

THE CONNECTOR



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ODU applications in
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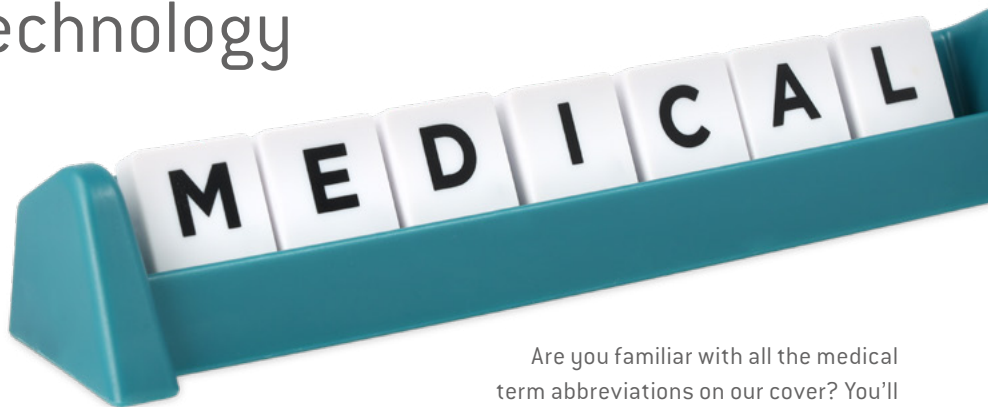
04



Mathias Wuttke on
medical technology in transition

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ODU in medical technology



Are you familiar with all the medical term abbreviations on our cover? You'll find their definitions in the various technical articles in this issue.

Dear customers, suppliers and partners of ODU,

We're quick to recognize the key role that good health plays in our lives. Money, yachts, mansions and fame – these are all meaningless compared to the luxury of good health.

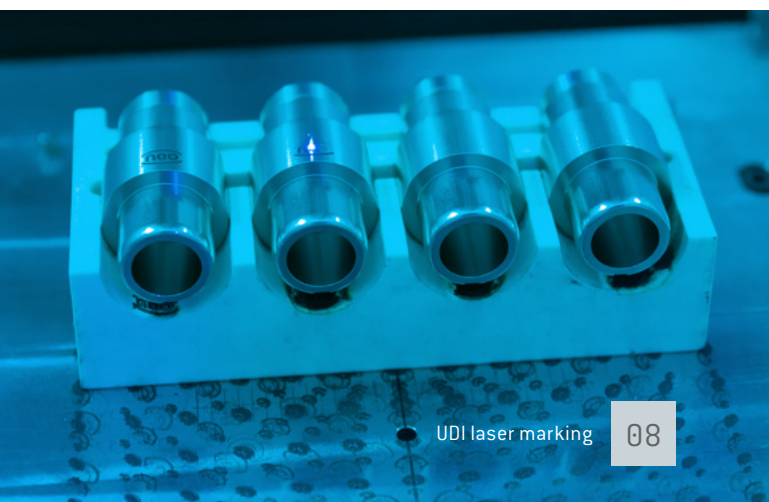
Today's life expectancy far exceeds that of our ancestors, and one reason for this is medical progress. At this point in history, we can develop a vaccine at lightning speed. And further medical solutions are sure to follow for health challenges that have yet to be solved. Medicine serves our health, which is why it's so important.

For ODU, the medical market is key because of its many sub-areas, and we offer connector solutions that are a perfect fit. Find out for yourself on the following pages of this 91st issue of THE CONNECTOR.

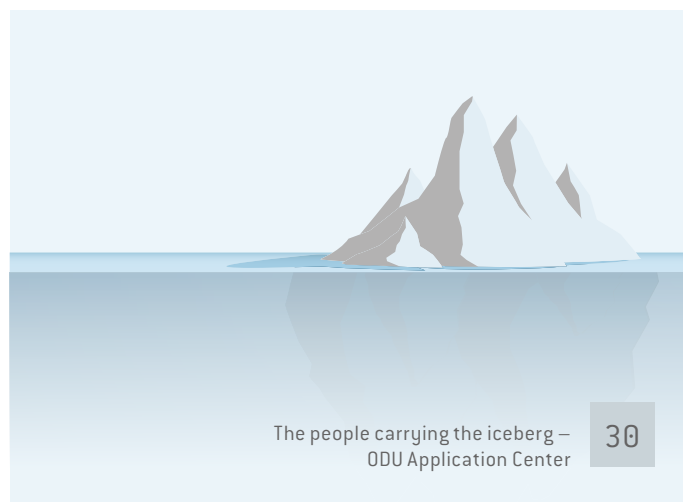
Best wishes – and for good health, too!

Denis Giba

ODU
Managing
Director



UDI laser marking 08



The people carrying the iceberg – ODU Application Center 30

ODU IN MEDICAL TECHNOLOGY

The demand for medical devices is booming due to growing concerns about infectious diseases, increasing life expectancy and expanding markets. However, medical device manufacturers are carrying a double burden because of rising manufacturing costs along with technical and regulatory challenges in producing increasingly complex devices types. These new realities require close collaboration between all the links in the supply chain.

As a connector supplier, ODU has been supporting its customers for 80 years as a reliable partner for the medical sector. Whether in diagnostics or therapy, in operating rooms or in patient monitoring, we're devoted to delivering continuous high performance and high failure protection, while also working in accordance with the strictest regulations and applicable standards.

OUR QUALITY IS CERTIFIED ACCORDING TO

ISO 13485:2016 Medical devices – Quality management systems – Requirements for regulatory purposes

IEC 60601-1 Medical electrical equipment

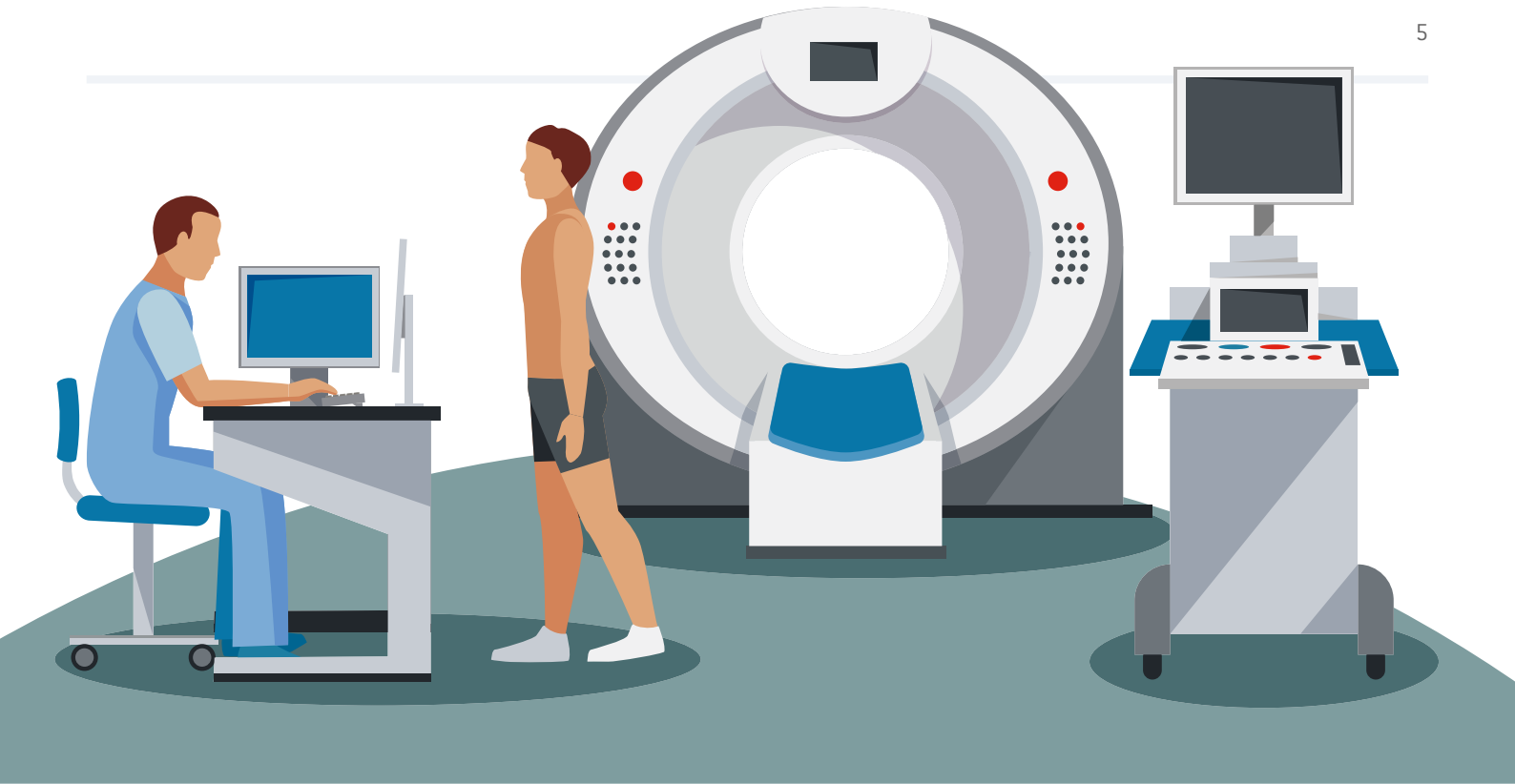
IEC 60664-1:2007 Insulation coordination for low-voltage electrical equipment

