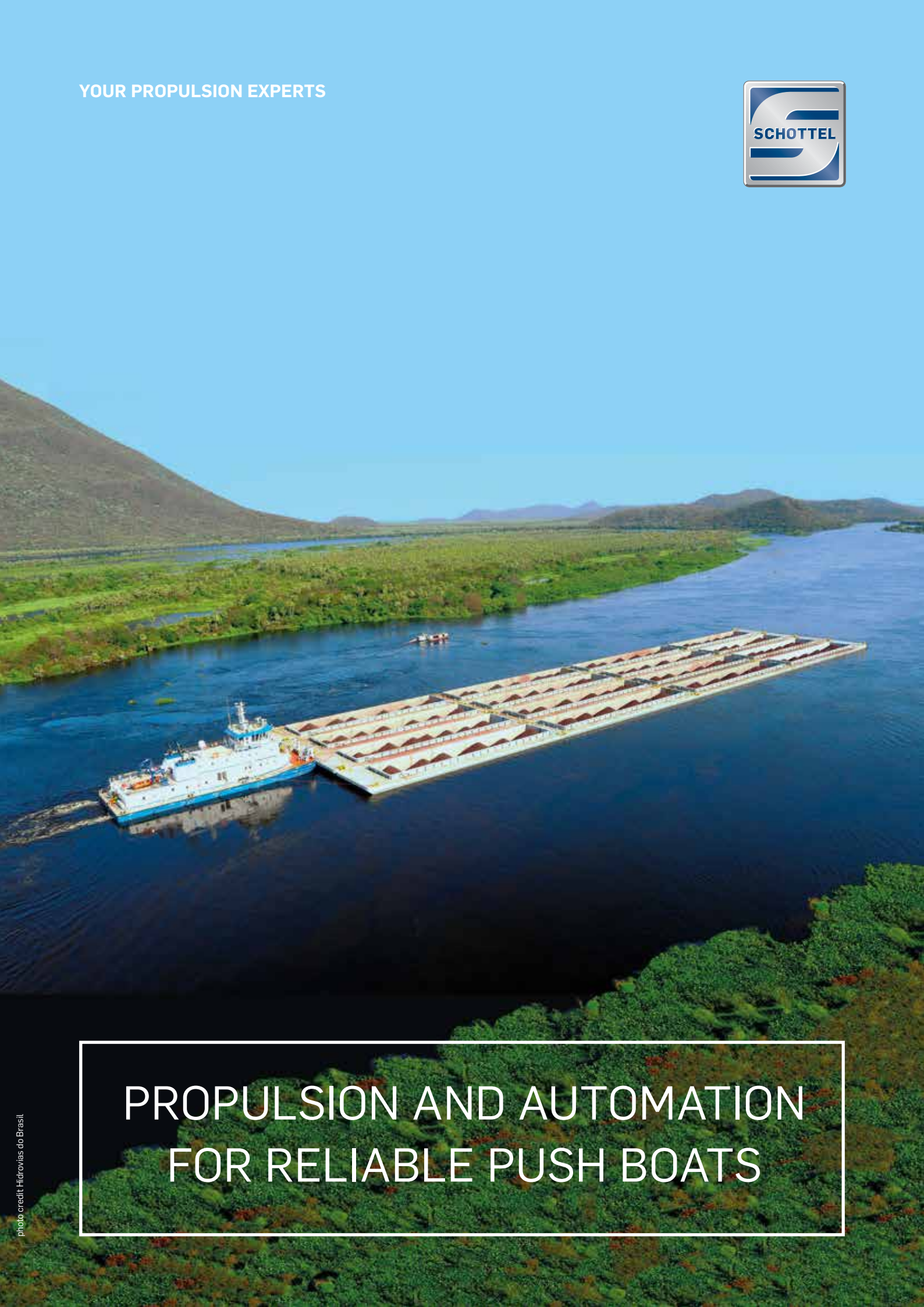
YOUR PROPULSION EXPERTS



PROPULSION AND AUTOMATION FOR RELIABLE PUSH BOATS

photo credit Hidrovias do Brasil

PROVIDING ECONOMICAL, RELIABLE AND SAFE SERVICES

In many regions of the world, inland waterways are an import transport route. Grain, iron ore or other bulk products are loaded on a system of barges and driven by a push boat. This convoy can reach a size equivalent to two soccer fields or more. The biggest challenge in the design of these vessels is the need to be able to stop the entire convoy in less than 2.5 flotilla lengths when operating fully loaded and travelling downstream at full speed. River systems are characterized by alterations in the rivers' flow, dams, sedimentation, forestry, silting and pollution, all of which have also great impact on the design of the vessels – and in particular the propulsion system. For logistic operators it is important to provide economical, reliable and safe services to their customers.

