



NEWSLETTER

September 2026

OPTOKON Newsletter September 2026

Welcome to the September 2026 edition of our newsletter.

This quarter took us across borders and back into the laboratory. In Málaga, we exhibited at **ECOC 2026**, presenting our fiber optic connectivity portfolio, test equipment, and cabling solutions to a sector moving fast under the pressure of data centre expansion and AI-driven capacity demands. Closer to home, we joined the **6th Armaments Conference in Ostrava**, where the conversations centred on the future direction of Czech defence capability.

We were also honoured to attend the **250th Anniversary Celebration of the United States**, hosted at the US Embassy in Prague, an occasion that carried particular meaning for us given our own long history of transatlantic cooperation.

Beyond the exhibition floor, this period brought significant **progress in research**. Together with the Czech Technical University in Prague and the Nuclear Research Institute Řež, we published findings on **optical communication in high-radiation environments**, confirming reliable data transmission after gamma irradiation of up to 198 kGy. The **DURECO project** has meanwhile moved from preparatory studies into functional simulation environments, real measurement work, and concrete industrial tasks, with partners meeting in September to review progress and set the next steps.

You will find a closer look at each of these in the pages ahead.

We hope you enjoy this edition, and thank you for following our journey.

Recognized in Key Industry Reports

We're pleased to share that OPTOKON has once again been featured in a recent global market report, the **High Density Optical Distribution Frame Market Outlook 2026-2032**, a recognition that reflects the strength and relevance of our product portfolio on the international stage.

Being included in this independent industry analysis is a meaningful validation of the work we do every day. It confirms that our solutions are recognised not only by our direct customers and partners, but also by analysts tracking the wider direction of the fiber optics and telecommunications market.

This report highlights our continued commitment to precision, innovation, and dependable performance in the field. As the industry evolves and the demands placed on network infrastructure continue to grow, OPTOKON remains focused on supporting telecom networks and data centers with the high-quality, reliable solutions necessary for next-generation fiber optic infrastructure.

We see this recognition as both an encouragement and a responsibility, and we remain committed to maintaining the standards that have earned OPTOKON its place in this report.

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OPTOKON at ECOC 2026 in Málaga

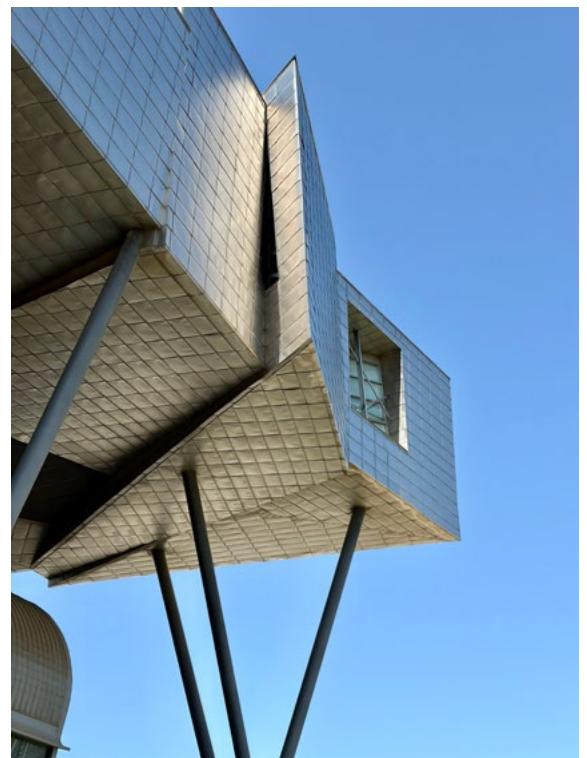
From 21 to 23 September, OPTOKON exhibited at **ECOC 2026 in Málaga, Spain**, one of the most important gatherings in the optical communications calendar.

Over three days, we presented our fiber optic connectivity portfolio, test equipment, and cabling solutions, with a particular focus on the requirements of data centres and the **infrastructure supporting AI scaling**. As demands for speed and data capacity continue to grow, the role of reliable, high-performance optical infrastructure becomes increasingly central, and this was reflected in many of the conversations we had throughout the event.

Our team was joined by **representatives from our Spain office**, which allowed us to connect with visitors on both a local and international level throughout the exhibition.

ECOC gave us the opportunity to meet new contacts and reconnect with existing partners and customers, strengthening relationships built over many years while exploring new ways to contribute to a market that continues to evolve at pace. The discussions around optical communications, data centre infrastructure, and AI-driven capacity demands were a valuable reminder of how quickly this sector is moving.

We would like to thank the organisers for putting together a successful and busy event, filled with innovative companies and engaging conversations.



Other Notable Exhibitions Attended



DSA 2026
Kuala Lumpur, Malaysia



Modern Day Marine 2026
Washington D.C., USA



SAHA EXPO 2026
Istanbul, Turkey



SPEXA 2026
Tokyo, Japan

Upcoming Exhibitions



Securex Caspian
30.9. - 2.10. 2026
Azerbaijan, Baku



Land Forces
6 - 8.10. 2026
Perth, Australia



CABLEXX 2026
26 - 27.10. 2026
Cairo, Egypt



**VIET NAM
DEFENCE EXPO 2026**
10 - 13.12. 2026
Ha Noi, Viet Nam

OPTOKON at the 250th Anniversary of the USA in Prague

OPTOKON had the honor of being invited to the **ceremonial celebration marking the 250th anniversary of the United States of America**, held at the U.S. Embassy in Prague.

Hosted by **Ambassador Nicholas Merrick**, the event brought together representatives from diplomacy, business, and public life across the Czech Republic. OPTOKON was represented by our **CEO and Chairman, Ing. Jiří Štefl**.

