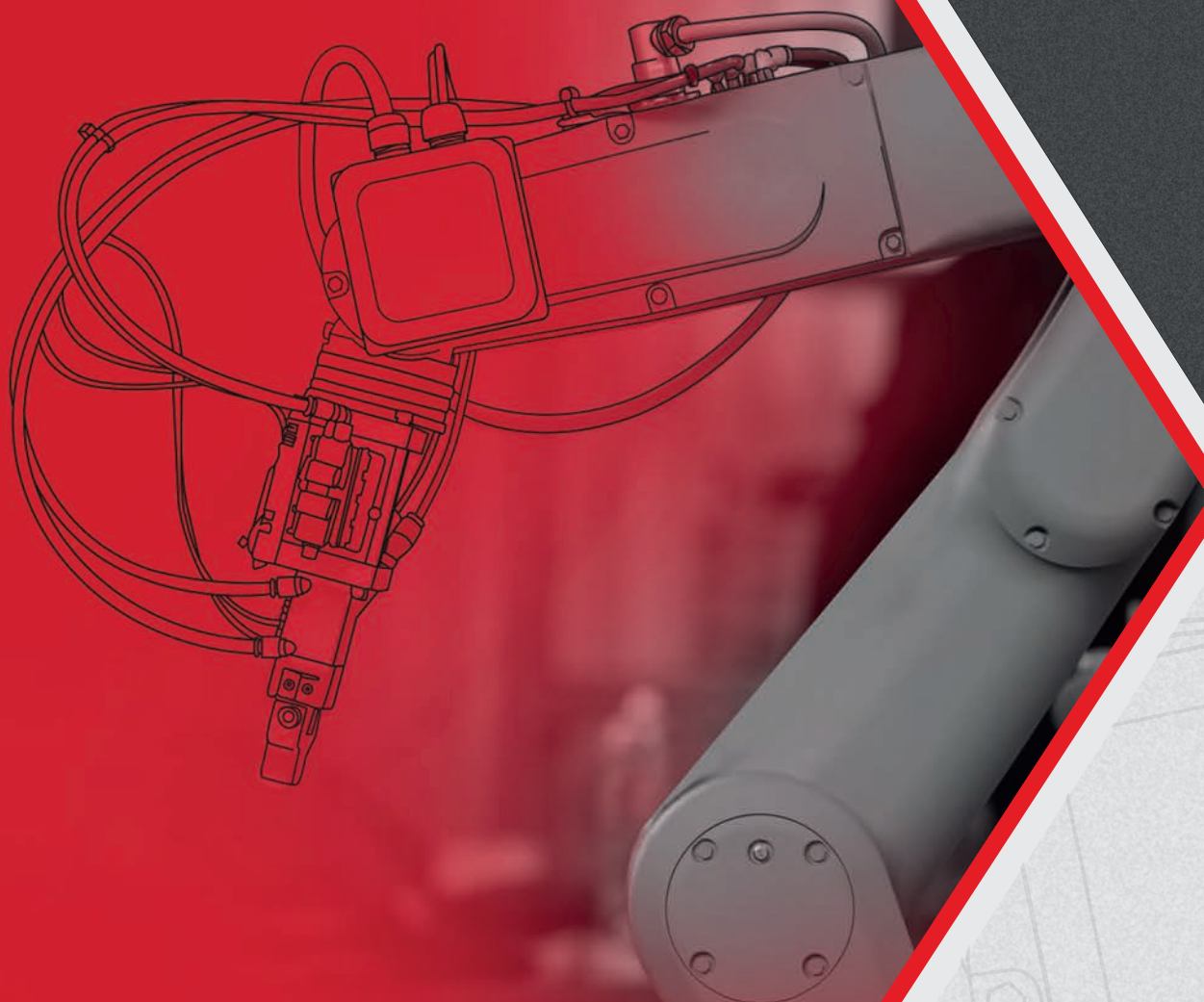


ROBOT-X HUNGARY KFT.

The expert of innovative solutions



Robot-X

A ROBOT-X HUNGARY KFT.

The company ROBOT-X HUNGARY KFT deals with industrial automation, construction and execution of production lines, special machines and robot cells and systemization of innovative solutions respectively.

