



## CABLE ASSEMBLIES

ASSMANN



# CABLE ASSEMBLIES

YOU CAN COUNT ON US  
IN MANY FIELDS

CONNECTORS 

THERMAL MANAGEMENT 

CABLE ASSEMBLIES 

CAPABILITIES 





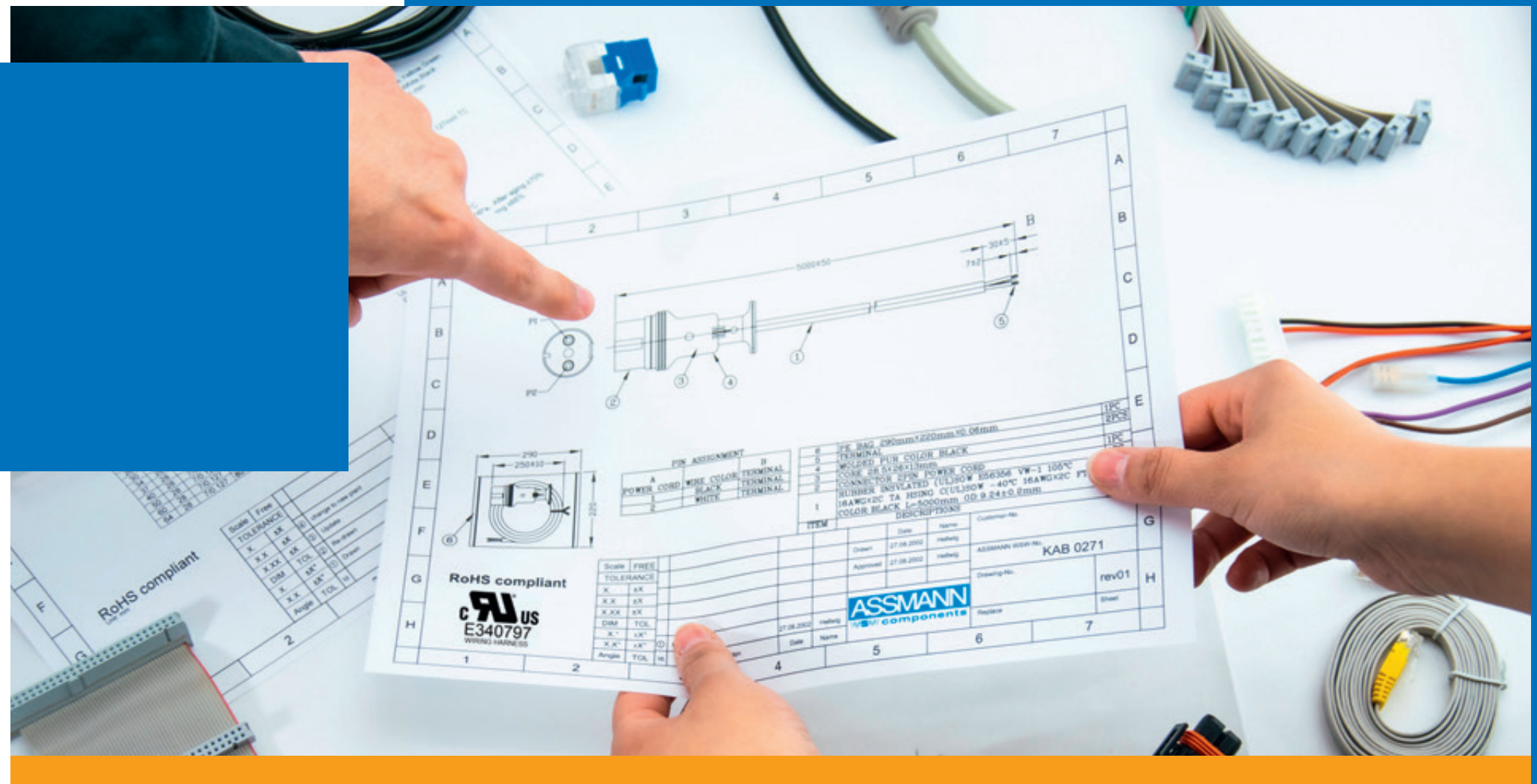
# ABOUT US

## YOUR GLOBAL SYSTEM SUPPLIER

BENEFIT FROM MANY  
YEARS OF EXPERTISE IN  
THE IMPLEMENTATION OF  
CONNECTIVITY SOLUTIONS

The ASSMANN WSW group is a renowned global system supplier of standard and tailored connectors, cable assemblies, heat sinks and assemblies, offering more than 50 years of experience within the electromechanical and thermal management markets. All products are available internationally through a worldwide sales network.

# OUR STRATEGY



## TECHNOLOGICAL COMPETENCE, FLEXIBILITY AND PROMPTNESS

USE US AS THE DRIVING FORCE TO MEET YOUR INDIVIDUAL REQUIREMENTS

Our top priority is continued success with long-lasting development of the company, based on long-term partnerships with our customers. These goals have shaped the company throughout its long history.

As in the past, our current activities focus on industry, telecommunications, automotive and distribution. For these customers,

we are the partner who with its long-standing employees offers products and services within the electromechanical and thermal management field and guarantees their competitive success in terms of quality, technology and price.

Our task is to convert specific strategies tailored to the needs of our customers into solutions

at our global manufacturing facilities. Providing these services and products wherever they are required - quickly and flexibly - is the target and focus of our tried-and-tested logistics system. The ongoing development of core competencies is what drives our business forward.





# LEADING CUSTOMIZED CONNECTIVITY SOLUTIONS

## INSPIRE THROUGH PERFORMANCE

CONNECTORS

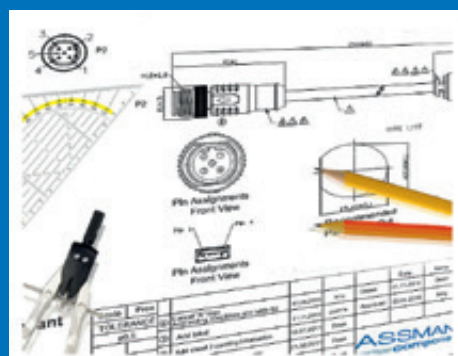
THERMAL  
MANAGEMENT

CAPABILITIES

CABLE  
ASSEMBLIES

ASSMANN WSW offers a wide range of standard and customized connectors. In consideration of this, we have systematically further developed and expanded the cable assembly sector over the past few years.

Creating high-quality cable assemblies requires extensive knowledge of connectors, cables and processing technologies. The ability to meet the technical demands of the customer applications in terms of the final cable assembly and to use the most cost-effective manufacturing methodology, based on a choice of various manufacturing locations in Eastern Europe and Asia, makes ASSMANN WSW the partner that gives its customers a significant advantage.



