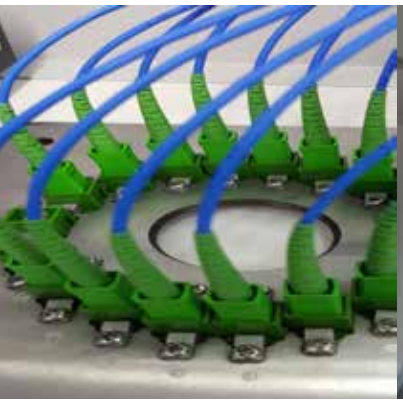
Established in 2008

OPTIMAL CONNECTIVITY

Connecting your Solutions

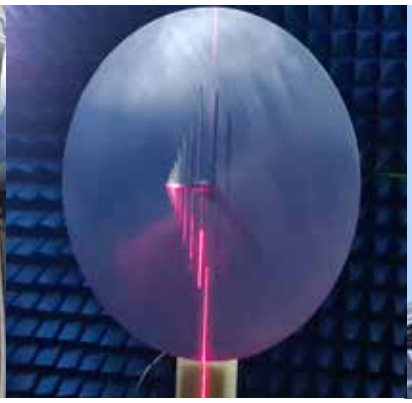
2024










برنامج المحتوى الوطني

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OPTIMAL CONNECTIVITY LLC

OPTIMAL CONNECTIVITY LLC is certified according to ISO 9001:2015, ISO 14000:2015 and ISO 45001:2018




Our Clients – Our Markets

We are providing engineering services based on top-quality products and solutions for communication infrastructures in data communication and industrial power & control applications.

Whether in fiber optics or radio frequency, we design and manufacture solutions for test & measurement, system control and defence market with best technically and commercially viability.

Communication

We offer a wide range of products and services that are an important contribution to mobile, fixed and transmission networks, globally. Our products are designed to enhance the performance of electrical, optical and wireless systems for data and communication networks.

Industrial

For Oil&Gas, Defense and industrial clients our product spectrum includes fire-resistant fiber optic and radio frequency cable assemblies, antennas, cables, connectors. We also cover testing, control & security installations in energy, instrumentation and defence market.

Transportation

With products for standard and custom-designed cables/cable systems for road, rail, land, sea and airborne applications we are manufacturing cable assemblies and electromechanical solutions at our own workshop in Dubai. We provide assemblies for power and signal transmission. Radio frequency and fiber optic components, cables and antenna systems are ideally coherent elements for our solutions.

For safety of transport systems we provide customer specific detection, perimeter protection and sensing solutions.



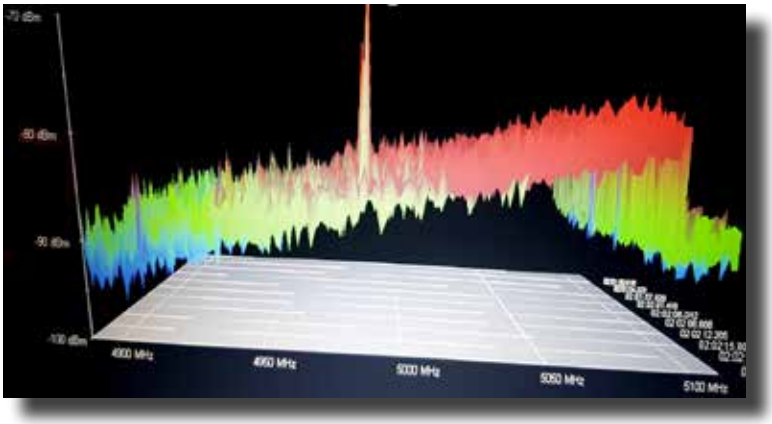

World-Class Service & Support

OPTIMAL CONNECTIVITY exclusively uses products from top-quality manufacturers. Therefore we are able to offer beyond products also product design, manufacturing, local assembly and commissioning. With over 25 years of connectivity expertise, OPTIMAL CONNECTIVITY is set to provide support at all stages of a project which ranges from conception and prototyping to volume manufacturing, installation and field service.

