

## Digital Infrastructure

The Schaeffler Smart EcoSystem has a high-performance, scalable IT infrastructure with the highest data security standards.



This open digital ecosystem ensures smooth collaboration between Schaeffler, its customers, and its partners, enabling joint cloud-to-cloud solutions thanks to standardized interfaces and encrypted communication via the Internet or VPN connections.



The cloud infrastructure makes data exchange and collaboration possible on a global scale and according to the same standards.

The Schaeffler security concept is based on four pillars:

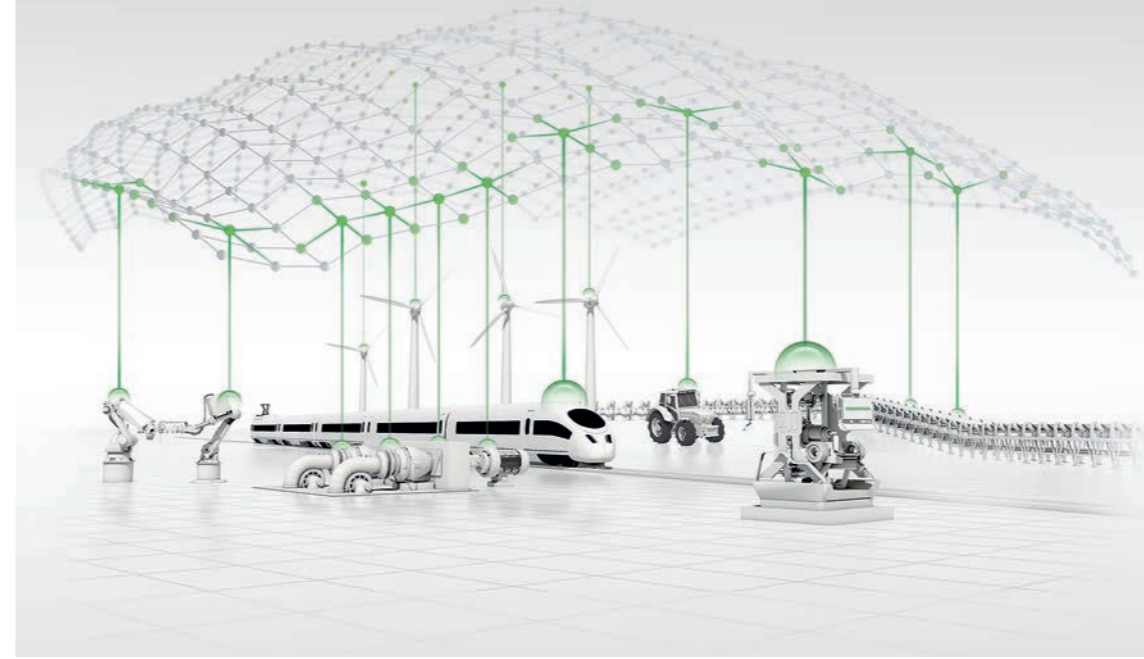
- **Rights management** for preventing both unauthorized data access as well as data leaks
- **Identity management** for restricting data access to only the data that is relevant for the user
- **Asset management** for securing data processing with authorized devices only
- **Hybrid cloud structure** with physical separation of local data storage and access to digital services via the Internet (encrypted with SSL). Services are certified according to international standards, such as ISO27001 or SOC2.