Customized cable assemblies



Modular cables



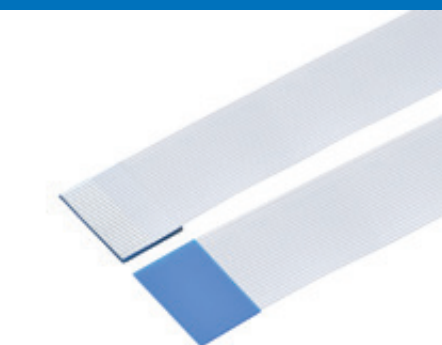
USB cables



D SUB cables



Flat ribbon cables



FFC cables



Audio- & video cables



Circular cables



Power cables

# PRODUCT GROUP CABLE ASSEMBLIES

LISTEN | ANALYZE | IMPLEMENT

## COMPONENTS & ASSEMBLY KNOW-HOW IMPLEMENTED IN HIGH-QUALITY SIGNAL CABLES

ASSMANN WSW supplies a wide range of standard cable assemblies from stock and specializes in the production of customized cable assemblies based on common industry standards. In addition to using our own connectors in industrial cable assemblies, competitive products from wellknown manufacturers can also be used on customer request to ensure our cable assemblies can be used worldwide by our customers, our manufacturing facilities in Asia and Slovakia are UL certified.

Detailed information on our cable assembly product group can be found online at: [www.assmann-wsw.com](http://www.assmann-wsw.com)







# PRODUCT GROUP CABLE ASSEMBLIES

## CAPABILITIES

OUR CAPABILITIES - A COMBINATION OF AN  
ARRAY OF MATERIALS AND THEIR  
PROCESSING TECHNOLOGIES

### Cable variants

- Shielded and unshielded control cables
- Halogen free cables
- Drag chain cables
- Signal and network cables
- Industrial bus cables
- Harmonized cables
- Flat ribbon cables
- Single wires

### Cable materials

- PVC
- TPE
- PE
- SI (silicone)
- PUR
- PTFE

### Connection techniques

- Crimping
- IDC technology
- Soldering
- Clamping
- Ultrasonic & friction welding

### Processing methods

- Cutting
- Shrinking
- Tinning
- Overmolding
- Stripping
- Twisting
- Hot melt technology

### Services

- Cable markings
- Customized packaging
- Added value
- UL-certified cable assemblies

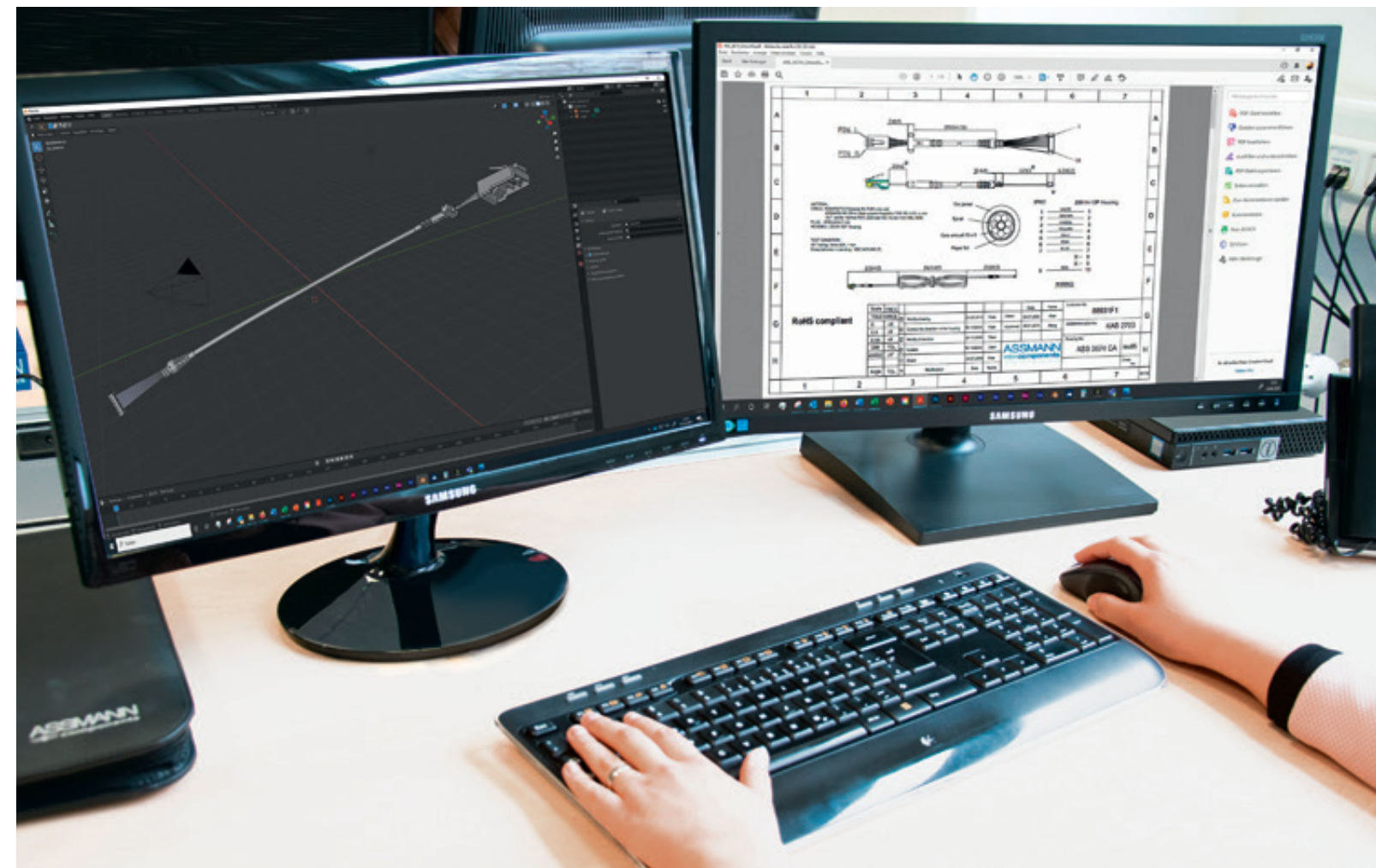
# CUSTOMIZED CABLE ASSEMBLIES

## INDIVIDUAL SOLUTIONS ADAPTED TO THE RESPECTIVE REQUIREMENTS OF INDUSTRIAL USERS

WE ACCOMPANY YOU THROUGH THE ENTIRE  
PROCESS- FROM INITIAL IDEA TO END PRODUCTION

Since every cable assembly is tailored to the specific customer application, ASSMANN WSW always focuses on close cooperation with the customer. From product idea to full-scale production, we accompany our customers during the various process phases.

Starting with a technical drawing design and a technically detailed data sheet to subsequent initial samples, which can be tested in the respective customer applications, we address the challenge of creating the perfect, final cable assembly solution together with our customers step by step.



