

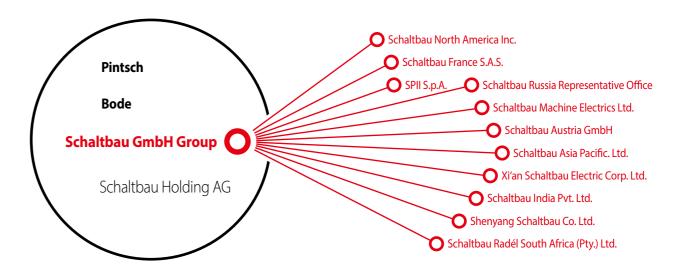
Schaltbau GmbH Group

Company profile 2022



Schaltbau Group

The core brands in the Schaltbau Group



Play it safe

In order to guarantee maximum safety, Schaltbau products are subject to a strict quality and optimization management. This enables us to standardise and optimise our processes and keep the failure rate low. Thus Schaltbau fulfils all the requirements for continuous product improvements – with a view to safety.

Based in Europe, globally present

The various companies in the Schaltbau Group have sales and manufacturing facilities worldwide.

They also work together with external sales partners.

With their specialised knowledge and a high degree of product innovation, the companies in our Group have worked hard to win the confidence of their customers and strive continually to strengthen their current market position through well-targeted research and development activities. Organic growth is the result of innovative products and solutions, the concentration on new target groups and greater market penetration.



Schaltbau Group

A leading technology partner and innovation driver

With annual Group revenue in the region of EUR 525 million and around 3,000 employees at 28 locations, Schaltbau Group is an internationally leading supplier of systems and components in the field of transportation technology and the capital goods industry. With Schaltbau, Bode, Pintsch and SBRS as their core brands, Schaltbau Group companies develop a wide range of high-quality technologies and customer-specific technological solutions for rolling stock, rail infrastructure, road vehicles and commercial vehicles. As one of the few specialists for smart DC energy concepts, the Schaltbau Group is also a driver of innovation for the fast-growing markets of tomorrow such as new mobility, new energy and new industry.



Market orientation

Versatilely positioned – internationally leading

The Schaltbau Group is a leading international expert in energy and mobility and has the key technological core competencies to support its customers in the development of integrated mobility concepts and smart energy solutions.

Schaltbau Group - Keyfacts 2021

Sales: €525m Employees worldwide: 3,000 Subsidiaries: 28 Countries: 14

Travelling savely

Efficient solutions provide innovation, safety and comfort in trains, buses and commercial vehicles.



The full load of mobility

As experienced specialists, we are paving the way for sustainable, safe mobility concepts, both now and in the future.



More power for electricity

We devise solutions for energy conversion, storage and utilisation that are more efficient and environmentally compatible.



Efficiency in production

As direct current experts, we offer optimal solutions for the efficient operation of industrial plants.



Core brands of the Schaltbau group

Leading in mobile and stationary transportation technology and electromechanical components

Bode

The Door

Bode is one of the world's leading suppliers of innovative door and access systems for trains, buses, commercial and electric vehicles and the number one in Europe.

Pintsch

Safety For Rail

Pintsch stands for safety and availability in national and international rail traffic. As a manufacturer of safety-relevant products for railway infrastructure, PINTSCH focuses on the provision of systems, components and services.

Schaltbau

DC Power Under Control

Schaltbau GmbH has been a global leader in the development and manufacture of electromechanical components for rail technology and industry and is increasingly occupying the young markets of New Energy and New Mobility.

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Schaltbau GmbH Group

DC Power Under Control

Schaltbau stands for contactors, snap-action switches, connectors, railway components and complete driver's cab equipment that meet the highest safety requirements. Since 1929, we have been responsible for safe operation in rail transport and today we also protect systems in safety-relevant industrial applications, renewable energy with a focus on generation and storage technology, as well as in electromobility. For our customers, we are guided by the highest safety standards, especially in direct current technology, and create reliable solutions for your applications. Electrical energy is our passion.



