CDVS TECHNOLOGY GROUP robotics

RBC ROBOTICS

AUTOMATION FOR TOMORROW'S MANUFACTURING

More Efficiency with Modular, Camera-based Robot Automation

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04

The company

We are successfully creating the future of robot automation together with our customers. Discover our range of products and services for component feeding, machine loading, and component packaging.



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FX SMART FLEX enables individual solutions: From robot automation of machine tools to the chaining of multiple machines and systems.

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rbc-robotics



RBC ROBOTICS

We are changing the future of robot automation together with our customers.

Get an overview of the products and services for component feeding, machine loading, and the packaging of components. Discover modular solutions for your high-end manufacturing requirements with rbc robotics. The Vision system in combination with the industrial robot is at the heart of economic production and makes the entire process more intelligent and viable. Thanks to innovative image capturing, the FX module series from rbc robotics fulfills all requirements in terms of functionality, design, and cost-effectiveness.

We use the modularization principle in order to be able to offer our customers individual solutions as efficiently as possible.

A DVS TECHNOLOGY GROUP COMPANY

The DVS TECHNOLOGY GROUP is a group of experienced companies engaged in the machining technologies of turning, gear cutting, and grinding.

The DVS TECHNOLOGY GROUP employs more than 1400 staff worldwide and is considered a leading system provider of machines, tools, and manufacturing solutions for the soft and hard-fine machining of components.

The DVS TECHNOLOGY GROUP includes the following divisions:

DVS Machine Tools & Automation:

Manufacture and sale of high-precision machine tools and automation systems and related services.

DVS Tools & Components:

Customer-specific development, manufacturing, and sale of machine components, tools, and abrasives.

DVS Production:

Series production of car and truck components on DVS machine tools.

DVS International Sales & Service:

Local DVS partners for sales and service in international markets.

FOCUS ON COMPONENT DETECTION



2D TECHNOLOGY



2.5D TECHNOLOGY



3D TECHNOLOGY, CARTESIAN



3D TECHNOLOGY, RANDOM BIN PICKING

Good accessibility through rear inspection hatch via double wing doors

Movable 3D sensor for scanning of multiple bin positions

Noise reduction and protection against extraneous light through modern glass front and cell roof

> **User-friendly** operating terminal with a 15-inch HMI panel, which is integrated into the

modular cabin



Space-saving sliding door concept for changing the workpiece bin in production

Space-saving integration

integrated in the modular cabin

Larger working area through the use of an additional linear axis

position

FX SMART PICK & PACK Series Bin Emptying, Component Packaging

FX Smart Pick is a standard solution for the reliable unloading of randomly arranged components. The 3D scanner recognizes the parts, enables collision-free removal, and uses different gripping systems.

FX Smart Pack enables the orderly loading of different workpieces on intermediate piles in different bin sizes.

EFFICIENT UNLOADING AND ORDERLY PACKING





FX SMART PICK: efficient unloading, smart production, and maximum reliability!

The bin picking cell is a standard solution for the reliable and efficient unloading of workpieces from defined piles or randomly arranged bulk goods. It is designed for bins with a size of 600 x 800 mm and a height of up to 600 mm. An integrated 3D scanner recognizes the components and the edge of the bins, enables a safe cycle time from approx. 8 seconds, and uses magnetic or finger grippers.

The bin picking cell has a two-chamber system that allows bins to be changed during the cycle, which means the robot does not have to wait. As a result, the process becomes more efficient. For larger bins, the XL bin picking cell with dimensions of up to 1000 x 1200 mm and a height of up to 1000 mm offers a solution.

Compact and agile robots from ABB or KUKA are used, sometimes with an additional robot axis in order to take up as little space as possible. The cells are mainly made of sheet metal construction with a safety glass front, thus creating closed modules that reduce noise emissions and meet the cleanliness requirements.

The bin picking solutions from rbc robotics intelligently combine robotics, gripping technology, and component detection. The cell is compact, easy to operate, and has data interfaces for field and higher-level systems. The modular cabin can be transported by forklift or crane.