برنامج المحتوى الوطني

Our Services:

- Solution Development - Data Package
- Technical Requirement Analysis
- System Design & Co-Design
- Edge & Cloud data acquisition application design
- Project Management
- Computer Aided Design CAD, CAM
- CNC Machining, metal works, laser cutting, bending, welding
- Surface Treatment, Galvanisation, Passivation, HotDip
- Custom-made antennas
- 3D Prototyping
- Radio Frequency & Microwave Assembly Manufacturing
- Power Cable Assembly Manufacturing
- Fiber Optic Cable Assembly Manufacturing
- Fusion Splicing of Fiber Optic Cables
- Field Termination
- Site Surveys, Heat Maps, Link Budget Calculation
- Testing & Measurement
- OTDR, Vector Network and Spectrum Analysis
- Re-furbishment of outdated infrastructures
- Installation
- Contracting
- Logistics Support
- On-Site Maintenance and Repair
- Product Training



We are certified according to

ISO 9001 : 2015
ISO 14001 : 2015
ISO 45001 : 2018

to achieve highest quality in management processes, production and occupational health & safety.

GABRIEL REGISTRAR
ISO 9001
ISO 14001
ISO 45001

UNITED ACCREDITATION FOUNDATION
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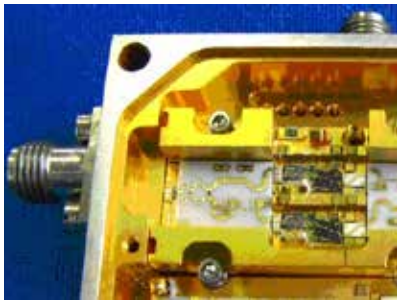
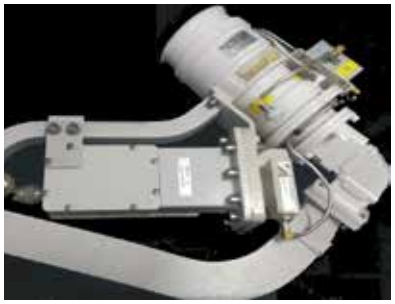




RF and Microwave Solutions

Our RF and Microwave portfolio includes connectors, cables and cable assemblies designed for use across all markets and manufactured in Dubai. In addition, we are specialised in antennas, resistive components, wave guides and lightning protectors.

We offer all elements in data transmission for entire frequency range up to 0-110GHz. Off-the-shelf products as well as a tailor-made design & production service for RF and Microwave cable assemblies.

OPTIMAL CONNECTIVITY produces its own low-loss coaxial RG and MIL C17 type cables fitting to its own RF connectors types like N, TNC, SMA, ... Hence, we can offer world class price/performance for these products.
Key differentiators of our connectors are low IL, low attenuation and a high-performance surface treatment.

5G Environment Integrated Antennas

Modern antennas for base stations using fractal geometrics offer significantly reduces overall size. A single cylindrical radom hosts up to 18 bands in 3 sectors. These innovative camouflage antennas cover all 2G, 3G, 4G and 5G frequency bands (690MHz to 2'700MHz, 5'000MHz to 6'000MHz) with a much reduced visual impact.

Integrated mast+antenna solutions for tri-sector configurations are supplied with a modular mast on a floating bedplate, ground pillar mounted or wall-mounted. Antennas can be provided in different shapes, colours and covers.

Media Converter - xDSL

Our portfolio consist of a broad range of SHDSL and SHDSL.bis modems and repeaters, designed to meet both carrier and access network needs as well as industrial requirements with interfaces like Ethernet, E1, TDM, Serial, Voice over Copper, Voice over Fiber, etc.
FlexGain FOM4 and FOM16 fiber modems are a cost-effective solution for voice and data transmission over fiber-optic cables.
FlexCON VoIP are serving as industrial-grade VoIP gateways and Serial Converters.

