# SCH LT G Partnership is our way of Business



ENGINEERING

ELECTRICAL CABINETS

**MECHATRONICS** 



NEW TECHNOLOGIÉS AND PRODUCTS



#### The Company

As a leading company in industrial electromechanics, Schaltag Group offers comprehensive services for engineering, procurement and manufacturing machine and system control equipment and electromechanical assemblies. We also develop and supply new technologies and products: energy cost and CO2 emissions management, interactive large display systems and charging systems for electric vehicles.

Our customers include major international OEMs.

We have been delivering Swiss quality at competitive prices for over 55 years. The services we offer are highly diverse, ranging from prototype design and assembly to large-scale mass production, including commissioning and maintenance.



**Schaltag, Effretikon CH**Centre of excellence, prototype design and assembly, small-scale production

#### Benchmark Data

- 11,000 m<sup>2</sup> manufacturing area
- Over 250 employees



#### Your success is what motivates us.

The perfect split of tasks and close interlinking between our two production sites in Switzerland and the Czech Republic provides an optimal solution to any undertaking in terms of geographical presence, flexibility and costs.



**Schaltag, Usti n. O. CZ** Variant and serial manufacturing



#### Combined Expertise for Your Success

Founded in 1961, today Schaltag is an industryleading service provider for electrical and electromechanical assemblies. With over 250 employees and 11,000 m² manufacturing area, our company is organised to meet systematically the requirements of our customers and their products. Flexible, dynamic teams assure efficient solutions with minimum process times.

Thanks to the wide range of our services, we possess the latest know-how in many areas of modern industry. Schaltag's facilities in Switzerland and the Czech Republic enable us to optimise project workflows in terms of flexibility, costs and location. Our customers also benefit from our high purchase volumes and our network of suppliers in low-cost regions.

When it comes to professional, rapid implementation of your innovation and production objectives, you will find us to be a competent partner.

As a dependable outsourcing partner, we enable our customers to concentrate on their core competencies.

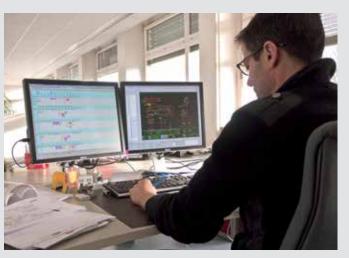
#### Our services include:

- Engineering
- Procuerement
- Logistics
- Assembly
- Installation
- Commissioning
- Maintenance
- Retrofitting







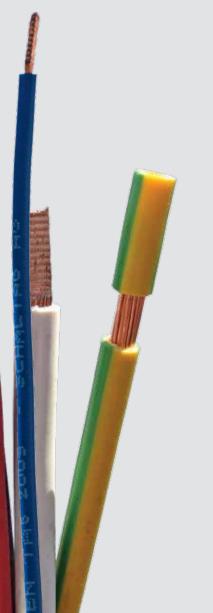












#### Benefit from Our Experience

You do not have to reinvent what we already know. As a product-independent specialist in control technology we offer many years of experience and expertise in all areas of electrical and mechanical engineering.

Right from the concept phase, our engineers will actively support you in resolving and optimising both hardware and software issues.

#### Our range of services includes:

#### **Project Engineering**

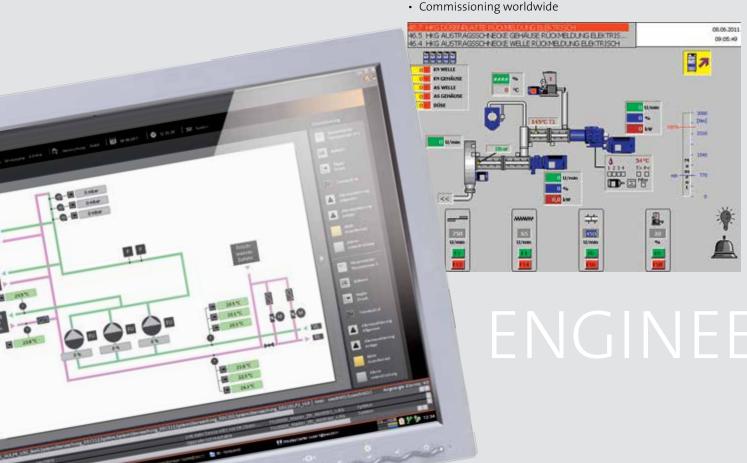
- Project management
- Preparation of customer requirements and functional specifications
- Concepts for control layout, operation and management
- · Standardisation and modularisation
- Safety concepts, risk analysis, catalogue of measures
- · Value engineering