OSE / US-D / 201804-5 / Printed in Germany by pms

**Schaeffler Technologies AG & Co. KG**  
 Georg-Schäfer-Straße 30  
 97421 Schweinfurt  
 Germany  
 Phone +49 9721 91-0  
 E-mail [industry4.0@schaeffler.com](mailto:industry4.0@schaeffler.com)

# Smart EcoSystem



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 Issued: 2018, April

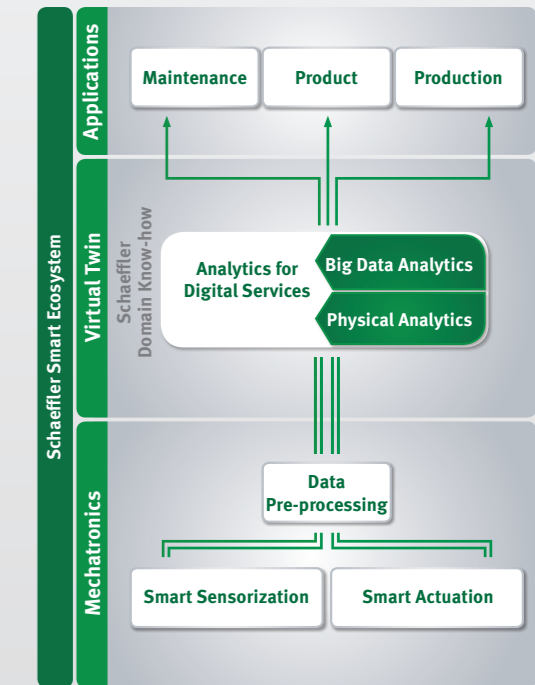
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## Schaeffler Smart EcoSystem

Schaeffler is shaping the field of digital transformation with a clear vision and specific solutions. With the Smart EcoSystem, Schaeffler is offering consistent hardware, software, and IT infrastructure that – from sensorized components to digital services – encompasses all stages of digital added value.

The flexible and open architecture of the system provides manufacturers and operators of machines and systems with a simple, application-oriented, and expandable entry into the world of Industry 4.0 and the digital services offered by Schaeffler.

Via cloud technology, it is possible to specifically use this information to control processes, maximize availability, or optimize products.



## Intelligent Data Generation

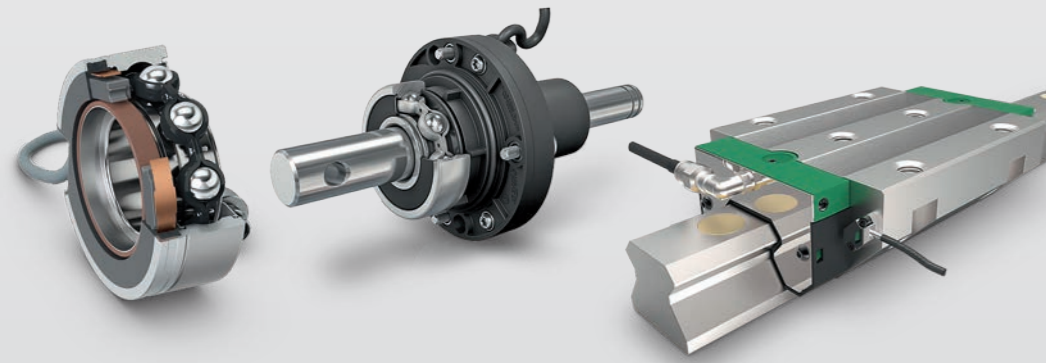


Rolling bearings are fitted where mechanical forces occur. They are therefore predestined for obtaining data for process control and machine monitoring.

Measurement data is prepared by flexible interfaces or the Schaeffler pre-processing unit and can be transmitted for further analysis in the Schaeffler cloud.

Obtain important data for process control and machine monitoring – with sensors and mechatronic products from Schaeffler.

In this way, Schaefflers sensorized components and mechatronic products are becoming fundamental “enablers” for digital services and Industry 4.0.



Learn more at [www.schaeffler.de/en/mechatronics](http://www.schaeffler.de/en/mechatronics)

## Virtual Twin



Schaeffler has design know-how as well as calculation and modeling systems that range from individual rolling contacts and bearing arrangements to the system world of customer applications.

This unique domain know-how is a prerequisite for creating a “virtual twin” and therefore forms the basis for using the “twin” to analyze machine and system operation.

Specific information about the condition of bearings and the monitored machine are provided in the form of digital services and integrated in the customer's application.