Media Converter for Ethernet-to-Fiber and RF-over-Fiber are important products to solve long distance signal transmission.




Designed for Heavy Duty Applications

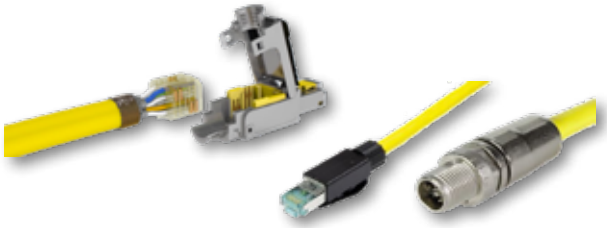
HARTING connectors are known for the core competence in connecting and networking for industrial and information technology.
HARTING's Device Connectivity provides complete connector and installation concepts for industrial infrastructures.

HARTING's Installation Technology sets new standards with connectors, such as the Han® series. Smart Connectivity connectors and devices are built as cyber-physical systems for connecting the facility to the cloud.



RFID Readers and RFID Tags

Our ISO 18000-6c RFID (Radio Frequency Identification) systems can identify any devices such as metal containers, machines, tools, trains, concrete parts or other assets in most challenging and harsh industrial environment. We provide Class 1 Generation 2 (C1G2) solutions following UHF RFID (860–960 MHz) protocol for communication acc. EPCGLOBAL/GS1 GEN2 standard.
We provide on-metal, robust, high-temperature UHF RFID transponders, also called RFID tags, for stationary and mobile RFID readers together with complete systems which can be integrated with process control systems.



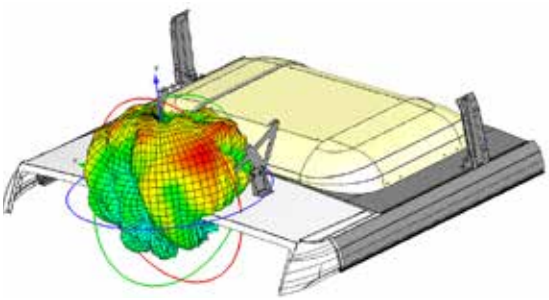

Railway Connectors

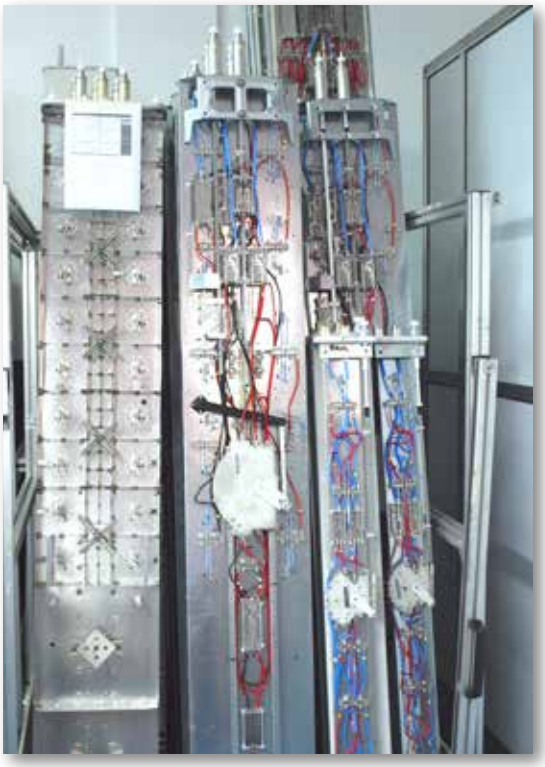
Our portfolio consists of connectivity solutions for transmitting data, signals and power in railway technology. Ethernet backbones and data infrastructures for sensors and passenger information systems are some of the typical applications. High density connectors models achieve minimal foot print, rather than conventional terminal blocks. HARTING connectors are modular systems which fulfil Railway standards such as for flammability according to EN45545-2 & -3. HARTING Ethernet cable Ha-VIS EtherRail® cable is used for Gigabit Ethernet in trains and metros.