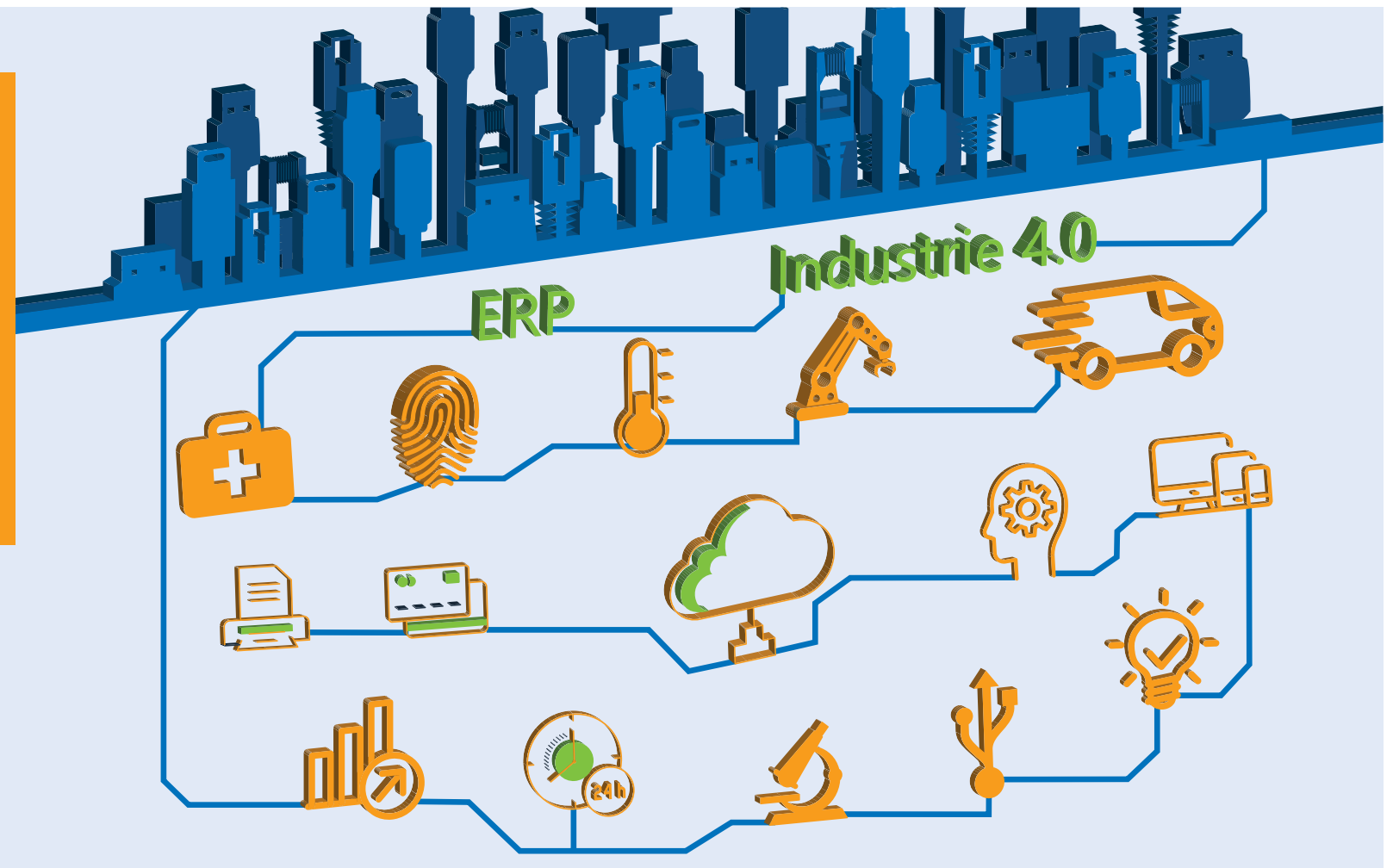
We are thus able to meet the extensive demands that customers place on us. Depending on the respective application and specification, various levels of quality need to be considered and offered.

Customers with price-sensitive end products often prefer or require cost-effective standard solutions for their applications. High-tech customers, on the other hand, are often only interested in high-spec special solutions. To achieve these targets, premium materials and complex designs, manufactured with specific, high-precision production technologies, are absolutely essential.

ASSMANN WSW delivers what the customer wants!



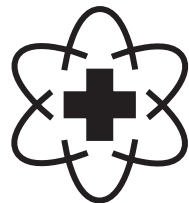
# MARKET AND APPLICATIONS



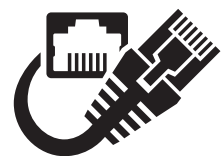
## DIVERSE TAILORED PRODUCTS FOR THE INDUSTRIAL MARKET



Measurement & control technology



Medical technology



Communication & data technology



Alarm, safety & security technology



Thermal & electrical engineering



Automotive technology

The array of cable assemblies required and demanded is just as great as the variety of customers from the individual industry sectors. The requirements placed on cable assemblies have grown in line with the ever-increasing quality demands of the industry.

As a global manufacturer and supplier, we execute your individual projects from single wire assembly to complex cable harnesses.



## MEASURE- MENT & CONTROL TECHNOLOGY



## CUSTOMIZED LOW-VOLTAGE CABLE ASSEMBLIES

We manufacture customized low-voltage cable assemblies for customers from the field of measurement and control technology. The safe and reliable transmission of information and signals, as well as the power supply between devices, system components and networks is ensured.

Our cable assemblies have to meet a wide range of conditions with regard to environmental issues and any potential

electromagnetic interference. Therefore, a wide variety of cables is used.

PVC cables, as the most economical solution for use in connectors that are rarely moved or are subject to minimal vibration. PUR cables for use in demanding connectivity solutions where operational safety is the main decision criterion.

Experience has shown that circular connectors are most frequently

used here, as they offer IP68 protection rating, coding/twist protection, a large number of poles and a wide range of transmission currents.

The extensive range of ASSMANN WSW cable assemblies also complements various customer requirements.

## CABLE ASSEMBLIES FOR EQUIPMENT MANUFACTURERS IN THE MEDICAL TECHNOLOGY MARKET

ASSMANN WSW offers customized cable assemblies for equipment manufacturers in the medical technology market, for example for use in dialysis machines or automated hospital beds with adjustment functions.

High-quality flexible strands are used, offering a high number of bending cycles and resistance to liquids and oils thanks to PUR sheathing.

These cables also boast high abrasion resistance. Inner conductors can be provided with multiple shielding to ensure products operate with minimum interference even under high EMC requirements, for instance when used in a dialysis machine.

Special antibacterial plastics are also used as insulating body materials for assembled connectors, or are applied as granules

for overmolded strain relief or as cable sheathing materials. The use of antibacterial plastics prevents the transmission of viruses or germs in hospitals and dialysis centers.

ASSMANN WSW delivers consistent high quality, something that is particularly required in the medical technology market.