ISO 9001:2015-09 Quality management systems

ISO 10993-5 Tests for cytotoxicity

ISO 14644-1:2015 Manufacturing in clean rooms





OUR FEATURES FOR INDIVIDUAL SYSTEMS AND STANDARD SOLUTIONS:



- High-speed and high-density technology
- Sterilizable and autoclavable up to 134 °C and 3 bar
- EMI shielding
- Vibration resistance
- Use of biocompatible materials
- Antimicrobial designs for plastic connectors
- Fiber optic, hybrid and non-magnetic connection options

- Splash-proof or waterproof (IP50, IP67 and IP68)
- Hermetically sealed versions
- Available with bend protection sleeves and cable overmolds (silicone)
- Modular connectors: reliable transmission of signals, power, high-current, high-voltage, RF signals (coax), medical gases and liquids, data rates as well as fiber optic
- Outstanding contact resistance even with more than 100,000 mating cycles
- Variety of robust standard housings
- Customized design possible upon request
- 100 % non-magnetic versions
- Ergonomic and intuitive locking



ODU PRODUCT PORTFOLIO FOR MEDICAL TECHNOLOGY

- ODU MEDI-SNAP®
- ODU MINI-SNAP®
- ODU MINI-MED®
- ODU-MAC® White-Line, e.g., ODU-MAC® ZERO
- ODU-MAC® Blue-Line, e.g., ODU-MAC® PUSH LOCK
- ODU-MAC® for MRI

MDR: MEDICAL DEVICE REGULATION

With the Medical Device Regulation (MDR) coming into force in 2021, the requirements for manufacturers and distributors of medical devices have changed, too. The regulation was the logical response to the rising number of risk reports on medical devices in recent years, including the implant scandal. This new regulation is intended to close the gaps in the previous directive on medical devices and to increase the quality and traceability of medical devices. Ultimately, the aim is to improve and ensure patient and user safety.

Medical device manufacturers and distributors rely on supplier support for compliance with the MDR. ODU has been involved with the MDR since it was first published and has managed to meet a number of its requirements.

To comply with this requirement, ODU provides the required technical documentation, the relevant risk and change management system as well as a management system of CMR substances, among other things. Furthermore, ODU ensures complete traceability through its systems. The topics of patient and operator protection (2 MOPP and 2 MOOP) are implemented for the products in compliance with IEC 60601-1. As a further service, ODU offers the application of the Unique Device Identification (UDI) by laser marking.

Thanks to the consistent implementation of, and adherence to, these points, ODU stands ready as a competent partner for MDR-relevant projects.



M D R



UDI LASER MARKING

Requirements of the Medical Device Regulation (MDR)

ODU supports its customers with laser marking when it comes to Unique Device Identification (UDI). Combined with the silicone-overmolded medical cable assemblies, this gives rise to true multi-talents.

An essential component of the Medical Device Regulation is the permanently legible labeling of medical devices. The traceable UDI code is intended to enable rapid recall within the supply chain – the respective information is stored in the European Database for Medical Devices (EUDAMED).

For reusable surgical instruments, and depending on the relevant application area, the autoclaving cycles that may be required pose a challenge to the “permanently readable marking.” You can rely on laser marking from ODU.

During so-called “cold processing,” the ODU connector is structured by an ultra-short pulse fiber laser without thermal or mechanical influence. The UDI codes remain permanently legible – on both metal and plastic – thanks to their corrosion resistance, viewing angle stability and color.

Laser marking on metal and plastic is resistant to acids, cleaning agents and bodily fluids. What's more, as the surface structure remains unchanged, the medical instruments in question can be kept clean and sterile.

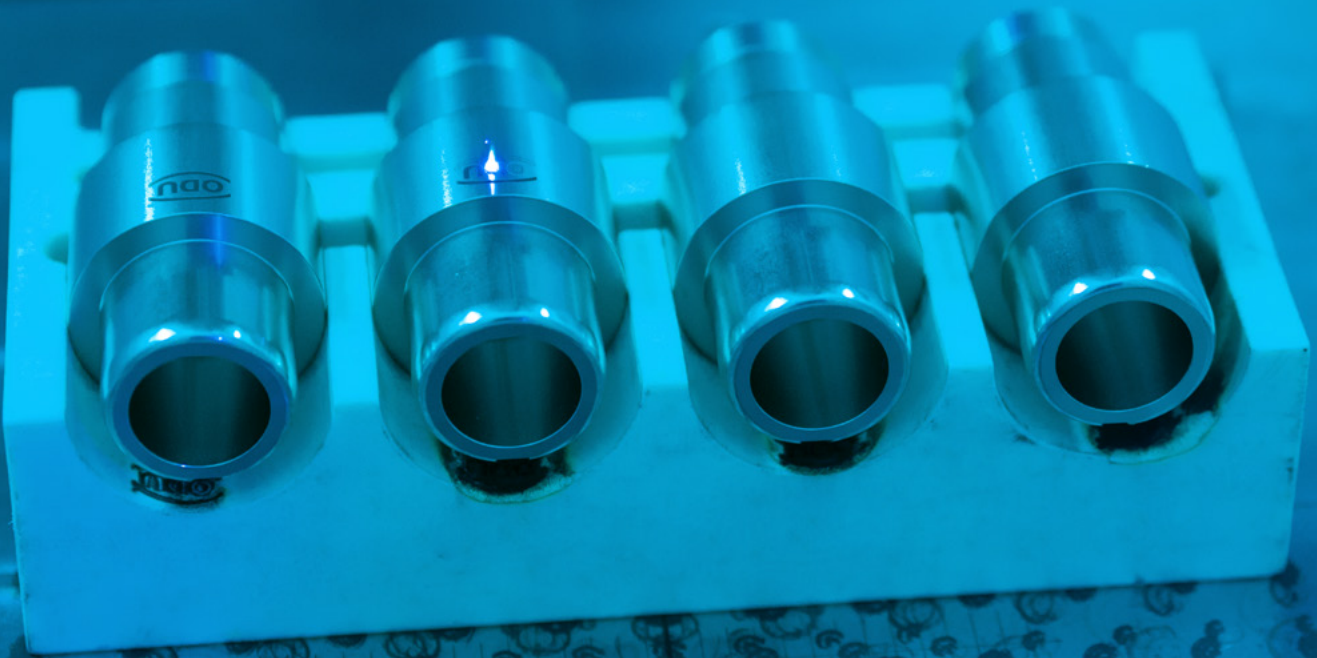
MARKING OPTIONS

(according to customer specifications)