Germany, Austria, France, UK, Italy, Russia, Locations:

South Africa, China, India and USA

Headquarters: Munich, Germany

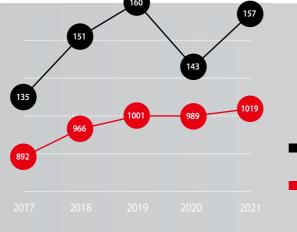
Turnover: 2021: €157m consolidated

Staff: 2021: 1,019

Products/markets: Electromechanical components and

customised solutions in industrial applications, renewable energy, electromobility, automation and

railway technology



Schaltbau worldwide

Subsidiaries, representative offices, sales partners



The Schaltbau GmbH Group has a global presence with 11 foreign subsidiaries / representative offices and more than 60 sales partners

Algeria	China PR &	Greece	Malaysia	Romania	Spain	Ukraine
Australia	Hong Kong SAR	Hungary	Marocco	Russia	Sweden	United Kingdom
Austria	Croatia	India	Mexico	Serbia	Switzerland	USA
Belarus	Czech Republic	Indonesia	New Zealand	Singapore	Taiwan	Vietnam
Belgium	Denmark	Ireland	Norway	Slovakia	Thailand	
Brazil	Finland	Italy	Philippines	Slovenia	The Netherlands	
Bulgaria	France	Latvia	Poland	South Africa	Tunesia	
Canada	Germany	Lybia	Portugal	South Korea	Turkey	

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Close to the customer worldwide

Companies, representative offices



Schaltbau GmbH Headquarters



Schaltbau France S.A.S.



Schaltbau Machine Electrics Ltd.



Schaltbau Austria GmbH



SPII S.p.A.



Schaltbau Russland Representative office



Schaltbau Radél South Africa (Ptv) Ltd.



Schaltbau North America Inc.



Schaltbau Asia Pacific Ltd.



Xi'an Schaltbau Electric Corp. Ltd.



Shenvang Schaltbau Electrical Co. Ltd.



Locations

Activities

Schaltbau India Pvt. Ltd.

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Germany Munich (HQ) Velden Aldersbach

France Paris-Argenteuil United Kingdom Cwmbran

Austria Vienna Italy Saronno Russia Moscow South Africa Johannesburg

USA Hauppauge (NY) PR China Hong Kong PR China Xi'an (Shaanxi) PR China Shenyang (Liaoning) Shanghai

India New Delhi

Sales

Technical support

Activities

Center of competence connectors, switches, contactors Technical support Sales

Customizing Manufacture Technical support Sales

Customizing Manufacture Assembly Service

Technical support Sales

Manufacture Assembly Service

Technical support Sales

Service

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(a) +43 1 383 33 33 40

Center of competence drivers cab equipment Technical support Sales Customizing Manufacture

Assembly

Service

Technical support Representative functions Service

Technical support Sales Customizing Manufacture Assembly Service

Technical support Sales Customizing Manufacture Assembly

Service

Technical support Sales Service

Technical support Sales Customizing Manufacture Assembly

Service

Technical support Sales

Service

Manufacture Assembly Service Assembly

Contact

Assembly

Service

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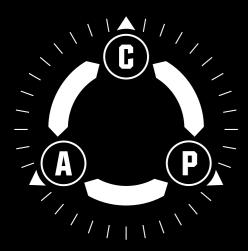
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Experts are the best consultants.Schaltbau is a specialist in electromechanical

components and customer specific solutions with decades of experience in development and manufacture.



No need to reinvent the wheel!

Schaltbau sales engineers have access to a treasure trove of knowledge and experience including a host of realized applications. Thus you will benefit from analogies and empirical data that may be of some value for your application.



The right solution may eventually be an item from our product line, a special variant with little need for adaptation, or a completely new design – because customizing is standard with us!



The Schaltbau 360° competence

- **C** Consulting
- + Expertise

 Benefit from the Schaltbau know-how
- + Consulting
 Experienced sales engineers work
 on-site with you
- + Solution
 Cooperation spells success



- + Customer

 Added value and maximum benefit for your solution
- Safety for man and machine in your application
- + Cost-effective
 Robust, no maintenance, long life



3 possibilities – 1 solution

- + Pick-to-order
 Existing product
 from our product line
- Configure-to-order
 Well-proven and tested special variant with
 little need of adaptation
- Design-to-order
 Completely new development
 to customer requirements





Markets and applications

Schaltbau – the expert at customer's side

Our diverse solutions for applications are used in a whole host of systems around the globe. Safety and reliability are our greatest good. We contribute our experience from railway engineering to other markets. Our products are designed to protect your systems and ensure personal safety.

Electromechanical components and customer specific solutions from Schaltbau for a wide variety of applications.

RAILWAY



INDUSTRY



NEW ENERGY



NEW MOBILITY



Safely on track.

Switching and controlling features which meet the highest requirements.

For goods and passengers.

Reliable in production.

Certified variations on safelyrelevant solutions.

For man and machine.

Applications:

- + Light rail
- + EMUs / DMUs
- + Suburban trains
- + Underground trains
- + High speed trains

rail.schaltbau.com

+ Tunnel and Mining

- + Medical technology
- + Battery test stands
- + Building control

Applications:

- + Test systems
- + DC power network

industry.schaltbau.com

+ Machinery and plant engineering



More power for electricity.