Make use of Schaeffler's digital services in order to automatically generate relevant information from the gathered data and receive specific recommendations for action!



Learn more at [www.schaeffler.de/en/digital-services](http://www.schaeffler.de/en/digital-services)

## Digital Solutions

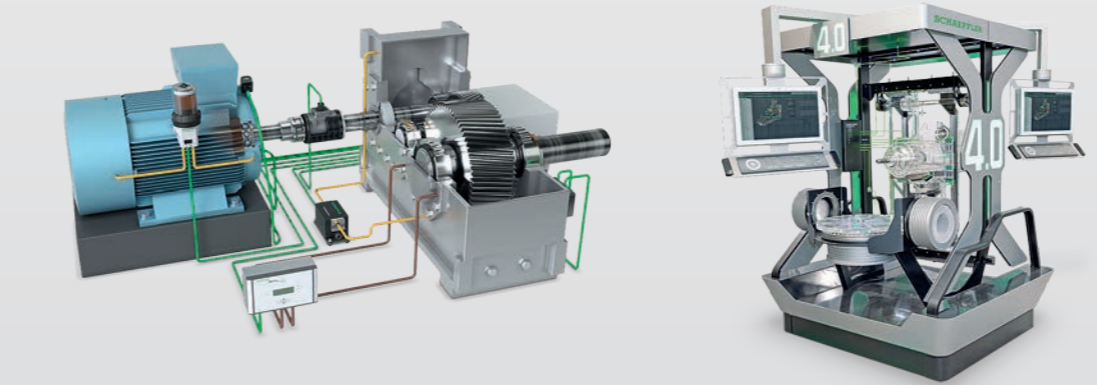


Digital services from Schaeffler can be employed in different sectors and applications for

- optimizing the operating strategy,
- controlling production processes, and
- improving products.

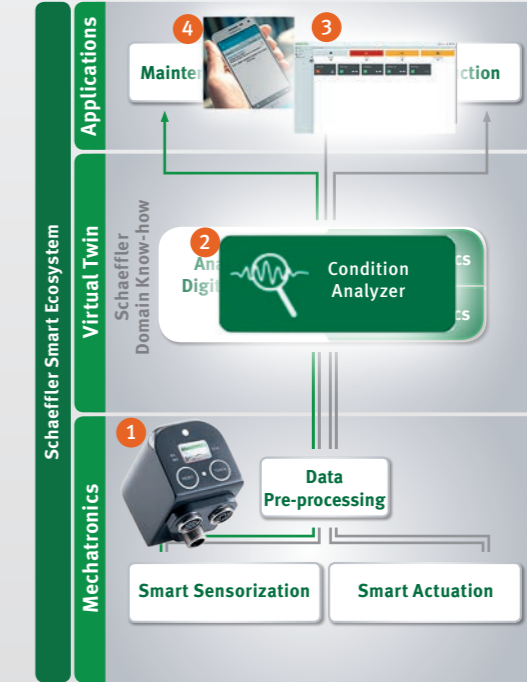
Schaeffler has developed concepts that can be transferred to the digital world and holistically optimized for a wide variety of customer applications.

Profit from our digital solution concepts and use them to achieve targeted optimization of your value-added chain!



Learn more at [www.schaeffler.de/en/solutions4.0](http://www.schaeffler.de/en/solutions4.0)

## Application Example



With the “ConditionAnalyzer” digital service for motor gearbox units, factories can be perfectly utilized to capacity, and maintenance intervals become easier to plan.

1. The SmartCheck diagnostic system records the vibration condition of individual bearings or entire units and conveys this data to the cloud.
2. This is where the data is automatically analyzed and assessed.
3. The system operator or maintenance personnel can access the data from anywhere in the world via an Internet connection, thereby obtaining an overview of the system's condition that is available at any time.
4. In case of damage, the operator or maintenance personnel will receive plain text reports about the analyzed damage pattern.