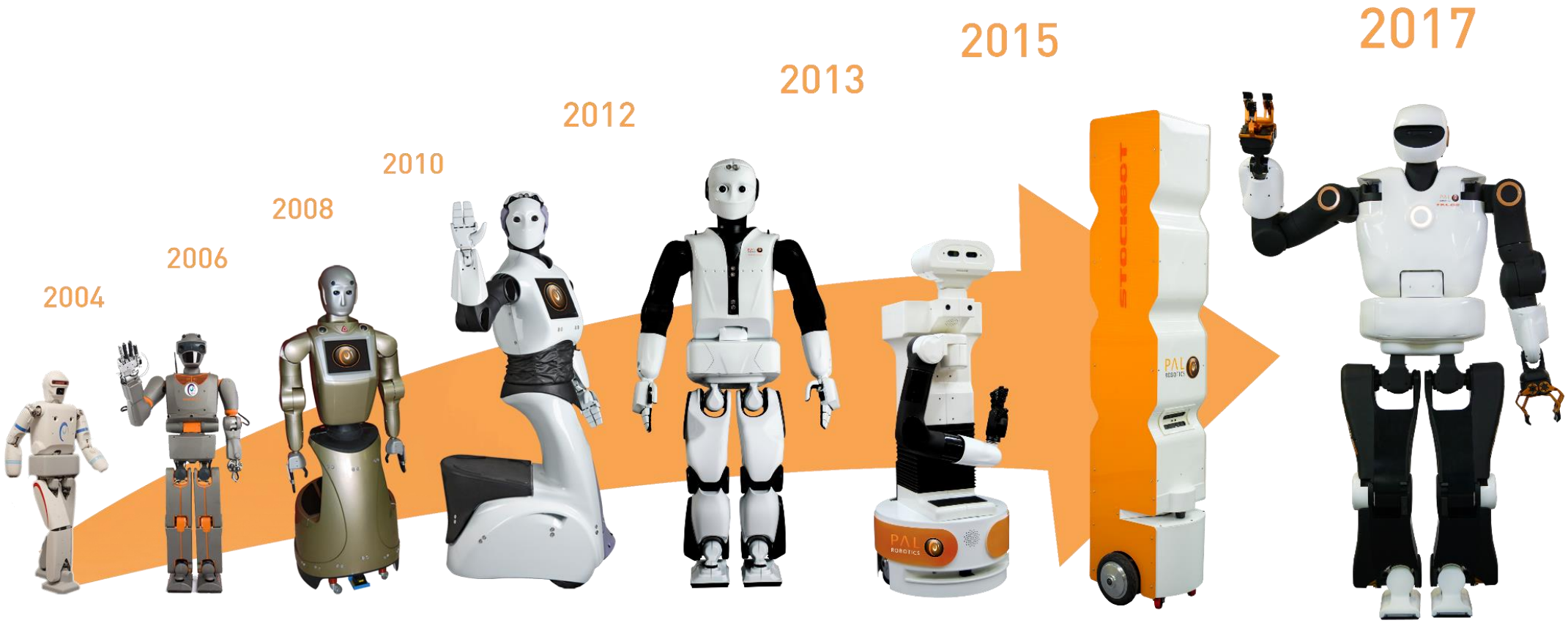
Modular mobile robots
to enhance the workflow in industry and service sectors

#ERF2019 Workshop: Robotics for Logistics and Transport

PAL ROBOTICS

Francesco Ferro, PAL Robotics CEO
European Robotics Forum (Bucharest, 2019)