#### **Hardware Engineering**

- · Control cabinet: design and layout
- Concept diagram, CAD: ELCAD, ePlan 5/p8/21, AutoCAD, CoCreate, 3D-CAD Inventor
- Standards and regulations: EN, UL, CFR 21 part 11
- Embedded systems design

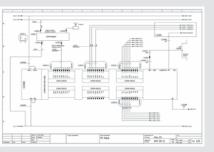
#### **Software Engineering**

- PLC: Siemens, Rockwell, Sigmatek, including operation and visualisation
- Communication concept/bus system: process control, electronic control and field level













#### The Customer:

#### Landis+Gyr AG, Zug

Leading worldwide provider of integrated energy management solutions

#### **Our Joint Project:**

To re-engineer control cabinets for ripple control transmitters in electricity management. Costs were reduced, while improving efficiency and functionality

#### **Our Services:**

- Created a uniform, modular design for the complete series
- Compact, multi-layered structure with standard components and mounting plates
- Increased flexibility with contractual variants through modularisation
- Smoothly organised handover from project planning to production
- Simplified maintenance thanks to optimal arrangement of mounting plates
- Complete procurement logistics

#### **Primary Customer Benefits:**

- Product cost cut by about 15%
- Significant increase in ease of maintenance
- Procurement logistics and spare part warehouse management outsourced for serial production with customer-specific modifications



#### The Customer:

#### RCS Roll Care Systems AG, Brugg

Highly specialised provider of packaging and transport solutions for paper and tissue rolls

#### **Our Joint Project:**

Optimising engineering efforts while reducing the time required for design, detail planning and manufacturing phase

#### **Our Services:**

- Support for defining the safety concept
- Preparation of concept diagram and corresponding documentation
- Development of control cabinet design and layout
- Procurement and assembly

- Efficient communication thanks to a central contact for all tasks and requirements
- Flexibility in procurement and manufacturing
- · Know-how advantage in process control

#### Good Connections - a Sure Winner!

Schaltag designs and builds machine and system control equipment - from prototypes to series and variant manufacturing. Our core areas of expertise also include maintenance, modernisation and expansion of existing systems (retrofitting). This effectively reduces your operating resources.



#### Our range of services includes:

#### **Engineering**

- Design of control cabinet and control system, layout
- Development and re-engineering
- Standardisation and modularisation

#### **Procurement**

- Planning, production engineering and framework contracts
- Use of global procurement network
- · Materials management handling

#### Manufacturing

- Prototype assembly and individual, variant, and serial production
- On-site installation: machine and system wiring

### ELECTRICAL CABINETS



NEW TECHNOLOGIES AND PRODUCTS









#### The Customer:

#### SKAN AG, Allschwil

Pioneer in clean-room equipment and isolator construction for the pharmaceutical and chemical industries

#### **Our Joint Project:**

Outsourcing of production of complete control systems and module control plates

#### **Our Services:**

- All necessary components procured
- Complete control systems manufactured with and without housing
- Manufacture of module control plates
- Test operation for complete system
- · System wiring
- Preparation of technical documentation

#### **Primary Customer Benefits:**

- Cost and time savings achieved through UL certification of control systems and module control plates by Schaltag
- Meets strictest quality regulations
- Maximum production flexibility when modifications necessary thanks to continuous development process

#### The Customer:

#### **RONDO Burgdorf AG, Burgdorf**

Manufacturer of machinery for bakeries of all sizes

#### **Our Joint Project:**

To redesign and manufacture complete control units in over 100 variants

#### **Our Services:**

- · Control systems redesigned
- Standardised base model created together with a defined selection of modules for customer-specific options
- Manufacture of complete control systems including housing, components, cable assembly, installation and testing

- · Delivery times minimised thanks to rolling production planning with framework orders over several months as well as on-call order
- Short-term delivery of special versions possible thanks to the modular concept
- · Outsourced warehouse: production and management of safety stock



#### One Machine – One Supplier

Schaltag offers the entire spectrum of mechanics, electrics, hydraulics and pneumatics – in any combination.

Our procurement of readytested modules and base machines offers customers a perfected supply chain management and enables them to concentrate on their core areas of expertise. We have selectively expanded our know-how and our production capabilities for extended outsourcing.