Top-notch safety for stationary energy supply systems.

For renewable energies.

Safe either way.

Safely disconnecting high voltages in electric vehicles.

For tomorrow's solutions.

Applications:

- Stationary battery energy storages
- Wind turbines and PV systems
- Tracking systems for wind turbines and PV systems
- Fuell cells
- Battery charging stations
- **Energy Conversion**
- Battery second life

energy.schaltbau.com

Applications:

- Electric buses and trucks
- Electric cars
- Electric vehicles for intralogistics (Material Handling Equipment & AGV's)
- Battery charging stations
- Battery test stands
- Maritime charging and propulsion systems
- mobility.schaltbau.com





Products

Decades of experience in engineering and production

Schaltbau is a brand name for connectors, snap-action switches, contactors, electrics for rolling stock and complete drivers cab equipment that fully conform to the highest safety standards. Thus you will find worldwide in all branches of industry, in which electrical systems have to be connected, switched and controlled reliably under harsh ambient conditions, electromechanical components and customer specific solutions from Schaltbau.

Connectors

High-quality connectors for industry, transportation and telecommunications.

Connecting reliably under extreme conditions.

Snap-action switches

Our snap-action switches comply with high standards for safety circuits.

Switching with precision when it really matters.

DC and AC contactors

Users in industry and the rail sector benefit from our know-how in switching high currents.

Reliably extinguishing the electric arc.

Control devices

Our electrics for rolling stock make railway vehicles both safe and comfortable.

Arriving punctually.

Service

Planned maintenance and modernisation.

Our know-how ensures safe operation.

Feel in good hands.











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WE PROVIDE RELIABLE CONNECTIONS



Connectors must ensure reliable transmission of energy and signals – coping with high voltages, harsh environments and the rough conditions of rail traffic. Connectors from Schaltbau are especially designed to meet these requirements: Where safety and health of human beings are dependent on technology – as in transportation, mechanical engineering, lighting, food processing, battery charging, mining or offshore operations – the rugged heavy-duty connectors from Schaltbau are first choice.

For further informationen visit www.schaltbau.info/connectors



Connectors

Schaltbau connectors are characterized by: long life and rugged design, up to 10,000 mating cycles, tightness up to IP69K, high material and temperature resistance as well as resistance to shock and vibration.

This makes them ideally suited to be used for years of continuous operation and under harsh environmental conditions.

Reliable connections

- + for transportation systems
- + to railway and industry standards
- + for signal and data transmission
- + for industrial trucks
- + to customer requirements





Snap-action switches

Featuring double-break contacts and positive opening operation, snap-action switches from Schaltbau have proven for 40 years to be the ideal components for failsafe systems. Both a high breaking capacity and a design life of up to 10 million operating cycles provide solid reasons to make Schaltbau switches the components of choice for realising the functional safety of machines and systems.

Switches for failsafe systems

- Double-break contacts and positive opening operation
- Variants for extreme conditions
- + Mechanical endurance up to 10 million cycles
- + 3 sizes
- Continuous thermal current up to 20 A
- Sealed up to IP67 (IP code, IEC 60529)
- Temperature range up to -55° C ... +85° C
- Gold contacts, optional















WE GUARANTEE DOUBLE SAFETY

According to the internationally accepted rules of scuba diving it is not allowed for safety reasons to dive without a buddy (second diver).

Likewise, Schaltbau has developed such a buddy for the micro switch since 1975: a snap-action switch with double-break contacts and positive opening operation, which guarantees that the contacts will open, even when they have become welded together or the spring of the snap mechanism has broken. So there is a reliable alternative to the micro switch - the switch with double safety from Schaltbau.

> For mor information visit **→** www.schaltbau.info/switches

WE CONTROL ELECTRIC ARCS BELIABLY



The quality of a contactor is best seen when switching off. Electric arcs are ignited between the contacts as they open - just like lightning bolts in a thundercloud. In order to extinguish these arcs we have developed a patented contactor concept by which the arc is driven into the arc chute and extinguished within a few milliseconds. Thus Schaltbau can offer real equipment safety. For the innovative contactor technology prevents the contacts from welding or burning and the equipment from being totally destroyed as a result of a component failure.



DC and AC contactors

Schaltbau contactors play a key role in the mobility of the future. Compact DC switching devices ensure galvanic isolation between the battery and the on-board network in the safety circuit and switch reliably in the event of a fault.

With renewable energies and the the use of DC networks in manufacturing, the switching of high DC loads is gaining in significance.

