Machine automation solutions
Electric systems and components for linear and rotating movement
Automation is the future
Throughout the world, manufacturers are facing increasing challenges related to cost control, productivity, quality and environmental sustainability, along with expanding market demands for flexibility, product customization and faster time to market. Increasingly, the solution lies in robotics and machine automation. For OEMs charged with creating this advanced machinery, SKF offers solutions that enhance reliability and performance.

A century of quality in motion
For more than 100 years, SKF has been a leader in the field of motion technology. From our position as the world’s premier manufacturer of bearings, SKF has broadly expanded its capabilities to include a wide range of reliable machine components and services. Today, SKF also applies its expertise to the development of components and systems for the automation of linear and rotating movement.

SKF engineering support
As a global knowledge engineering company, SKF’s specialist teams work closely together to provide OEMs with advanced integrated solutions. Our innovations extend to proprietary simulation and computer modeling software that revolutionizes the way design engineers develop new products. Our technical experts are ready to support both machine manufacturers and end users in the shift toward electromechanical actuation technology.

The automation advantage
Machine automation eliminates many of the bottlenecks and problems associated with traditional manufacturing processes, while providing opportunities to respond in new ways to customer needs and business demands.

Increased productivity
Automated machines generally require less maintenance, while allowing for faster set up time and better control of machine output. This can result in increased productivity.

Higher flexibility
With automated set up and the ability to change parameters, automated machines make it easier to respond to changing customer demands.

Better quality control
Improved control over machine functions means stable processes and better product consistency. In addition, because condition monitoring is also automated, information is immediately available to fine-tune processes, detect missed functions and minimize inspection time.

Environmental benefits
Automation contributes to the preservation of resources and helps companies meet standards for environmental responsibility. By reducing friction, less energy is consumed. Less oil and grease are required, greatly reducing the amount of waste to dispose of. Machines run quieter, so noise pollution is decreased.
By combining its expertise in mechanics, electronics and control, SKF creates new manufacturing solutions. Our products include systems for precision multi-axis positioning, intelligent monitoring and by-wire applications, as well as components such as ball and roller screws, actuators, rail guides and sensor modules. SKF also combines mechanical and electronic products into modules and subsystems addressing unique needs where SKF has specialized industrial expertise.

**SKF automation solutions**

Components and systems from SKF contribute to better performing and more reliable machine operations in a wide spectrum of automated applications, including those shown on these two pages.

**Spot welding**

Main actuators and equalizers from SKF for spot welding systems offer outstanding energy efficiency, and total-control electromechanical actuation for greater productivity. Automated SKF lubrication systems eliminate downtime for re-lubrication. Additional reliability and performance is provided by sealed tapered roller bearings and sealed profile rails for specific applications.

**Robotic movement**

Robotic machinery is a key element in lean, just-in-time manufacturing systems which save both time and money. SKF supports these methodologies with actuators and electrically powered linear tables, industrial pillars and other types of actuators and systems requiring high accuracy and repeatability.

**System components**

SKF offers a wide range of standardized guiding and driving components which can reduce OEM development time, while providing robust, reliable, multipurpose functioning for automated systems. These components can include rolling bearings, guides, slides, ball and roller screws, seals, lubrication systems and a host of other mechatronics solutions that can be tailored to fit almost any linear or rotary function.
Handling frames
Space consuming, bulky handling frames are a thing of the past. SKF expertise and technologies for the design of automated grippers and clamps contribute to the development of electro-mechanical adjusting and clamping functions that allow handling with a single frame. This saves space on the production line, and reduces time and energy for frame changing.
Let's explore what we can achieve together:
The SKF Group is the leading global supplier of products, customer solutions, and services in the rolling bearings, seals, mechatronics and lubrications systems sectors. The Group's services also include technical support, maintenance services, condition monitoring and training. The SKF Group's extensive customer knowledge is the result of working with different industries in many countries, and its technical knowledge has been gained through the ongoing development of the Group's many different products, solutions and services.

SKF has identified five platforms that cover its technical knowledge and capabilities: bearings and units, seals, mechatronics, services and lubrication systems.

When SKF goes to market, it offers value propositions based on customer segments, and utilizes the capabilities of all of its platforms. SKF offers its customers a tailor-made solution that will, in turn, strengthen their offer to their customers or will make their production process more effective.

SKF also focuses on offering solutions that reduce energy consumption and the need for lubricants. In this way, SKF is helping to safeguard resources for future generations. Each segment offer is unique and, according to what is required, combines technology from all or some of the platforms.

SKF has always been dedicated to helping customers overcome specific challenges. In the field of factory automation, the SKF goal is to enhance its customers’ performance and to tap into the growing trend in sustainable product. As Nobel Prize winner Al Gore said recently, “It’s hard to imagine that a change in our thinking could bring about a profound transformation in the way we pursue our civilization. But it can.” And this is what it’s all about, thinking in a new way and finding new solutions.
The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modeling to advanced condition monitoring and reliability and asset management services. A global presence provides SKF customers uniform quality standards and universal product availability.