Our company plays a dominant role on the Hungarian market on the area of industrial automation and it becomes always more known in Europe as well. Our activity is based on innovation and continuous development. Our main objective is to serve our clients on the highest possible level and to flexibly comply with their demands.

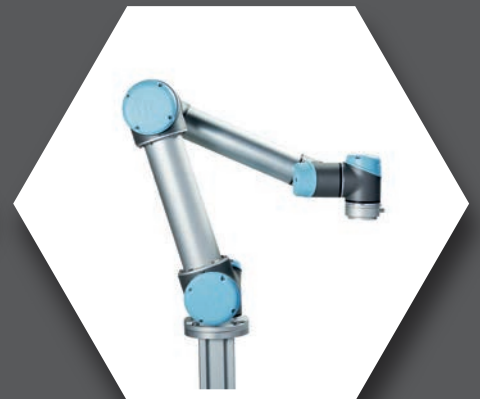
Owing to several years of experience and the research and development our company has a completely unique product range.



SPECIAL MACHINE



ROBOTCELL



COLLABORATIVE ROBOT

OUR TECHNICAL SOLUTIONS:

- Industrial robot technique: Integration of Fanuc, Kuka, ABB, Motoman, Mitsubishi, Epson robots in systems
- Set-up of PLC controlling, construction and production of charging systems and clamping structures
- Construction and execution of special machines according to national and international standards
- Design and construction of production lines
- Construction and execution of heavy and light structural conveyor systems
- Development and execution of camera systems
- Equipment production
- Technological research, development

**KOSMEK Europe GmbH –
Official partner of Robot-X Hungary Kft.**

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Harmony in Innovation

Kosmek Technology changes the ways of manufacturing!



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- Factory Automation
- Robotic
- Mold/Die Change

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Robot-X Hungary Kft. was established in Hungary more than 10 years ago – upon surveying the automation market – by Hungarian owners.



The recent period has proven that the resources – such as previously available skilled workforce –, which are required for the development of economy and the increase of production, are less and less present. In this regard the demand for industrial automation has explosively increased. Robot-X Hungary Kft. has an honourable place on this automation field and it has become one of the most dominant characters of the branch in short time.

Customer-orientation appears in every objective of our company: either general, project-specific or rather investment-like plans.

We hand over approximately 50 to 100 projects in a year. Increasing our experiences, additional to continuous development we can fully satisfy the demands of both our existing and new partners. We analyse the incoming inquiries with our already established routine, so we can comply with the expectations of our clients with a relative expedition.



In many cases – because we construct and build unique machines – in addition to the bases technological partnership or even individual research-development shall be required for the correct elaboration. Our excellent relationship with our suppliers supports us in the execution of rapid, unique and pioneer solutions. Involving our own testing and development capacities we can even undertake R&D activity related to tenders.

Our work is characterized by complete documentation, professional communication, problem-solving abilities and engagement for quality. Every unit of our organization continuously learns, trains itself and holds the first place in integration of innovations in the daily work.

The projects awarded are built up beginning from the initial clarification meetings to the final acceptance of the equipment along strictly determined project management. The following pages represent the activity of our company and the process of our projects in detail.

AUTOMATION PROCESS STEP BY STEP



PARTNER FEEDBACK

MODIFICATION OF QUOTATION

PURCHASE ORDER

PROJECT START



PROCUREMENT

planning – mechanic –
electric – controlling –
communication

SCHEDULING

EXTERNAL MEETING

INTERNAL MEETING



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Az egyedülálló standard modul kínálata kezelőeszközök és a robotok mechanikus, szenzorikus és energetikai kapcsolatáért.



