



# Maintenance support

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## Introduction

To support you further in your machinery maintenance efforts, SKF offers a comprehensive range of support services.

This chapter provides an overview of these services. Full details can be found online at [www.skf.com/services](http://www.skf.com/services) and/or [www.aptitudexchange.com](http://www.aptitudexchange.com).

## Training

Providing the right training makes sure that you and your staff are properly trained and have the right skills to maintain and manage your plant machinery assets, reducing maintenance costs and improving plant reliability and productivity.

SKF offers training options that range from tailored face-to-face on-site training, to online training solutions that can be taken at times that suit you, and at your own pace.

A comprehensive portfolio of training courses are available, covering machine reliability, from basics through to expert level.

No matter what industry you operate in, or what machinery you use, SKF can help show you how to improve the maintenance of your assets.

## SKF Reliability Maintenance Institute

The SKF Reliability Maintenance Institute (RMI) offers a comprehensive suite of training courses for different skill levels, with a training portfolio that covers most aspects of machine maintenance and reliability, from bearing basics and lubrication to maintenance strategies and asset management.

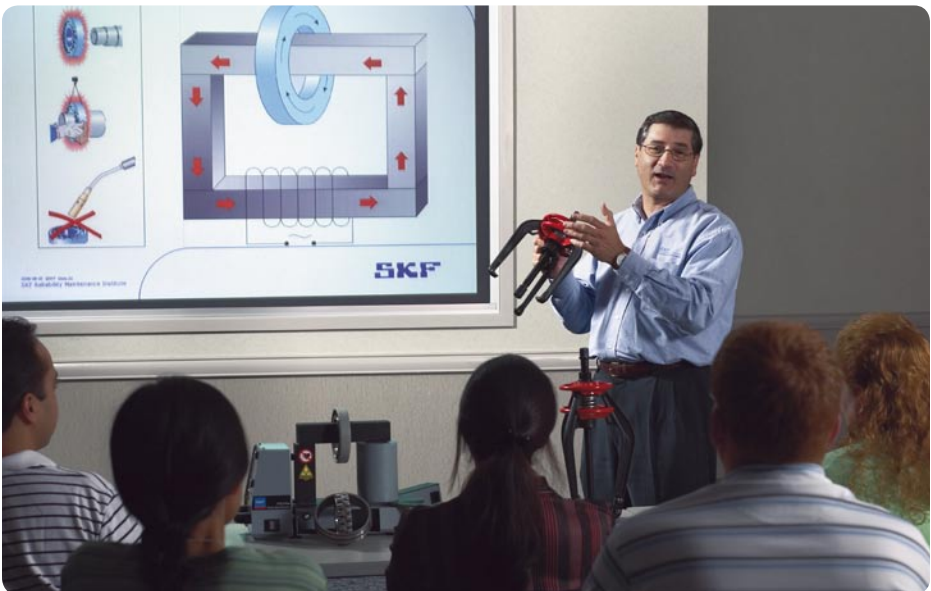
### Classroom training

Traditional RMI classroom courses, delivered by specialized instructors, are held at various SKF training facilities but can also be held on-site, on request. On-site training brings the instructor and the expertise into your plant so you can apply the training directly to your equipment.

Most courses include a certification test. Those participants who successfully pass the test will become SKF Certified in that course.

### Customized training

SKF can create customized training programmes for individual companies according to their specific requirements. For employee skills, process or equipment training, RMI specialists can perform task and skills analysis to evaluate training needs, develop course materials, and implement a training schedule.



### SKF Reliability Maintenance Institute online

The online area of the SKF Reliability Maintenance Institute (RMI) offers an expanding portfolio of introductory level e-learning courses covering a range of topics. This enables self-paced learning to be enjoyed by the participants at their own convenience. The RMI online enables learners to collaborate with each other and the course tutors. The “ask the expert” functionality provides the participant with direct access to an extensive network of SKF subject matter experts, maximizing the effectiveness of the learning experience.

Similar to the classroom courses, the online courses are structured to reflect the Asset Efficiency Optimization process from SKF. On completion of a course, each participant can assess what they have learned by taking a test. Certificates are available for printing to all successful participants.

