The power of knowledge engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 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 mechanical and electronics into intelligent systems), and a wide range of services from 3D computer modelling to advanced condition monitoring and reliability and asset management services.

A global presence provide SKF customers uniform quality standards and universal product availability.

SKF can help

With expertise in bearings, seals, mechatronics, lubrication systems and services, SKF is uniquely positioned to provide effective solutions to the challenges of your operation. While other companies may have competence in one or two of these areas, no other company can draw on all of these competencies to help you improve reliability and productivity.

SKF solutions help you extend service life and improve performance of hard to maintain equipment. We can provide expert consultancy and asset management services, proven condition monitoring technologies, maintenance tools, and training to help you to:

• Increase productivity
• Reduce time to market
• Improve energy efficiency
• Decrease maintenance
• Optimize designs

Energy efficiency solutions

There are many ways that SKF can help customers to work in harmony with nature.

SKF application-specific solutions are helping to reduce global energy consumption and CO₂ emissions.

Our knowledge and creativity is employed in developing energy efficient products and systems.

To name some energy efficient bearings, window system actuators that automatically respond to the sun, weight saving fly-by-wire systems, energy saving mechatronic systems, enhanced lubrication systems.

Energy efficiency solutions

There are many ways that SKF can help customers to work in harmony with nature.

SKF application-specific solutions are helping to reduce global energy consumption and CO₂ emissions.

Our knowledge and creativity is employed in developing energy efficient products and systems.

To name some energy efficient bearings, window system actuators that automatically respond to the sun, weight saving fly-by-wire systems, energy saving mechatronic systems, enhanced lubrication systems.

SKF Mechatronics
Knowledge Engineering

From concept to reality
From components to integrated solutions: a value stream approach

The base of the SKF linear motion technology is provided by proven standard components

Guiding
Main benefits:
- Shaft guidings: economical, unlimited stroke, self-aligning feature, adjustable preload, high sealing performances, corrosion resistant versions.
- Profile rail guides: unlimited travel, high rigidity under heavy loads in all directions and reliability.
- Precision rail guides: modular range, limited travel, high precision, high load carrying capacity and stiffness.

Driving
Main benefits:
- Ball screws: several recirculating systems are available, high precision to cover most requirements, backlash can be reduced or eliminated.
- Roller screws: far beyond the limits of ball screws, ultimate precision and rigidity, high speed and acceleration, backlash can be reduced or eliminated.
- Miniature ball screws: very compact.
- Large ball screws: very fast and long lead.
- Ground ball screws: more rigidity and precision.

Miniature slides
Main benefits:
- Compact design, high carrying capacity, high running accuracy, easy assembly.

Electric drive technologies for more intelligent process automation

The SKF challenge
Nowadays electric linear drives are increasingly becoming a genuine alternative to hydraulic and pneumatics in more and more applications from both the technical and economic viewpoints.

SKF has both mechanical and electronic expertise, and enables the customer to build ready plug and play global solutions from single source: guide plus drive plus motor plus controller.

Main benefits:
- Dramatic energy savings
- 24/7 reliability
- Better quality through greater control of the process
- Faster cycle speed

SKF magnetic bearings provide cleaner, belief, more efficient rotating equipment that even operates reliably in harsh environments.

By wire technology offers several advantages in operation performance and faultless control of industrial, giving the customer full control in speed and position information.

Why SKF?
By including SKF knowledge in the development of complex mechatronics solutions in the early stages, SKF can help the customer achieve greater energy efficiency by reducing friction, lowering weight and maximizing the energy-reducing capabilities of mechatronics thanks to:
- a cost-effective approach in integrating the SKF competences to become an embedded partner
- a maximum degree of system integration that respond to constantly changing, challenging specifications according to technology shift.

Benefits for the customers:
- Reduce engineering, procurement, assembly and manufacturing time
- Reduce the number of suppliers
- Reduction of the total cost of ownership (TCO), principle based on a win-win cooperation

The SKF value added chain of customized integrated solutions

From components to sub systems

From components to integrated solutions

Linear motor drive slide
Multi-Axes module
Electrical actuator
Electronic cable puller
Sensorised bearing
Magnetic bearing solution
Compact electromechanical cylinder with computer based controller application
From components to integrated solutions: a value stream approach

The base of the SKF linear motion technology is provided by proven standard components

Guiding
Main benefits:
- Shaft guidings: economical, unlimited stroke, self-aligning feature, adjustable preload, high sealing performances, corrosion resistant versions.
- Profile rail guides: unlimited travel, high rigidity under heavy loads in all directions and reliability.
- Precision rail guides: modular range, limited travel, high precision, high load carrying capacity and stiffness.