Átvezetés
DDF 2 Forgatóátvezető

Összekötés
Adapterlap

Ellenőrzés
Ütközés- és túlterhelés
érzékelő OPR

Illesztés és kiegészítés
TCU kiegészítő egység

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ami SWK (gyorscsere főfej)
és SWA (gyorscsere
adapter) –ből áll

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OUR ROBOTIZED SOLUTIONS

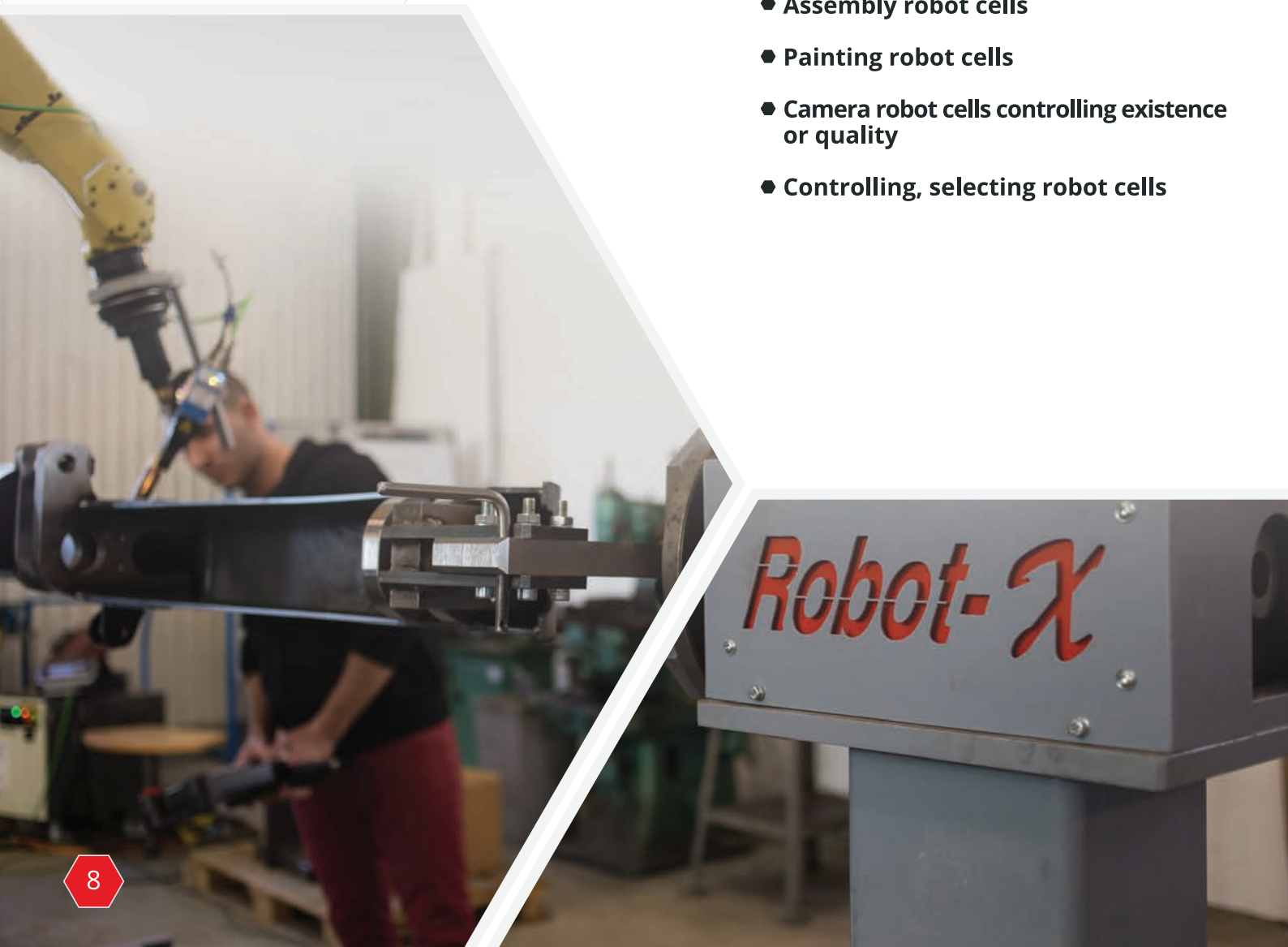
Our company performs the commissioning, programming, maintenance and service of industrial robot arms of different type and the development and system-integration of the systems applying thereof respectively.

Robot-X Hungary Kft. installs robot cells on several areas of the country and also exceeding our borders, abroad.

Robot-X Hungary Kft. considers a complete system in case of every project, in alignment with customer demands; it is either a simple machine serving or a production line environment equipped with complicated robot arms and peripheries.