The occasion also reflects OPTOKON's long-standing ties with the American business environment. From 1996 to 2011, OPTOKON was part of **Methode Electronics Inc.**, a partnership that shaped the company's international growth and helped strengthen transatlantic business relations that continue today.

We thank the U.S. Embassy in the Czech Republic for the invitation and for including OPTOKON in this exceptional milestone.



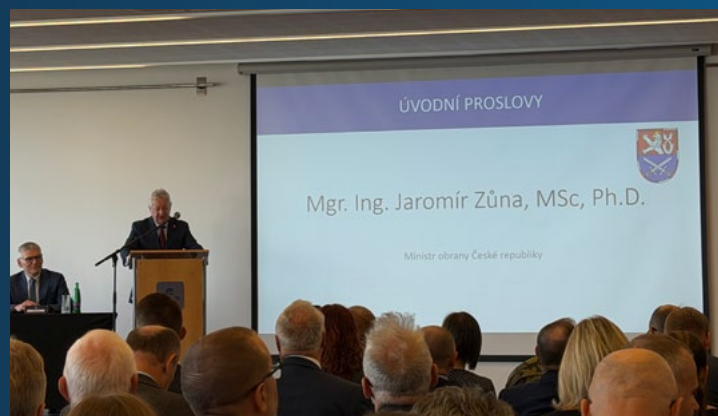
OPTOKON at the 6th Armaments Conference in Ostrava

OPTOKON took part in the 6th Armaments Conference (6. vyzbrojovací konference) in Ostrava, held under the theme **"Modernization of the Armed Forces in the Context of Rapid Technological Progress."** The event was organized by the Armaments and Acquisitions Section of the Ministry of Defence of the Czech Republic (SVA MO ČR), together with Jagello 2000, z. s., the Association of the Defence and Security Industry of the Czech Republic, and the Chamber of Commerce.

Around 130 participants attended, including representatives of the Ministry of Defence, the Czech

Armed Forces, the defence industry, the Government and Parliament of the Czech Republic, and the Ministry of Foreign Affairs. The program featured a keynote by the Minister of Defence, an overview of support tools for technological development, and a panel discussion on strengthening the domestic defence industry through research, development, and innovation.

For OPTOKON, the conference was a valuable opportunity to connect with the wider Czech defence and security community and stay closely aligned with the Armed Forces' modernization plans.



OPTOKON at EURO DEFENCE EXPO 2026

From 23 to 25 September, OPTOKON took part in the first edition of EURO DEFENCE EXPO (EUDEX) in Essen, Germany.

EUDEX brought together companies, institutions and representatives of the defence and security sector from **across Europe and beyond**. The exhibition focused on modern defence technologies, communication systems, cybersecurity, unmanned systems, surveillance, logistics and other key areas shaping the future of the industry.

During the event, OPTOKON participated in a series of B2B meetings organised with the support of the **German-Czech Chamber of Industry and Commerce**.

We met with several important companies and discussed opportunities for future cooperation, joint projects and further development of business relations.

The meetings in Essen gave us the opportunity to establish new contacts, strengthen existing partnerships and explore new possibilities for cooperation in the international defence and security market.

We would like to thank the German-Czech Chamber of Industry and Commerce for its support in **arranging the B2B meetings** and helping us connect with relevant partners during the event.



Students from Turkey complete their internship

OPTOKON once again welcomed students from **Turkish Anatolian Technical High School** as part of the ERASMUS+ programme. The students successfully completed their one-month internship at our company, during which they gained valuable practical experience in a real working environment.

During their stay, the students had the opportunity to learn more about the daily operations of OPTOKON, become familiar with our production processes, technical background and work across selected departments. The internship allowed them to **connect their theoretical knowledge with practical skills** and gain a better understanding of quality, precision and teamwork in a modern technology company.

This cooperation represents one of the **longest-running partnerships with schools that OPTOKON has developed over the years**. Students from Turkey regularly come to OPTOKON for professional internships, making this collaboration an important and stable part of our educational and international activities.

Through this long-term cooperation with Turkish Anatolian Technical High School and the ERASMUS+ programme, OPTOKON continues to support practical education, young technical talent and international collaboration.



A New Chapter in the GOLDENJEST Industrial Group

As part of GOLDENJEST International's long-term strategic development, an important milestone has been reached in strengthening the Group's industrial and technological background. GOLDENJEST first entered VARER Savunma ve Havacılık in August 2025, when it acquired a 50% share in the company. At the turn of August and September 2026, GOLDENJEST further increased its share and obtained a majority ownership.

This step represents an important milestone in the development of the Group and confirms the long-term strategy of building a stable industrial platform connecting optical technologies, telecommunications, system integration, defense solutions and precision engineering.

Following the acquisition of the majority share, the company entered a new phase of development. Changes were introduced in management, strategy and overall corporate philosophy. One of the first visible steps of this transformation was the change of the company name from **VARER Savunma ve Havacılık** to **DEMTORA Savunma ve Havacılık**.

For OPTOKON Group, DEMTORA represents a new sister company that suitably complements the existing capabilities of the Group. While OPTOKON has long been developing optical technologies, telecommunications infrastructure, tactical communication solutions, system integration and cable manufacturing, DEMTORA brings strong expertise in precision engineering, CNC production, mechanical parts, assemblies and metrology.

This connection creates a broader industrial platform that allows the Group to respond more effectively to customer needs in the defense, aerospace, telecommunications and industrial sectors. The combination of OPTOKON's experience with DEMTORA's manufacturing and engineering capabilities opens new opportunities for joint projects, localization of production, development of technical solutions and strengthening of the supply chain.

DEMTORA's new strategy will focus on the modernization of production processes, quality improvement, effective project management and long-term stability. An important goal will also be the development of cooperation across the companies of GOLDENJEST Group, so that each company can use its own specialization while jointly acting as a stronger and more comprehensive technology partner.