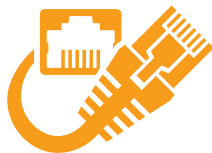


## MEDICAL TECHNOLOGY





## COMMUNICATION & DATA TECHNOLOGY



## CUSTOMIZED COPPER SIGNAL CABLES

ASSMANN WSW manufactures customized copper signal cables for customers from the communication and data technology sector. Our flexible signal cables are suitable for a wide range of market applications. Starting with the hardware applications of computer peripheral equipment (e.g. industrial printers), through the entire network technology (e.g. routers), to use by the most diverse service providers and their data transmission applications.

Efficient, interference-free and high-performance communication and data networks are hardly possible without top-class raw cables assembled with connectors.

A wide variety of cables for various speed levels (e.g. USB 3.0; Cat 5e-8.1), with single up to triple shielding and a range of IP protection ratings (IP67) are combined.

In view of the trend toward ever higher transmission rates due

to the increasing use of smart, mobile devices and the shift toward the IoT (Internet of Things), cable assemblies have to meet an array of conditions in terms of transmission speeds, environmental requirements, potential electromagnetic interferences, reliability and robustness, which „smart“ cities and factories demand.

With ASSMANN WSW, you always have a good connection.

## AUTOMATION OF SAFETY, SECURITY, CONTROL AND MONITORING SYSTEMS

ASSMANN WSW provides customers from the alarm, safety and security technology sector with reliable customized cable assemblies which are primarily used in building security and various electronic security devices.

The trend toward full automation of safety, security, control and monitoring systems, both in the residential and commercial sector, can only be enabled through

the use of technologically advanced and intelligent components.

ASSMANN WSW develops reliable and electrical connectors that are used in components for safety and security systems, such as fire alarm systems, video surveillance systems and access control systems, thereby ensuring reliable and functional safety and security for users.

Top-class cables (halogen free upon request) and highly gold-plated connectors and connector components are used, allowing for long-lasting contact reliability even under increased requirements and in tough conditions.


ASSMANN WSW responds to individual customer needs and ensures the reliability and longevity of contacts that customers have come to expect.



## ALARM, SAFETY & SECURITY TECHNOLOGY







## THERMAL & ELECTRICAL ENGINEERING



## HIGH EFFICIENCY & CONVENIENT AND EFFICIENT OPERATION

ASSMANN WSW supports its customers in the thermal and electrical engineering market through the production of customized cable assemblies, which are used, for example, in HVAC technology, building technology and in the production of electrical appliances.

smart gadgets, as they not only provide a high level of efficiency but also convenient and efficient operation. The connectivity of individual embedded systems creates innovations for users, with which, for example, processes can be implemented without constant user intervention.

The number of intelligent or smart-networked devices is increasing all the time, both in companies and in the private sector. Users are increasingly turning to

In this respect, ASSMANN WSW is not only a cable assembler. Together with customers, we also design and produce cable assembly solutions with an integrated

PCB assembly specially adapted to the environmental parameters and used, for example, as an interface for heating control, thereby allowing users to operate their smart home conveniently and remotely.

## DEVELOPMENT AND IMPLEMENTATION OF ELECTRONIC ASSEMBLIES

Today, the choice of vehicle is not only based on its technical features, such as body shape, performance and class, but also on connectivity that enables easy and convenient operation. Users and their personal requirements in terms of safety, security and comfort are becoming increasingly important for developing and implementing electronic assemblies in cars. To meet these

requirements and to implement such features, the use of complex and highquality connector and cable systems is absolutely essential.

ASSMANN WSW offers cable assemblies for the system suppliers of carmakers for special applications in the field of safety, security, comfort and infotainment.

Complex cable assemblies are manufactured, for example, for use in auxiliary heating systems, seat adjustments or various assist systems, such as high beam assist, parking assist and lane assist.



## AUTOMOTIVE TECHNOLOGY







**D-BRAUN**  
A company of **BCS**

# LOCATIONS

## BAYREUTH (DE)

3.030 m<sup>2</sup> thereof 1.390 m<sup>2</sup> logistics

Dieter Braun GmbH  
Gottlieb-Keim-Str. 25  
95448 Bayreuth

Phone +49 (0) 921 / 75756-100  
Fax +49 (0) 921 / 75756-066  
info@kabelkonfektion.com



## KARLOVY VARY (CZ)

Production area 3.440 m<sup>2</sup>

Braun Kabel s.r.o.  
Závodní 319 (Areal „Kanov“)  
Tašovice  
360 18 Karlovy Vary

## SOKOLOV (CZ)

Production area 3.730 m<sup>2</sup>

OIET s.r.o.  
Stará Březovská 22780  
356 01 Vitkov u Sokolova

## HAVLICKUV BROD (CZ)

Production area 2.320 m<sup>2</sup>

Elcatec s.r.o.  
Havirska 747  
580 01 Havlíčkův Brod

## UZHGOROD (UA)

Production area 1.000 m<sup>2</sup>

FAVA Technics GmbH  
Pryladobudivnykiv 5  
88015 Uzhgorod

## CD. JUAREZ (MX)

Production area 4.500 m<sup>2</sup>

Braun Tek Mexico S.A. de C.V.  
Calle Capulin No. 6650  
C.P. 32690, Cd. Juarez, Chih.  
Phone +52 6564111-193  
logistica@brauntek.mx.com

## TIANJIN (CN)

Production area 1.780 m<sup>2</sup>

BRAUNTech (TianJin) Co., Ltd  
West 3rd Floor, No.11 Plant, No.6,  
Hechang Road,  
Wuqing Development Area,  
301700 Wuqing, Tianjin, China  
Phone +86 22 82121772  
information@brauntech.com.cn  
www.brauntech.net.cn





## TECHNOLOGIES

### SEMI-AUTOMATIC CUTTING, STRIPPING AND CRIMPING

- Semi-automatic crimping with tools for all standard connector systems
- Semi-automatic cutting
- Semi-automatic stripping and crimping
- < 1.000 pcs. cable assemblies
- Seal-Seal crimp
- Cutting and stripping for sheathed cables
- Flat cable splicing, cutting and stripping (1.27 mm, 2.54 mm)
- Ink Jet printing
- Suitable for wire cross sections beginning from 0.06 mm<sup>2</sup> up to 35.00 mm<sup>2</sup>

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### FULLY-AUTOMATIC CRIMPING, SEALING AND TINNING

- Fully-automatic cutting, stripping, twisting and crimping
- Fully-automatic sealing
- Tools for all standard connector systems
- Especially used in automotive applications
- 100 % Crimp force monitoring systems
- 100 % Seal position monitoring systems
- VW standard 60 330
- > 1000 pcs. cable assemblies
- Minimum cable length for both sides cutting and stripping starting for 30 mm (including sealing starting from 65 mm)
- Suitable for wire cross sections beginning from 0.06 mm<sup>2</sup> up to 6.00 mm<sup>2</sup>