The cell is highly standardized and has been in continuous industrial operation (ring pickers) for years. A turning station with fine detection of the smallest geometric characteristics is available.

A user-friendly, shopfloor-based interface is available for teaching in new components. It does not require any special operator know-how. Various gripping modules such as pneumatic finger grippers or magnetic grippers are available. FX PICK offers automatic TCP measuring and correction for maximum reliability in continuous operation.

The bin picking solutions are ideal for flexible manufacturing processes with many different workpieces. They facilitate reliable production and support smart manufacturing to make companies more efficient, safer, and more competitive.





FX SMART PACK: efficient palletizing in variable bin sizes!

The cells enable the discharge of a wide range of workpieces in defined and orderly positions. The series' are differentiated based on the bin size.

Bins or wire baskets can be loaded on floor trolleys with a basic size of 400×600 mm, as well as pallets with stacking frames, boxes with 600×800 mm or Euro pallets and mesh baskets with 800×1200 mm in size.

The smart loading software automatically calculates the position of the components in the bin. Numerical entries in the operator dialog define, for example, the distance between the components and the edge of the bin as well as the gaps between the components. The palletizing pattern is then generated automatically, which means that teaching in the robot is not necessary. Singularities are avoided with the additional robot axis.

An additional module can optionally be fitted on the side of the cell to insert intermediate piles. 3D recognition can also be used if necessary, depending on the design and component geometry.

Compact and agile robots from ABB or KUKA are used. For an even more compact design and to keep the footprint of the cells to a minimum, we sometimes use seven robot axes in our modules.

The cells are largely constructed from sheet metal with safety glass on the front. The resulting encapsulated modules reduce

noise emissions and meet the requirements for product cleanliness. In addition, we effectively reduce the impact of external light in order to create optimal conditions for image recognition systems.



FX PACK 600 basket stacking cell

Our FX PACK 600 basket stacking cell enables workpieces to be packed reliably and flexibly in defined layers. It is suitable for bins/baskets with a size of 400 x 600 mm and a stacking height of up to 1100 mm. The integrated basket stacker (2 servo axes) moves the baskets.

FX PACK 800 bin packing cell

The FX PACK 800 bin packing cell enables workpieces to be packed in defined and orderly layers in bins measuring 600 x 800 mm and up to 600 mm in height. The loading software automatically calculates the placement points of the components in the bin. The palletizing pattern for simple geometries is generated without teaching in the robot.

FX PACK 1200 XL bin packing cell

The FX PACK 1200 XL bin packing cell enables the quick and reliable packing of workpieces in bins with a size of up to 1000 x 1200 mm and a height of up to 1000 mm. With straightforward geometries, the loading software automatically calculates the placement points of the components in the bin. Optionally, integrated 3D scanners can be used.

Technical Data

	 FX PICK 800	FX PICK 1200	FX PACK 600 Basket stacking cell	FX PACK 800 Bin packing cell	FX PACK 1200 XL bin packing cell	
Width x length x height (mm)	 1750 x 2450 x 2150				4000 x 3200 x 2200	
Model				specification		
Cell weight (kg)	1700		1900	1700	1900	
Max. bin weight (kg)	650 (loaded)				-	
Max. component weight (kg)	4		3	4	15	
Bin storage spaces	for two identical bins		3–6	2	4	
Bin dimensions (mm)	600 x 800 x 600 or 800 x 800 x 500		400 x 600 Height 80–150	600 x 800 x 600 or 800 x 800 x 500	800 x 1200 x 1000	
Loading	Floor trolley or forklift/AGV					
Model	Pallets with stacking frame or smooth bin wall		Small load carrier or wire baskets	Smooth-walled bin	Euro pallet/GiBo	
Safety	Front sliding doors and internal sliding protection					
Robotics	ABB, KUKA, FANUC					
Infeed cycle	from 8 seconds					
Component quality	The components should not entangle		Process-specific			
Component surfaces	Advance identification test required		-	-	-	
Gripping technology	Component-specific, tried and tested standard gripper available			Component-specific		