This is where SCHOTTEL steps in, offering robust thrusters that are above all one thing: reliable. SCHOTTEL designs thrusters with optimum manoeuvrability, extra-strong propellers and top and bottom flattened nozzles. SCHOTTEL Automation Systems and Marine Services can be used to exploit further potential.

ROBUST & RELIABLE PROPULSION

IMPROVED MANOEUVRABILITY

Z-DRIVE WITH NOZZLE MODIFIED FOR SHALLOW DRAFT OPERATION

CUSTOMIZED SERVICE PACKAGE

SHORT AND CONTROLLABLE CRASH STOP

PROPULSION AND AUTOMATION SOLUTIONS

SCHOTTEL RudderPropeller SRP

- Optimum efficiency for maximum manoeuvrability
- High propulsion efficiency: lower operating costs and lower emissions
- Precision positioning in DP operation
- Exclusive features such as ProAnode, HTG, highly efficient nozzles, LeaCon or DuroVario
- A whole range of configuration options
- Minimal maintenance effort, long-term availability of spare parts as OEM
- Compatible with SCHOTTEL hybrid solutions (SYDRIVE-E and SYDRIVE-M)

SCHOTTEL AUTOMATION SYSTEMS

+ **PropControl** | Propulsion Control System
+ **AlarMon** | Alarm and Monitoring System
+ **AutoControl** | Integrated Automation System

SCHOTTEL MARINE SERVICES

+ **MariHub** | Data Collection and Transfer System
+ **MariNet** | IoT Platform
+ **ProCMS** | Propulsion Condition Monitoring

Click on www.schottel.com for more details

EXCLUSIVE ADVANTAGES OF SCHOTTEL

In addition to developing new products and services, SCHOTTEL works continuously to optimize existing systems. Special features ensure that customers worldwide benefit from state-of-the-art solutions.

Safeguard

+ Detects torque loading as a function of the twist angle via torque-transmitting components
+ Early warning, optical and alarm
+ Response time < 0.1 sec
+ Enables planned maintenance
+ Developed by VULKAN Couplings
+ ABS type approval
+ Available as monitoring device (Safeguard Basic) and integrated system (Safeguard Active)

ProAnode

Improved corrosion protection

+ Longer protection for the propulsion unit
+ No flow disruption
+ Resulting in fuel savings
+ Lower operating costs
+ Patented

VarioDuct

The SCHOTTEl DuroVario (SDV 45) combines proven higher efficiency during free sailing with excellent bollard pull values. In conjunction with optimally designed propeller geometries, the nozzle is able to fully utilize the outstanding performance values. Assuming the same propulsion power, the bollard pull is higher than the thrust of previous nozzles, while efficiency is significantly enhanced in the medium and higher speed range. This makes a major contribution to fuel savings.

DuroVario

Fully integrated clutches

- **DuroVario-D**
  - Standard clutch
- **DuroVario-LS**
  - Slipping clutch for occasional slipping at idling speed
- **DuroVario-S**
  - Slipping clutch that combines permanent slipping with maximum comfort at engine idling speed
- **DuroVario-PS**
  - Performance-enhanced slipping clutch that allows FiFi operation (up to FiFi Class 1) without any additional changes to a ship's design, while still allowing full manoeuvrability of a vessel with FP propellers

HTG

SCHOTTEL's self-developed High Torque Gear (HTG) extends the service life of the gearbox, resulting in significant reliability gains. State-of-the-art milling and calculation methods are used to achieve shapes that enable a highly efficient, robust and safe gearbox with ideal gear geometry. Customers appreciate the high degree of reliability and minimized gearbox damage. The gearbox is designed in such a way that the risk of flank fracture or scuffing is considerably reduced. This increases the service life and reliability and reduces servicing costs.

LeaCon

- Reliable seal monitoring system
- Certified by DNV-GL
- Safe protection against contamination of the seawater

TOW BOATS – BULK TRANSPORTATION IN SHALLOW WATERS

Pusher Tug HB PIRARARA 3 x SRP 430 (1600 kW each)

CUSTOMER FEEDBACK

"The applied thruster technologies provide remarkably good manoeuvrability, a very short vessel-convoy stopping distance and efficient operation compared to push boats with conventional propulsion systems. Hitherto we experienced excellent support and service from SCHOTTEL in all occurring matters."

