PAL Robotics at Automatica Fair

Industry moves towards collaborative robots

A new concept of **smart courier robots** for goods delivery and the **humanoid REEM-C** will join StockBot and TIAGo cobots in Munich

June 2018, Barcelona (Spain). Collaborative robots' potential is taking shape and gaining presence in industrial processes and is already demonstrating how cobots optimize resources in collaboration with workers.

This year at Automatica, PAL Robotics will be presenting four robots designed to accomplish different missions in production lines and warehouses. Find us at **Service Robots Demo Park** and at the stand B4.523 (in front).

TIAGo Base: a new concept of smart courier

TIAGo Base is a smart mobile platform that works delivering materials from one place to another in industrial settings. At Automatica, PAL Robotics is presenting a new upper body accessory built upon TIAGo Base that conforms itself to the assembly line, gives wider 3D perception to the base and simplifies its usability, with an easy-to-use GUI for workers.

TIAGo Base has multiple standard mounting holes where more add-ons can be integrated in order to adapt it to any specific purpose. The cobot's smartness comes from combining an autonomous behavior software and connecting it to the existing ERP system, which helps the robot react fast when the routine is modified.

TIAGo: flexibility as the key to Human-Robot Collaboration

TIAGo, a fully integrated mobile manipulator cobot, is able to perform tasks that combine perception, navigation and manipulation, and move around the factory freed from any cage. TIAGo is the missing element industries are looking for to make their production lines more dynamic without having to modify the environment for the robot to work.

TIAGo's day is not limited to one single task. Workers can easily command the robot and reschedule tasks on the go. TIAGo can either undertake autonomous assignments or assist the worker in a specific task. In such way, a cobot can be ready in minutes to attend any unexpected duty and ensure that the workflow runs permanently.

The integration of smart mobility with manipulation and perception in a single system is what enables TIAGo to adapt to such diverse amount of tasks. Modularity opens the door to more possibilities, with mounting ports to integrate extra tools, sensors or end-effectors.

StockBot: exhaustive control over stock, now with vision

Inventory control is at the heart of any business dealing with stocking. StockBot robots speed up stocktaking and optimizing inventory management in stores and warehouses. It provides a daily exhaustive picture of everything that is in a given space and locates it all on a 3D map.

StockBot's latest upgrade adds vision cameras to the RFID technology and the autonomous robotic navigation. This allows to check a store planogram, improve strategically the products' visibility or revise prices. The result is fast restocking, misplacements detection and management decisions supported by reliable data.

REEM-C: why bipedal humanoid robots?

REEM-C humanoid robot is also joining the PAL Robotics team at Automatica. The 1.65m tall bipedal platform is used for advanced research in service and collaborative robotics fields. Humanoid platforms can interact with our world as it is, since all our spaces and tools are designed according to our biped body. This is why research efforts are put in the improvement of bipedal platforms technologies for service or industrial tasks.

Besides walking and interacting with people, PAL Robotics will showcase new developments that help the humanoid robot to answer to external stimuli. REEM-C will run a Whole-Body Control application that will enable it to adapt its body and balance toward the force applied.

RobMoSys Keynote: model-driven robot programming

The RobMoSys Horizon 2020 European Project aims to bring model-driven technique to the robotics software, in order to "build an open and sustainable, agile and multi-domain European robotics software ecosystem".

Under the title "Why the future belongs to model-driven robot programming", PAL Robotics' CEO and euRobotics Board Director Francesco Ferro and KU Leuven Professor Herman Bruyninckx will provide insights on the RobMoSys project and how it can improve robotics software both for industry and for academia, at the Automatica Forum (Hall B5 Stand 135, 22nd June, at 11:00pm).