In below list you can see the grouping of the installed robot arms according to scope of application:

- ◆ **Foundry applications**
- ◆ **Forging applications**
- ◆ **Consumable-electrode and resistance welding applications**
- ◆ **Deburring applications, serving of CNC-machines**
- ◆ **Serving of plastic injection moulding machines**
- ◆ **Palletizing and depalletizing applications**
- ◆ **Robot painting cabins, conveyors**
- ◆ **Assembly robot cells**
- ◆ **Painting robot cells**
- ◆ **Camera robot cells controlling existence or quality**
- ◆ **Controlling, selecting robot cells**



WHAT CAN A ROBOT CELL CONSIST OF?

KUKA



A KUKA robotokat arra tervezték, hogy mozgásba hozzák az Ön ötleteit.

A KUKA termékei okkal megtalálhatóak szinte minden iparágban. Termékportfóliónk tökéletesen egymásra hangolt automatizálási megoldásokat nyújt a hatékony gyártási folyamatokhoz.

Partnereinknek az egyedi robottól a specializált cellán át egészen a teljes berendezés koncepció megvalósításig tudunk segíteni.

Tudjon meg többet termékeinkről és megoldásainkról a honlapunkon!

www.kuka.com

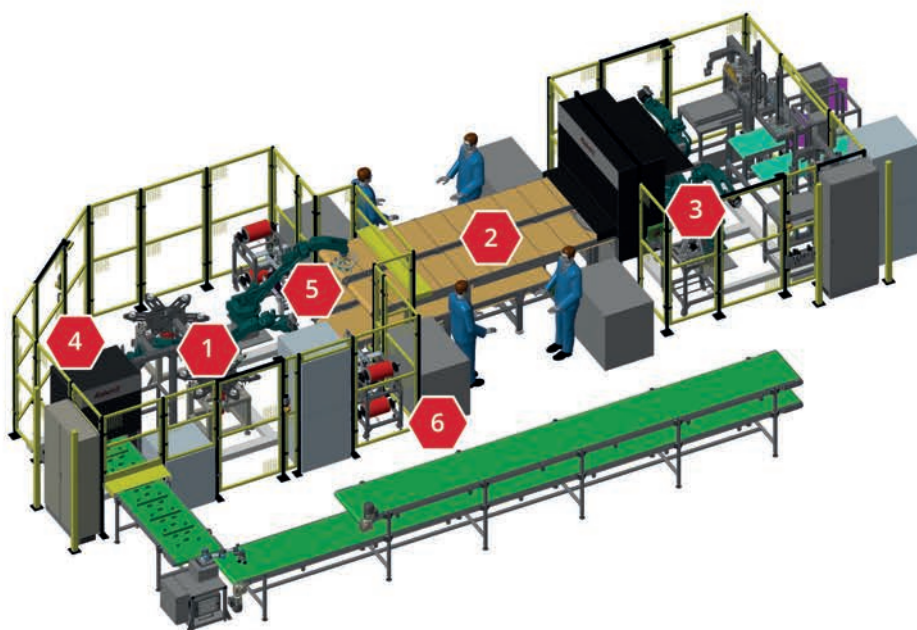
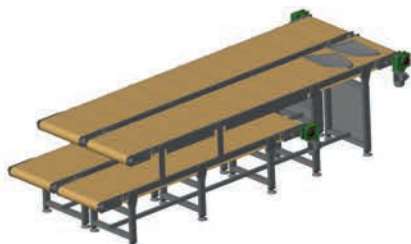
1 Positioning circular table



3 Assembly device



2 Conveyor



4 Camera supervision



5 Charging equipment



6 Functional extension arms



SPECIAL MACHINE CONSTRUCTION AND EXECUTION

In order to satisfy customer demands Robot-X also undertakes the construction and execution of unique automated special machines. We offer also product-specific equipment to our partners beyond robot technique, which require separate development, research and planning due to the individual character of the parts, so the significant professional experience and professional past of our colleagues are extremely important on the area of special equipment production.