	FX PICK 800	FX PICK 1200	FX PACK 600 Basket stacking cell	FX PACK 800 Bin packing cell	FX PACK 1200 XL bin packing cell	
Control	S7 1500					
HMI	15 Touch					
Operation/teaching in	Shopfloor wizard					
Component detection	3D point cloud/matching or alternative methods					
Turning station	Optional, integrated into the module (also PICK!)					
Additional processes	Laser marking, deburring, brushing, etc. according to requirements and testing					

rbc-robotics FX SMART LOAD serie

Flexible component handling

thanks to industrial robots, up to payload class of 20 kg

(e.g., cleaning, laser marking)



Direct and flexible connection to the machine tool or production line

Space-saving SPC drawer and NO drawer through side or front integration

and buffer stacks

FX SMART LOAD Series Compact and Flexible

The FX SMART LOAD series is primarily designed for direct loading of machines or systems. The components are fed in and discharged again after processing or placed in a bin. Component detection is also possible with this variant. This makes the system highly flexible with set-up times that are close to zero.

EFFICIENT AUTOMATION SOLUTIONS FOR FLEXIBLE & EFFICIENT MACHINE LOADING





FX LOAD 600 Our basket stacking cell

The module series for the FX LOAD 600 basket stacking module offers many options for separating your products and reliably and flexibly unloading workpieces in defined positions. In particular, it serves as a basket stacking module for plastic bins, blister packs, and wire baskets measuring 400 x 600 mm.

Fast cycle times, simple changeovers, and user-friendly programming save you valuable time and money with the FX LOAD 600 basket stacking cell.

With our many years of experience in the field of automation with basket stacking modules, we meet the highest quality standards with the latest technologies and developments for optimal cycle times and easy machine conversions. Clear and user-friendly operation makes it easier to deal with automation in production and increases acceptance among your employees and customers.

Application

The internal handling of the basket stacking module always removes the top basket or bin from the stack of raw parts and makes it available at a designated staging area. The integrated robot can then remove individual workpieces in a targeted manner and feed them for further use. The robot can be equipped with a single or double gripper. The basket stacking module always processes the bins in a defined order. Thanks to the integrated sliding protection, the respective stack of finished parts can be removed by the employee without affecting the cycle time and replaced with a stack of raw parts.

Workpiece feeding

Workpieces are fed in via stacks of bins on floor trolleys. This enables the FX LOAD 600 basket stacking module to easily transport workpieces from station to station during operation. Flexible extensions to a higher number of chambers enable extended autonomous operation. Of course, flexible access to all chambers is possible via secured doors.

Restacking

The internal handling is the centerpiece of the FX LOAD 600 basket stacking module. Two linear axes for baskets or bins as well as a precise and robust guide system enable the safe handling of baskets or bins weighing up to 50 kg. Loading and unloading of the basket staging areas is also carried out by the stacking module. The basket gripper can be adapted to the different bins or baskets.







FX LOAD-A The feeder cell

Different workpieces are added to one of the two material buffers as bulk material. The cell is suitable for light workpieces and, in the version with two springs, can achieve feed times from around 3.5 seconds.

The integrated material buffer is extremely compact and can be adapted to the conveyed material. The components are conveyed to an illuminated camera field where they are separated and flipped over by means of a shaker. Using 2D image recognition, the robot precisely picks up the components in their preferred position. Additional processes such as, for example, deburring or laser marking can be integrated. Agile 6-axis units or Scaras are used.

FX LOAD-T The FeedLine cell

The different workpieces are fed in by manually placing them on one or more conveyor belts. The integrated conveyor belts convey randomly arranged workpieces into the cell in a single layer. They are detected using 2D camera technology and can then be removed in a targeted manner in short cycle times and, e.g., fed to the machine. Compact and agile robots are used. The FX LOAD-T can also be fed one- or multi-layer flat plastic blisters with workpieces.

