"The areas of use are numerous and wideranging and no two applications are exactly the same. Each application has its own highly specialized requirements.

Tell us your requirements."

Company Name

Slip rings are our business. That is why we called our company SCHLEIFRING. This is the German word for slip ring.

Sectors

Medical

Security

Industry

Wind

Surveillance

Research & Development

More than 15% of our employees work in R&D in nine laboratories.

Patents

More than 230 in the last ten years. And the number is still increasing.

Management System

We fulfill the requirements of DIN EN ISO 9001:2008

Company Philosophy

This is what we stand for:

- highly innovation-based products
- sustainable quality
- fair competition

Employees

More than 650 and we are growing steadily

Foundation

1974

Customers

More than 3,000

SCHLEIFRING und Apparatebau GmbH | Bavaria, Germany

Fuerstenfeldbruck headquarters

Kaufbeuren plant

SCHLEIFRING Group | Worldwide

Schleifring North America, LLC
Chelmsford, MA, USA

Schleifring Systems Ltd.
Newbury, UK

Xring Technologies GmbH
Fuerstenfeldbruck, Germany

Schleifring Transmission Technology (Beijing) Co. Ltd.
Beijing, China

Schleifring Medical Systems, LLC
Elgin, IL, USA

Slip rings keep the world turning. Your world.

Watch our corporate video to experience how our technologies run quietly in the background and accompany your everyday life.
We are different. We offer you a complete package.

What can we do for you?

1. **Be the first to implement competitive technology**
   - Over 40 years of experience
   - Highly skilled engineers
   - In-house development
   - Individually customized solutions
   Our business principle is cutting-edge technology – the basis on which projects are started.

2. **Overcome engineering challenges**
   - Power, signal and data transmission
   - Bearings and drive trains
   - Individual product or fully integrated package
   Based on the extensive experience of our engineers, we will develop a solution tailored to meet your individual requirements.

3. **Count on high-quality production**
   - In-house production
   - Innovative production processes
   - Specialist engineering know-how
   Rely on the highest quality and efficient production processes of the largest slip ring factory in the world.

4. **Rely on our support – including after-sales support**
   - Technical support worldwide
   - EMC testing
   - Troubleshooting
   - Any other product-related issues
   One of our main objectives is to provide each customer with a contact person and solve issues as fast as possible.

5. **Enhance your supply chain with fast and direct communication**
   - Innovative supply chain processes
   - Tailored to the customer’s needs
   - Cost-oriented
   The correct number of parts delivered at the right time to the right place – we are the right partner.
Technology Overview

Whatever your application and the prevailing conditions, we have the solution and develop your tailor-made slip ring.

Intelligent mechanical design combined with power, signal and data transmission is the result of our proven manufacturing processes in conjunction with state-of-the-art technologies. Our individually customized slip rings and gantry subsystems are economic, efficient solutions from an expert manufacturer, which, nevertheless, provide the quality expected of German high-end engineering.

What is a slip ring?
Contacting Power Transmission via Brushes

Experience, expertise and continuous improvement are the basis of our cutting-edge contacting power transmission technology.

Metal-graphite brushes on metal rings
- Voltage range up to 1,000 V DC
- Currents up to 300 A
- Highest rotational speed even above 300 rpm
- 40 years of experience and successful operation in all environments

Contactless Power Transmission (CPT)

To meet the highest requirements on service life, rotational speed and integration we developed the perfect solution. The SCHLEIFRING CPT.

- No wear
- Auxiliary power up to 10 kW
- Highest rotational speed even above 300 rpm
- Maintenance-free
- Longest service life
Contacting Signal & Data Link

An experienced team of contacting-material experts is working on finding the perfect solution for your application – every day!

- Metal-graphite brushes on metal rings
  - Data rate up to 50 Mbit/s per track
  - Bit error rate < 10^-9
  - Long service life

- Ethernet over Power Line
  - Data rate 25 – 40 Mbit/s (full duplex on 2 tracks)
  - Latency 1.5 – 3 ms
  - Very high level of EMI robustness

Capacitive Data Link GigaCAP®

The world is getting faster every day. – Keep pace using our GigaCAP® technology.