The change of name from VARER Savunma ve Havacılık to DEMTORA Savunma ve Havacılık is therefore not only a formal change. It symbolizes a new beginning, a new management philosophy and a clear integration of the company into the wider industrial ecosystem of GOLDENJEST Group.

For OPTOKON, the creation of the sister company DEMTORA is an important opportunity to further expand the technical capabilities of the Group. Together, we can offer customers a broader combination of expertise, from optical and communication technologies to precision engineering and the production of mechanical components for demanding applications.



Optical Communication in High-Radiation Environments

Reliable communication is essential wherever safety, monitoring and control systems must operate under demanding environmental conditions, particularly in nuclear power plants, radioactive-waste repositories, nuclear medicine and other critical-infrastructure applications, where optical cables may be exposed to ionising radiation throughout their service life.

OPTOKON Kable took part in a joint research project with the **Czech Technical University in Prague** and the **Nuclear Research Institute Řež** to investigate how gamma radiation affects optical cables with single-mode fibres. The findings have been published in the peer-reviewed journal *Radiation Physics and Chemistry*.

The study tested an experimental optical cable with **four G.657.A1 single-mode fibres**, exposed to gamma radiation from cobalt-60 sources at doses of up to **198 kGy**, well above the approximately 17 kGy anticipated over the operating lifetime of a planned cable route at the **Dukovany Nuclear Power Plant**. Even at the highest tested dose, the cable maintained data transmission of **944 Mbit/s** over 100 metres, compared with an initial speed of 946 Mbit/s, confirming **performance close to 1 Gbit/s even after significant radiation exposure**.

The research also found that **operation at 1310 nm produced the lowest radiation-induced attenuation** compared to longer wavelengths such as 1490 nm and 1550 nm, an important consideration for designers of communication systems intended for radiation-intensive environments. Additionally, the total absorbed gamma dose proved to be a more significant factor in attenuation than the rate at which the dose was received.

These findings confirm that **optical communication can remain reliable even under challenging gamma-radiation conditions**, and demonstrate why cable performance must be evaluated as a complete system, covering construction, protective materials, fibre design and operating wavelength, rather than the optical fibre alone.

Participation in this research reflects OPTOKON's broader commitment to developing and validating dependable communication solutions for environments where reliable data transmission is critical.

The full peer-reviewed article, "**The effect of gamma-ray irradiation on optical cables with Ge-doped single-mode fibers**" is available [here](#).



LMCP: Central Compute and Communication Platform

At the heart of every C5ISR topology sits a platform capable of tying every system together, and that is exactly the role the LMCP fills. **Combining server, router, managed switch, VoIP, and virtualization capabilities** in a single ruggedized unit, the LMCP acts as the central compute and communication backbone for mission-critical operations.



Working Alongside Partner Technology

The LMCP integrates with **tactical radios (VHF, HF, UHF, TETRA), MANET, 4G, 5G, and SATCOM** connectivity, multi-UAV control for up to four UAVs with live video and telemetry, advanced EO/IR, thermal, low-light, and radar sensors, and target/threat analytics for tracking, classification, and alerting.



Native Capabilities

The LMCP runs mission applications, databases, and data processing at the point of deployment, with tactical routing for secure voice and data connectivity, rugged Cisco-based managed switching, and integrated VoIP for crew, radio, and voice communications. Virtualization via VMware and Linux, backed by RAID storage and redundant architecture, keeps critical services available under demanding conditions.



OPTOKON's Integrated Capabilities

Beyond the platform itself, OPTOKON delivers mission management for planning and tasking, operator workstations with multi-screen tactical displays for up to four operators, secure intercom and radio integration, video architecture supporting up to 12 inputs, and network and cyber management including **NGFW, DPI, IDS/IPS, and EDR**.

Vehicle integration covers power, cooling, cabling, and acceptance testing, while mission system interfaces connect the LMCP to BMS, radios, UAVs, sensors, and cameras. C2/BMS functionality adds common operational picture sharing, GIS, BFT, navigation, and reporting.

Together, these capabilities make the LMCP **far more than a single device**, it forms the backbone of a complete, integrated mission system.

We are currently developing a new version of the platform to broaden its capabilities even further, and look forward to sharing more.



OPTOKON Supports Czech Hockey

OPTOKON has recently become a sponsor of the ice hockey club **SC RETIA Kolín** and the university team **VŠPJ Dukla Jihlava**. We are thereby expanding our support for sport into two environments that share a common foundation in teamwork, long-term development, and support for young people.

SC RETIA Kolín is a traditional Czech ice hockey club with a history dating back to 1932. Its A-team competes in the **second-highest Czech ice hockey league**, while the club also maintains a long-standing commitment to youth development and the training of new players.

The second area of our support is the university team VŠPJ Dukla Jihlava, which represents the **College of Polytechnics Jihlava in the University Ice Hockey League**. This league connects university studies with the opportunity to continue playing hockey at a competitive level, creating space for students who wish to develop their sporting careers alongside their education.

Support for the VŠPJ Dukla Jihlava team naturally builds on OPTOKON's **long-standing cooperation**

with the College of Polytechnics Jihlava. OPTOKON is a strategic partner of VŠPJ, and the two organisations collaborate across a range of areas connecting the academic environment with industrial practice. This partnership in university hockey further extends that cooperation into the world of sport and student life.

For OPTOKON, supporting the Jihlava university team also carries a strong regional dimension. As a company with a long-standing presence in Jihlava, we want to contribute to the development of the local community and to support activities connected with the younger generation, education, and sport.

Through our partnerships with SC RETIA Kolín and VŠPJ Dukla Jihlava, OPTOKON supports Czech hockey at both the club and university level, while also championing values that matter beyond the world of sport: teamwork, discipline, and long-term commitment to results.

We are proud to be part of their upcoming sporting seasons.