Using 2.5D image recognition, both the component positions and the height at which the components are located are recognized. The empty blisters can be ejected via one of the conveyor belts or a chute.









FX LOAD-F The FeedLine

Feeding a wide variety of workpieces via a simple belt conveyor in combination with 2D camera detection has been used successfully thousands of times.

When the workpieces are manually placed on one or more conveyor belts, the system is able to operate autonomously for a certain time, depending on the belt length and processing time.

A signal emitted by the system indicates to the operator when further workpieces are required for continuous processing.

The conveyor belt length and width are selectable in the basic version, which means that a wide variety of workpieces can be fed in and removed, regardless of whether they are small and light or large and heavy. The industrial robot depends on the cell design and the required work area. The FeedLine is the most flexible way of feeding components in connection with an industrial robot and a camera. Our customers are really pleased with how easy it is to set up the system.



FX LOAD-S The workpiece buffer

With a storage area of 5 m^2 , the workpiece buffer offers maximum space on a very small footprint.

The buffer is served from two sides. The robot has access from the side and the operator from the rear. The number of drawers ranges from 3 to 5, depending on the height of the component. The FX LOAD-S is tried and tested and is used successfully by many customers. The design is robust and can handle 24/7 operation. In connection with the FX Control buffer management, the operator always has an overview of the buffer volume and occupancy.



FX LOAD-M The MaxiFlex

Components cannot always be automatically removed directly from the bin. The FX LOAD-M, which has been in use for years, was designed for this type of situation.

The system is equipped with a lifter and a tipper. It conveys the components pre-separated to the camera field via vibrating conveyors and vibrating feeders.

The camera field can be equipped with a backlight and can find the components using 2D image recognition. But it is also possible to localize the component using 3D sensors. The maximum component weights are around 6 kg. The design of the system is very robust. It has demonstrated its toughness in difficult conditions.

Technical Data

	FX LOAD 600					
Width x length x height	2000 x 2000 x 2100 mm	2650 x 2000 x 2100 mm	3300 x 2000 x 2100 mm			
Number of chambers	3	4	5			
Bin size	400 x 600 mm, basket height 80 to 150 mm, basket weight up to 50 kg					
Model	Wire baskets, small load carriers (plastic), blisters					
Max. stacking height	1100 mm					
Sliding protection	integrated					
Drive	2 NC axes for internal basket handling					
Integrated automation	Robots from KUKA, ABB, FANUC, Epson, or loading portal					
Floor pan	Sealed throughout, barrier-free basket stack loading					
Cell control	SIEMENS S7 1500					
Basket delivery	max. 2 spaces	max. 3 spaces	max. 4 spaces			



FX SMART FLEX Individual Automation Solutions

We realize customized solutions for robot automation, machine chaining, complex gripping technology, a large number of variants, and more. The key to flexible automation is almost always a suitable detection system, which makes the system significantly more intelligent and event-based. Our customers also frequently ask for part tracking, visualization, and operation of the existing interfaces via the higher-level production control. Using clever solutions, we always try to be ahead of our competitors. Our team designs, plans, manufactures, assembles, installs, and commissions the finished system – all from a single source.

AUTOMATION SOLUTION BENEFITS FROM OUR EXPERIENCE FROM OVER 500 IMPLEMENTED SYSTEMS





FX SMART FLEX Your tailor-made robot solution, without compromise!

Discover tailor-made applications the way you like! Welcome to FX SMART FLEX

Smart Flex includes all applications that are not included in our modular system, i.e., our tailor-made, customer-specific solutions. From the robot automation of your machine tools to the chaining of several machines and systems through to complex automation with several robots and linear axes – FX SMART FLEX makes all of this possible and enables us to develop

new modules. With the right control and safety concept, your system will always stay productive. Moreover, you can always keep an eye on your system with all the key figures you want via our dashboard.