Driving
Main benefits:
- Ball screws: several recirculating systems are available, high precision to cover most requirements, backlash can be reduced or eliminated.
- Roller screws: far beyond the limits of ball screws, ultimate precision and rigidity, high speed and acceleration, backlash can be reduced or eliminated.
- Miniature ball screws: very compact.
- Large ball screws: very fast and long lead.
- Ground ball screws: more rigidity and precision.

Miniature slides
Main benefits:
- Compact design, high carrying capacity, high running accuracy, easy assembly.

Electric drive technologies for more intelligent process automation

The SKF challenge
Nowadays electric linear drives are increasingly becoming a genuine alternative to hydraulics and pneumatics in more and more applications from both the technical and economic viewpoints.

SKF has both mechanical and electronic expertise, and enables the customer to select ready plug and play solutions from one single source: guide plus drive plus motor plus controller.

Main benefits:
- Dramatic energy savings
- 24/7 reliability
- Better quality through greater control of the process
- Faster cycle speed

SKF magnetic bearings provide cleaner, closer, more efficient rotating equipment that even operates reliably in harsh environments.

By wire technology offers several advantages in operation performance, reliability, process control of industrial, giving the customer full control in speed and position information.

Multi-Axes module

The SKF value added chain of customized integrated solutions

Why SKF?
- By including SKF knowledge in the development of complex mechatronics solutions in the early stages, SKF can help the customer build-in greater energy efficiency by reducing friction, lowering weight and maximizing the energy-reducing capabilities of mechatronics thanks to:
  - a cost-effective approach in integrating the SKF competences to become an embedded partner
  - a maximum degree of system integration that respond to constantly changing, challenging specifications according to technology shift.

Benefits for the customers:
- Reduce engineering, procurement, assembly and manufacturing time
- Reduce the number of suppliers
- Reduction of the total cost of ownership (TCO), principle based on a win-win cooperation

From components to sub systems

From components to integrated solutions

Linear motor drive slide
Electric linear actuators
Electronic cable puller
Bore stoppers
Open frame cross table

Linear motion technology

Electric drive technologies

Magnetic bearings solution

Sensored bearing

Magnetic bearing solution

The SKF value added chain of customized integrated solutions
The base of the SKF linear motion technology is provided by proven standard components.

**Guiding**

**Main benefits:**
- Shaft guidings: economical, unlimited stroke, self-aligning feature, adjustable preload, high sealing performances, corrosion resistant versions.
- Profile rail guides: unlimited travel, high rigidity under heavy loads in all directions and reliability.
- Precision rail guides: modular range, limited travel, high precision, high load carrying capacity and stiffness.

**Driving**

**Main benefits:**
- Ball screws: several recirculating systems are available, high precision to cover most requirements, backlash can be reduced or eliminated.
- Roller screws: far beyond the limits of ball screws, ultimate precision and rigidity, high speed and accelerations, backlash can be reduced or eliminated.
- Miniature ball screws: very compact.
- Large ball screws: very fast and long lead.
- Ground ball screws: more rigidity and precision.

**Miniature slides**

**Main benefits:**
- Compact design, high carrying capacity, high running accuracy, easy assembly.

Electric drive technologies for more intelligent process automation.

**The SKF challenge**

Nowadays, electric linear drives are increasingly becoming a genuine alternative to hydraulics and pneumatics in more and more applications from both the technical and economic viewpoints.

**Main benefits:**
- Dramatic energy savings
- 24/7 reliability
- Better quality through greater control of the process
- Faster cycle speed

**By wire technology** offers several advantages in operation performance and reliability control of industrial, giving the customer full control in speed and position information.

**SKF magnetic bearings** provide cleaner, faster, more efficient rotating equipment that even operates reliably in harsh environments.

**The SKF value added chain of customized integrated solutions**

By including SKF knowledge in the development of complex mechatronics solutions in the early stages, SKF can help the customer build-in greater energy efficiency by reducing friction, lowering weight and maximizing the energy-reducing capabilities of mechanics thanks to:

- A cost-effective approach in integrating the SKF competences to become an embedded partner
- A maximum degree of system integration that respond to constantly changing, challenging specifications according to technology shift.