#### Our range of services includes:

#### **Engineering**

- · Overall system concept, layout
- · Development and re-engineering
- Cost-reduction projects

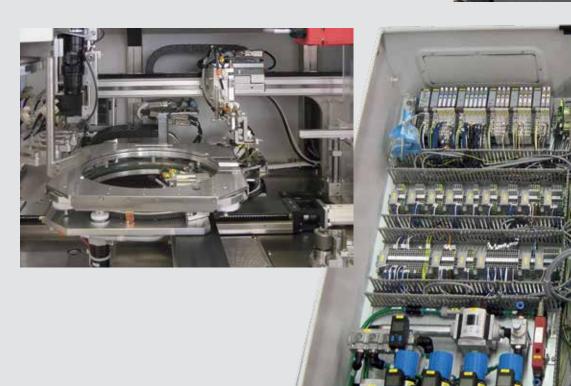
#### **Procurement**

- Definition of the optimum interface between the customer and Schaltag, taking into consideration expertise, costs and fluctuations in the workload
- Cycle times shortened by optimising the supply chain

#### Manufacturing

- Modules manufactured in-house
- Assembly of complete base units up to machines ready for dispatch
- Functional testing

## MECHATRONICS





**NEW TECHNOLOGIES AND PRODUCTS** 











#### The Customer:

#### Maillefer SA, Ecublens

Worldwide leading manufacturer of extrusion systems for pipes and hoses

#### **Our Joint Project:**

To supply finished caterpillars for synthetic pipes

#### **Our Services:**

- All procurement logistics handled
- Assembly and wiring of entire system



#### **Primary Customer Benefits:**

- · Cycle times massively reduced thanks to a jointly developed modular design
- Customer-specific special models and requests implemented flexibly and fast
- Significant cost reduction thanks to production in the Czech Republic



#### The Customer:

#### Sealed Air GmbH, Root

Global leader in packaging technology solutions and systems for the food sector

#### **Our Joint Project:**

To build a blower unit for removing surface water in packaging lines for fresh meat and cheese

#### **Our Services:**

- · Purchase of materials and individual parts in the Czech Republic with on-going benchmarking
- · Individual parts manufactured and preassembled in Czech Republic
- Final assembly and customising of two basic models with different, customer and task-specific equipment in Switzerland
- Refurbishment of machines

- · All-inclusive production outsourcing to generate internal human and floorspace resources for strategic projects (research and prototyping)
- Cooperation as partners, based on expertise and experience gained from another joint project
- Proximity to final assembly for maximum flexibility with cost-effective pre-production in the Czech Republic
- Highly favourable delivery terms thanks to framework contract with defined quantities
- Final product "Made in Switzerland"

#### Good Connections to Your Customers

A well-designed cable harness is a productivity factor that should not be underestimated. It can be installed quickly and accurately, because every wire finishes exactly where its connecting point is situated. Equally important is unambiguous labelling and correct preparation of the cable ends for the connecting points, ensuring reliable contact.

With our consistent orientation towards individual customer requirements and with high-performance machinery at our disposal, Schaltag can offer a wide spectrum of services, from simple strand manufacture through construction of cable assemblies to the production of complex cable harnesses.

#### Our range of services includes:

#### **Engineering**

- · Wiring concepts and layout
- · New designs and re-engineering
- · Standardisation and modularisation

#### **Procurement**

- · Planning and work preparation
- Supply chain optimisation

#### Manufacturing

- Signal and power cables, cable assemblies and complex cable and connector systems
- Prototype assembly and individual, variant and serial production
- Fully-automated strand processing including black-white/white-black labelling with Komax and Speedy
- Automated processing of flanged bushings



WIRING SYSTEA













#### The Customer:

#### TRUMPF Grüsch AG, Grüsch

Leading international manufacturer of machine tools for sheet metal and materials processing, power tools, electronics and medical equipment. Global market and technology leader in laser technology



To manufacture and configure wire harnesses for modular machine tool control cabinets

#### **Our Services:**

- Up to 1400 wire harnesses produced per month
- Guaranteed just-in-time delivery
- Warehousing of cable sets to avoid bottlenecks in scheduling, production or delivery
- Regular meetings to determine optimisation opportunities

#### **Primary Customer Benefits:**

- Maximum flexibility to minimise cycle
- Proximity to site enabling precise JIT delivery
- Advanced technical equipment (automated Komax unit for customerspecific strand labelling)



#### Stadler Winterthur AG, Winterthur

Production site for twin-axle locomotives and bogies (a subsidiary of Stadler Rail AG, Bussnang)

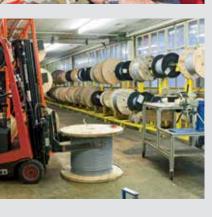
#### **Our Joint Project:**

To manufacture and configure safety relevant wire harnesses for bogies

#### **Our Services:**

- Cable assemblies to meet projectspecific specifications
- Delivery flexibility based on framework contracts