PAL Robotics in a Nutshell



PAL ROBOTICS

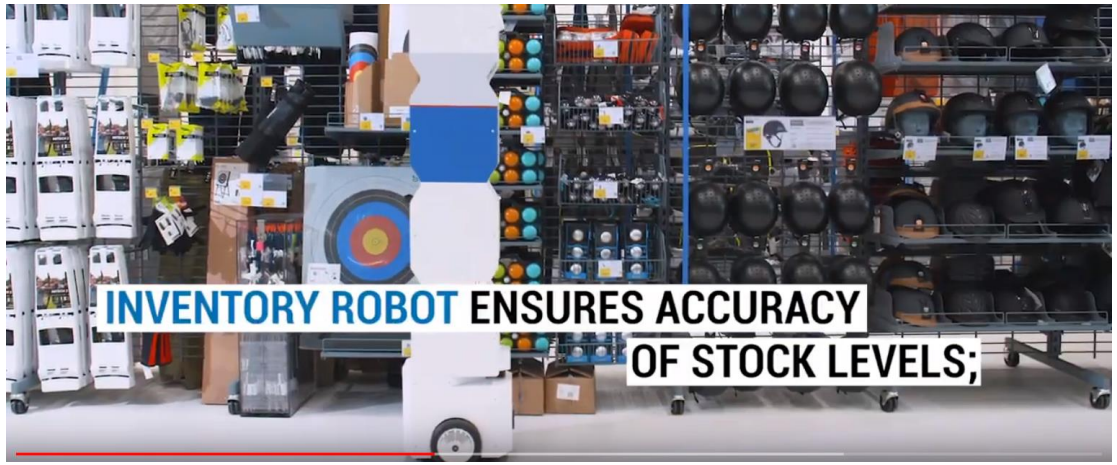
eu ROBOTICS

Hispa Rob.

StockBot

Autonomous inventory-taking robot

- 0,45m x 0,45m x 1,8m
- **RFID** enabled
- **Vision** recognition
- **3D location** of items
- Advanced Autonomous Navigation



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Credits: Decathlon

StockBot enables…

- **Automatic** in-store item **localization**
- **Planogram** compliance
- Increase sales by **reducing OOS** situations
- **Optimization** of inventory management
- **Automatic In-store** item localization (1m accuracy)
- Better **data-driven** **decisions** & big data opportunities

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StockBot – PAL's Advanced Navigation

