

KIVANC ILAL CTO

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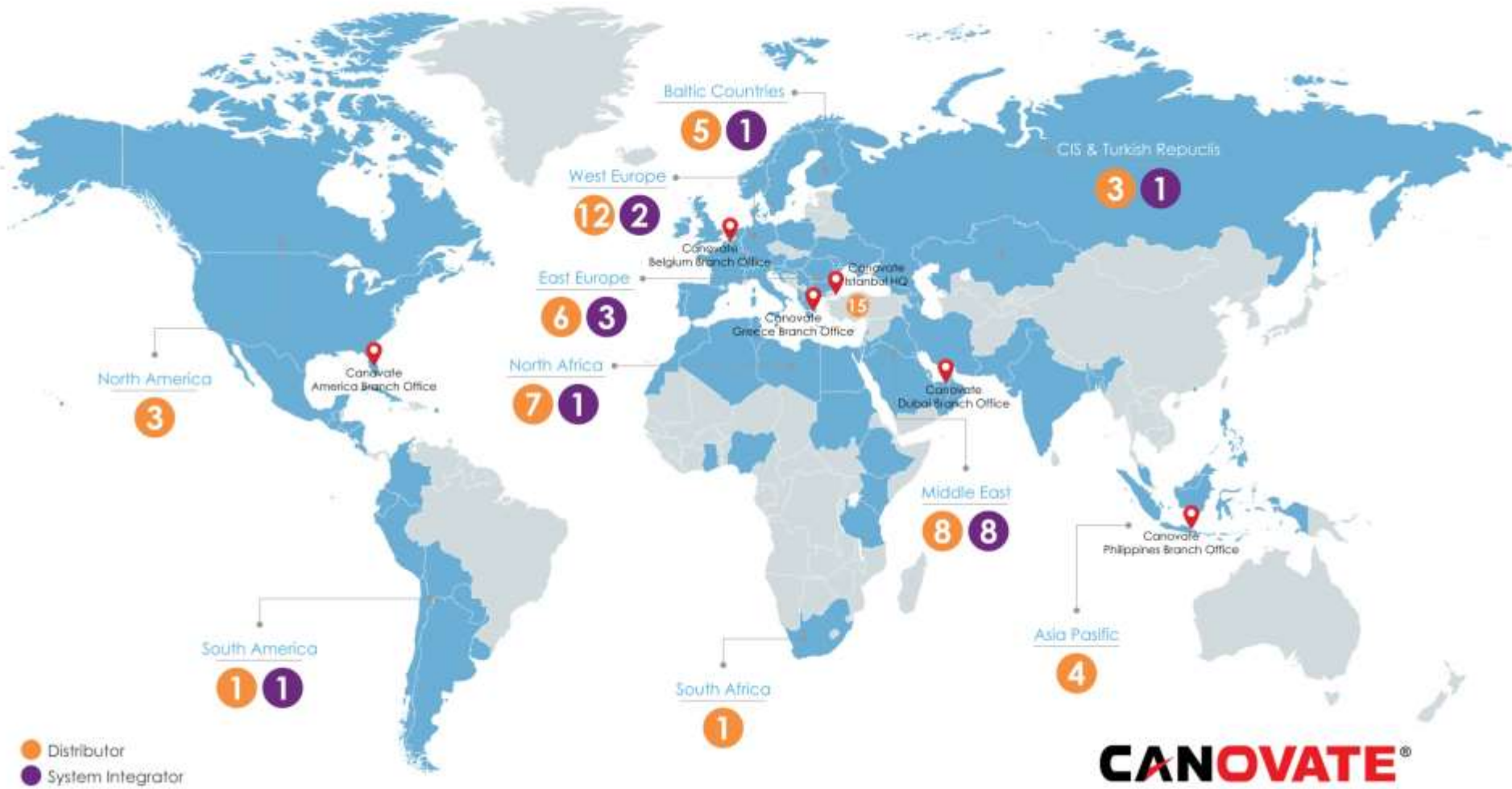
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CANOVATE GROUP INTRODUCTION