- Datamatrix code with batch number
- Production date
- Serial number
- Manufacturer information such as count number
- Product information
- Plagiarism protection marking



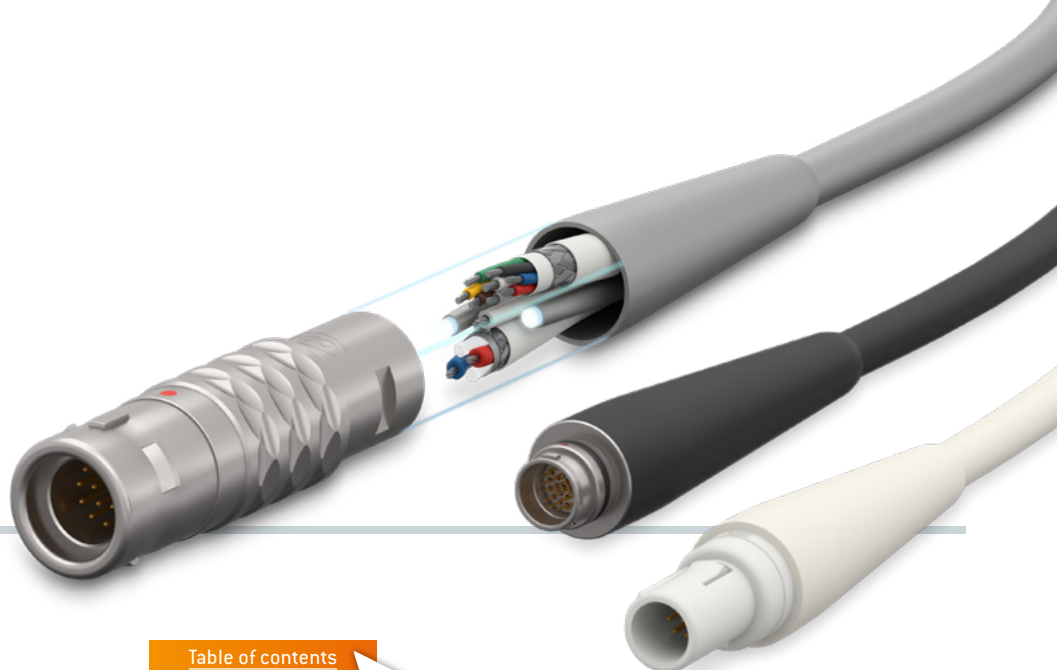
As seen through the tinted viewing window of the ultrashort-pulse fiber laser processing chamber: the laser marking can also be applied to curved surfaces and is only visible through flashes of light on the connector.



Medical products are often exposed to major mechanical and chemical influences, too. Connection systems require an optimal interaction between the connector, connector technology and cable. Process-safe cable assemblies enable data streams, high-current, high-voltage, RF signals (coax), media such as air or fluids as well as fiber optic to be combined.

In a special process, the connection between the cable and the connector itself can be overmolded with silicone in a final step, resulting in a connection that is both absolutely tight and flexible, too. The silicone-overmolding cannot be peeled off or detached even after the autoclaving cycles (steam sterilization at up to 134 °C and 3 bar); biocompatibility with regard to the cytotoxicity test (outgassing) according to DIN EN ISO 10993-5 is confirmed.

The cable assembly integrates cables and wires into the laser-marked connectors. As a silicone-overmolded system solution, the product meets the highest requirements for high-tech medical devices. The sliding silicone-overmold for kink protection, optimum hygiene and easy cleaning is available for the various ODU product series.



Portfolio expansion

SPLIT BOX FOR THE ODU MEDI-SNAP[®]

The ODU MEDI-SNAP[®] portfolio has proven itself to be a reliable, touch-proof solution. The plastic circular connector portfolio was expanded at the beginning of the year to include the new 3.5 size. Special inserts for hybrid solutions offer space for more signals, also in combination with the transmission option of power, fluids or air. Customized solutions for accommodating additional channels such as coax or fiber optic are possible. In a signal-only variant, there is space for 41 contacts.

In modern operating rooms, an optimized workflow is required for patient care due to the growing number and variety of systems and their complex signal and media distribution. Systems must be precisely coordinated with each other and this requirement results in a large amount of cabling. To counteract this, the split box can be used.

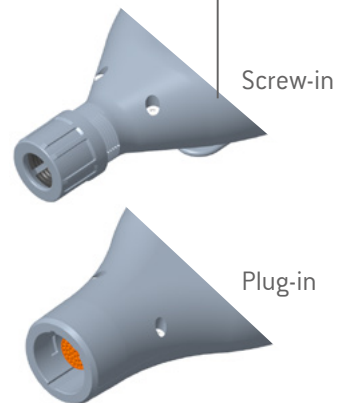
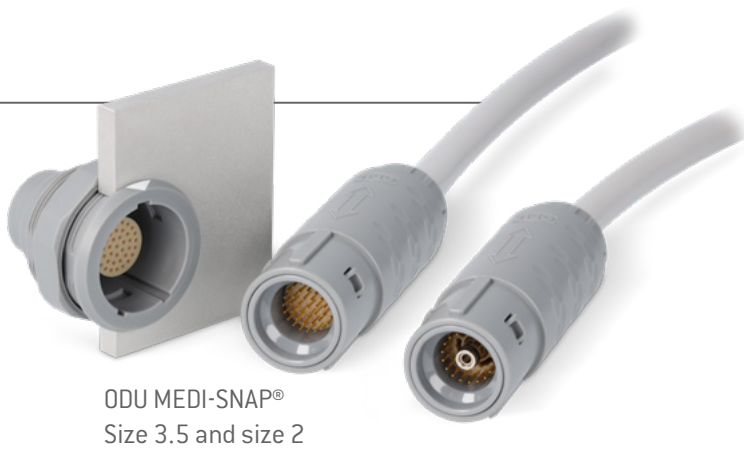
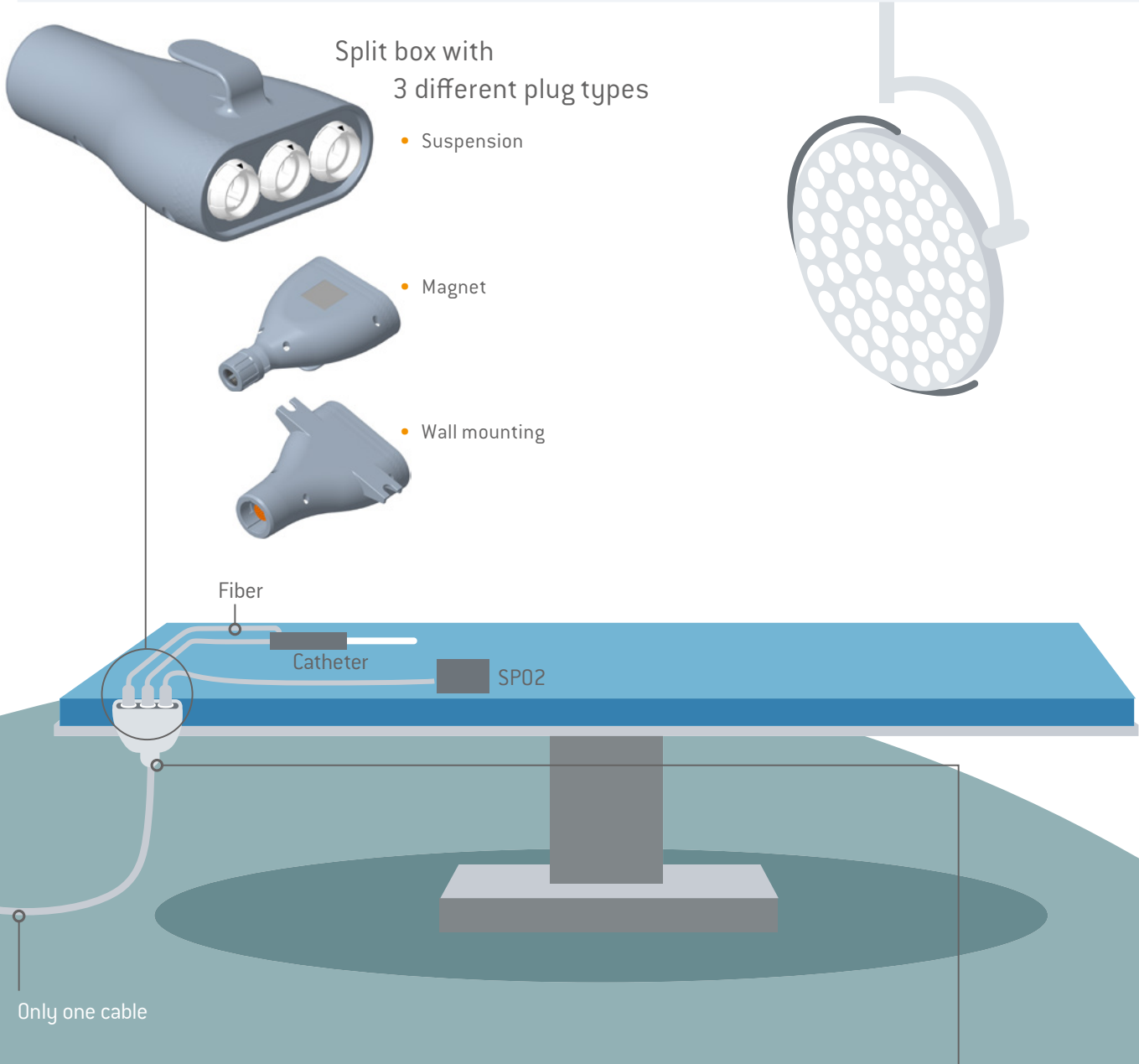
The split box reduces the number of cables and can be mounted via an operating table clamp or through magnetic or wall mounting. The plastic housing is particularly light, optionally biocompatible or antimicrobial. Integrating electronics in the box is of course possible.