## FULLY-AUTOMATIC TWISTING, TINNING AND SOLDERING

- Fully-automatic twisting and tinning equipment
- Wires with pre-tinned ends
- Soldering of wire harnesses to assemble with PCB, micro-switches, etc.
- Soldering methods are made manually or by robotic-soldering stations.
- Manual soldering for cables with cross sections between 4 and 6 mm<sup>2</sup>
- Inductive soldering for cable with higher cross sections (beginning from 6 mm<sup>2</sup>)
- ESD protected areas available

## FULLY- AND SEMI-AUTOMATIC AND MANUAL IDC

- Fully- and semi-automatic insulation displacement connection technology (IDC)
- Technology suitable for Single wires and Flat cables with a pitch of 1.27mm and 2.54mm
- Assembly of all connector systems base on DIN 41651 and Micro Miniature
- Offering prototypes and approval samples quantities
- Fully automatic IDC assembly starting from 10.000 assemblies
- Semi-Automatic IDC assemblies starting from 1.000 pieces

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A company of **BCS** GROUP

TECHNO-  
LOGIES







## TECHNO-LOGIES

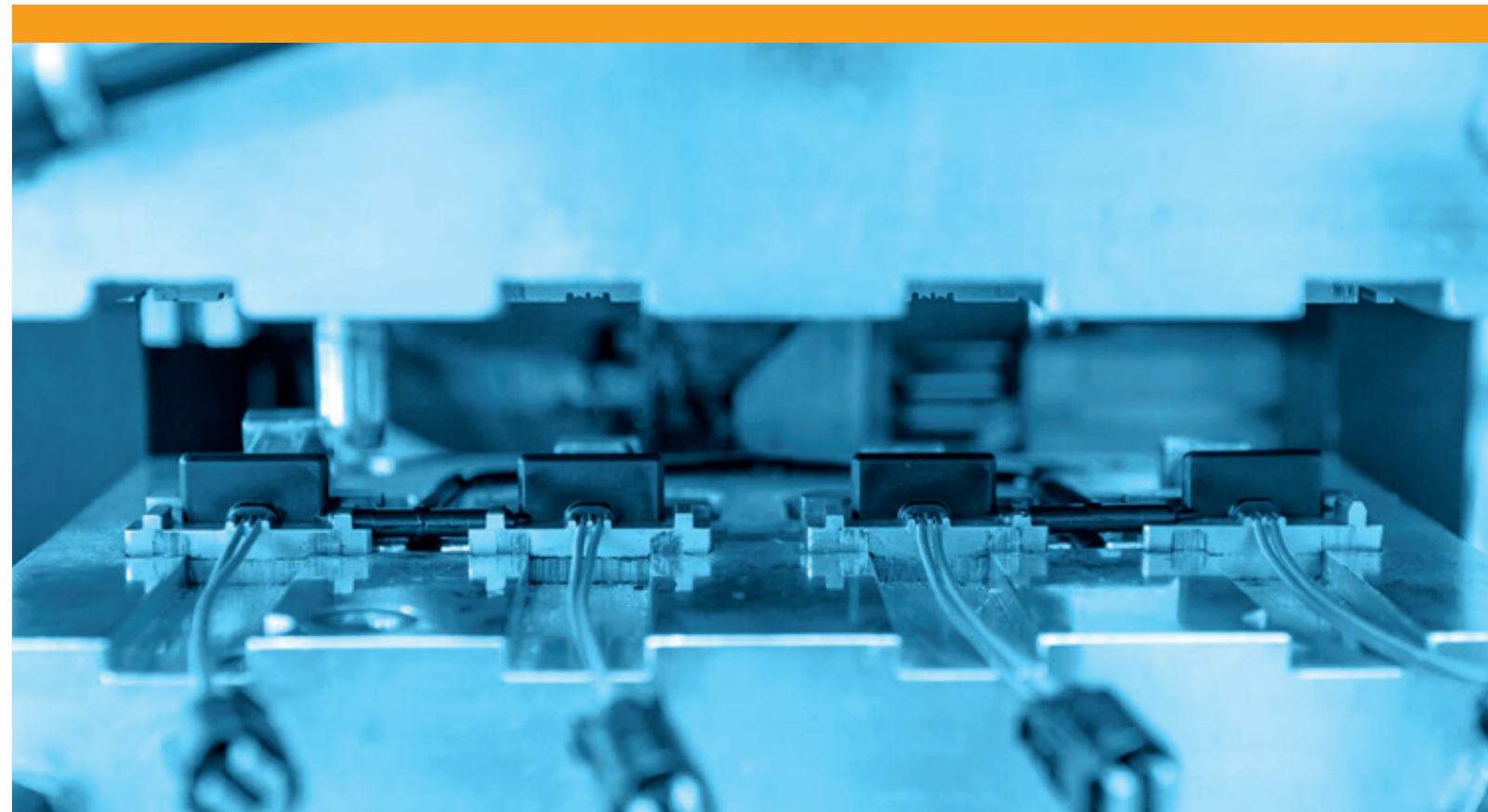
### INJECTION MOLDING (OVERMOLDING)

- Overmolding wire harnesses based on CAD design data (CATIA)
- Design and creation of overmolding tools  
(Production is only related to customer order)
- Overmolding of components
- Overmolding of strain reliefs or feedthrough grommets for cable assemblies
- Covering of soldering connecting with overmolding