Highly flexible automation solution for a band saw: The saw sections have a very large variance. From the very small to the extremely heavy section, everything is handled fully automatically by the robot. Special interchangeable grippers have been developed to enable the removal and palletizing of the sections into the bins. In addition, the sharp edges are automatically rounded off by the robot with a brush. There are no set-up times. The system is able to handle batch sizes as small as 1. Classic loading and unloading solution using industrial robots and a powerful pallet loop. The robot cell requires very little space, chains the two PITTLER SkiveLine machines (PV320), feeds them raw parts, and removes the finished (turned and geared) components. The components in the cell are also labeled. Chaining and automation of four PITTLER PV machines. The robot can move components that weigh up to 250 kg. The raw parts are automatically recognized by a 3D scanner and removed by the robot. The line can perform soft and hard machining and is designed for maximum flexibility. In addition, up to 50 components can be buffered in order to maximize the duration of autonomous working. A higher-level control system coordinates the production orders.

COMPONENT DETECTION Our Robots see the World through their Own Eyes

The positioning of components is critical for robot applications. In reality, the parameters are shifting constantly due to different sizes, geometries, manufacturing tolerances, and surface characteristics. The robot system must be capable of autonomously adapting to these variables. Only then can the system be considered intelligent and reliable. The technologies that we are presenting here make our FX series modules exactly the intelligent systems that you need for your requirements.



rbc-robotics component detection

Vision technology – 2D

2D recognition x, y, and rotation around Rz

For rbc robotics, the recognition of objects by means of camera-based 2D image acquisition is one of the basic applications. Intelligent and reliable pick-and-place applications are only possible if the position and rotation of the components is recognized and automatically processed by the program.

The challenge: Picking up of components from a flat surface and placing them in a defined position. Processing of components with a fixed height. A 2D camera detects the position of the components before they are picked up from a conveyor belt or another flat surface. This makes the applications more reliable and safe. In addition to tracking displacement and rotation, other characteristics such as the type numbers or other numerical component information can be read out and processed if provided on top of the components. It is almost irrelevant how the data was marked, because the Al-based camera algorithms are getting smarter and smarter. The cameras can be installed stationary above the component or on the robot hand, depending on the application requirements. Tried and tested components from leading manufacturers are used. With smart cameras, the analysis takes place directly in the camera or in a separate PC. Depending on the use case, we can plan the optimal application for you. This 2D technology has already been used in more than 300 projects for a wide range of tasks. The analysis is carried out according to pre-defined parameters. This enables the robot to precisely grip the components and set them down.



Vision technology – 2.5D

2.5D recognition x, y, z, and rotation around Rz

Compared to the 2D standard application, the system also recognizes the component height in this case, so this application offers additional flexibility.

The challenge: Grab components from a flat surface with a variable height. This enables the robot to precisely grip the components and set them down. The 2.5D camera technology from rbc robotics is able to safely and reliably detect the position of components, whether they are removed directly from a conveyor belt or from a tray. Similar to the 2D application, in addition to the evaluation of displacement and rotation, properties such as type numbers or other numerical component information can be read out and processed.

Here, too, the cameras are installed stationary above the components or on the hand of the robot, depending on the requirements of the application. Tried and tested components from leading manufacturers are used. With smart cameras, the analysis takes place directly in the camera or in a separate PC. Depending on the use case, we can plan the optimal application for you. This 2.5D technology has already been used in more than 300 projects for a wide range of tasks. The analysis is carried out according to pre-defined parameters. This enables the robot to precisely grip the components and set them down.





Vision technology – 3D, cartesian

3D recognition x, y, z, and rotation around Rz

The 3D-based technology is best suited to the detection of objects that are present at different heights and mostly layered.

The components can be used in bins with dimensions of 400 x 600 mm, 600 x 800 mm, and up to 1000 x 1200 mm.

Whether wire baskets, plastic boxes with or without trays, pallets with stacking frames or mesh boxes: We have the right solution for you for every type of bin.

The challenge: Grab components from different levels from a bin from a relatively orderly position or slightly tilted.