The DURECO Project Continues to Bridge Research and Industrial Practice

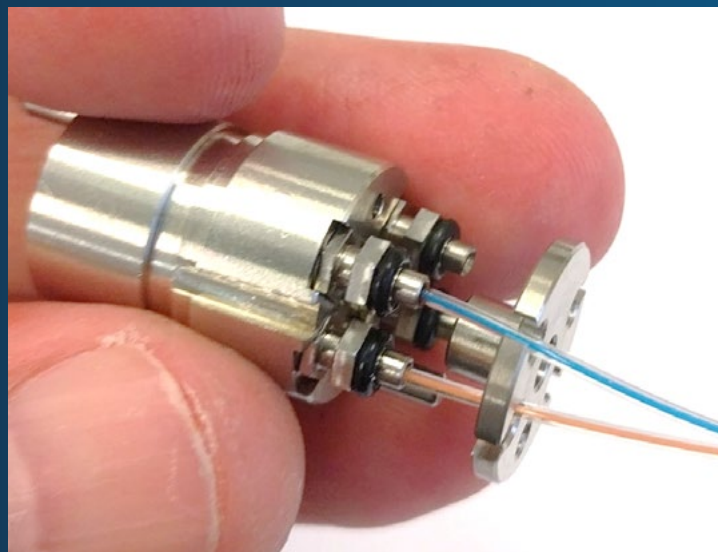
On 10 September 2026, representatives of VŠPJ and OPTOKON, a.s. met at the College of Polytechnics Jihlava to jointly evaluate progress on the DURECO project, present the results achieved so far, and discuss the **future direction of their shared research and development activities**.

The DURECO project is founded on close cooperation between the **academic and industrial environments**. Its aim is to advance knowledge in the reliability of structural components, sensor technology, signal processing, and technologies intended for use in demanding operational conditions. The research is designed so that theoretical and experimental findings can gradually find application in real-world technical solutions.

The research component of the project is divided into two main activities. VA1 focuses on the **reliability and service life** of components and equipment, covering VA1.1 (behaviour of 3D structures), VA1.2 (influence of structural notches), VA1.3 (dynamic loading of composites), and VA1.4 (chemical changes in materials). VA2 focuses on **sensors and signal processing**, covering VA2.1 (data analysis, peak detection, and noise filtering) and VA2.2 (advanced sensors, optical fibres, and signal interference characteristics). These areas are not addressed in isolation, but **complement one another according to the needs** of specific research tasks.

Over the course of the project, the collaboration has gradually progressed from defining the research framework and preparing the necessary equipment to concrete simulation, experimental, and structural tasks. In 2025, the core areas of expertise were established and the technical infrastructure was prepared. During 2026, joint activities expanded to include simulation research, work with real measuring instruments, and the application of results to specific industrial needs.

Significant progress has been made in particular within activities VA2.1 and VA2.2. The VŠPJ team brought the GEANT4 simulation environment online and began using it to address specific research tasks. Within this environment, a sensor model corresponding to a real OPTOKON device was created, and the generation of energy spectra for further data



analysis was launched. This has given the research team its own simulation foundation, allowing physical modelling to be more closely connected to the actual characteristics of the sensors in use.

An important element of the collaboration is the connection between simulation work and experimental verification. OPTOKON provided the VŠPJ team with its own spectrometer, and a calibration mixture of isotopes was also secured for the research. This makes it possible to compare simulation results with real data and to prepare further steps toward their automated processing.

One of the long-term directions of activity VA2 is also the use of artificial intelligence methods in processing measured data. The joint team is exploring the possibility of using neural networks to identify isotopes based on energy spectra. Work so far has focused primarily on building a suitable data foundation and preparing the environment for further training and validation of models. The next phase is expected to move toward validating these models on real measurements.

Progress has also been made in activity VA1, particularly in area VA1.1, which focuses on the structural behaviour of components under load. Specific industrial structural tasks from OPTOKON have gradually been incorporated into the joint work. Researchers are thus able to work not only with general models, but also with real technical documentation, allowing them to examine, for example, the thermal

behaviour of a structure and the possibilities for optimising its design. This gives the project a further significant applied dimension.

The project also includes the development of research and experimental infrastructure. The partners have prepared a selection of technologies for measuring electrical and optical parameters, signal analysis, microscopic inspection of components, monitoring of electromagnetic phenomena, and data processing using advanced computational methods. The project thus creates conditions not only for the tasks currently being addressed, but also for further joint research.

An important part of DURECO is also the use of OPTOKON's long-term technological and manufacturing know-how in the field of optical fibres, connectors, and measurement methods. Academic research can thus build on practical experience in the production and testing of optical components, while the industrial partner gains access to new methods of simulation, analysis, and experimental verification.

During 2026, the project's area of expertise was also expanded through international activities. Meetings in the United States brought new insights into the resilience of optical systems, specialty fibres, and

photonics. Subsequent expert discussions in Japan focused on areas such as reliable electronics, embedded systems, advanced sensor technologies, and solutions designed for demanding operational environments. The contacts and experience gained represent a further source of knowledge that can be applied in the following stages of the project.

The meeting of partners at VŠPJ on 10 September 2026 thus provided an opportunity to **review work completed so far** and to discuss the project's next steps. The results achieved to date confirm that DURECO is progressively fulfilling its core principle: connecting the expert capabilities of the College of Polytechnics Jihlava with the technological and manufacturing foundation of OPTOKON.

Since the start of the collaboration, the project has progressed from preparatory studies and the definition of research topics to a functional simulation environment, the creation of original data, the use of real measuring equipment, and the resolution of specific industrial tasks. The next stage will build on these results, further developing experimental verification, data analysis, and the practical application of the knowledge gained.

The DURECO project is co-financed by the European Union.