Ivanir Mayer, Operations Director – South Corridor, Hidrovias do Brasil S.A.

Many more references on www.schottel.com

AFTER SALES SERVICE – DURING THE VESSELS LIFETIME

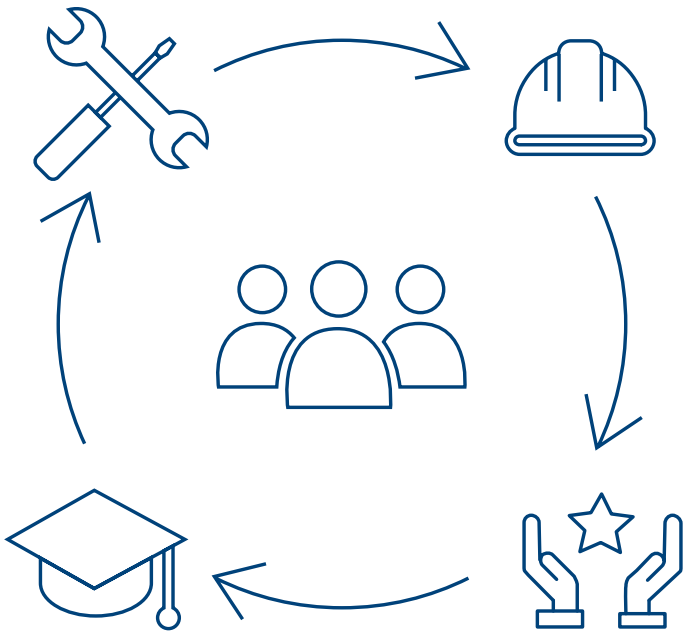
Delivering state-of-the-art propulsion and automation solutions is not enough for us. Thanks to decades of experience in the field of propulsion technology, we are able to offer high-quality services tailored to your individual needs throughout the vessel's service life.

SPARE PARTS

- Fast delivery time thanks to global warehouse logistics
- Decades of documentation for clear identification of spare parts
- Production of almost all spare parts
- OEM warranty
- Original spare parts with all technical revisions known up to the time of manufacture

MAINTENANCE

- Globally standardized and proven high-quality service levels
- Preventive and predictive maintenance concepts
- Remote service support with augmented reality tools
- Vibration measurement with SCHOTTEL VibCheck
- More than 140 highly qualified service technicians worldwide



TRAINING

- Customer training courses in local language
- Courses on site or in one of 4 SCHOTTEL training centers (GER, USA, AUS, SGP)
- Permanent international knowledge transfer for service technicians

UPGRADES

- Increase of the shipowner's profit

UPGRADE LEVELS:

- Control systems
- Thrusters
- Systems for intelligent operative monitoring

Click here for more information

BEHIND THE SCENES

Since the invention of the rudder propeller in the early 1950s, SCHOTTEL has acquired a wealth of expertise in the development, design and production of state-of-the-art marine propulsion and control systems.

Today, a team of more than 100 engineers develops propulsion systems and digital solutions, which are manufactured to the highest quality standards in our modern production facilities in Germany.

PROPULSION TECHNOLOGY – COMPETENCE IN CUSTOMIZED ENGINEERING

MECHANICAL DESIGN

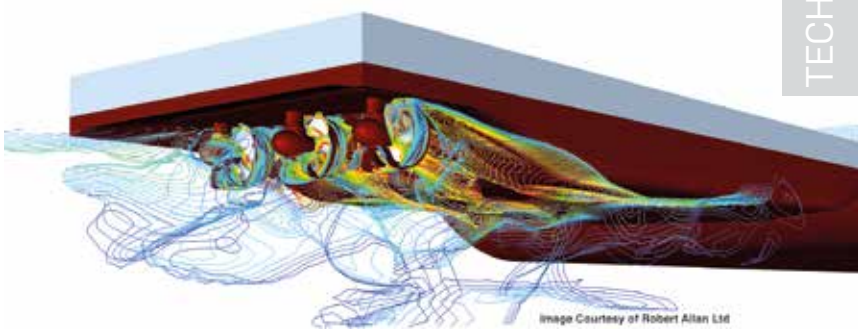
- Mechanical power transmission
- Structural mechanics
- Hydraulics & pneumatics
- Sealing technology