Industrial Connectors

Technical requirements in industrial applications are secure transmission of data, power and signals, quick connection and safe disconnection of system modules, minimum downtime and maintenance free operation paired with compact and space saving connections between units.

OPTIMAL CONNECTIVITY manufactures customized cabling solutions for power plants, metal processing industries, airports and Oil&Gas market. HARTING connectors are leading in technoligy and safety.





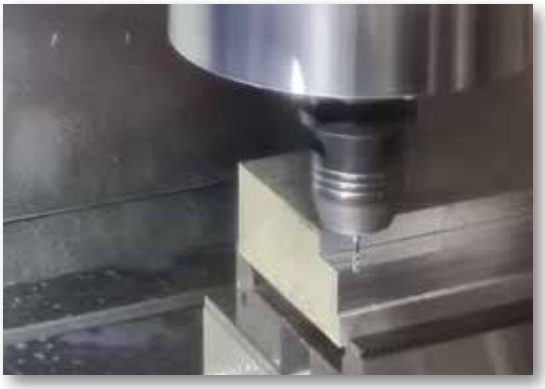
Solution Specific Designs:

RF & FO Connectors

We manufacture RF, Microwave and FO connectors and cable assemblies designed for use in environments with special and mostly challenging environments. Resistance against heat, fire, mechanical stress, vibration, bending, sea water, oil, fluids are the typical requirements we are addressing with our Solution Specific Product Designs. Thanks to short manufacturing times we can address almost every requirement within days.

Antennas

Our customer specific Antennas are combining mechanical, electrical and radio signal propagation features. We create antennas which are designed-to-project regarding frequency bands, radiation pattern, near field and far field coverage, polarisation, antenna gain, connectivity and housing requirements. We are covering frequencies like LoRa, IoT, UHF, Tetra, GSM, 3G, 4G, 5G, WiFi-6 and other bands.



Precision Metal Works

Laser cutting of metal allows highest precision metal works followed by CNC machining, MIG, TIG, Stick and Flux- Cored arc welding, surface treatment, galvanisation and powder coating. We design and build custom design e.g. antennas, radomes, SS316 closures, racks, cabinets, antenna poles, precision metal parts and assemblies.

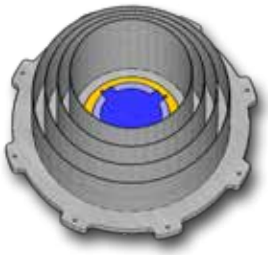
Active Equipment

Signal Transmission and Signal Amplification are important for safe data communication, hence we design, build new or modify existing equipment in order to achieve the required features like gain, filters, frequency bands and S/N ratio.




High Precision Location DGNSS

Our GNSS receivers use timing signals from available satellites, and calculated precise location by eliminating most of errors or delays which can occur during the signals' transit to earth. Differential Global Navigation Satellite System (DGNSS), is an enhancement to GNSS that was developed to correct these errors and inaccuracies in the GNSS system, allowing for more accurate positioning information. In general, access to this correction information makes DGPS and DGNSS receivers much more accurate than other receivers. A DGNSS receiver has the potential to achieve accuracies in centimeters level for x, y and z axis. Our solution helps clients to determine the exact location of their assets and their movements.




Power & Control Solutions

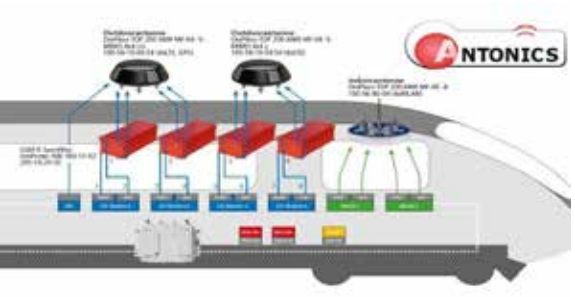
Harsh environment high temperature and fire resistant cables are used for Power & Control applications e.g. SCADA, ProfiBus, CAN-Bus. Using jacket materials like Teflon, ETFE and crosslinked materials, different cable configurations can be offered which are proven for harsh environment features like high resistivity against oil and fluids, sustains high temperatures and therefore are "the cabling solution" for superior connectivity solutions. Also high voltage insulation cables are often layed together with high voltage power lines.