OPTOKON Middle East: Building Local Capabilities in Saudi Arabia



OPTOKON Middle East continues to **expand OPTOKON's presence in Saudi Arabia**, particularly in the defense, telecommunications, and critical communications sectors. Over the past period, the company has moved beyond market development and customer engagement, gradually building a local platform that combines business development, technical integration, industrial activities, localization, and long-term customer support.

Market Development and Strategic Partnerships

OPTOKON Middle East has further developed its position within the Saudi defense and technology market. The company is now an **approved supplier to SAMI AEC for Tactical C4i systems** and has also successfully completed its Cisco partnership registration.

At the same time, the team continues to work closely with customers, partners, and key stakeholders across the Kingdom, preparing technical and commercial proposals and developing new business opportunities.

OPTOKON Middle East is currently involved in **three major strategic agreements and programs** focused on communication systems, supply, and localization. These activities are carried out in close cooperation with OPTOKON a.s. and include technical compliance, system integration, localization requirements, training, delivery planning, and long-term technical support.

Local Production and Industrial Development

An important step in the company's localization activities was the establishment of the **Fiber Connectorization Laboratory in Saudi Arabia**. The facility became operational and started production on 1 July 2025.

The laboratory represents a practical move toward greater local industrial capability and provides a foundation for expanding selected production and technical activities directly in the Kingdom.

To support these operations, OPTOKON Middle East also obtained three relevant municipal, safety, and environmental licenses. These approvals provide the

necessary regulatory framework for the company's local industrial activities and further development.

Regional Headquarters and Local Support

OPTOKON a.s. has obtained its **Regional Headquarters (RHQ) license** in Saudi Arabia, and the related commercial registration process has been completed.

The RHQ represents an important part of OPTOKON's long-term regional strategy and reinforces Saudi Arabia's role as a platform for managing and developing future activities across the region.

In parallel, OPTOKON Middle East has received initial **GAMI authorization** for the provision of maintenance, overhaul, and technical support services. This creates further opportunities to develop local after-sales services and lifecycle support for OPTOKON systems and technologies deployed in Saudi Arabia.



Technology Demonstration and System Integration

Bringing OPTOKON technologies closer to customers remains an important part of the company's activities in the Kingdom.

A dedicated **demonstration environment is being developed in Riyadh**, where customers and partners will be able to experience OPTOKON's integrated communication technologies in a practical setting. The demonstration platform will cover VCCS, Rugged IP, Analog, Networking, and VoIP solutions and will provide a clearer view of how these technologies can be combined within operational communication environments.

Additional demonstrations are also being prepared to present the integration of **Tactical Radios with OPTOKON VCCS**. The objective is to demonstrate practical interoperability between radio, legacy, and modern IP-based communication systems and to show how different technologies can be brought together within a single communication architecture.

Building for the Future

The progress achieved during the period reflects the continued development of OPTOKON Middle East from a primarily market-oriented organization into a broader local operational platform.

Its role now covers business development, customer engagement, industrial activities, localization, technical integration, demonstrations, training, and lifecycle support.

Through these activities, OPTOKON Middle East is creating a stronger foundation for OPTOKON's long-term presence in Saudi Arabia. The focus remains on developing local partnerships, increasing local technical and industrial capabilities, and bringing OPTOKON technologies and expertise closer to customers in the Kingdom.



When Signals Disappear

Resilient Tactical Networks and Trusted Time Synchronization Without Reliance on GPS

Electronic warfare can disrupt radio links and time derived from satellite systems at the same moment. OPTOKON approaches this risk as a system-level challenge, combining deployable optical infrastructure, rugged network elements, local computing capacity, and a time reference independent of GNSS.

Electronic warfare, radio-frequency interference, cyberattacks, and the jamming or spoofing of satellite navigation signals have turned the electromagnetic spectrum into an active operational domain. A tactical network must therefore carry critical traffic even when individual communication paths are degraded, unreliable, or unavailable.

Resilience Starts with Connectivity and Extends to Applications

Transmissions can be detected, located, intercepted, overloaded, or deliberately jammed. **Radio, SATCOM, 4G or 5G, and terrestrial optical links** play different roles depending on the mission and conditions. If one path fails, the **architecture needs an alternative route** or sufficient local capacity to keep critical functions available until connectivity is restored.

Simply increasing the number of communication paths, however, does not guarantee resilience. Whether the network remains genuinely usable during disruption also depends on how the individual layers are interconnected, from the physical medium and traffic management to **local services and time synchronization**.

At the physical layer, optical connectivity plays an important role. Because information is transmitted by light rather than electrical current, the transmission medium is immune to common electromagnetic and radio-frequency interference. The cable does not produce radio-frequency emissions typical of wireless transmission and is not affected by conventional RF interference.

Optical fiber still requires physical protection and disciplined maintenance. A cable can be cut, crushed, disconnected, or bent beyond its permitted limit, while the electronics at both ends remain exposed to their own environmental and electromagnetic risks. Nevertheless, optical connectivity removes important dependencies on the radio spectrum and creates a stable transport layer for mission data. OPTOKON therefore develops this layer as a deployable system comprising tactical cables, reels, rugged active equipment, field diagnostics, and **HMA Ex-**

panded Beam connectors. HMA configurations support up to **12 optical channels** in both single-mode and multimode applications. Expanded-beam optics reduce sensitivity to contamination compared with conventional physical-contact optical interfaces.

Rugged **LMSW switches** provide local distribution for operator terminals, sensors, cameras, telephones, and computing nodes. Layer 2 and Layer 3 management functions, VLAN segmentation, Quality of Service, Power over Ethernet, and optical uplinks make it possible to separate traffic and protect capacity for critical services.

LMSR tactical routers then connect the local network to the available transmission domains, including radio links, optical infrastructure, SATCOM, and mobile services. Where appropriate, secure 5G can provide a high-capacity route, but it remains one option within a diversified architecture rather than a universal solution.