### SKF @ptitude Exchange

SKF @ptitude Exchange is SKF’s online knowledge source for maintenance and reliability expertise, focusing on three key areas:

- Asset management, e.g. maintenance optimization and logistics
- Mechanical maintenance, e.g. balancing, alignment and lubrication
- Reliability engineering, e.g. predictive maintenance, vibration analysis and inspection techniques

The SKF @ptitude Exchange website serves as the SKF Reliability Maintenance Institute’s library, providing a wealth of high quality technical information to reinforce the course tuition. White papers, articles, tutorials and much more are available to registered users, at a fee, as well as access to many programs and interactive services including:

- SKF Bearing Inspector, to assist in bearing damage analysis
- LubeSelect, for lubricant selection
- LuBase, for lubricant-specific data
- SKF.com/mount, for detailed mounting instructions of bearings, housings and units

- @ptitude Exchange Forum, for discussions with maintenance and reliability specialists

A subscription is required for some of the programs.

### SKF @ptitude Decision Support

The SKF @ptitude Decision Support is a knowledge management system that incorporates today’s most advanced technologies to integrate data from multiple sources into an easy to use reliability maintenance application. It enhances the user’s ability to make the right decision at the right time, providing a structured approach to capturing and applying knowledge.

## Maintenance strategy review

How and where can I improve plant performance? Should I better align my plant with industry benchmarks? How can I make sure of continual improvement in my plant's maintenance processes?

These are good questions. But finding the right answers and implementing strategies to address these issues can be daunting. With daily operational challenges and time constraints, identifying and achieving improvement opportunities may seem impossible. But SKF can help.

To be successful, you must make sure that your maintenance strategy and its execution are closely aligned to achieve the benefits you expect. Together with your facility's team, your SKF consultant can provide the tools, techniques, coaching and guidance to accomplish this.

SKF can provide a review of your maintenance strategy, benchmarking against your industry, and producing a report that shows you the way forward. As you decide how to make improvements and implement these recommendations, SKF can help you at each stage along the way, providing the knowledge, technologies and training that your plant's staff need to deliver the returns you want.

Alternatively, SKF can implement and deliver your machinery maintenance programme on your behalf, providing the expertise, manpower and equipment needed to deliver on mutually agreed results.

### SKF Client Needs Analysis

A starting point in assessing the effectiveness of your current maintenance strategy can be the implementation of an SKF Client Needs Analysis. This service can focus on either your asset management strategies, and/or your energy efficiency and sustainability related issues.

An integrated reliability and risk-based asset management strategy starts with an understanding of where you are today, and where you need to be to attain optimum performance. The SKF Client Needs Analysis enables this understanding, combining our experience in reliability-focused maintenance with your knowledge of plant conditions. The goal is to provide useful, actionable information to help you focus on credible performance improvement opportunities.



The SKF Client Needs Analysis provides a snapshot of your present plant's situation, and also considers industry-specific aspects of maintenance and reliability to create a unique, needs-based analysis.

Once we know how your reliability maintenance processes are currently working, we then help devise a roadmap to meet your most pressing challenges.

## Integrated maintenance solutions

The basis of an Integrated maintenance solution (IMS) is a partnership where SKF is responsible for creating and implementing your asset management strategy with the ultimate goal of increasing the reliability and profitability of your plant. With an IMS agreement, SKF becomes an integral part of your operational team. We supply bearings, seals and lubricants and manage the maintenance of your machinery. We collaborate with you, combining our in-depth experience and expertise in asset management and knowledge of rotating equipment to reduce the Total Cost of Ownership of your assets.

Benefits at a glance include:

- increase machine reliability and uptime
- manage Total Cost of Ownership and control your maintenance costs
- upgrade maintenance operations, reliability and craft skills
- avoid capital expenses for technology and inventory
- achieve timely supply and control your costs for MRO (maintenance, repair and operations) components
- leverage SKF engineering resources

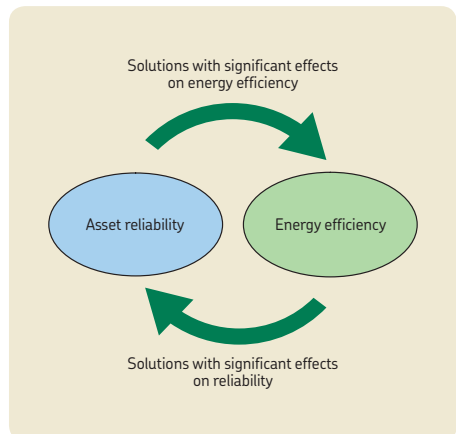


## Energy and sustainability management

Energy efficiency can provide an indication of reliability in plant machinery assets, such as pumps. However, while energy efficiency can be an indicator of reliability, it cannot be used to predict and detect specific maintenance issues. As a result, energy monitoring and condition monitoring programmes from SKF have a complementary relationship, and provide maximum benefits and cost savings when deployed in parallel.