- Specific know-how to meet strict safety requirements
- Top production flexibility even in extraordinary situations
- Proximity to site for on-schedule deliveries





#### Our Innovations - Your Future

#### **Energy Cost and CO2 Management**

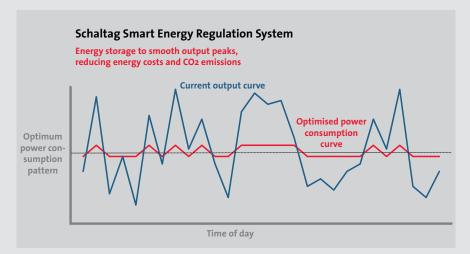
#### Your objectives

- To minimise energy costs
- To comply with ISO 14001 environmental targets
- To reduce CO2 emissions

#### Our solution proposal - in three steps

- 1. Energy consumption analysis (free of charge)
- 2. Customer-specific implementation concept
- 3. Realisation of concept, including commissioning

For companies of all sizes, and particularly medium-sized enterprises, Schaltag offers individual solutions with returns on investment (ROI) as low as two and a half years.



#### **Schaltag Smart Energy Regulation System**

#### **Energy Storage to Smooth Output Peaks**

- Surplus energy stored using the latest battery technologies
- Smoothens out power consumption peaks
- Intelligent control (e.g. soft start) of your loads
- Can be used as an uninterruptible power supply (UPS) system

#### **Reduced Energy Costs and CO2 Emissions**

- Costs lowered thanks to time-optimised energy import (day/night)
- Penalties for consumption peaks can be avoided
- Increased proportion of consumption from own power source (PV system) to further reduce costs
- Fossil-fuel and pneumatic drives replaced with electric systems
- Optimised consumption measurably reduces your CO2 footprint



# NEW TECHNOLOGIES AND PRODUCTS



NEW TECHNOLOGIES AND PRODUCTS

#### **Interactive Large Display Systems**

#### **Tailored Visualisation**

Schaltag offers one of the largest touch display systems on the market, with the following benefits:

- · Customer-specific designs
- Multi-tasking, remote-enabled, with WiFi and Bluetooth
- Ambient light sensors automatically adapt the colour and intensity of the surroundings
- Weatherproof and suitable for outdoor use
- Vandalism-resistant
- Built-in UPS
- Camera, microphone and loudspeaker can be integrated

Plug-and-play system with short lead times; customerspecific hardware and software configurations (standing, hanging or integrated installation; individual surface, colour etc.) can be delivered at short notice.

#### **Examples of Use**

- Advertising, customer information and infotainment in shopping centres, flagship stores, hotels, trade fairs, showrooms, educational facilities and public areas
- Interactive information system for company headquarters and production sites

#### **Technical Data (use case)**

Dimensions (W x H x D):  $1.2 \,\mathrm{m}$  x  $2.2 \,\mathrm{m}$  x  $0.18 \,\mathrm{m}$ Resolution: Ultra HD 4K (LED)







#### **Electric Vehicle Charging Stations**

Manufacture and distribution of rapid-charging units

#### **Mobile Chargers**

- Compatible with CHAdeMO or CCS Combo2 DC charging sockets
- Compatible with all current charging stations
- Compact dimensions and low weight for flexibility of use

#### **Wall-mounted Charging Stations**

- Compatible with CHAdeMO or CCS Combo2 DC or CCS Type 2 AC charging sockets
- Easy to install thanks to compact dimensions and low weight



#### Our customers are active in the following sectors:

- Automotive industry
- Rail industry
- Biotechnology
- · Renewable energies
- Graphics industry
- Semiconductors
- Infrastructure
- Medical systems
- Pharmaceuticals
- Shipbuilding
- Textile machinery
- · Environmental engineering
- Process technology
- · Packaging machines
- Machine tools



#### A selection of our customers:

- ABB
- Atlas Copco MEYCO
- Belimed Sauter
- Bobst
- Bosch
- Erowa
- Evatec
- EWAG
- Feintool Technologic
- Ferag
- Hoval
- L. Kellenberger (Hardinge Group)
- · Landis+Gyr
- Maillefer
- Meyer Burger
- Mikron Agie Charmilles
- OC Oerlikon
- PackSys Global
- Rheinmetall
- Rieter
- RONDO
- Satisloh
- Sealed Air
- Siemens
- Stadler
- Tornos
- TRUMPF
- VistaPrint
- Trützschler
- Walter Maschinenbau
- Wärtsilä

## www.schaltag.ch

Schaltag AG Industriestrasse 8 CH-8307 Effretikon Switzerland Tel. +41 52 354 27 27 Fax +41 52 354 27 23 info@schaltag.ch