Rugged LMCP platforms make it possible to run important applications and services directly at the point of deployment. Depending on the requirements of a particular mission, they can simultaneously support, for example, BMS, command-and-control systems, monitoring, local data processing, voice services, or other supporting applications. If connectivity to the higher-level network is limited or lost, selected services can remain available locally at the point of deployment and continue supporting users under degraded connectivity conditions.

Trusted Time as Part of a Resilient Architecture

GNSS is commonly associated with positioning and navigation, but satellite constellations also provide a precise time reference. Communications equipment, sensors, recording devices, command systems, and distributed applications may depend on synchronized clocks.

If GNSS is jammed, spoofed, or unavailable, the effects extend far beyond the loss of a position on a map. Systems may produce inconsistent timestamps in voice, video, and sensor records. Distributed sensors may lose the common reference required for correct fusion of their outputs, and some communications systems depend on precise frequency or timing input.

This requirement is now part of the broader approach known as Assured Positioning, Navigation and Timing (A-PNT), which combines multiple sources and methods so that critical systems are not dependent on GPS alone.

The **LMAC-10 atomic clock** provides 10 MHz and pulse-per-second (PPS) outputs independently of GNSS. Annual frequency drift is less than 1×10^{-12} . The unit is designed to operate from -40 °C to +80 °C and includes an RS-232 interface for control and monitoring. Depending on customer requirements, the device can also be equipped with CAN and RS-

422 interfaces.

The resulting resilience therefore does not come from adding a single rugged element or one backup communication path. It is a property of the overall architecture and depends on the interaction of several layers:

- Deployable optical infrastructure with low electromagnetic emissions
- Resilient switching and routing with traffic segmentation and prioritization
- Diversified communication paths selected according to the operational environment
- Local computing and storage capacity that preserves critical services during disconnection
- Stable power supply, environmental protection, and practical field diagnostics
- A trusted local time reference available even without GNSS

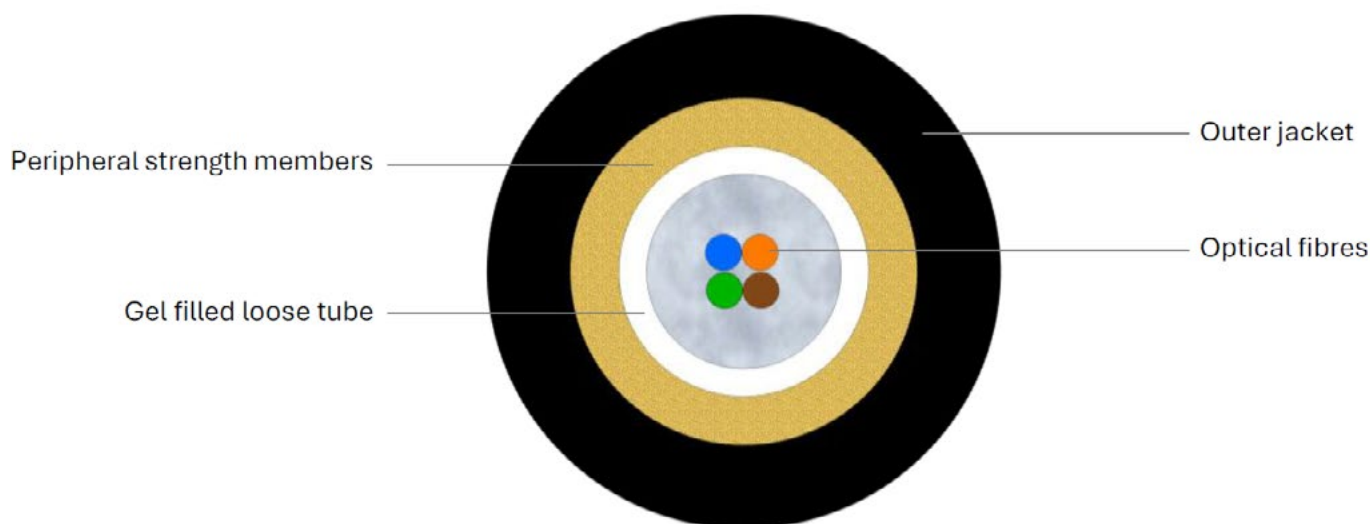
OPTOKON's resilient tactical network architecture therefore does not rely on a single technology. It combines physical connectivity, network infrastructure, local data processing, and trusted time into a unified system designed to keep data available, systems synchronized, and operational decision-making supported even under degraded conditions.



Two New Cable Solutions Join Our Tactical Portfolio

Tactical Unitube Cable

Designed for harsh environments, the Tactical Unitube Cable is a fully dielectric solution combining a **light-weight build with high tensile strength and excellent crush resistance**. Its gel-filled loose tube construction, water-swellable aramid peripheral strength members, and durable polyamide outer jacket give it strong chemical resistance and low water absorption, while its reduced diameter keeps it easy to deploy. The cable operates across a wide temperature range of **-45°C to +85°C** and is **available in 2 and 4-fibre configurations**.