ELECTRICAL ENGINEERING

- Automation
- Power electronics
- Assistance systems

HYDRODYNAMICS

- Propeller design
- Model testing
- Computational fluid dynamics



+ **GERMAN ENGINEERING**

+ **CUSTOMER-ORIENTED DEVELOPMENT WITH EXPERIENCED IN-HOUSE R&D**

+ **MANUFACTURING FACILITIES FOR STATE-OF-THE-ART PROPULSION SOLUTIONS**

YOUR QUALITY BENEFITS

- Ongoing certification process
- Quality controls during production
- Standardized FAT procedure
- Close dialogue with our suppliers

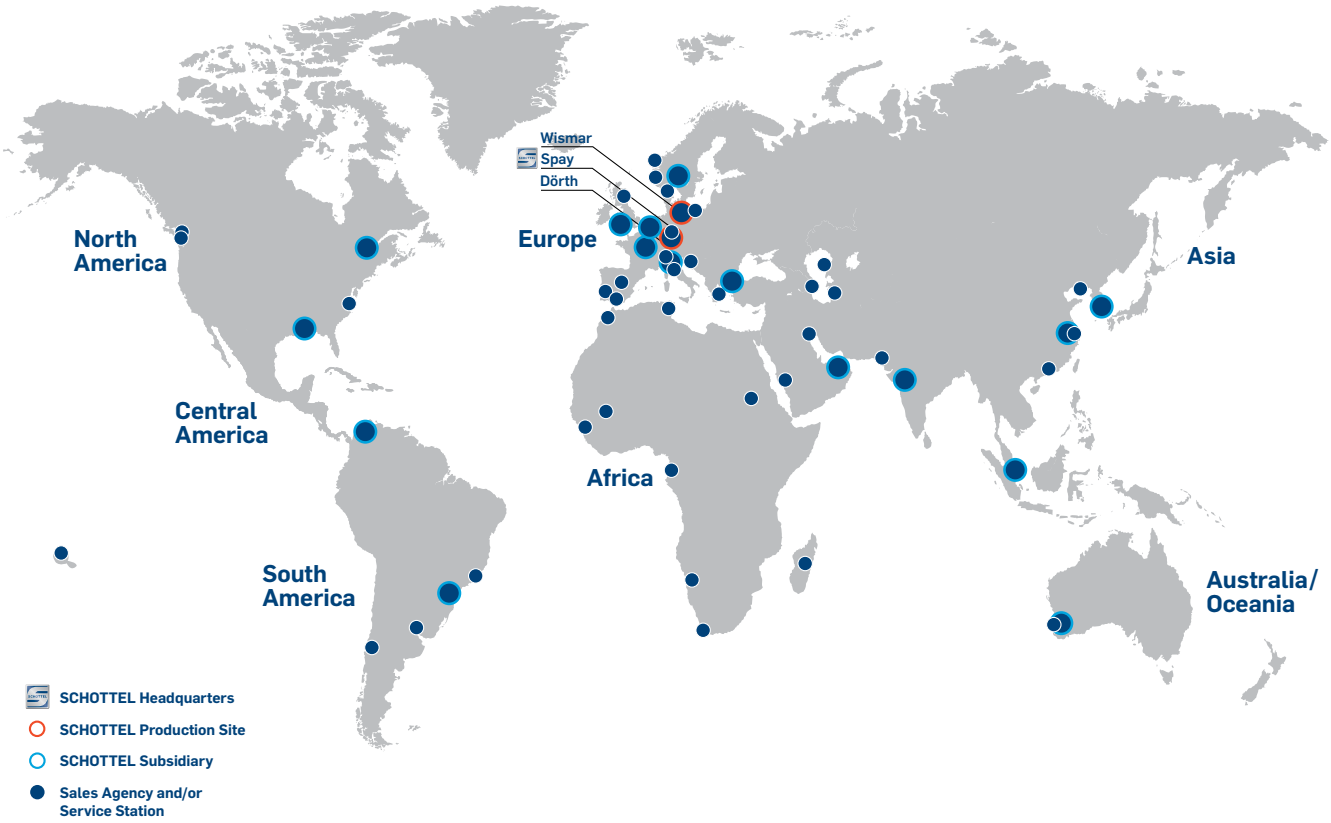
WE KNOW WHAT MOVES SHIPS

Tugs | Offshore Vessels | Fishing Vessels | Ferries | Yachts | Dredgers | Naval Vessels

... and many more vessel types

Please contact **sales@schottel.de** for information about your next new build or conversion project.

SCHOTTEL Worldwide



Your local partner

10/2026

SCHOTTEL GmbH | Mainzer Straße 99 | 56322 Spay/Rhine
Phone: +49 (26 28) 61-0 | E-mail: sales@schottel.com
www.schottel.com