

Factory of the Future Lab

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**Demonstration and training
production line in the Bosch
Rexroth HQ in Warsaw.**

Factory

of the Future Lab

FACTORY OF THE FUTURE

The Laboratory houses a modern production line that takes advantage of solutions currently present in automated production. It also demonstrates the technologies that will soon be widely used according to the Industry 4.0 vision.

AUTOMATION WITHIN REACH

The line contains multiple automation solutions, such as a cartesian robot, a delta robot, or a cobot. The line also features a planar manipulator with a non-conventional structure. In addition, the line is equipped with an autonomous mobile robot (AMR) from the ActiveShuttle family and the ActiveCockpit production data presentation system.



Website

For more information about the Factory of the Future Lab visit the website at:

<https://www.boschrexroth.com/en/pl/showroom-fotf-lab/>



Plan your visit

Do you have any idea how to improve your production? Are you keen on exploring a specific technology? Fill in the form and visit us.

<https://www.boschrexroth.com/en/pl/showroom-fotf-lab/showroom-formularz/>



Sign up for training

Interested in cutting-edge technology and Industry 4.0? Take part in our training with industrial automation experts.

Fill in the form and sign up:

<https://www.boschrexroth.com/en/pl/academy/training/technical-training/>

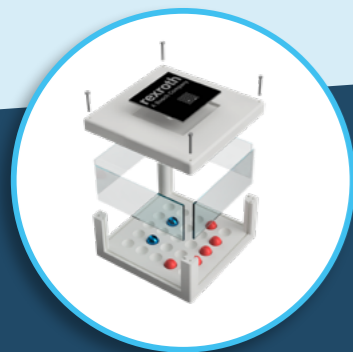


Watch the video

See what the Factory of the Future looks like in a short video clip featuring our experts:

<https://youtu.be/cW5xm73yVn4>

Get to know robotized production line workstations



CUSTOMIZED PRODUCT

The user can freely configure the product: from colors, through ball arrangement, to bolt type and tightening torque. The production line adapts dynamically to the current product with the help of RFID tags.



PORTAL MANIPULATOR

An unconventional structure based on linear motors responsible for putting the box on the transfer system pallet. The sample product after arriving at the stations on the line “asks” if a specific assembly operation could be done according to the recipe assigned to the unique product id.



DELTA

A robot based on integrated drives, performs pick & place of color balls into the specific product box with the assistance of a vision system.



APAS ASSISTANT

A collaborating robot puts a lid on the box. The safety skin allows safe cooperation between the robot and humans. The local supermarket of lids is replenished automatically by the AMR from ActiveShuttle family.



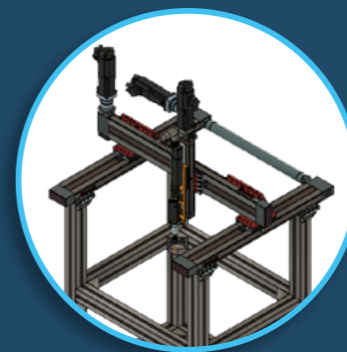
LAMINATE FEEDER

A simple application with a pneumatic actuator and a linear module places the laminate into the lid’s pocket. This example is widely used on many production lines. A process can be freely modified to a specific shape of the product or other user requirements.



SMART MECHATRONIX

An electro-mechanical press presses the engraving laminate. The Linux operated IPC controls the solution with a web GUI offering easy program entry/changes and graphical presentation of each pressing process.



CARTESIAN ROBOT WITH TIGHTENING SPINDLE

The robot is based on four linear modules. Using the tightening module, it screws the lid to the base. The edge solution called IoT Gateway monitors the axes. The resulting data is sent to the databases and the cloud applications.



MANUAL WORKSTATION

A workstation where the human operator may perform a nonstandard part of the production process using the Nexo cordless nutrunner. The touch screen display provides step by step tasks to accomplish the proper assembly/disassembly of the product. The specific settings of the intelligent Nexo tool are automatically sent to the device per each tightening operation.

Technologies implemented in the production line



SMART MECHATRONIX



AMR



CTRLX AUTOMATION



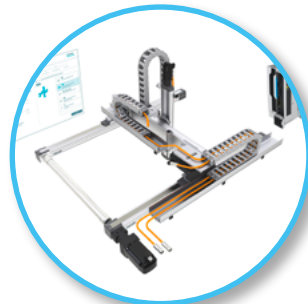
ACTIVECOCKPIT



INDUSTRIAL INTERNET OF THINGS



COBOTS



LINEAR MOTION TECHNOLOGY



DIGITAL TWIN



ELECTRIC DRIVES AND CONTROLS



INDUSTRIAL PCS AND OPERATOR PANELS



TIGHTENING TECHNOLOGY



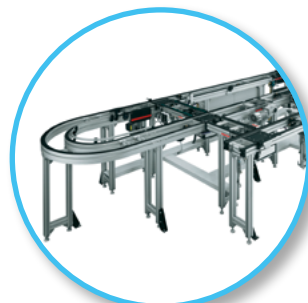
MICROSERVICES



SAFETY TECHNOLOGY



MANUAL PRODUCTION SYSTEMS



TRANSFER SYSTEMS



MQTT

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