Shares space with **people and equipment**

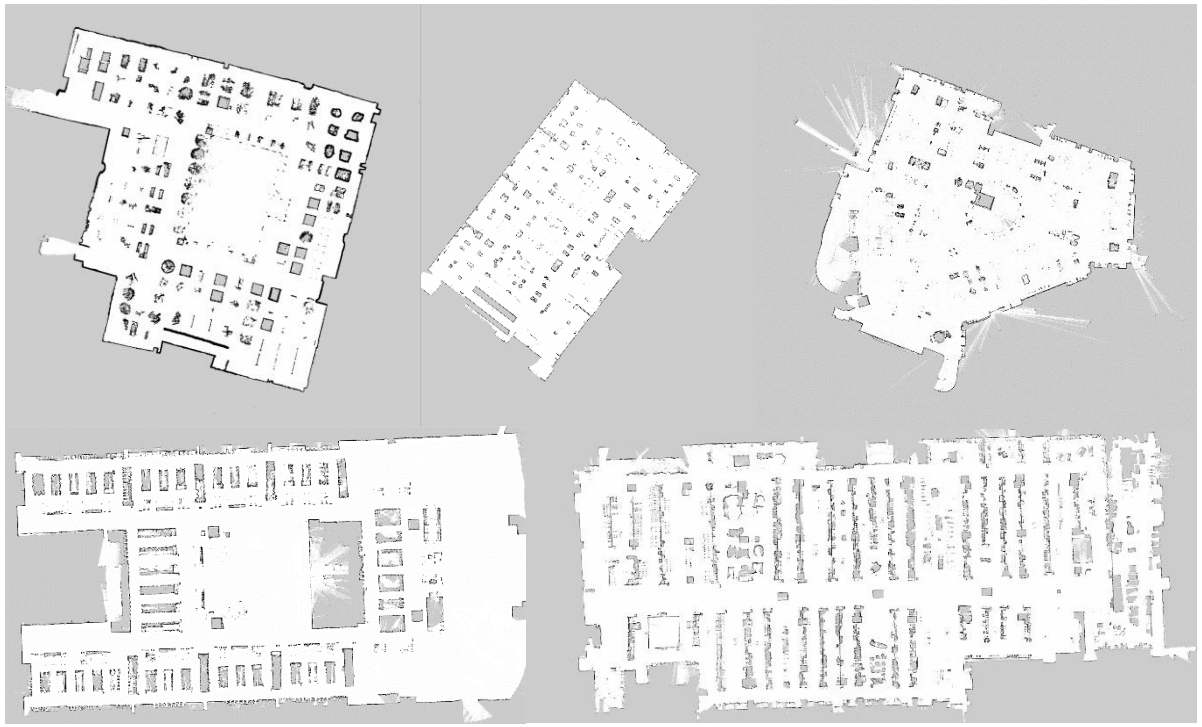
→ Equipped with safety sensors

→ Advanced Navigation Software

Floor 3000m2

Navigation in **complex and dynamic** spaces

→ Wide spaces, unstructured, cluttered, changing, with mobile obstacles



Floors: 715m², 1000m², 600m², 3000m² and 4000m²

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TIAGo Base

Autonomous Mobile Base

- 0,54m x 0,54m x 0,3m
- 50kg payload
- Easy to extend, upgrade and integrate
- Maximum speed 1m/s
- Advanced Autonomous Navigation
- ROS 100% integration

TIAGo Base

TIAGo Base for industrial settings

TIAGo Base for safe deliveries

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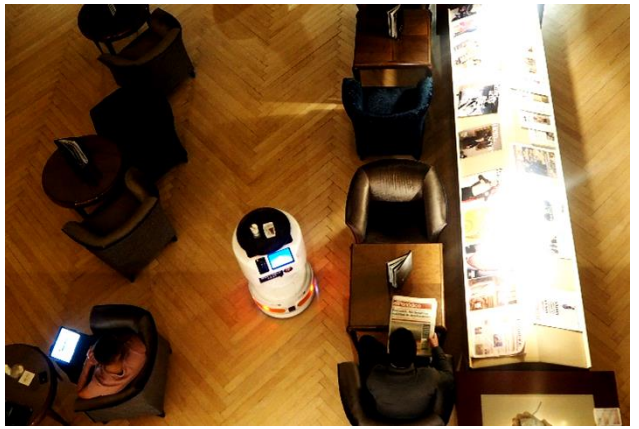
TIAGo Base – Sectors

Industrial plants

Warehousing



Hotels

Hospitals

Labs

Offices

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TIAGo Base – Industry

- Goal: Increase factories productivity
- Fully customizable
- Safety first
- Intuitive user interface
- RESTful API for integrators