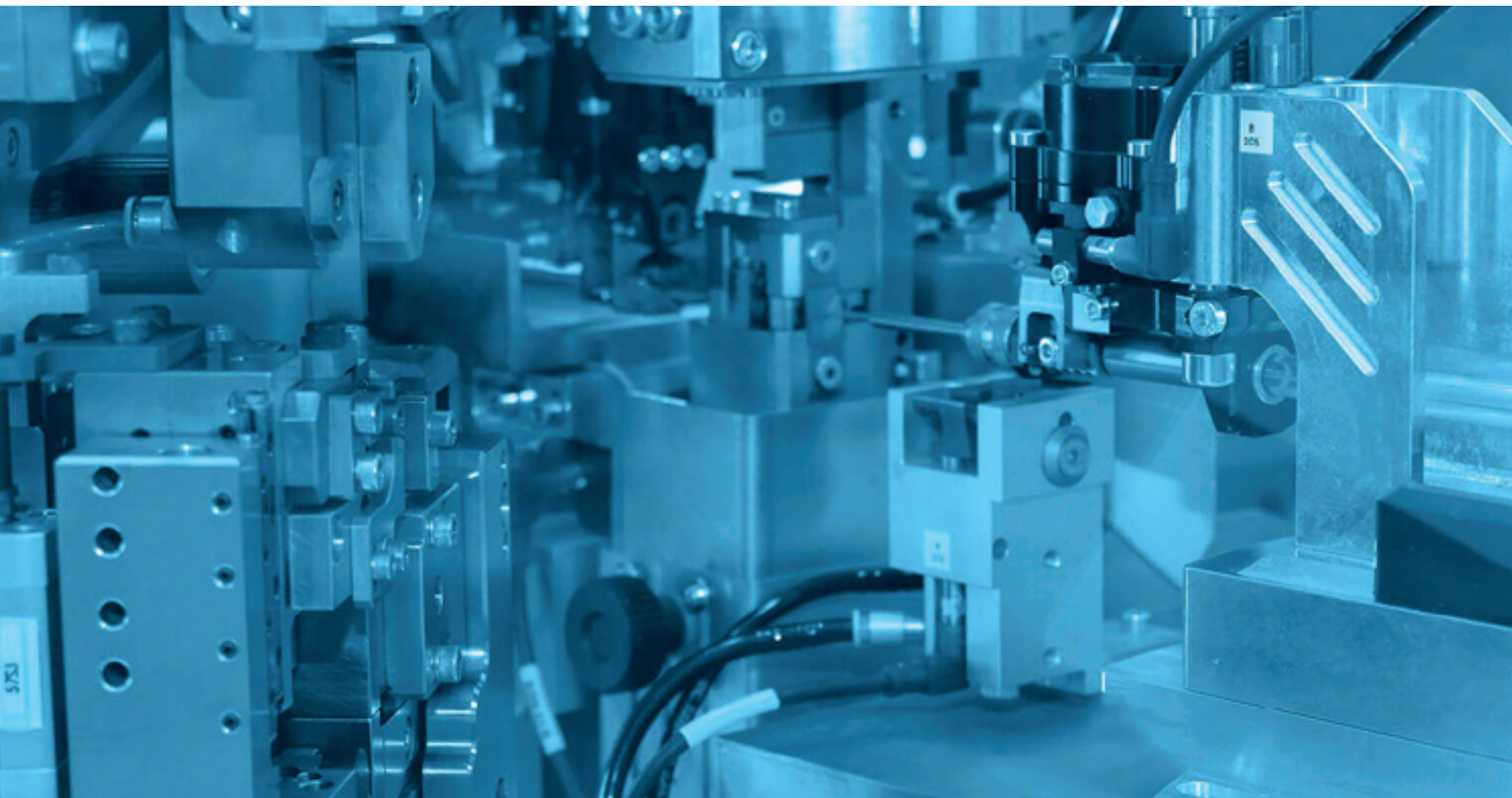
### TECHNOMELT MOLDING (HOTMELT)

- Various types of Technomelt granulate guarantee a high tensile strength and degree of protection up to IP67
- Using the patented low-pressure method of max. 2 bar
- Aluminum tools can be manufactured at low cost
- Granulate available in different colours with different shore harnesses
- Offering prototypes up to serial quantities
- Cost advantages compared with standard molding processes

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## PCB ASSEMBLY

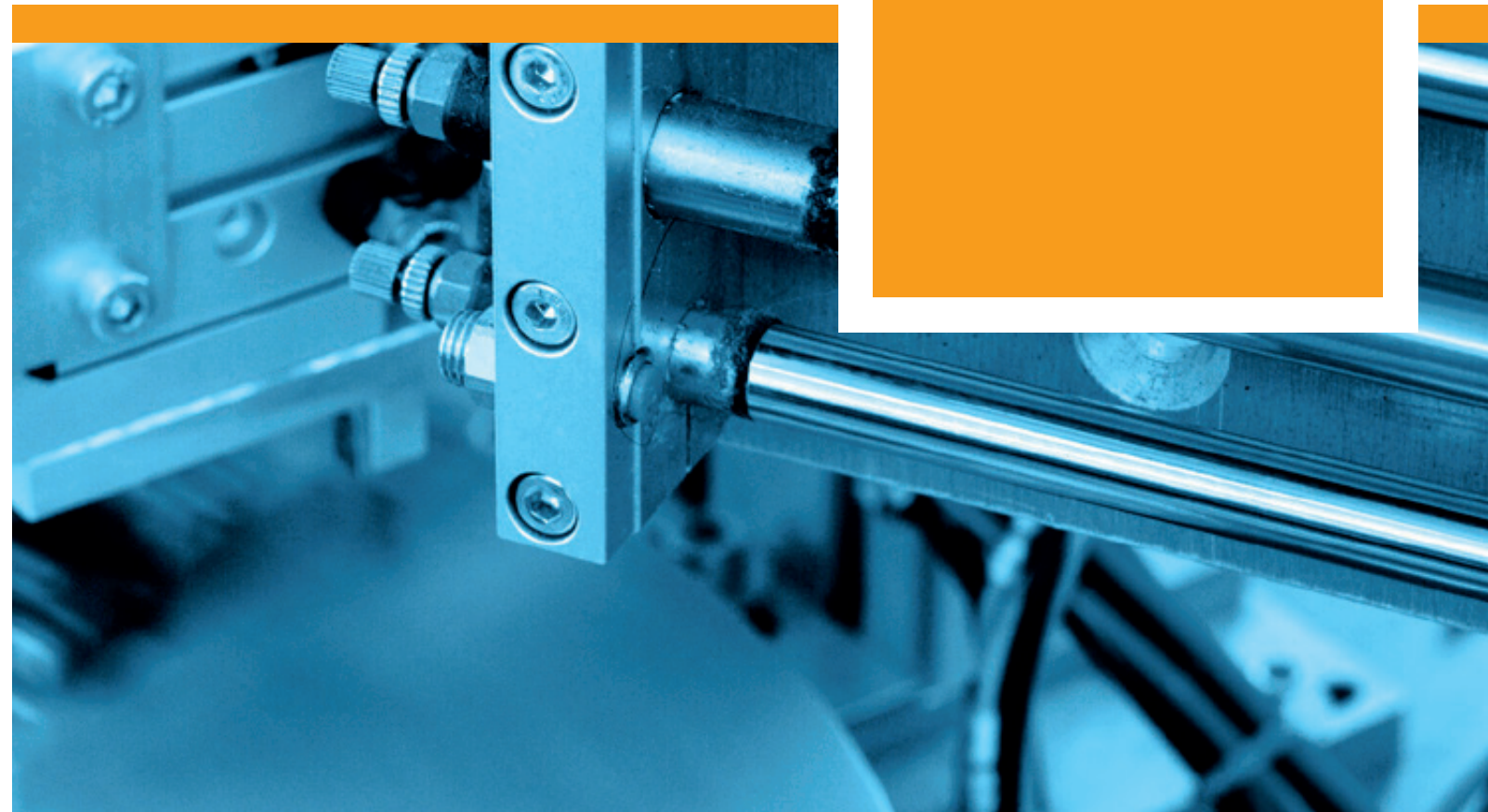
- Assembly of small PCBs (resistances, LED's, etc.)
- Integration into the wire harnesses
- Connections are established by manual soldering or applicable connector systems