A technology that records a cloud of dots by means of a sensor system is used to provide the necessary positional information of the components. All room dimensions are always taken into account thanks to complete 3D information. Small features of the surface can be evaluated using high-resolution sensors.



Vision technology – 3D, random

3D recognition x, y, z and rotation Rx, Ry, Rz

This technology is used to recognize randomly arranged components in bins or on conveyor belts by means of 3D-based sensor systems. This is essentially a classic bin picking or belt picking system.

The interaction between robot path planning, gripper technology, collision control, and sensor system is of paramount importance here. Near 100% bin emptying levels are only possible with an optimally coordinated overall system. Not every component is suitable for automatic removal from the bin.

In most cases, the sensor is mounted in a fixed position and only needs a brief unobstructed view of the bin. If there are several bins, a pneumatic or electric displacement axis is used. Components can then be detected in several bins. After scanning, the point cloud is evaluated using the "Best Shape" method. This process uses tried-and-tested systems that specialize in the respective component shapes. The FX series modules can be used universally. Standardized solutions are available especially for rings, rollers, or gear parts and are already widely used on the market. For this purpose, a shopfloor-based input software has been developed by rbc robotics. This enables the operator to teach in new components simply by entering the geometric data.



rbc-robotics component detection -

SKF Revolutionizes Production

SFK is setting new industry standards with 29 robot cells from rbc robotics and a new manufacturing concept





SKF is outperforming its production targets thanks to the innovative "Customization through Modularization" concept. The expansion, which was implemented with the automation technology from rbc robotics, boasts maximum performance on a small footprint. This flexible and future-proof solution not only meets the strict quality standards of end customers, but it also sets new industry standards.

KF in Lüchow is an outstanding example of innovation and efficiency in modern manufacturing technology. As a company of the globally active SKF Group, which specializes in the development, production, and sales of rolling bearings and seals, the Lüchow location stands out due to its advanced production processes and the implementation of forward-looking technologies.

The success of SKF in Lüchow is based on a combination of technological expertise, continuous innovation, and a commitment to quality standards, which renders this location a role model in the industry and a key player within the SKF Group.

The challenge

The objective of the project was to increase the degree of automation on existing production lines, in which the automated feeding and packaging of the finished rings was identified as a key area in which efficiency could be improved.

Standardized 600 x 800 mm bins on floor rollers were used to feed and package the rings. The random storage of the rings in the bins required an efficient bin picking solution. Particular emphasis was placed on minimizing the number of components left behind in the bin, paired with a high infeed rate and aiming for a picking rate of less than 10 seconds per component in order to continuously supply the grinding lines.

Simple loading and unloading of the cells was decisive in order to relieve the burden on the operating staff and enable them to focus on core tasks. The finished rings were packed in the same bins with intermediate layers for careful storage and preparation for transport. It was important to maximize the bin volume used.



A particular challenge was the spatial limitation, because only 2 x 2 meters of surface area was available for each cell. The solution also had to accommodate a wide range of ring geometries and dimensions and enable the straightforward conversion of production lines, ideally with minimal or no setup parts. The cells also had to be integrated into the existing line quickly and without disrupting ongoing production.

It became obvious that a modular solution was needed in order to implement the project within the specified time and budget and to make the planning phase as efficient as possible.

The solution

he innovative and modular design concept led to the development of two cell types after the construction

phase. The core element in both variants was an industrial robot with a 10 kg payload class on an integrated seventh linear axis. This axis significantly expands the robot's working range and offers numerous advantages.

Each cell is equipped with two bins from which the robot can continuously remove material, which optimizes the robot's paths and maximizes the production output. The cell control (S7 1500) and the robot controller are permanently integrated into the cell and are operated via a 15" touch panel. An intuitive user interface with numerous graphics and illustrations streamlines control. A connection to the production control system is also provided.

The base module measuring 1,750 mm x 2,000 mm and with a height of 2,100 mm is available in the FX series from rbc robotics as FXb 800 3D.