BENEFITS

- ⊕ Compatible with all standard products
- ⊕ Hybrid combinations can be used
- ⊕ Contact protection through plastic housing
- ⊕ Integration of fiber solutions and transceivers
- ⊕ Complete solution for housings, connectors and assembly
- ⊕ Flexible mounting
- ⊕ Cable reduction
- ⊕ Fewer lines in the OR
- ⊕ IP protection classes can be selected
- ⊕ Compliant with IEC 60601-1





From surgery to lasering:

ODU-MAC[®] FOR MEDICAL TECHNOLOGY

Complex technology and fast-paced innovation are typical of the medical field. This is where the modular connectors of the ODU-MAC[®] product lines prove their outstanding versatility.



Robots are indispensable in modern operating rooms.

M R I

Operating with robots

It's impossible to imagine a modern operating room without robots for medical procedures – robots can even be controlled remotely via screen. The robot-assisted Da Vinci surgical system is one of the most well-known devices. Its four remotely controlled arms enable surgical equipment, an endoscope, light or gas to be used simultaneously, and the arms can be guided by a single surgeon.

The demand on the interface

The interfaces between the robotic arm and the medical technology play an important role. The interfaces are often modular in design to enable the use of various media, such as compressed air, liquids, power and data streams. To set up the system, connectors in the operating area must be disconnected and reconnected regularly and it's crucial for them to provide a consistent and reliable connection.

When it comes to creating solutions for this sensitive surgical environment, ODU can rely on its many years of experience in magnetic resonance imaging (MRI). The rugged ODU-MAC® product lines meet the enormously high quality standards and ensure fast, reliable transmission – even for large data volumes.



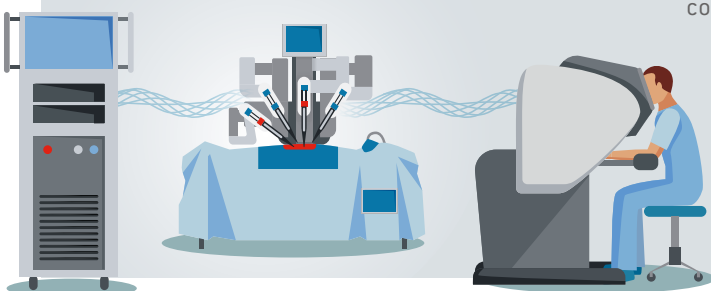
Easy-to-handle hybrid connectors: the ODU-MAC® PUSH-LOCK and the ODU-MAC® ZERO



New ODU Fiber Optic solution

ODU's Fiber Optic solutions are ideally suited for the operation of minimally invasive, robotic-assisted surgery systems. The newly developed Expanded Beam Performance technology enables reliable fiber optic high-speed data transmission between the tower, control console and robot. With the help of a simple communication system in the operating room, this solid foundation ensures the precision and safety of every surgery.

The Expanded Beam Performance technology, currently available in the ODU AMC® Series T, will soon be available for the ODU-MAC® Blue-Line modules, too.



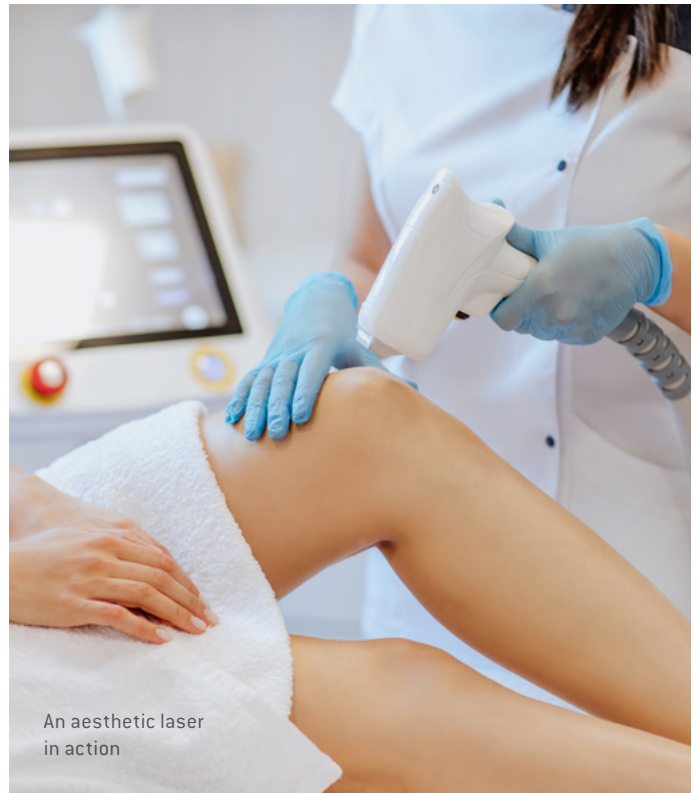
Modular connectors help create beauty

Aesthetic lasers are a completely different application area. Whether used to remove moles or soften scars, lasers can provide a wide range of support. For the devices to be this flexible, they require an equally flexible interface. ODU-MAC® connectors are an ideal solution, as they can be individually configured. Customized housings are used to create the best possible match between the connectors and the design of medical lasers.