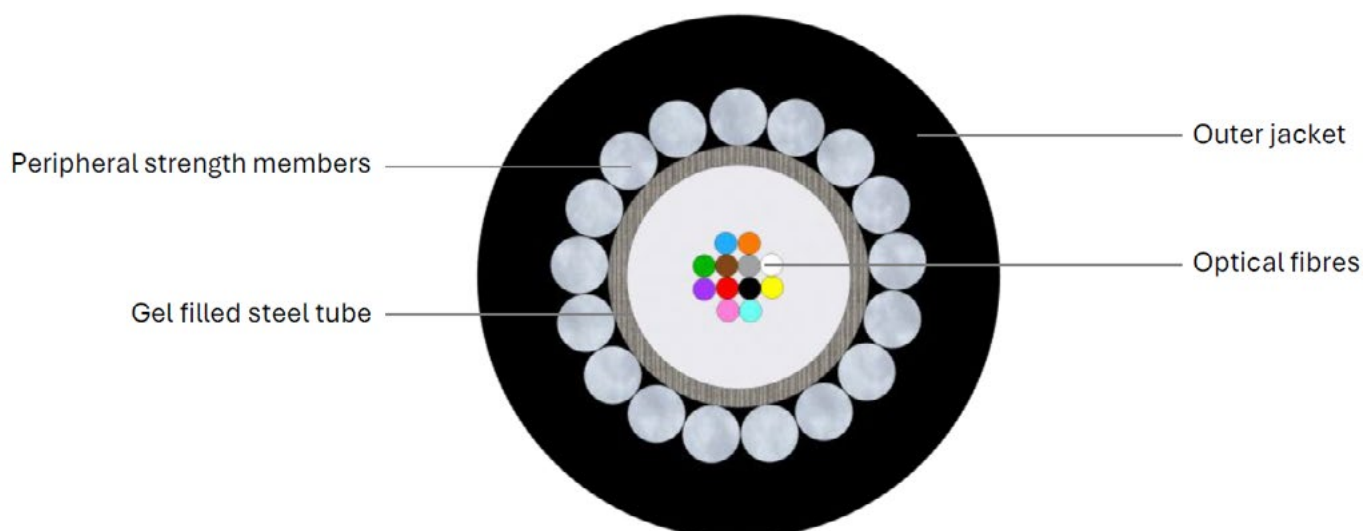


Picture not to scale. For illustration only.

Durable Tactical Metallic Fibre Optic Cable

Built for both military and civilian use, this cable is engineered for temporary deployment in the toughest field conditions. Its **stainless steel tube and armouring provide outstanding crush resistance** and full protection against rodents and termites, making it a dependable choice wherever cables may be exposed to physical or environmental threats. Alongside its rugged metallic construction, the cable retains excellent abrasion and chemical resistance, a reduced diameter, and the same wide -45°C to +85°C operating range. It is available in **2, 4, 8, and 12-fibre configurations**, offering flexibility across a range of deployment scenarios.

Both cables reflect our ongoing commitment to expanding OPTOKON's tactical portfolio with solutions built to perform reliably under the most demanding conditions our customers face in the field.



Picture not to scale. For illustration only.

LMSW-E33-242M

The OPTOKON® LMSW-E33 ruggedized switch based on Cisco® IE industry technology extends switching capabilities to mobile and embedded networks that operate in extreme environments. The flexible, compact form factor of the switch, powered by Cisco IOS® Software, provides highly secure data, voice, and video communications to stationary and mobile network nodes, making it ideal for use in harsh environmental conditions. 10G fiber optic ports are terminated with HMA “Expanded Beam” connectors, which allows interconnection of the nodes of tactical network by the

help of cables with optical fibers. The used “Expanded Beam” technology preserves all advantages of signals transmission through the optical lines in field harsh environmental conditions. The switch supports a variety of management functions, including Web UI, MIB, SmartPort, SNMP, syslog, DHCP server, SPAN session. The switch is able to fit all the common 24 V DC power systems.

**READY
TO SHIP!**



LMDP-10 Ruggedized Detachable Panel

This rugged 10-inch all-in-one unit, integrating a high-resolution display and embedded computing platform, is purpose-built for deployment in both air and ground vehicle systems. Engineered for extreme environments, it delivers high durability, operational reliability, and responsive performance under harsh conditions.

The interface panel includes 28 backlit tactile buttons and two rotary encoders, enabling efficient, intuitive user interaction even in low-visibility or high-vibration scenarios. The system offers versatile connectivity through Ethernet ensuring seamless integration with a wide range of vehicle control and data systems.

The computer platform is designed for installation in vehicles. The device form factor allows the system to be installed in a docking station or used as a portable device in special situations.



KIM1 Communication node

KIM1 is a comprehensive set of data resources **designed specifically for communication networks at lowest-level command locations**. This robust communications node is engineered to meet the rigorous requirements for interconnecting designated transmission assets while effectively mediating communications between various voice and video sources.

Beyond simple connectivity, KIM1 is built to handle the processing and storage of large volumes of data in demanding environments. This capability ensures that commanding officers have immediate access to the appropriate data required for informed decision-making. By streamlining information flow at the tactical edge, KIM1 provides a reliable foundation for situational awareness and mission success at every level of the command structure.



LMAC-10 Atomic Clock

The LMAC-10 Atomic Clock delivers resilient timing for LMCP-based platforms operating in jammed, denied, or degraded environments. Designed as a highly stable local time reference independent of satellite navigation, it helps maintain synchronization across communication, command-and-control, and onboard digital systems when external GNSS timing cannot be trusted.

Integrated with the LMCP architecture, it synchronizes the onboard PTP/NTP server and distributes precise timing to connected systems via 10 MHz and PPS outputs, keeping radios, mission electronics, and network infrastructure aligned to a stable local source. Built for harsh deployment conditions, the LMAC-10 combines rugged construction, low power consumption, RS232 monitoring, and operation from -40 to +80°C. With short-term stability of 3.0×10^{-10} at 1 second, it provides a robust timing foundation for vehicles and other tactical platforms throughout demanding field and mission operations.



LMDS Light Mobile Data Switch

The LMDS is a lightweight mobile data switch in a portable frame powered by a **built-in UPS**. Both devices meet the required IP rating. It can be powered from AC 230 V or DC 24 V mains. For batteries it is possible to monitor their status - transparent window on the cover.

The switch based on the proven **Cisco® ESS 3300 technology** in a ruggedized design meets all requirements for the establishment and operation of mobile data networks.