**Benefits for the customers:**
- Reduce engineering, procurement, assembly and manufacturing time
- Reduce the number of suppliers
- Reduction of the total cost of ownership (TCO), principle based on a win-win cooperation

**Why SKF?**

From components to sub systems

From components to integrated solutions: a value stream approach.
The power of knowledge engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 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 mechanical and electronics into intelligent systems), and a wide range of services from 3D computer modelling to advanced condition monitoring and reliability and asset management services.

A global presence provides SKF customers uniform quality standards and universal product availability.

SKF can help

With expertise in bearings, seals, mechatronics, lubrication systems and services, SKF is uniquely positioned to provide effective solutions to the challenges of your operation. While other companies may have competence in one or two of these areas, no other company can draw on all of these competencies to help you improve reliability and productivity.

SKF solutions help you extend service life and improve performance of hard to maintain equipment. We can provide expert consultancy and asset management services, proven condition monitoring technologies, maintenance tools, and training to help you to:

• Increase productivity
• Reduce time to market
• Improve energy efficiency
• Decrease maintenance
• Optimize designs

Energy efficiency solutions

There are many ways that SKF can help customers to work in harmony with nature.

SKF application-specific solutions are helping to reduce global energy consumption and CO₂ emissions.

Our knowledge and creativity is employed in developing energy efficient products and systems.

To name some: energy efficient bearings, window system actuators that automatically respond to the sun, weight saving fly-by-wire systems, energy saving mechatronic systems, enhanced lubrication systems.

SKF Mechatronics Knowledge Engineering

From concept to reality

Energy efficiency solutions

There are many ways that SKF can help customers to work in harmony with nature.

SKF application-specific solutions are helping to reduce global energy consumption and CO₂ emissions.

Our knowledge and creativity is employed in developing energy efficient products and systems.

To name some: energy efficient bearings, window system actuators that automatically respond to the sun, weight saving fly-by-wire systems, energy saving mechatronic systems, enhanced lubrication systems.

SKF can help

With expertise in bearings, seals, mechatronics, lubrication systems and services, SKF is uniquely positioned to provide effective solutions to the challenges of your operation. While other companies may have competence in one or two of these areas, no other company can draw on all of these competencies to help you improve reliability and productivity.

SKF solutions help you extend service life and improve performance of hard to maintain equipment. We can provide expert consultancy and asset management services, proven condition monitoring technologies, maintenance tools, and training to help you to:

• Increase productivity
• Reduce time to market
• Improve energy efficiency
• Decrease maintenance
• Optimize designs

There are many ways that SKF can help customers to work in harmony with nature.

SKF application-specific solutions are helping to reduce global energy consumption and CO₂ emissions.

Our knowledge and creativity is employed in developing energy efficient products and systems.

To name some: energy efficient bearings, window system actuators that automatically respond to the sun, weight saving fly-by-wire systems, energy saving mechatronic systems, enhanced lubrication systems.
SKF can help

With expertise in bearings, seals, mechatronics, lubrication systems and services, SKF is uniquely positioned to provide effective solutions to the challenges of your operation. While other companies may have competence in one or two of these areas, no other company can draw on all of these competencies to help you improve reliability and productivity.

SKF solutions help you extend service life and improve performance of hard-to-maintain equipment. We can provide expert consultancy and asset management services, proven condition monitoring technologies, maintenance tools, and training to help you to:

- **Increase productivity**
- **Reduce time to market**
- **Improve energy efficiency**
- **Decrease maintenance**
- **Optimize designs**

The power of knowledge engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 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 mechanical and electronics into intelligent systems), and a wide range of services from 3D computer modeling to advanced condition monitoring and reliability and asset management services.

A global presence provide SKF customers uniform quality standards and universal product availability.

---

**Energy efficiency solutions**

There are many ways that SKF can help customers to work in harmony with nature.

SKF application-specific solutions are helping to reduce global energy consumption and CO₂ emissions.

Our knowledge and creativity is employed in developing energy efficient products and systems.

To name some energy efficient solutions, window system actuators that automatically respond to the sun, weight-saving fly-by-wire systems, energy saving mechatronic systems, enhanced lubrication systems.

---

© SKF Group 2008

The information contained in this publication and the copyright of the publication and may not be reproduced, transmitted or translated without permission.

Publication 6485 EN - 2008

Printed in Italy on environmentally friendly paper.