Precise 3D images

The X-ray is the most widely used imaging technique. As a proven diagnostic tool, it is used primarily for bone fractures. A mobile X-ray unit with a movable arch allows the patient to lie still during the procedure. Modular connectors, for example, ensure the transmission of high-current, data and signals between the X-ray unit and the monitor cart. Mobile X-ray units also provide precise 3D images during surgical procedures.

No matter the area: All modular connectors are available with the corresponding cable assembly.



An aesthetic laser in action



A mobile X-ray device with ODU-MAC® Blue-Line interface

MEDICAL TECHNOLOGY IN TRANSITION

There's no doubt that the Covid-19 crisis has changed the face of the medical technology industry. According to the "Medical Technology Trend Report" study by SPECTARIS, fundamental changes in the market and in competition are also expected in the future, bringing with them challenges and opportunities in equal measure. Adjustments to the way companies work, the expansion of digital sales channels and digital service solutions are described as the three most important effects to expect. Likewise, corporate functions such as R&D, IT services, regulatory affairs and compliance are in particularly high demand – which poses additional challenges for companies due to the shortage of skilled workers. Digitalization in sales and service, accelerated market consolidation, new working models, but also increasing price pressure due to declining health insurance revenues are seen as developments to be expected in the future.

The political demands left a clear mark on the healthcare system. A drastic shortage of skilled workers in patient care and nursing is increasing the need for support processes. This in turn, is pushing the need to maintain productivity through the growing use of medical technology. It's also driving the demand for robotics and automation to make medical devices even more efficient.

Supply bottlenecks for raw materials and components are delaying production across all industries. What's more, rising

energy costs are making products more expensive. The sense of crisis is forcing companies to increase stock, cut back on investments, attract additional suppliers and ultimately pass on the price increase to customers.

Thanks to ODU's vertical integration, such challenges in the supply chain can be balanced to a higher degree.

ODU's various production sites on different continents support and complement each other on the local level. A global network of medical business development managers also provides local support.

If you have a specific concern, please feel free to contact me.



Mathias Wuttke

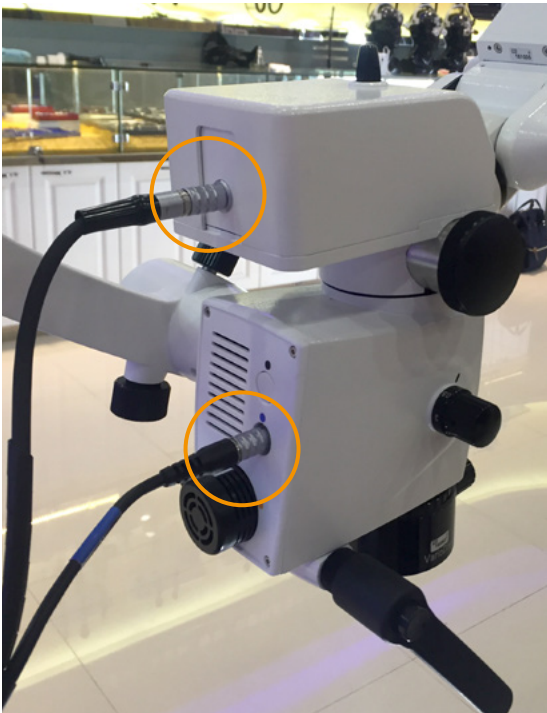
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3D ORAL MICROSCOPE

ODU and Zumax Medical in China



ODU is working with Zumax Medical in China – a Shanghai-based company that brings to the task many years of profound experience in the development of a high-resolution image transmission system for a 3D oral microscope. Zumax Medical is known for its high quality and expertise in the field of medical devices.

ODU's solution includes the ODU MINI-SNAP® Series L connector, with cable assembly – the preferred hybrid interface (signal and power) for medical customers' devices.

High mating cycles (>5,000) and the reliable and smooth locking mechanism were the reasons for choosing ODU MINI-SNAP® series L for this application. For the HD image transmission, the customer and ODU have selected a concept with 4 contacts for power and 16 contacts for signal transmission concept in order to provide a turnkey solution, which also includes the cable assembly services offered through ODU. Due to unique high-speed and high-density technology, as well as good after-sales service, we have established and maintained a long-term relationship with Zumax for many years.

ODU HYBRID CONNECTORS

for AOHUA endoscopy

Founded in China in 1994, AOHUA is a leading global provider of versatile endoscopy solutions. Their innovative, high-quality devices are used in clinical fields such as gastroenterology, respiratory medicine, ENT, gynecology and emergency medicine.

The collaboration between ODU and AOHUA has already existed for 10 years, which underlines the stable relationship and mutual trust between the companies. AOHUA's latest endoscopy innovation required a hybrid connector including cable assembly. The customer needed high-resolution image transmission, requiring an insert for a mix of coaxial and electrical signal contacts, and asked ODU for assistance in finding the most suitable connector solution.

ODU's solution was a compact hybrid insert with coax contacts for image transmission and electrical contacts for signal transmission – embedded in the hybrid ODU MINI-SNAP® connector – which connects to a sensor handle holding the video signal, camera, motor sensor and motor control. AOHUA's need for a hybrid interface reflects market requirements in other segments as well, which is why this customized solution is now part of our standard circular connector portfolio.



Two ODU hybrid connectors on the AOHUA soft endoscope

Connection between
mainframe and CCD

Connection between CCD and
image processing system/
video management



AOHUA's soft endoscope



DISPOSABLE CONNECTORS

Our portfolio at a glance

Reliable and economical **one-way connector solutions** for high-volume medical projects:

ODU offers a break-away connector and receptacle for this purpose – good for at least 25 mating cycles.

ODU PRODUCTS IN USE

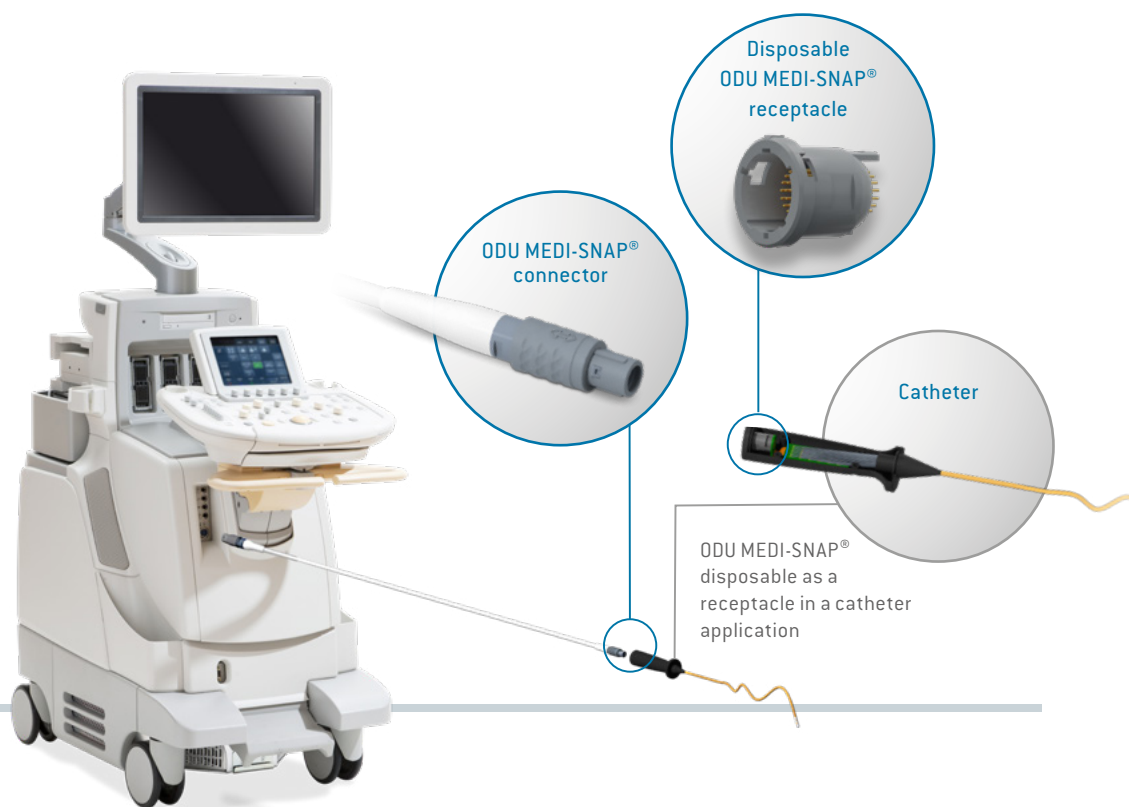
ODU MEDI-SNAP® products are particularly suitable for demanding medical applications that require a high number of one-way connectors, including:

- Electro physiotherapy
- Dermatology
- Endoscopy
- Ventilation
- Dental applications
- Catheterization
- Patient monitoring

In addition to the individually assembled disposable break-away connector, the portfolio also includes disposable receptacles, which, for example, are used in catheters.