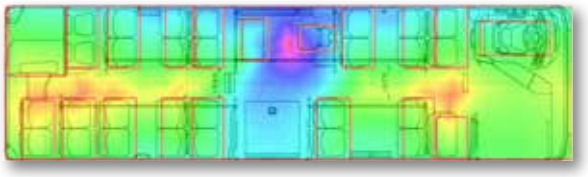
Interconnecting Systems: MIL, VG, Ex

Our ruggedized cable assemblies combine sealing ability and physical strength with design simplicity, making them the most dependable. With IP67 rating our MIL 38999 type assemblies are reliable connections suitable to any industrial and military applications.

MIL 38999 type connectors are capable of providing almost every possible mix of signal, power, data, RF, fiberoptic and multiple wires in a single connector housing. We understand your requirements an build unique connectivity solutions by selecting the right components form a list connectors, receptables, backshells, socket or pin contacts and finally protective caps and covers.







Railway Approved Antennas EN45545

For Public Transport approved 5G antennas ANTONICS is the leading manufacturer of highly sophisticated EN 45545 antenna systems like OmPlecs and X-Plecs model. Based on latest technologies ANTONICS designs a mostly planar antennas for mobile system solutions on trains and busses with 4x4, 6x6, 8x8 and 10x10 MiMo LTE/5G and 4x4 WiFi based communication systems.
Unique features are highest integration of multiband radiator with horizontal, vertical and cross-polarized radiation pattern.

Using antennas from ANTONICS and EN45545 approved cables we are able to create innovative communication solutions for industrial producers and telco operators alike. Antennas can be provided in different shapes, colours and covers including test certificates.

Railway Approved 4G/5G/IoT Gateways

NetModule's certified communication systems combine latest technologies with highest reliability to connect devices in industry, transportation and public traffic and enable wireless communication all over where wired connections are not feasible at all.

NetModule's equipment serves where secure and robust communication is required, however be compliant to standards like ISO, EN50155, EN 45545, E-mark and ECE-R118, IPxPT and CAN-Bus ISO 11898.

Public Transport Approved Router

NetModule's vehicle router series are designed for mobile communication in public transportation (e.g. in trucks, buses, taxis and trams) but also any other kind of vehicular applications such as trucks. These routers comply with the relevant standard 72/245/EWG (E1) which is mandatorily required for use in public transport.

Supporting the latest WAN/LAN technologies (including GSM, UMTS, LTE, WLAN, GPS/GLONASS L1/L2/L5) they offer highly-available connectivity with seamless handover between the broadband links making use of the Mobile IP protocol.

Industrial Router

NetModule's industrial router series are designed for stationary applications, mostly mounted on DIN rail shelves. Industrial routers provide multi-WAN-LAN-communication and functions such as data acquisition, protocol conversion, local data processing and storage. The wide range of implementations includes remote management and condition monitoring, CCTV, ATMs and Digital Signage.




Installation & Maintenance - Commissioning

OPTIMAL CONNECTIVITY is recognised for its excellence in deployment of solutions and its commissioning of on-site systems.

Projects are defined as a multi-step process with the goal to test a system to verify that it functions in accordance with the design intent.

In projects we begin with pre-design (HLD) phase and continue through all project phases like Low Level Design (LLD), Implementation and Operation until the final acceptance is achieved.

Pre-design phase determines design objectives, operational intent, the commissioning scope and budget for the project.
Design phase the requirements are translated into low level Design documents.

Implementation phase starts when the system is manufactured, inspected, tested, and installed in accordance with the LLD documents. In this phase we execute FAT and SAT.


Operation phase begins when installed equipment and systems are tested to verify and ensure that they perform in accordance with the design intent comprising of individual equipment tests and finally integrated system tests.