Thanks to many years of experience in railway technology Schaltbau supplies contactors for all fields of application, in which load circuits have to be safely switched and disconnected.

Contactors for various applications

- + DC contactors in the High-Voltage Battery Disconnect Unit (HV-BDU) of electric vehicles
- DC high-voltage contactors for battery charging
- Universal compact contactors for DC and AC up to 1,500 V
- + HV contactors for renewable energies up to 3,000 V and 2,000 A
- + Contactors for traction inverters, DC and AC, up to 3,000 V and 2.000 A
- Contactors for auxiliaries/HVAC
- + Traction contactors for AC up to 400 Hz



SCHALTBAU DC Power Under Control

WE HAVE EVERYTHING UNDER CONTROL

Modern transport systems demand reliable and high-quality components working in flawless unison like a rider and steed. Schaltbau's control and signalling devices work to ensure outstanding safety and short downtimes in rail vehicles around the globe. Their components deliver on the highest standards, working impeccably and ensuring efficient and smooth operations on a daily basis. As a result, both operators and manufacturers always enjoy a smooth ride and unwavering control despite the sometimes challenging nature of the rail industry.



Control devices

Schaltbau develops and manufactures complete driver cabs as well as various components and systems for applications in passenger coaches, locomotives, EMUs, DMUS, special vehicles and bus drive systems, that meet all requirements for quality, reliability, safety and service life.

With our specific know-how and technical capacity, we are the ideal source of pioneering, economical concepts.

Equipment for drivers cab and passenger use

- Complete drivers cab equipment
- Interactive displays
- + Master controllers and toggle switches
- Control panel assemblies and emergency brake handles
- + Electronic buzzers







WE ENSURE SMOOTH OPERATION

Maintenance as needed and modernization of complete rail vehicles or their parts is crucial for the operation and service life. A flawless technical condition is an absolute must for the safe, punctual and economical operation of your rail vehicle. Downtimes can instantly cost you customers' trust and money: In addition to the loss in revenue and higher costs, they can also harm the company's image because nothing is more annoying or worrying for the passengers and transporters than delays or cancellations.



Service

«Our service is local» – we provide our services wherever they are required. As part of this, we are able to draw on an extensive international network within the Schaltbau Group as well as on many Schaltbau partners. Efficient organisation and regular depot visits come as standard.

For components and systems on rolling stock

- + Repairs
- Maintenance
- + Overhaul
- + Replacement parts
- + Drop-In
- + Logistics
- + Assembly
- + Analysis
- + Training







Safety and sustainability

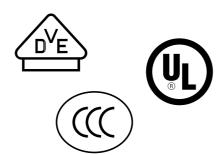
Safety for man and machine

Schaltbau industrial products such as connectors and switchgear are particularly suited to meet the more stringent requirements of the new EU machinery directive or industrial safety and health protection. If you are looking for components for your safety-related applica-

tion, a look into our product line would be worthwhile. You can also learn a lot from our many realized applications for your particular application situation. Or benefit from our consulting expertise in order to find out how to implement optimal safety with maximum cost-effectiveness.

Certified safety

Safety and reliability are our greatest assets. We've been producing snap-action switches with positive opening operation for four decades and also offer the greatest variety. Every series is built, tested and certified according to VDE, UL and when necessary even CCC.



Quality and the environment

Active, innovative, for the long run

The customer is the main focus of our thoughts and deeds. Comprehensive quality management is the guarantee of customer satisfaction and therefore safeguards the long-term success of Schaltbau GmbH. We are aware of our social responsibility for maintaining the natural environment and act accordingly.







Certified to DIN EN ISO 9001 since 1994 Certified to DIN EN ISO 14001 since 2002 Certified to IRIS since 2008

The future is sustainability

Sustainability and the "green spirit" are our inspiration. As a globally operating company we have a particularly high responsibility for the sustainable development of products that meet the requirements of our customers and comply with the regulations for the protection of human health, safety and the environment. For us a sustainable development also includes both the responsible use of resources and the full exploitation of all possibilities to save energy.





Schaltbau – Electrical Components and Systems for Railway Engineering and Industrial Applications

RAILWAY	INDUSTRY	NEW ENERGY	NEW MOBILITY
Safely on track. Switching and controlling features which meet the highest requirements. For goods and passengers.	Reliable in production. Certified variations on safety- relevant solutions. For man and machine.	More power for electricity. Top-notch safety for stationary energy supply systems. For renewable energies.	Safe either way. Safely disconnecting high voltages in electric vehicles. For tomorrow's mobility solutions.

For detailed information on our products and services visit www.schaltbau.com – or give us a call!

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