## ULTRASONIC COMPACTING, RESISTANCE- OR LASER-WELDING

- Compacting wire ends with resistance or ultrasonic technology
- Stamping parts, depending on its application with resistance welding equipment and welding lasers
- Laser welding for slim welding seam

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TECHNO-  
LOGIES







## TECHNOLOGIES

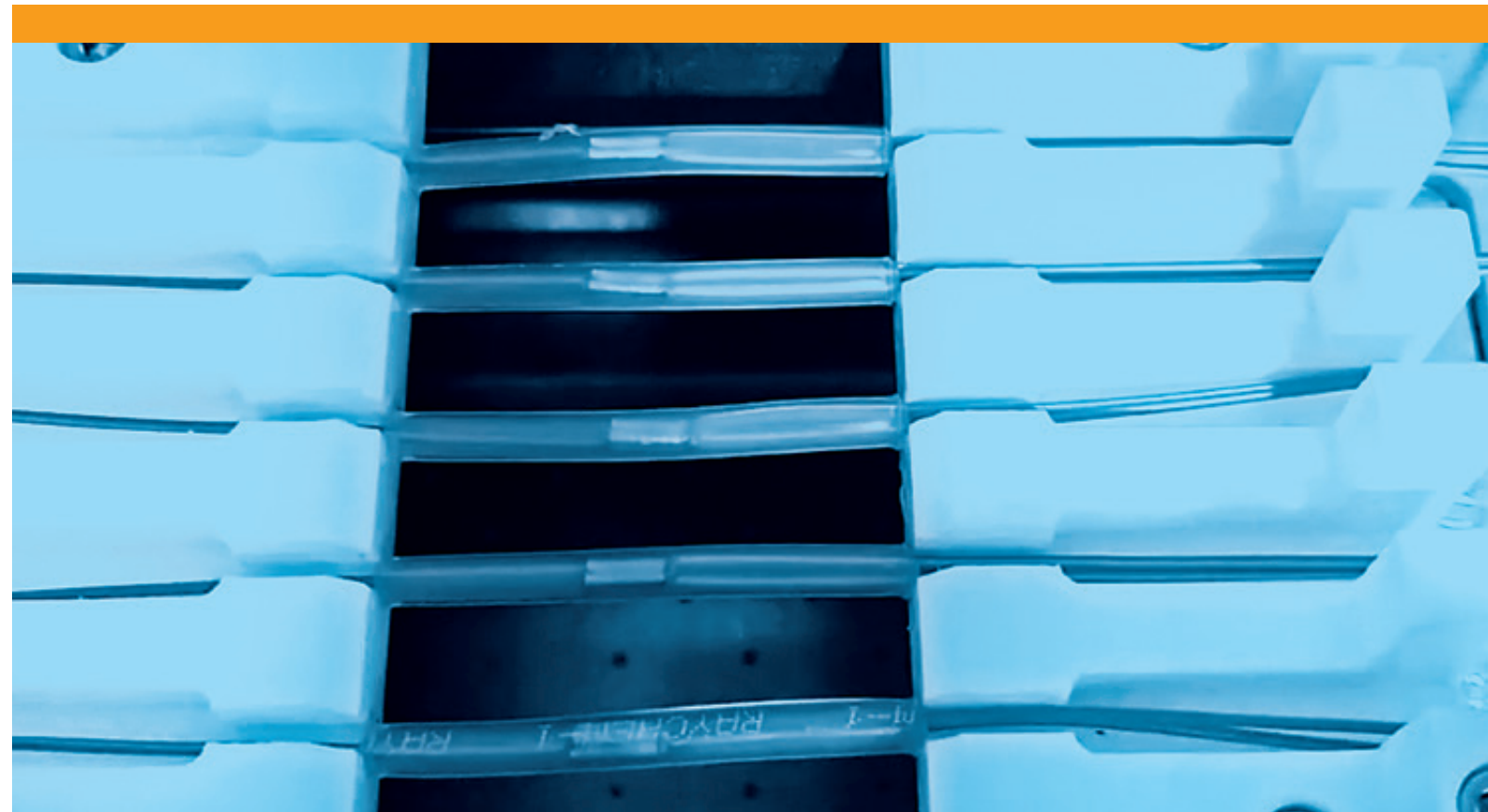
### INTERIEUR LIGHTING

- Solutions for backlighting, handles, switches, buttons, storage compartments, center consoles and door lights.
- Assuring of light components in accordance with the requirements of OEM specifications in terms of light intensity and spectrum of light
- Ensuring consistent light intensity in consideration of the component's specifications
- 100 % product monitoring
- Light measuring laboratory (spectrum, light intensity, colour, etc.)

### SHRINKING AND TAPING

- Shrinking of thermoplastic tubes with exposed heat
- When shrinking, the tubes adapts to the contours of the components and forms a protective layer
- Protecting e.g., of soldering connections against short circuit
- Infrared shrinking for maximal sealing for example in automotive applications
- Thermal shrinking: hotfan shrinking and shrinking tunnels
- Better stability with taping
- Customized taping

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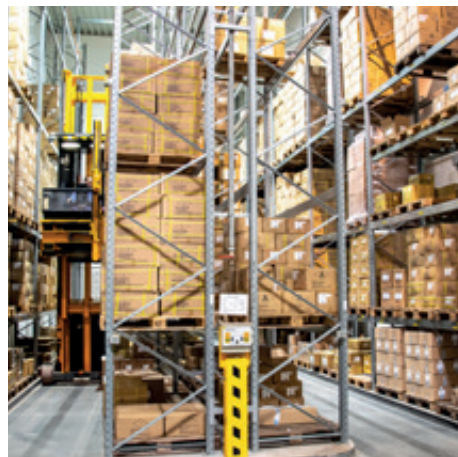






**ASSMANN**  
WSW components  
A company of BCS

# LOCATIONS



ASSMANN WSW has a cutting-edge and ingenious logistics system. Besides first-in/first-out, barcode printing, safety stock and the most favorable shipping conditions, same day deliveries are also possible for standard stock items.

Our production facility in Slovakia, direct sales with a clear focus on technical support and the outstanding distribution sales network create the foundation for above-average growth in all product areas.

**THE HEADQUARTER OF  
ASSMANN WSW ARE  
LOCATED IN LÜDENSCHIED,  
GERMANY**

THE SALES LOCATIONS IN GERMANY AND  
THE USA HAVE A LOGISTICS SYSTEM THAT HAS  
BEEN OPTIMIZED OVER DECADES AND IS AN  
IMPORTANT GUARANTEE FOR ON-TIME  
DELIVERIES TO OUR CUSTOMERS.