FURTHER BENEFITS AT A GLANCE

- Focus on total cost of ownership thanks to fully assembled ODU solutions
- Fast, simplified assembly process thanks to snap-in solution for the receptacle
- IEC 60601-1 compliant: up to 2 MOPP/2 MOOP
- Up to 34 contacts in space-saving design
- Robust mating connector also available in a sterilizable version for up to 5,000 mating cycles
- Up to IP67 in mated condition



ODU AMC[®] SERIES NP

New to the ODU AMC[®] portfolio

This connector is one of the most advanced high-performance miniature connectors and is mainly used for tactical Power Distribution Units (PDU), Conformal Wearable Batteries (CWB) and C4ISR peripherals to transmit USB[®] 2.0 signals and power supply.

Thanks to its easy handling, and robust, space-saving design, the connector is ideally suited for Dismounted Soldier Systems (DSS). In line with this program, the new ODU AMC[®] Series NP is compliant with the current NATO STANAG 4695, also known as the Nett Warrior Connector.

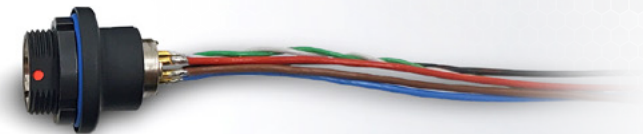
This standard defines the interface between NATO power sources and remote soldier systems.

The ODU AMC[®] Series NP has a quick-lock break-away function and, with its 6 contacts, is designed for signal and power transmission.

The ODU AMC[®] Series NP is compatible with devices, equipment, HUBs and integrated electronic systems. For this purpose, ODU offers cable connections, break-away connectors and receptacles with matching cable assembly, enabling the use of an ODU AMC[®] HD connector at the other end if required.

The product is rain- and water-protected to MIL-STD-810H and rated for submersion up to IP6K9K for soldered versions. It has a long service life with replaceable crimp contacts for up to 2,000 mating cycles.

NATO
STANAG
4695



FREE RIDE

into an electrified future

Since the early days of e-mobility, many manufacturers have relied on the ODU Automotive's innovative connector and contact systems. From the very beginning, ODU Automotive was able to contribute to the development of design features that have had a lasting influence on subsequent connector generations.

Charging

The "Lapp Mobility DOCK" can be charged with a Type 2 charging cable at a household socket. Both the charging adapter and cable are based on ODU TURNTAC® contact technology. Thanks to the perfectly aligned design and manufacturing method, the contacts are suitable for high volumes – in the ODU quality our customers have come to expect.

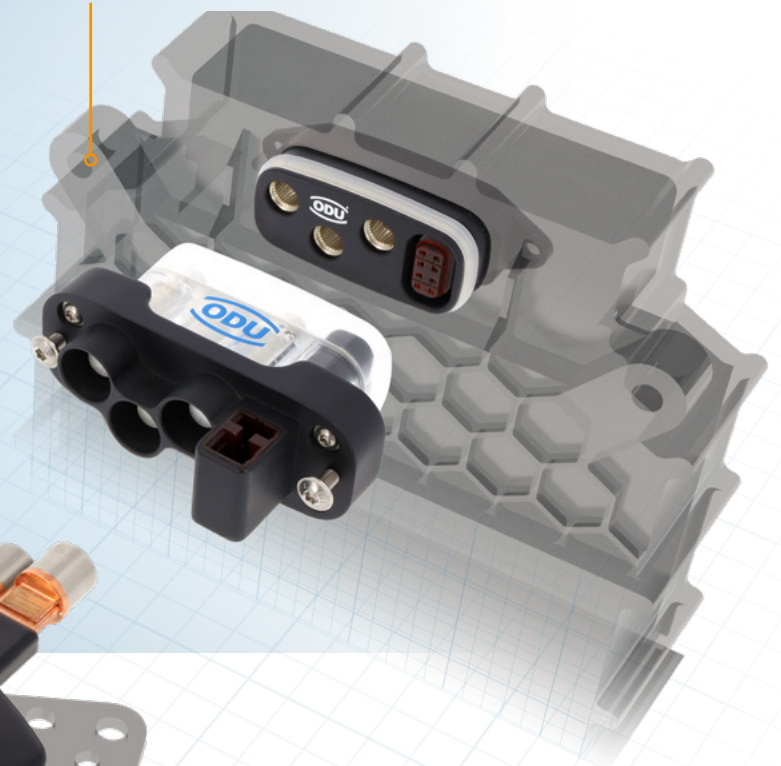


The "Lapp Mobility DOCK" (left) – which received an award from eMove360 in the "Mobility, Connectivity and Engineering" category. As in the Type 2 charging cable (above), ODU TURNTAC® contacts are also used here.

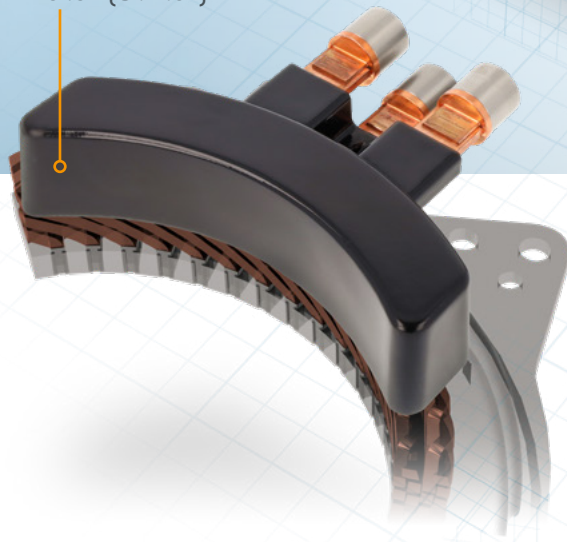
Besides production, ODU Automotive also provides support as a competent development partner – from prototype development to series production!

- ✓ Simulation competence
- ✓ Design competence
- ✓ Testing competence
- ✓ High-volume capability

Inverter



E-Motor (Stator)



Docking

The pioneering spirit that's so typical of ODU is also what enables us to have the appropriate solutions in store and ready to use for future challenges: For example, the ODU DOCKING MATE® allows for a compact and fully integrated plug-in connection between the motor and inverter or the battery and battery management system (BMS) with innovative tolerance compensation. This creates significant cost benefits, both with regard to assembly and in a service or warranty case concerning the connected components.

Ahead of its time: The ODU DOCKING MATE® (at the top) enables efficient assembly processes thanks to tolerance compensation being integrated in the docking system; it is equipped with ODU LAMTAC® Flex contacts (below).

INFO

According to a research report by “Fatpos Global Pvt. Ltd.” from May 2022, the global market for electric vehicle charging cables is expected to grow by an average of 39.2% between 2021 and 2031.