O&M personnel is involved in all testing so that they can gain experience with the systems.
Management of spare parts, technically skilled staff and constant monitoring are keys to successful operation in the field.






Fibre Optic Assemblies

Manufactured in Dubai, our fiber optic assemblies, comply with highest standards and are flame retardant and fire resistant IEC 60331-25, IEC 60332-3. Our factory-terminated cable systems are representing high performance products which are fast and easy to install, simple to maintain and are enhancing a guaranteed network reliability.

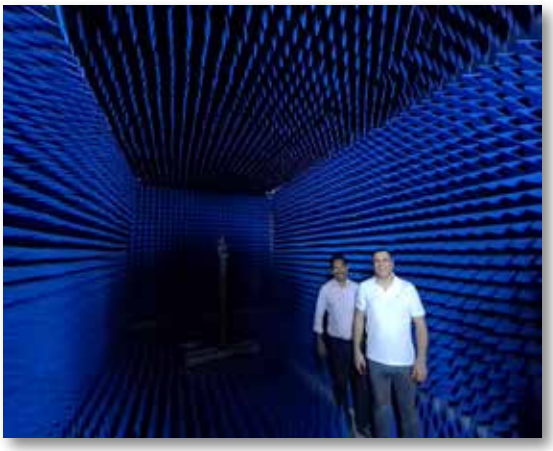
With our assembly workshop we are ideally positioned to meet all your fiber optic requirements. Our strength is based on fastest assembling of high quality fiber optic connectors for core applications in communication and instrumentation networks for harsh environment use like in Oil&Gas, Utilities and Defence markets.

Transmission Networks

CWDM/DWDM technology allow tremendous gains in network capacity without CAPEX of laying new fiber cables. Increasing demand for higher bandwidth leads to upgrading of existing networks, services, interfaces or infrastructures. With our 400Gbps transmission solutions “Made in Germany“ our customers like carriers, Oil&Gas, ISPs, utility companies, energy suppliers, universities, hospitals and data centers are able to boost their network capacity.

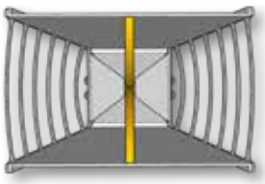
Product Engineering

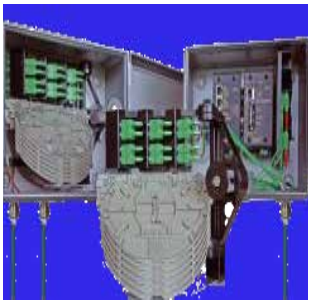
Product Simulation allows to safe precious time and cost and is offered by OPTIMAL CONNECTIVITY for products in electromagnetic and mechanical applications. Using Open Source software packages nearly every requirement can be addressed like heat or signal propagation, material strength, antenna pattern and WiFi coverage.



RF Anechoic Chamber Measurements

For precise determination of physical parameters for we are measuring signal coupling, propagation inside our anechoic RF chamber. Measurements will be fully automated by using two 4-axis positioner together with latest analysis software created by OPTIMAL CONNECTIVITY.




What we do...

"We connect your solutions"

OPTIMAL CONNECTIVITY is recognised for its excellence in design of solutions and its out-performing product quality, all based on ISO standards. Our suppliers are market leaders in each of their products. From a single RF connector to an A-Z fiber optic cable management installation for a mobile communication network or from a network based Public Address/Intercom system to a 10 Tbps transmission network, our clients appreciate our products as product quality is essential to highest possible system availability.

Benefits we are offering to you:

- Sustainable Solutions
- High Quality Products
- Reliable Products
- Minimizing CAPEX and OPEX
- Innovation Power

From our regional head office in UAE we are taking care about your requests from Middle East region, GCC countries and parts of North and East Africa.

For inquiries please contact our team:

Phone **+971 4 286 345-0**
Email **info.me@oc2me.com**




GPS coordinates: N 25° 10' 53.00" E 55° 22' 46.00"

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