We have several years of experience in the construction and production of following special machines:

- Special equipment for assembly
- Special bolting equipment
- Special welding equipment
- Camera systems
- Testing and measuring technical equipment
- Special lathing equipment
- Special threading equipment
- Pressing technique
- Manual workstations
- Material handling systems
- Feeding technique

Construction and execution of production lines

In addition to automatic special equipment our company also performs the design and production of complete production lines. Based on the individual demands of our customers we establish an efficient and completely automated production line, which allows the high-level coordination and effective operation of individual work processes, additionally increasing productivity, quality and reducing scrap proportion and costs respectively.

Robot-X Kft. carries out the execution of assembly and machining production lines both in heavy and light industry; it is either semi-automatic or a complex and completely automated production line.

In alignment with the increasing demands of our partners we aim to build up modular production lines. Modular production lines are characterized by high flexibility, the hardware components can be reused for modifications at 70-80% in case of the eventual introduction of a new product.



NOVELTY

The applicability of the Creaform scanners well-known on the market of mobile measuring devices is further expanded by the possibilities offered by Ipar 4.0 (Industry 4.0), opening new perspectives and possibilities in the automation of measuring technique.

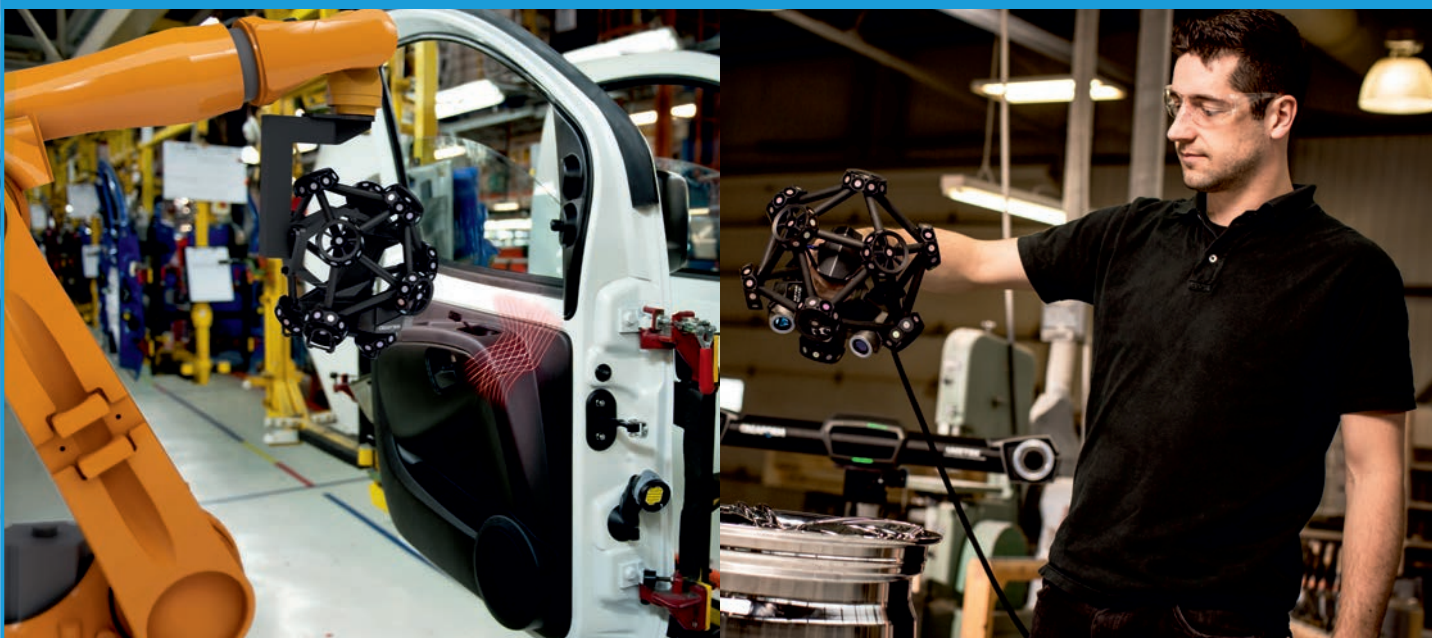
Owing to the new collaborative and sensitive robots the Industry 4.0 solutions are not only privilege of automotive factories anymore, but these are available also for the sector of small and middle-sized enterprises. The simple set-up allows rapid in-line integrability. With the usage of the off-line simulation one can save machine time, minimizing the time intended for the learning time of the robot. The automatic collision protection function operating as part of the simulation program can spare serious costs for the user.