WE'RE EXPANDING OUR CAPACITIES **WORLDWIDE**

An interim report about our expansion measures

THE CONNECTOR in conversation with COO Robert Klemisch and Markus Rannetsberger, Plant Manager at ODU's main plant in Mühldorf a. Inn.





The excavation for the new electroplating plant in Sibiu shows the dimension of the new facility.



THE CONNECTOR Mr. Klemisch, in the previous issue of THE CONNECTOR, you reported on ODU's global expansion of capacities. What progress has been made since then in Sibiu, Tijuana and at the Mühldorf headquarters?

ROBERT KLEMISCH We're very much on schedule at all three production sites. In Tijuana, Mexico, we're currently checking out our options for expansion so we can serve the growth of the dynamically developing North American market from there – we're concentrating on customized and ready-made solutions with a focus on sample construction and speed to market.

THE CONNECTOR How are the expansions coming along at the European plant network at the Mühldorf a. Inn and Sibiu sites in Romania?

ROBERT KLEMISCH The plant expansion is going very well and the new electroplating equipment is being installed right now. Serial production will begin in spring 2023, especially for the various circular connectors with metal housings.

THE CONNECTOR What is the benefit of additional electroplating?

ROBERT KLEMISCH For one thing, the electroplating plant in Sibiu offers a capacity expansion for our circular connectors and it's also our first electroplating plant outside the Mühldorf plant. Which means we're creating an important backup function for our electroplating processes – which are completely chromium VI-free, by the way.

THE CONNECTOR Mr. Rannetsberger, you're in charge of the construction activities in Mühldorf?

MARKUS RANNETSBERGER Yes, I am, and things are progressing quickly there as well. The new bulk silver plant for ODU contacts was opened and went into operation on schedule in the spring. Since then, it's served to support our dynamic growth, especially around electromobility.

THE CONNECTOR Two large buildings for metalworking and assembly are currently being built in Mühldorf, correct?

MARKUS RANNETSBERGER The first building has been completed. The first-floor turning shop is moving in, and the laboratories and offices are almost ready. The construction of the second building for assembly work is ahead of schedule and will be ready for use as early as the 1st quarter of 2023. With five floors, these are our tallest buildings.

THE CONNECTOR Thank you very much for your time, Mr. Klemisch and Mr. Rannetsberger, and keep up the good work!



MARKUS RANNETSBERGER,
PLANT MANAGER

ROBERT KLEMISCH,
CHIEF OPERATING OFFICER

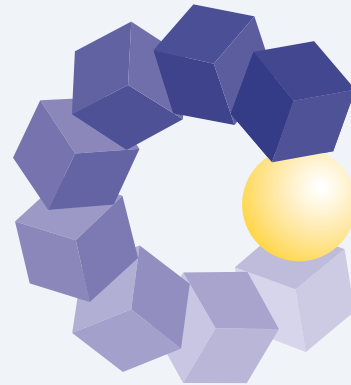
ODU AT

COMPAMED

The COMPAMED trade fair in Düsseldorf is the international trade fair for the medical supply industry and product development. More than 750 German and international exhibitors and suppliers are present at the fair, offering a comprehensive range of products, materials and services for the medical industry. COMPAMED will take place from November 14 to 17, 2022.

Stop by! We look forward to seeing you there.
You'll find us in hall 8A, stand P19.

COMPAMED



Member of  **MEDICAlliance**

DÜSSELDORF, GERMANY
14-17 NOVEMBER 2022

You won't find us at electronica this year

The electronica trade fair will finally be taking place again from November 15 to 18, 2022 in Munich. While we won't be represented there this year, we'd like to take this opportunity to invite you to visit us at our headquarters in Mühldorf. We're less than an hour away from the trade show.

Just make an appointment with us at sales@odu.de – we look forward to your visit!

We'll be happy to serve you some traditional Bavarian "white sausages" when you come to Mühldorf!



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ODU headquarters in Mühldorf a. Inn

ODU EXPERTS ON AIR

Digital formats
with added value

The past two years have demonstrated just how important digital formats are when it comes to staying in touch. Contact restrictions and canceled events made exchanging information difficult. Even though the restrictions have since been lifted, the “work from home” policy remains in place to an extent, requiring ever more digitalization without a loss of information.

This is why we’ve introduced our new “ODU EXPERTS ON AIR” series. A platform where ODU employees from different areas provide information about products, applications, new regulatory requirements and much more. You can find our contributions on the ODU website and social media channels. We’d also like to stay connected through webinars where we can discuss a wide range of topics together.

Do you have any specific topic requests?
Feel free to get in touch.

MASS INTERCONNECT WEBSITE

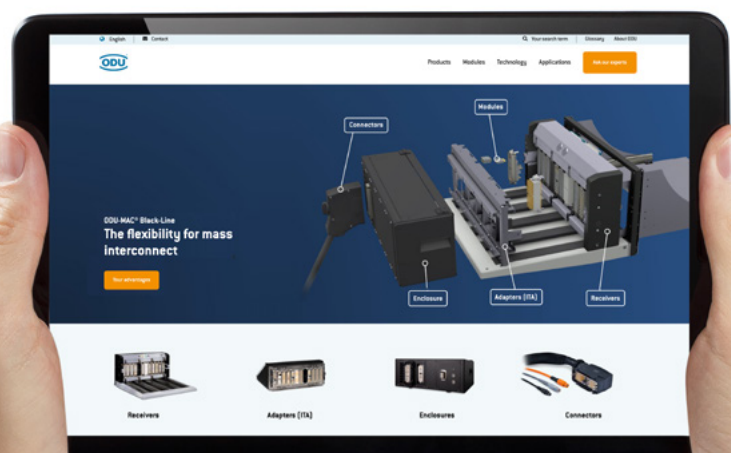
Online
now!

All in one place: Our new mass interconnect website provides compact information in a clear layout.

Expect to receive the precise content that is relevant for you. Mass interconnect solutions are used for testing printed circuit boards and other assemblies. A dedicated page for this exciting topic is now available online.

Check now:

www.odu-interconnect.com



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DIGITAL STRATEGIES

for faster deliveries



Material bottlenecks slow down production. According to the German ifo Institute for Economic Research, one of the causes of the restrained industrial production development is the scarcity of input factors, some of which are unavailable in the amounts required for production due to tight transport capacities. Uncertainties about future economic developments since 2020 have prompted companies to both adjust their production plans and downsize their production and transport capacities across many sectors. The economic upturn generated a strong demand which could not be fully met – this was due in part to the blockade of the Suez Canal shipping route and supply chains still being severely impaired by the pandemic.

Digi-Key and Mouser Electronics also selling ODU's product range online

Since we want to continue to supply our customers with our products, especially when they require small or very small quantities, ODU decided to offer its circular connectors via online providers such as Digi-Key and Mouser Electronics. These platforms are among the major online suppliers of electronic parts and components, distributing products in over 170 countries. The advantage is that delivery is possible within a few days, and within the USA, usually the next day. We're continuously working to expand the ODU product portfolio we're offering through online platforms.

On our website you'll find our Product Finder which gives you the option of selecting express products. ODU Express stands for fast availability of standard products. We can ship up to 15 modular connectors or up to 150 circular metal connectors to you worldwide within 15 days.

www.odu-productfinder.com

ODU EXPRESS

80 YEARS OF ODU



Just in time for our 80th anniversary, we're able to celebrate together again! For almost 80 years now, we've known how to do both work and celebrate together. Whether it's a Christmas party or a company outing, the last two years have been very austere, and it's been good for us all to be able to celebrate together again – especially since we had a milestone anniversary to celebrate! Actually, we love celebrating every year ...