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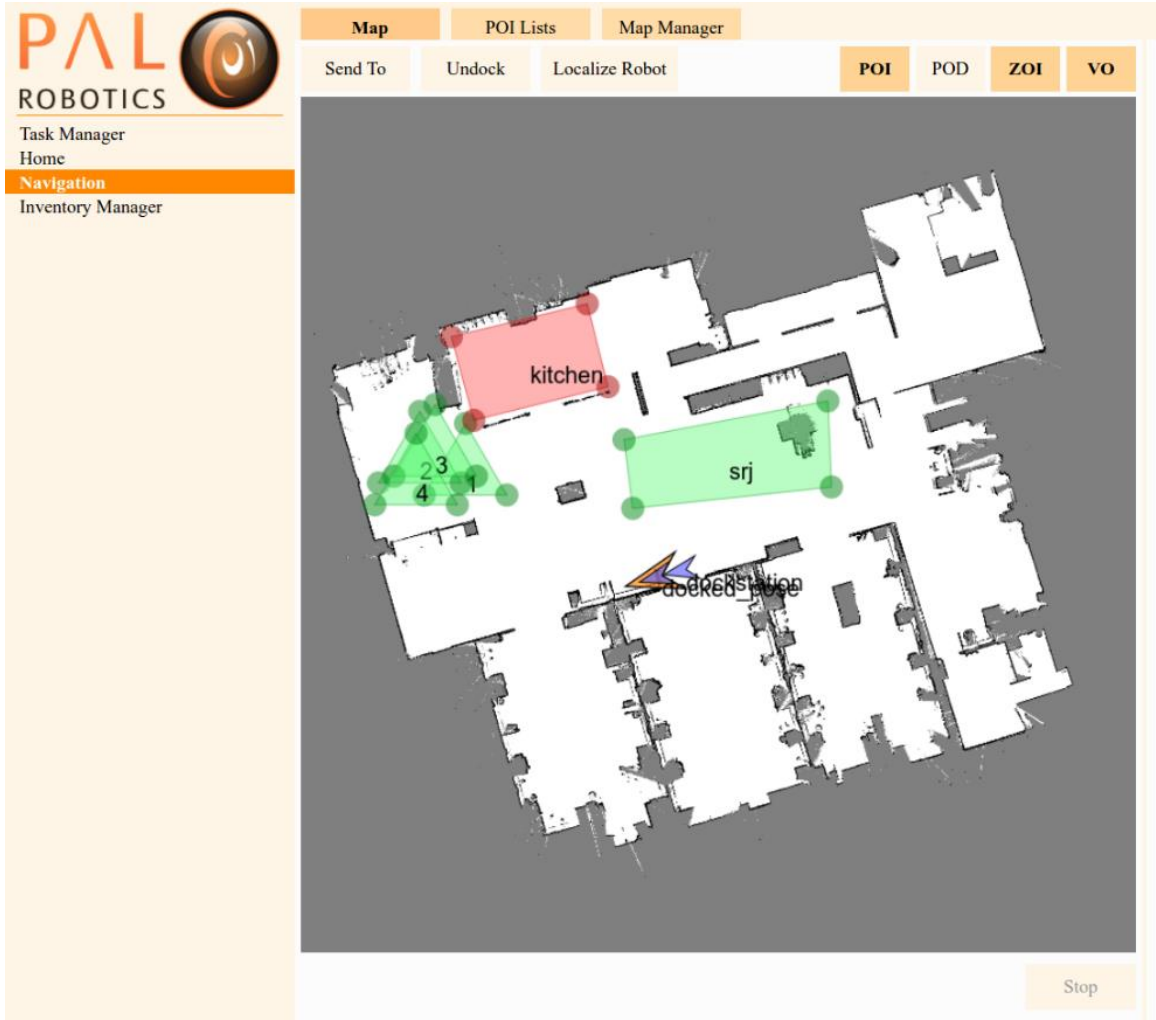
TIAGo Base – Web GUI

RESTful API for integrators

Web GUI:

- Download maps from the robot
- Upload maps to the robot
- Create virtual obstacles, forbidden regions, points/regions of interest
- Set up and test paths
- Use graphical joystick to command TIAGo Base
- Multi map management



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TIAGo Base – Service Deliveries

- Goal: Provide an autonomous robot to support waiters
- Fully integrated in the hotel's bar system
- Easy to use and command

TIAGo Base – Delivery: Goods protection

SAFETY BOX

- Access key required
- Usability enhanced with screen

CUSTOMIZED COMPARTMENT

- Possibility of changing size
- Adjust environment conditions (cooling, seal)

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TIAGo Base enables...

SAVE TIME: Resources are optimized, time from workers/operators is freed to focus on valuable tasks

PRECISE DELIVERIES: Guaranteed delivery to the right person

SUITABLE CONDITIONS: Possibility of customizing the box to put goods under the right conditions

EASY TO IMPLEMENT: Installation is fast and easy thanks to Web GUI, no technical knowledge needed nor changes in space

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