By means of the Metrolog i-Robot software the robot, the scanner and the evaluating measuring software can be controlled by one hand, further simplifying the training and further education of users.

The IP50 protection allows the wide applicability of scanners, even beyond standard industrial circumstances.

The exclusive Hungarian representative of the Creaform devices, the company Werth Magyarország Kft. provides its existing and prospective partners with turnkey solutions with its robot integrator partner, Robot-X Hungary Kft.

Inline lézeres mérő rendszerek, bárhol, bármikor



- | Inline lézeres mérő rendszerek
- | Ipar 4.0 megoldás
- | kiemelkedő pontosság a környezeti hatásoktól függetlenül
- | egyszerű integrálhatóság, könnyű használat
- | inspekció közvetlenül a gyártásban
- | gyors adatszolgáltatás
- | off-line szimulációs lehetőség



Werth Magyarország Kft.
werth.hu

COLLABORATIVE ROBOT TECHNOLOGY

Robot-X Hungary Kft. is the expert of collaborative robot technology in Hungary, simultaneously it is market leader on the area of robot technique.

The collaborative robot arms are able to perform an excellent work close to the employees that in the meantime any mechanical separation shall not be established between human and robot.

In case of their application in so called "collaborative" mode the integrated sensors automatically stop the robot arm, if there is any obstacle on its route.

The robot arms shall relieve human work on areas, where the more or less simple handling tasks were solved barely by human force, stepping forward to cost efficient automation. Automotive industry is the most interested in collaborative robots, however engine producing and assembly stations can be key areas as well. Collaborative robots can be applied for the serving of machine-tools or packaging stations of factories, where these can take over material handling, inspection, testing and delivery tasks.

The collaborative robot arm ensures simple ease of handling and re-applicability with minimum place demand and easy accessibility and rapid installation. Our applications have an average return rate of 12-16 months. Our company has performed the design and execution of hundreds of robot cells since its existence, to which special operated clamping systems were required. During this time we have won great experience in the elaboration, design and execution of the faultless clamping method of different products. From workpieces with a weight of some grams until several hundred kilograms, from 20°C workpieces to furnace-burning 1200°C parts, we can provide a solution to everything.

“What is the life of Robot-X Hungary Kft and the colleagues working there about? Robot technology based on innovative solutions, either it is “traditional” industrial application or application based on collaborative robot technology.”

– Gergely Lőrincz,
General Manager

As working principle the following unique clamping systems are designed and produced:

- Pneumatically operated clamps
- Vacuum-operated clamping systems
- Hydraulic clamping systems, in case big weights or extreme temperatures are applied
- Clamping systems operating with magnet principle
- Electrically operated clamps to obtain the highest flexibility

Our company has experience in the following collaborative robot applications:

- machine serving (injection moulding machine or CNC-machine serving)
- material handling
- gluing, charging
- laboratory technology
- bolt-driving
- polishing
- packaging
- palletization
- depalletization

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info.hungary@keyence.eu

CLAMPING SYSTEMS

It is an innovation that we also develop collaboratively operated clamping systems adjustable to collaborative robot arms in order to be able to install a maximally efficient robot arm observing the applicable standards.