Pictures from the company celebrations on July 22

New Sales Manager at

ODU ITALY



PAOLO MAGNI, SALES MANAGER

Paolo Magni is Italian and an asset to ODU's European sales team. He's in charge of business development in Italy. He holds a Master's degree in Telecommunications Engineering with a specialization in Optical Communications as well as a Master's degree in Business Administration.

Over his nearly 20 years of professional experience in international B2B high-tech markets, he has served as a field application engineer, a product line manager, a product marketing manager, a business development manager and a sales and marketing director.

His professional career started in the area of electronics and telecommunications. For the past 10 years, he worked in the measurement and test industry at Yokogawa in the Netherlands and most recently at Technor, a Marechal Electric Group company that manufactures explosion-proof electrical equipment.

Paolo Magni is a passionate sportsman and motorcyclist and is looking forward to working with his colleague Fausto Comi and ODU. His previous experience in various industries and ODU's broad and high-quality product portfolio leave him convinced that there's great potential for growth in the Italian market.

Welcome Paolo!

HOBBIES

Hiking, skyrunning, mountain biking and motorcycling

PROFESSIONAL GOALS

To expand ODU Italy's sales and market presence

PREFERRED VACATION DESTINATION

Anywhere I can find nice roads to ride my motorcycle on

WHAT I APPRECIATE MOST ABOUT PEOPLE

Their diversity, because it enriches us all

STRENGTHS

A "can-do" attitude along with emotional intelligence

WHAT I APPRECIATE ABOUT ODU

ODU's focus on innovation and the reliability of its products

FAVORITE QUOTE

Yes, we can!



Regional Sales Manager at

ODU DENMARK



THOMAS ULLNER, SALES MANAGER

Thomas Ullner is the new Regional Sales Manager at ODU Denmark. He joined the team in April this year and received a warm welcome. Our Danish colleague Helle Rejndrup and the local sales team, Mads Haastруп and Kenneth Pedersen, are also thrilled about this new addition.

With his training and experience in the various markets, Thomas Ullner is an asset to the European ODU sales team.

His career so far: In 1991, he trained as an electrician and worked in telecommunications for 10 years. He then worked for several leading Scandinavian distributors both in sales and as a product manager for low- and high-voltage and fiber optic interconnect solutions. As an experienced B2B business developer and key account manager, he served national and multinational customers.

Welcome Thomas!

HOBBIES

DIY projects and finally playing golf again

PROFESSIONAL GOALS

Generating growth for ODU through long-term customer partnerships

PREFERRED VACATION DESTINATION

Italy

WHAT I APPRECIATE MOST ABOUT PEOPLE

Honesty and open-mindedness

STRENGTHS

Analytical thinking and perseverance

WHAT I APPRECIATE ABOUT ODU

Its focus on its core business

FAVORITE QUOTE

"I've never tried this before, which is why I believe I should definitely be able to do it."

Pippi Longstocking by Astrid Lindgren



GLOBAL POWER

ODU Application Center

What does an iceberg have to do with ODU's product portfolio? Two things:

First, only a small portion of the products is visibly displayed, such as in catalogs, at trade fairs, on the internet. The far larger part of our portfolio is not visible to the public, because it consists of individual and custom-fit solutions for our customers.

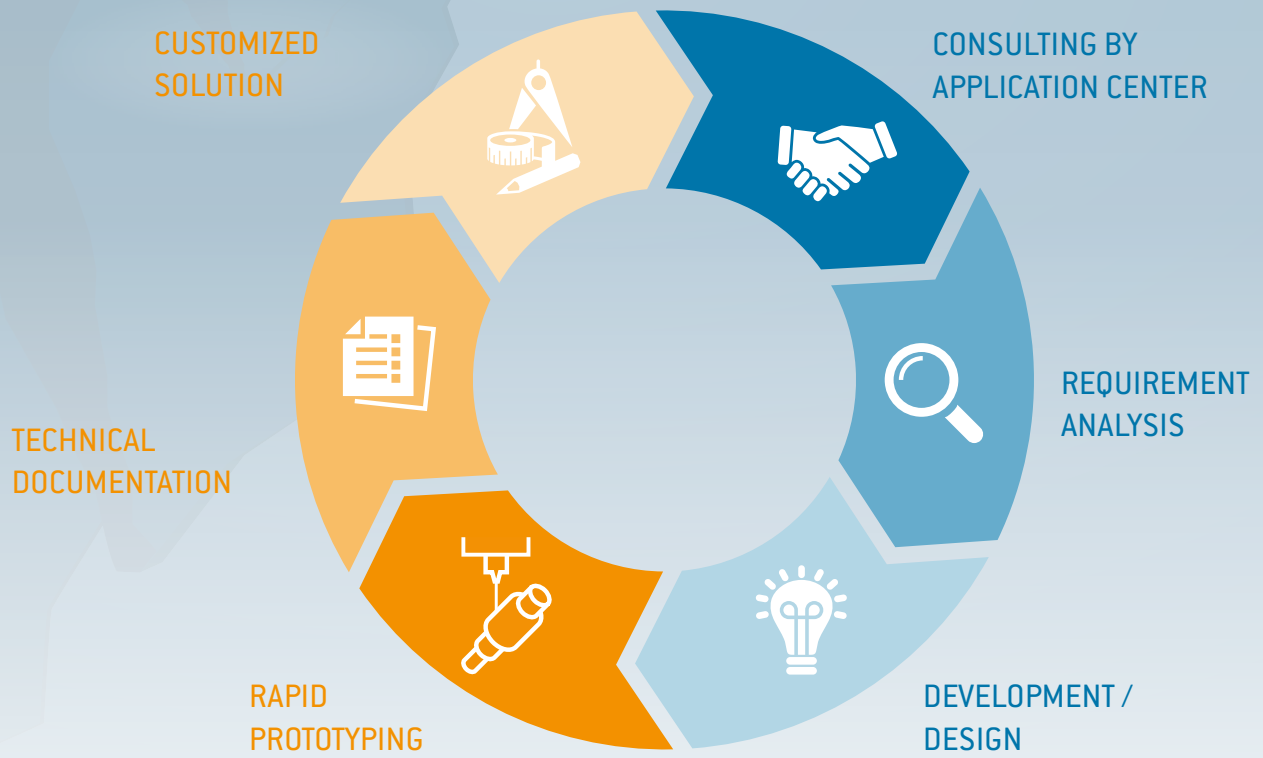
Second, it is made of the same material below and above the waterline. At ODU, our manufacturing processes and materials are often identical or at least similar in kind. In our Application Center, custom-fit products are developed. This ranges from a slightly modified version of a catalog product to a completely tailored design, based on various solution concepts. Having a specific interface produced by ODU has proven a successful approach for our customers. In most cases, this makes their product better because the important connection technology fits with greater precision. Sometimes, however, it's also a matter of purely visual requests for color and shape, or the use of the customer's

logo and respective haptic design. Sometimes it's a matter of purely technical requirements for cleanliness, tightness, corrosion resistance, miniaturization, integration of electronics and other aspects.

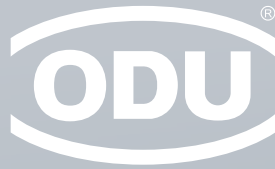
If the customer's product proves successful, we support it for a very long time and often for several generations. In most cases, it is a long process from the initial concept to the first serial delivery. For instance, we're currently finishing some very special connectors, whose development began in 2014, for the field of oil and gas, along with another connector series for the military field, which was initiated in 2015. It makes us happy to complete a development and since our customers tend to be so successful with their products, our business with them lasts for a long time. Our customers can rely on our expertise, and our Application Centers are at the ready, wherever in the world you may be!



APPLICATION CENTER
TEAM ODU GERMANY



APPLICATION CENTER
TEAMS ODU-USA, ODU CHINA AND
ODU-FRANCE



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