For packaging at the end of the production line where the rings are packed in the same bins but with intermediate layers, an additional bin space is added to the base cell for the intermediate layers. This extends the cell by just 650 mm while maintaining the same basic dimensions.

A key element is the recognition system, i.e., the "eye" of the cell, which plays a crucial role in bin picking, as it enables safe detection and collision-free removal of the components. The component gripper, which is mounted right on the robot arm, facilitates fast and safe removal. For components weighing up to 3.5 kg and with an emptying rate of up to 100%, the FXb 800 3D achieves a picking rate of over six components per minute. It works reliably around the clock at SKF.



The rings are packaged layer by layer by the robot, with the intermediate layers being inserted automatically. The placement pattern is generated depending on the type, without requiring manual programming of the robot. The ring dimensions are entered and the setting pattern is automatically calculated and sent to the robot.

The result

The automatic feeding and packaging solution has led to significant improvements in manufacturing. This system enables the continuous supply and packaging of components, which eliminates downtime caused by material shortages or missing finished part bins. The closed design of the cells has also noticeably reduced noise. Another important advantage is the reduced strain on employees. The line support and component packaging requires less personnel. The automation allows the employees to focus almost entirely on quality assurance and manufacturing, as all monotonous tasks are handled by the automation. Collisions and damage to the sensitive, high-precision surfaces are avoided when palletizing the rings.

At less than 10 minutes per type, the changeover times for the automation cells are remarkably short. New types can be prepared offline and seamlessly integrated into ongoing production.

All cells are also connected to the higher-level Manufacturing Execution System (MES) and allow online monitoring. Potential deviations can be detected and analyzed in real time, thus ensuring a consistently high production output. The cooperation between SKF and rbc robotics is a prime example of how to collaborate effectively in automation technology. Characterized by excellent communication and shared objectives, the project with 29 robot cells significantly improved the production technology and efficiency. Challenges such as tight schedules and modular concepts were successfully overcome together. The technological expertise of rbc robotics and the commitment of both partners pave the way for a promising future.

SKF®

Interview with Helge Koopmann from SKF

1. How would you describe the current collaboration between SKF and rbc robotics?

Mr. Koopmann: The collaboration is built upon good communication, a shared goal, and trusting cooperation.

2. What are the most important aspects when selecting a cooperation partner?

Mr. Koopmann: Honest and trusting communication at eye level. Trust in the implementation of a technical solution.

3. What were the challenges in collaborating with rbc robotics and how were they over-come?

Mr. Koopmann: One of the challenges was the ambitious time table of the project. Between the award of the contract in January to the delivery of the first machine in July we only had six months.

For successive supplies and the corresponding installation of the robot cells, rbc robotics also met the agreed delivery dates, so that we were able to integrate a new robot cell into production on average every 2–3 weeks.

Another challenge was the modular design of the robot cell, which had many advantages for both rbc robotics as well as for SKF. From SKF's perspective, for example, the cell could be commissioned quickly.

I fondly remember a best-case scenario in which we managed to have a robot cell delivered by truck on a Friday morning and it was already fully available for production the following Sunday at the start of the night shift at 10 p.m.

4. How does SKF benefit from rbc robotics' technological expertise?

Mr. Koopmann: The implementation of the aforementioned project involved the use of bin picking, a new technology on the market, and the associated challenges. We were fully satisfied with rbc robotics' professional approach to benchmarking and the subsequent selection, as well as the transparency of the results provided to SKF.

5. What lies ahead for the collaboration between SKF and rbc robotics? Are there any projects planned for implementation in the near future?

Mr. Koopmann: As far as SKF is concerned, nothing stands in the way of a future collaboration with rbc robotics. We have already discussed additional automation involving five robot cells in the heat treatment area.



Helge Koopmann / Project manager and process engineer SKF

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DVS Production



DVS Precision Components (Taicang) Co. Ltd. Precision powertrain components in series production for passenger cars and trucks on DVS machines

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