Robots are our future colleagues:

THE DUTCH TRANSITION TOWARDS SMART INDUSTRY

The rise of robots and new technologies, such as additive manufacturing, combined with an excellent digital infrastructure make the Netherlands suitable for smart industry. This is essential in a world where global competition is growing and consumers demands are changing. High-mix low-volume is key in this development and calls for a more flexible industry. The Dutch manufacturing industry is particularly strong in providing tailor-made work based on an intensive customer relationship. A lot of manufacturing and automation knowledge originates from Philips. Development is built on this knowledge, examples linked to Philips that are still around: VDL-ETG, the old Philips machine factory and Marel, food processing. In the area of digitisation, the Netherlands has numerous companies at the forefront.

FIELD LABS: A PLAYGROUND FOR SMART INDUSTRY CONCEPTS

A Dutch public-private partnership run by the industrial employers’ organization (FME), the Ministry of Economic Affairs, the Chamber of Commerce, Nederland-ICT and applied research institute TNO, designed the Smart Industry Action Program. The goal of this action program is to stay a frontrunner in Europe. The main pillars of this action program are expansion of knowledge, skills and ICT and the set-up and acceleration of field labs.
The company developed their own software platform and hardware creating standardized products out of it instead of one-offs and customer-specific projects as they see this as a more classical approach.

The software developed by Smart Robotics is state of the art. The company has a good relationship with the Eindhoven University of Technology to stay ahead. Although the software is robot independent, Smart Robotics decided to use the hardware platform of Universal Robots. The robots are so-called cobots, and are safe in an environment together with humans, perfectly fitting in the philosophy of “the employment agency for robots”.

While still being a young company business is going well at Smart Robotics, and within a year and a half they decided to relocate to support growth. The team and the customer base are growing. With customers in several countries and the combination of dedicated partnerships to support further growth export is one of their main topics for 2017.

CHALLENGE THE DUTCH: STRONG RESEARCH CAPABILITIES

The collaboration between research and industry plays an important role in the development towards smart industry. With four technical universities and applied research institute TNO, the Netherlands has a strong base for the development of innovative and smart technologies.

In 2016 Amazon organised the second edition of the Amazon Picking Challenge. The challenge is designed for the academic robotics community. The challenge consisted of two tasks, stowing and picking. The stow task: to move twelve items from a tote into bins on a shelf, the shelf already contains several items. The picking task: to move twelve selected items from the shelf into a tote. The solutions need to be completely autonomous no human intervention is allowed.

Team Delft won the 2016 edition of the Amazon Picking Challenge. Team Delft is a collaboration between the Delft Robotics Institute of the Delft University of Technology and the company Delft Robotics. Team Delft designed the gripper in-house and used the Robot Operating System for industry (ROS-Industrial). The software is released as open software.

Another initiative that combines academia and industry is RoboValley. RoboValley is platform for robotics in the Netherlands. The initiative is founded by the Robotics Institute from the Delft University of Technology. RoboValley stimulates robotic start-ups and companies to come to Delft to set up their office or a research lab on the campus of Delft University of Technology. From 19-21 April 2017, RoboValley organises the International Robotics week, together with RoboBusiness Europe and TUS Expo. The event will take place in Delft and the metropolitan region of Rotterdam-The Hague. There will be visits to various labs, including those of TU Delft (Delft University of Technology) and ESA (the European Space Agency), as well as demonstrations at different field labs in the Rotterdam-The Hague metropolitan area.