- No wear
- Data rate up to 10 Gbit/s per track
- Bit error rate < 10^-12
- Stackable tracks
- No rotational-speed limits
- Maintenance-free
- Longest service life
- Very robust capacitive technology (proven in hospitals, airports and outdoor applications)
- High compatibility (low emission level, high noise immunity)
- Customized integration

Fiber Optical Rotary Joints (FORJ)

- Inherently immune against EMI/EMC
- Single-channel or multi-channel (up to 60)
- Different single-mode or multimode fiber types
- High rotational speeds
- Contactless high-speed data transmission > 10 Gbit/s
The demand for high data rates is increasing constantly, but what keeps system costs in check? Compression leads to reduced real-time memory bandwidth requirements and has the potential to reverse the increase in system costs.

- **Lossless compression:** typical ratios 1.8:1 – 2.2:1
- **Lossy compression:** typical ratios 3:1 – 8:1
- **Easy to implement**
- **Easy to test:** SW available for Linux and Windows
- **Compression and decompression algorithm in FW and SW**
- **Reduce real-time storage bandwidth requirements and costs**
- **Forward error correction with minimal overhead (<3%) resulting in BER 10^-28**
- **Scalable platform**
- **Upgrade possibilities**
- **Patented technology**

**Capacitive Data Link GigaCAP®-HD**

Are you looking for extremely high data rates on a compact footprint?

- Extremely high data rates up to 560 GBit/s on a compact footprint
- Single segments up to 14 GBit/s
- Up to ten segments in serial order
- Possibility of 64b66b coding
- Shorter transmitting structures – further improvement of EMC properties
- Scalable platform
- Upgrade possibilities
- Switch can be realized in HW or in FW

**Gigabit Ethernet GigaCAP®**

Bidirectional contactless data transmission with standardized interface to your system.

- 1000Base-T, IEEE 802.3ab compliant
- Standard connection (RJ45)
- 2 x 1 GBit/s bandwidth (full duplex)
- Low latency < 1 μs
- Cost-saving (customer system can be built with standard parts)
- Compact design
- Identical transceivers in rotor and stator
- All advantages of GigaCAP® base technology
"Our individually customized slip rings and gantry subsystems are economic, efficient solutions from an expert manufacturer, which, nevertheless, provide the quality expected of German high-end engineering."
Fully Integrated Gantry Subsystems

A single fully integrated system tailor-made to meet your requirements.

Mechanical Design
- Gantry frame (tilt and non-tilt)
- Interfaces
- Bearing assembly
- Scanner disk
- Safety function

Drive System
- Belt drive with tensioning system
- Direct drive
- Safety functions
- Inverter
- Positioning mode
- Speed mode
- Complete layout

Slip Ring System
- Fully integrated and customized slip ring
- Encoder system

Our service for you:
- In-house gantry design and manufacture
- Assembly and testing of the complete gantry subsystem
Some things run quietly in the background. But without them our world would be different. They work inconspicuously and dependably, and are indispensable for many demanding applications and products. They help ensure the correct diagnosis, assist in healing and help save lives.

Our slip rings are developed and built one at a time for each unique application. State-of-the-art engineering from Germany you can rely on.

Encoder

- Physical principal: optical slot aperture (magnetic encoders available for special applications)
- Interface: digital quadrature output (tick A, tick B) with index pulse (home)
- Levels: TTL (5 V) or HTL (24 V)
- Resolution: typically 4 x 1,440 ticks/revolution; ~0.06°
- Accuracy: typically < 0.1° absolute (integral inaccuracy) and < 0.02° relative (edge-to-edge) inaccuracy

Safety Function

The gantry is designed to eliminate hazards and reduce risks through its design, e.g. by using safety factors, etc. Where this is not feasible, risk reduction is achieved by implementing safeguards and taking complementary protective measures.

Safety Functions

- Overspeed
- Standstill
- Emergency stop according to IEC 60204-1 and ISO 13849-1 or IEC 62061
This brochure features state-of-the-art technologies. However, SCHLEIFRING is constantly looking for new solutions and is developing technology for you that will keep your world turning in the years to come...