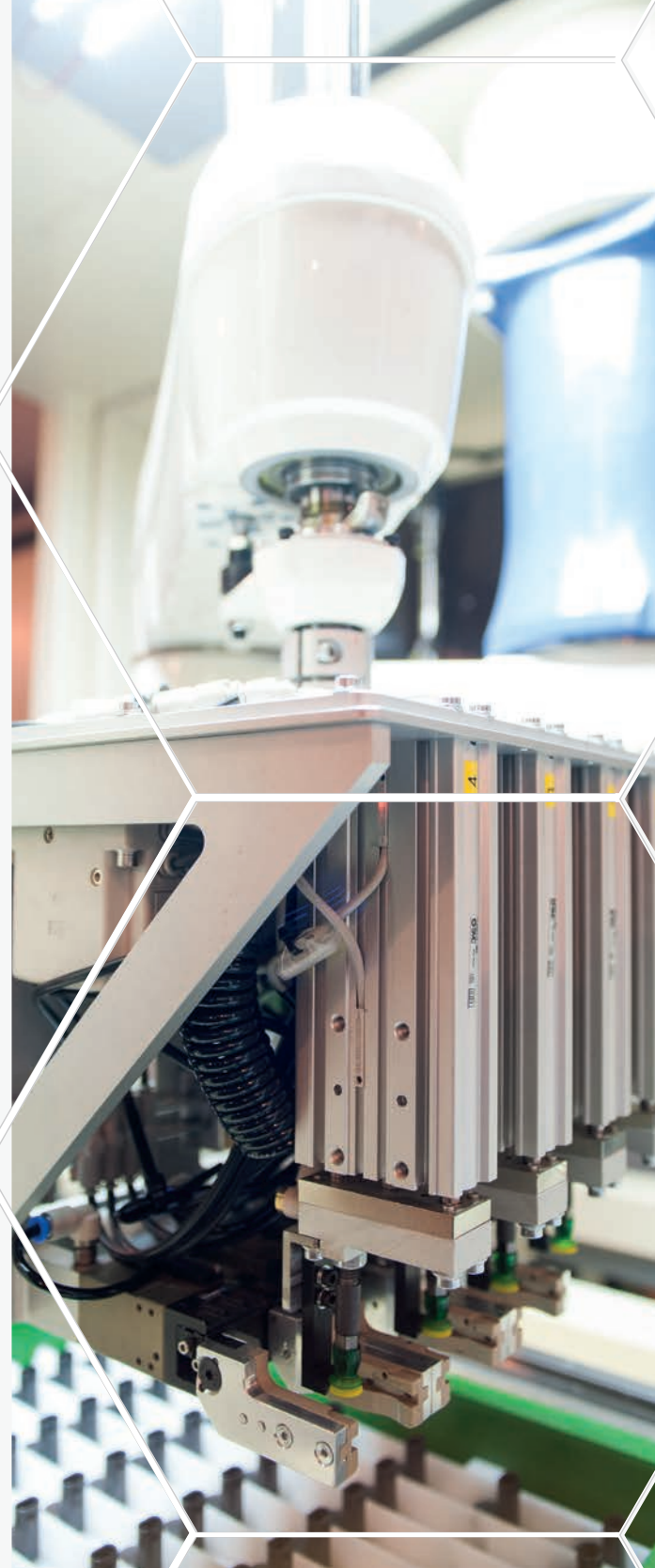
Our company undertakes the installation of clamping systems required for the switch-over to new workpieces. If there is any type of robot arm, we equip it with clamp and program the robot arm.

As working principle the following unique clamping systems are designed and produced:

- analysis of the characteristics of the product to be clamped
- analysis of the clamping, handling task considering cycle times
- integration of the clamping structure in a system
- performance of simulation
- selection of the functional system of the clamping structure
- selection of the most favourable, optimal clamping structure

We develop and successfully use product-specific clamping systems on several industrial areas, which can be delivered in a short term.

“ The partnership of Robot-X Hungary Kft. and FANUC Hungary Kft. goes back to a past of more than 10 years, during which they have realized industrial automation projects in Hungarian factories within the frame of several collective projects. The successful cooperation is hallmarked by the execution of different applications, among others the solution of welding, palletizing, manipulation, assembly and painting tasks with industrial robots. ”



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SMC

ROBOT TECHNOLOGY IN OUR DAYS AND IN THE FUTURE*

The development surrounding us shall open an age, where machines and equipment can be installed everywhere, even in human body; robots will be the helpers of people and in long-term the colleagues thereof.

The robotics strategy of EU for 2020 describes the current development as follows:

Future of industrial robot technology

We see the relative advantage of robots and intelligent machines in the fact that these are able to perform movement patterns for unlimited time without fatigue. The current objective of robot design is that the robots are able to follow specified patterns and due to this these are specialized to a great extent. It shall change in the not too distant future and there will be robots, which can carry out the wide range of tasks and be able to imitate people or to act similarly to them. This development shall be partly owing to the fact that the memory capacity of robots and artificial intelligence applications increase to a huge extent, being able to reach and use enormous amount of data for the performance of several different operation tasks.