A 10 Ah battery type BB-2590U serves as a backup power supply. This assembly ensures compatibility on the contemporary battlefield and the unification of charging sources used, for example, in L3Harris FALCON II radios, III and FALCON IV.



LMBC-10 Battery Charging Box: Reliable Power in the Field



Keeping field equipment powered and ready is one of the most persistent operational challenges in demanding environments, and OPTOKON's LMBC-10 Battery Charger is built to solve exactly that. This lightweight, ruggedized charging solution supports simultaneous charging of **up to 10 batteries** across various commonly used military and field battery types, dramatically reducing downtime between operations.

Beyond raw charging capacity, the LMBC-10 features an **intelligent charging management system** that optimises each cycle, extends battery life, and improves overall efficiency. Its robust enclosure is resistant to shock, vibration, dust, and moisture, while advanced safety mechanisms guard against overcharging, overheating, and electrical faults, protecting both the device and the batteries it powers.

Whether deployed in military operations, emergency response, or remote industrial settings, the LMBC-10 ensures that mission-critical equipment stays powered when it matters most.

Fiber Optic Cable Drum with Rotary Connector: Built for UGV Operations

As unmanned ground vehicles (UGVs) take on a growing role in modern defence operations, the supporting infrastructure around them needs to keep pace. OPTOKON's new **Fiber Optic Cable Drum with Rotary Joint** was developed specifically to meet that need, providing reliable fiber connectivity for UGV control without compromising on speed or mobility.

The integrated rotary joint allows the cable to be smoothly unspooled and respooled while maintaining full signal continuity, ensuring uninterrupted communication throughout the entire range of operation. Designed for rapid deployment, the drum **can be quickly transferred** to or from vehicles in the field, allowing operational teams to set up or relocate without unnecessary delay.

This combination of durability, mobility, and uncompromising signal reliability makes the cable drum an essential addition for any team **operating UGVs** in demanding, fast-moving environments.



IMS-1608

Industrial Gigabit Ethernet Managed PoE Switch

Reliable network infrastructure is the backbone of any industrial or critical operation, and OPTOKON's IMS-1608 Managed Ethernet Switch is built to deliver exactly that, even in the harshest environments. Designed for secure data, voice, and video communication, it brings advanced Layer 2 management, redundancy, and security to industrial networks that simply **cannot afford downtime**.

With 8 WAN ports featuring SFP slots and 16 LAN ports supporting 10Base-T/100Base-TX/1000Base-T, the switch offers **extensive connectivity for demanding network architectures**. It also provides 8-port IEEE 802.3af / 802.3at PoE+ output, delivering up to 30 W per port and 240 W in total, giving operators the flexibility to power connected devices directly through the network.

A standout feature is support for up to 5 ring instances per device, each capable of operating as a μ -Ring, μ -Chain, or Sub-Ring, providing exceptional flexibility for building resilient, fault-tolerant network topologies. Combined with built-in cable diagnostics that identify opens, shorts, and cable distance, the switch makes troubleshooting and maintenance significantly faster.

Built with an industrial design resistant to harsh conditions and rough handling, the IMS-1608 can be mounted on a DIN rail or installed in a 19" rack, making it well suited for industrial automation, transportation systems, surveillance networks, and other critical infrastructure applications where reliability cannot be compromised.



IMS-803

Industrial Gigabit Ethernet Managed PoE Switch

For applications that call for the **same industrial reliability in a smaller footprint**, the IMS-803 brings the core capabilities of our managed switch lineup to more compact installations. It features 3 WAN ports with SFP slots and 8 LAN ports supporting 10Base-T/100Base-TX/1000Base-T, alongside 8-port IEEE 802.3af / 802.3at PoE+ output, delivering up to 30 W per port and 180 W in total.

Like its larger counterpart, the IMS-803 supports up to 5 ring instances per device, each configurable as a μ -Ring,

μ -Chain, or Sub-Ring, along with built-in cable diagnostics for fast, reliable troubleshooting. This makes it just as capable when it comes to building resilient, fault-tolerant network topologies, simply scaled down to fit smaller deployments.

DIN rail mountable, the IMS-803 is well suited for space-constrained automation, transportation, and surveillance installations, as well as other critical infrastructure applications where rugged performance and dependable connectivity remain essential, regardless of footprint.



OPTOKON Introduction Video Is in the Making

As part of our ongoing work to strengthen how we present OPTOKON to the world, we have begun production on a brand new company introduction video. The project is being developed in close cooperation with professional filmmakers and creative specialists, bringing together their expertise with our technical knowledge to ensure the result is both visually compelling and accurate to what we actually do.

The aim is to create something that meets today's visual standards while explaining the full scope of OPTOKON Group more clearly than ever before. Our portfolio has grown considerably over the years, spanning fibre optic connectivity, ruggedized defence solutions, manufacturing, testing, and calibration, and a single film that ties these together will give customers, partners, and newcomers a much clearer picture of who we are.

Production is underway, and we look forward to sharing the finished film with you. Stay tuned.



OFT-920 Ruggedized Optical Test Set

The OFT-920 ruggedized optical test set is designed for testing of optical networks terminated with connectors operating in harsh environment. It **combines both light source and optical power meter** in one common box. The test set is designed to meet the mining, petrochemical and broadcast industry demand. The ruggedized aluminium case makes the unit **ideal for field operation**.

The memory capacity allows **storage and uploading of up to 2000 measurements** including memory position or fiber number, wavelength, absolute value or relative value and insertion loss. The tester supports memory download and test report generating. The **rechargeable battery** ensures long term working with minimal operation costs.

- Ruggedized aluminium case
- Multimode (MM) and/or single mode (SM) applications
- Simultaneous testing of all 2/4 fibers
- Displayed units: dBm, dB
- High dynamic range
- Various light sources combinations
- Built-in charger, battery status indicator
- Easy to use with menu navigation