PRODUCTION  
LOCATION  
SLOVAKIA

## IN-HOUSE PRODUCTION FACILITY FOR SMALL TO MEDIUM QUANTITIES

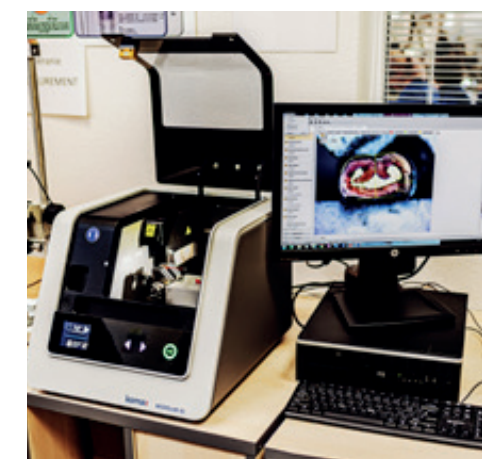
PRODUCTION OF CUSTOMIZED CABLE ASSEMBLIES  
AND COMPLEX CABLE HARNESSSES –  
BOTH AUTOMATED AND SEMI-AUTOMATED

### Our manufacturing technologiesn

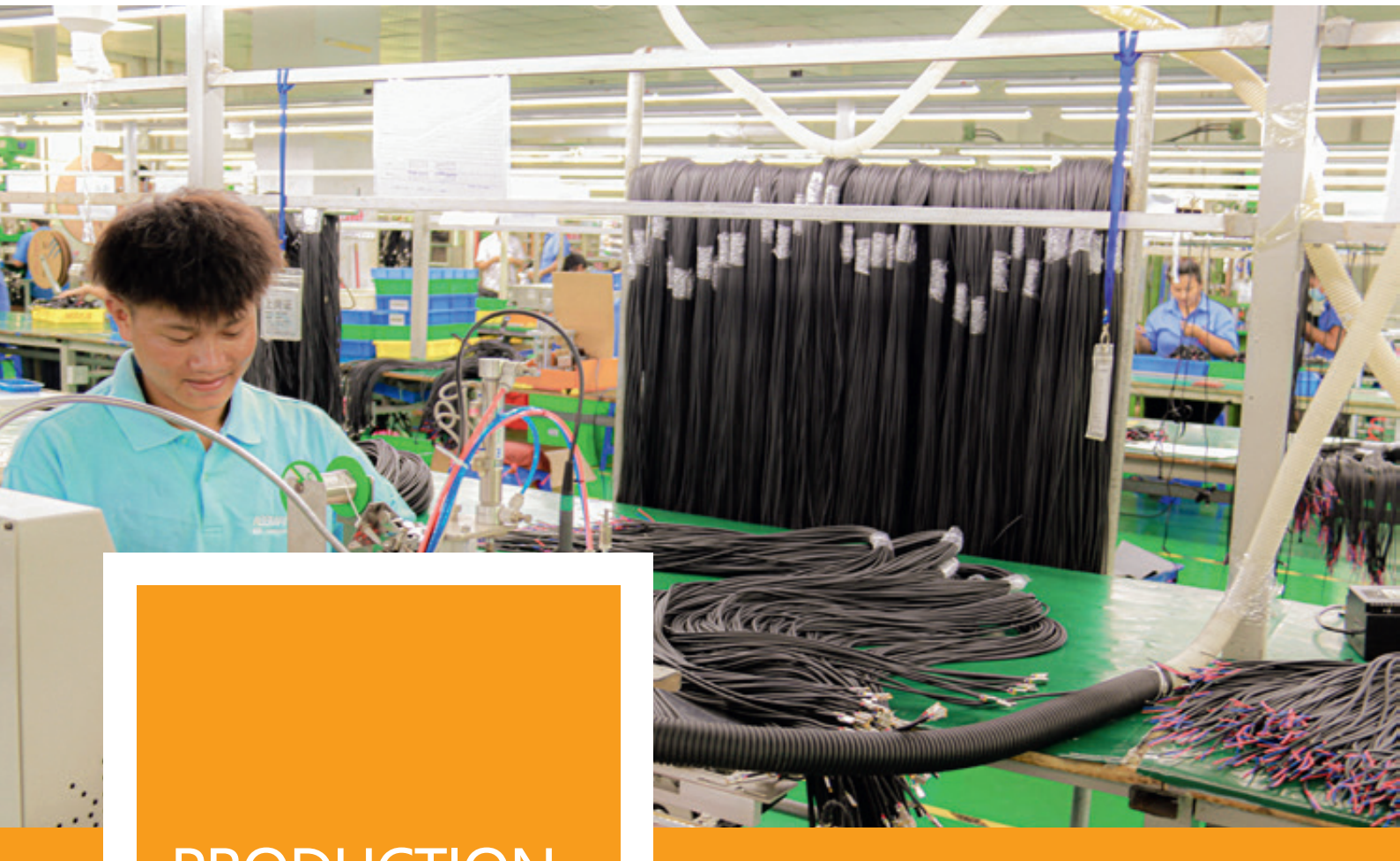
- Cutting and stripping machines
- Cable feed system for use in cutting and stripping machines
- Crimping machines
- Various soldering stations
- IDC technology
- Braided shield processing
- Twisting
- Heat shrink tube processing – hot-air gun
- Hot melt casting technology for casting small quantities and prototypes

### Your advantages

- Favorable alternatives to competitive products
- Fast sampling possible (weekly delivery)
- Short delivery times within the EU, no sea freight
- Installation of competitive components from German and European manufacturers







# PRODUCTION FACILITIES FOR MEDIUM TO HIGH VOLUMES

PRODUCTION OF CUSTOMIZED  
CABLE ASSEMBLIES WITH VARYING PRODUCT  
REQUIREMENTS – BOTH AUTOMATED  
AND SEMI-AUTOMATED

PRODUCTION  
LOCATION  
ASIA

## Our manufacturing technologies

- Injection molding machines with individual injection molds
- Fully automatic machines (cutting, stripping, crimping)
- IDC technology
- Crimping machines
- Automatic wire twisting
- Cable braiding machines
- Automated soldering stations

## Your advantages

- Favorable alternatives to competitive products
- Fast sampling possible (weekly air freight)





# WE FIND SOLUTIONS



## OUR SECRET TO SUCCESS IS AS SIMPLE AS IT IS LOGICAL

DECADES OF EXPERIENCE,  
HIGHEST LEVEL OF CONSULTING  
QUALITY & MAXIMUM  
FLEXIBILITY

A company cannot be successful in the market for decades and implement thousands of customized cable assembly solutions without acquiring in-depth expertise in its field and developing a deep technical understanding of individual customer requirements.

In almost all industrial sectors, the problems caused by the increased demands on industrial applications are becoming more and more complex. Against this background, customers are increasingly asking for our external expertise to turn their product ideas into reality.

We are more than happy to support our customers with our expertise and problem-solving skills.

Just contact us, we are always here for you!



# ASSMANN

## WSW components

A company of **BCS** GROUP

## LEADING CUSTOMIZED CONNECTIVITY SOLUTIONS

■ CONNECTORS   ■ THERMAL MANAGEMENT   ■ CABLE ASSEMBLIES   ■ CAPABILITIES

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