“Robot technology shall be dominant in the next decade. It shall affect every projection of workplaces and homes. In robotics there is the possibility to reconstruct our life and work processes, to improve efficiency and safety, to provide services of higher level and to create workplaces. Its effect shall increase with time, so interaction between human and robots shall be more and more intense.”

Ipar 4.0.

Today, in the world of networks present everywhere additional to the communication of people between each other (human-human) and with machines – also robots – (human-machine) the communication of machines between each other (machine-machine) appears. The number of devices participating in the machine-machine communication shall prospectively exponentially increase by 2020, when the number of “smart objects” being able to communicate with each other and cooperating with human beings shall approximate 50 billion. These developments of communication shall lead to the “Internet of things” forecasted extensively: to a system, which is based on independent communication between objects.

Effect of robot technology in our everyday life

The extension of robotic innovations has significant consequences for industrial production. Involving robots industrial production of high level can be maintained also in countries with high labour costs. Robots are suitable for the performance of production activities and tasks, which people cannot such as for example work performance under heavy or dangerous conditions. Industrial robots provide solution for the reducing availability of hand-labour and the increasing costs thereof. The precise performance of repeating, heavy physical work belongs to the advantages of robotics, human beings are better in tasks requiring creativity, decision-making, flexibility and adaptiveness. So in the aggregate it can be stated that the development of robot technology creates and shall create several new workplaces of still unknown specialties, making our everyday life better and more viable.

* The future of work: robotic - <https://osha.europa.eu/> (2015.11.20.)



NEXTAGE - The Next Generation Industrial Robot

The Next-Generation Industrial Robot

N E X T A G E[®]

NEXTAGE liberates humans from menial, repetitive tasks, allowing humans to add value through process management and improvement activities.

Leverage your human capital

Specifications:

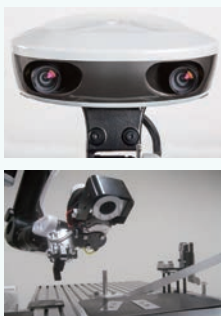
- 15 axis (6 x each arm, 2 x neck, 1 x waist)
- 4 vision cameras (2 x head, 1 x each arm)
- 0.03mm position repeatability
- 564mm(W) x 567mm(D) footprint size
- 1736mm height, 570mm arm length
700mm/sec. maximum linear velocity
- 1500 watt power consumption



ALL in ONE

Image Recognition

- Head camera (stereo vision)
- Hand camera



Easy Installation

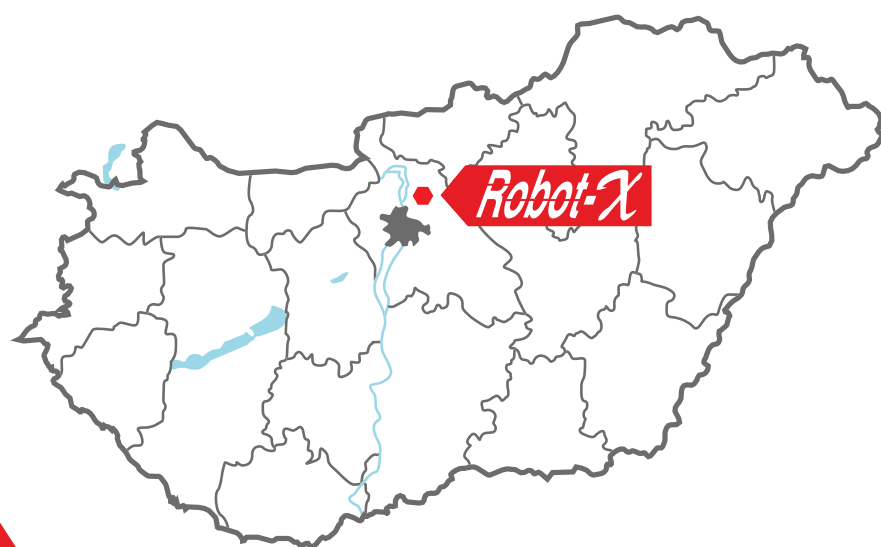
- Adjustable layout
- Compact design



Software

- The accompanying software provides superb visibility and usability, making the operation and instruction of NEXTAGE easy with the image recognition system.





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