### SKF Energy Monitoring Service

SKF offers energy monitoring services for both compressed air and pump systems. Both services can help you to identify opportunities to reduce energy bills and improve your environmental performance. Typical benefits include:





## Maintenance support

- cost savings – through identification of opportunities for system optimization and energy reduction
- expert programme management – professional data collection and analysis with recommendations for actions to improve system efficiency
- best practices – combining SKF Condition Monitoring technologies and route based inspections with industry accepted best practices for monitoring and calculating energy and CO<sub>2</sub> emissions
- ODR based – applying proven Operator Driven Reliability tools and methodology to engage plant operators and management staff in energy awareness and energy management activities
- integration – combining energy data with existing condition monitoring programmes for data screening, analysis and reporting
- flexible resourcing – executed using internal staff trained by SKF, or by SKF under a field service contract

## Shopfloor Awareness Cards

United States Department of Energy experience suggests that a comprehensive awareness programme can reduce energy consumption by 5% without substantial capital investment.

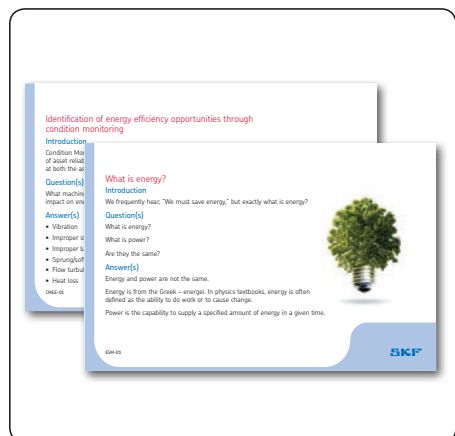
The energy and sustainability Shopfloor Awareness Cards from SKF give front-line managers the opportunity and tools to engage with their teams in a discussion about energy and sustainability in a manner that encourages feedback and ideas for savings every time they meet.

Just as many companies start every gathering with a safety discussion, the Shopfloor Awareness Cards enable every meeting to have an “energy minute”. The cards present specific energy and sustainability topics in non-technical terms that make the issues understandable and approachable by operating staff. They are not intended to be used as a comprehensive training programme but rather to keep energy and sustainability issues in front of all employees on a regular basis.

## Mechanical maintenance services

As equipment becomes more complex to maintain, due to technology advances and environmental and safety laws, more companies need help with their maintenance operations. SKF offers a broad range of mechanical maintenance services, helping customers achieve their maintenance goals. These include:

- machine installation
- precision alignment
- 3D measurement
- on-site machining
- precision balancing
- bearing mounting and dismantling
- lubrication solutions



## Remanufacturing and refurbishment

### SKF remanufacturing services

Remanufacturing can extend the service life of your bearings, reducing your maintenance costs and reducing environmental impact. SKF has a global network of state-of-the-art service centres, giving you access to our world-class bearing remanufacturing capabilities. We use the same quality materials, methods, and machinery to rework bearings that we use to manufacture them, giving you the peace of mind that your bearings and related equipment, such as housings, are being treated with the same level of quality, working processes and knowledge, regardless of where in the world you are located.

To determine whether your bearings are suitable for remanufacturing, contact your local SKF representative.

### SKF machine tool precision services

SKF is the world's largest provider of spindle reconditioning services, providing a wide range of highly specialized expert services – from engineering upgrades to spindle analysis, reconditioning, and replacement.

## SKF Authorized Distributors

SKF takes great care in developing and supporting its network of distributors to enable them to bring more value to their customers. This means that users of SKF products can depend on receiving fast delivery, knowledgeable advice, and comprehensive services from their SKF distributor.

Our global distributor network provides availability of SKF products and services virtually anywhere in the world. The combination of SKF global knowledge and local distributor experience is a powerful resource for those involved in the maintenance and reliability of industrial machinery.

To find your local SKF Authorized Distributor, check your local country website or visit [www.skf.com](http://www.skf.com).



### SKF Certified Maintenance Partners

SKF Certified Maintenance Partners are SKF Authorized Distributors who have received advanced machine reliability training. They can help to monitor machine operation, predict machine failures and uncover hidden cost-saving opportunities.

### SKF Certified Electric Motor Rebuilders

SKF Certified Electric Motor Rebuilders have the expertise, resources and precise procedures to help achieve longer, more reliable motor service life along with enhanced performance and profitability. To earn the prestigious title of SKF Certified Electric Motor Rebuilder, electric motor shops must meet exacting requirements.