- ❑ Canovate Group is a global company in the field of Defense, Energy, Telecommunication, Fiberoptic (FTTX), Data Center, Real Estate development which is managed by dynamic, modern and innovative methods, with its own R&D investments and Canovate patented products.
- ❑ Canovate Group has been in operation with different companies since 1965 with a total value of over 250M USD
- ❑ Canovate Group Companies ;
 - ❖ Canovate Electronics (Data Center and Telecommunication Solutions)
 - ❖ Canovate Energy (Cooling and Renewable Energy Systems)
 - ❖ Canovate High Technologies.(Defense and security)
 - ❖ Canovate Ballistic Systems (Military Projects)
 - ❖ Canesis (IT system Integration)
 - ❖ Can Aero (Aviation and UAV Systems)
 - ❖ Canovate Real Estate Development (Shopping Malls, Hotels and Residential Projects)



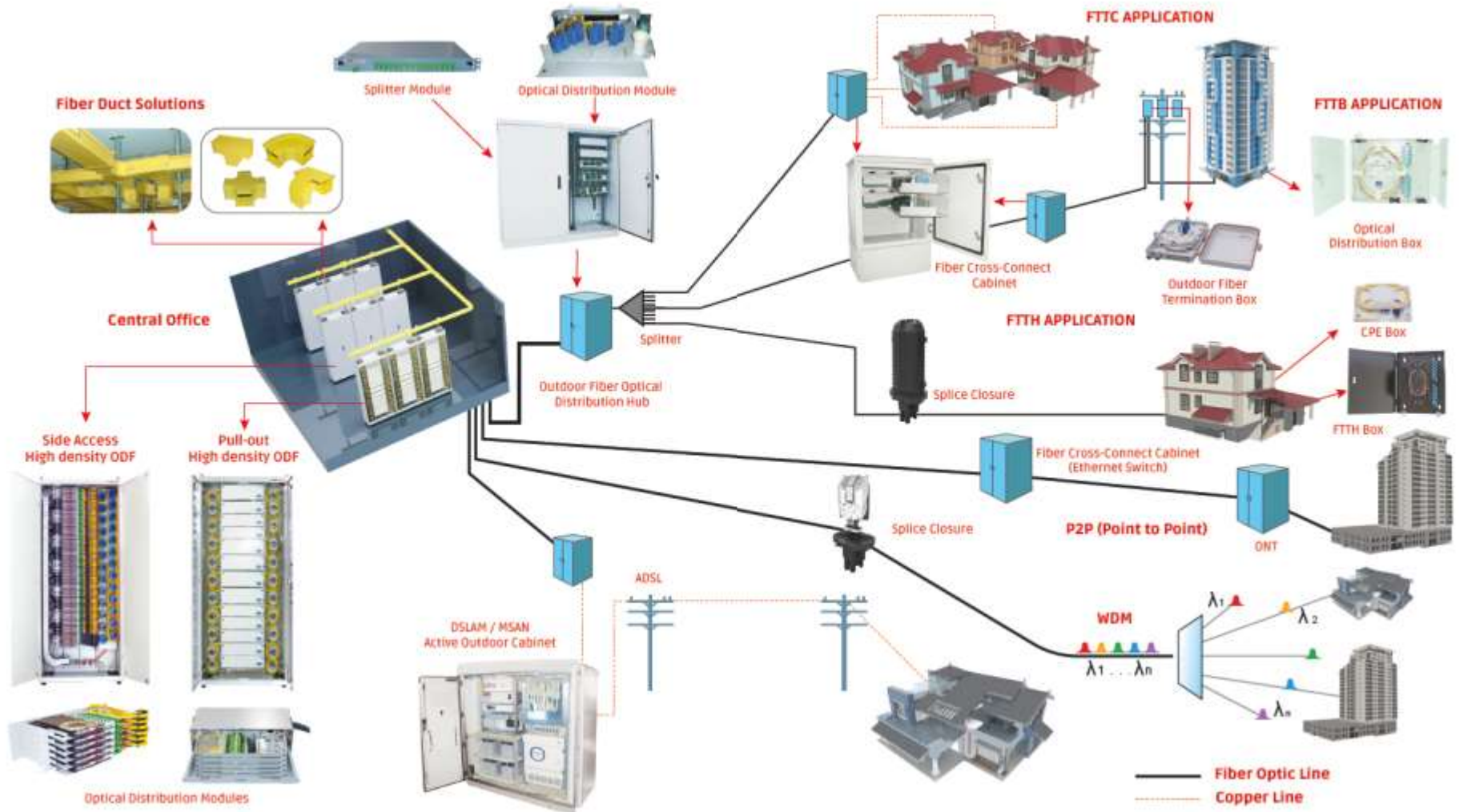
GLOBAL REACH

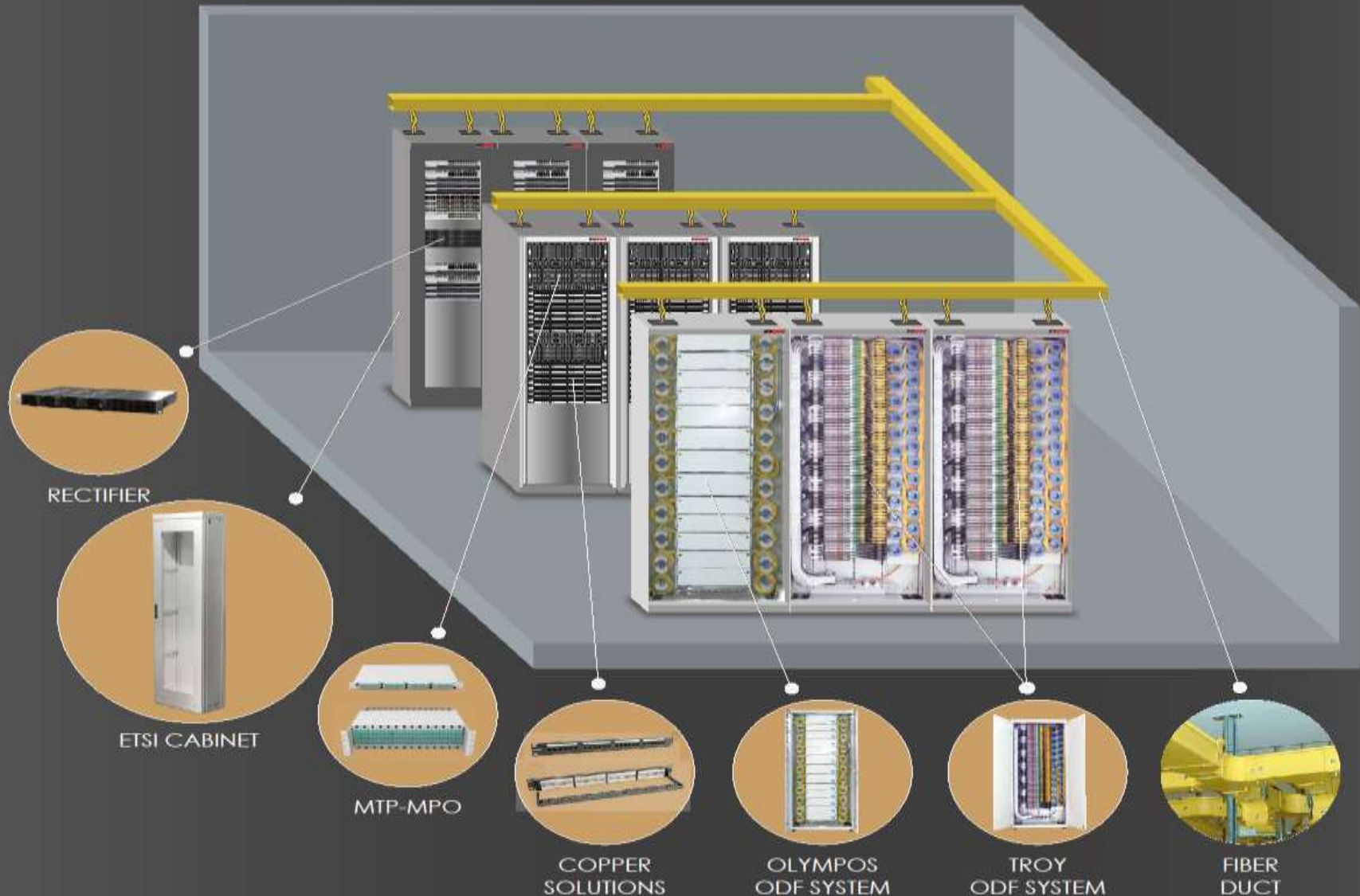


GLOBAL REFERENCES

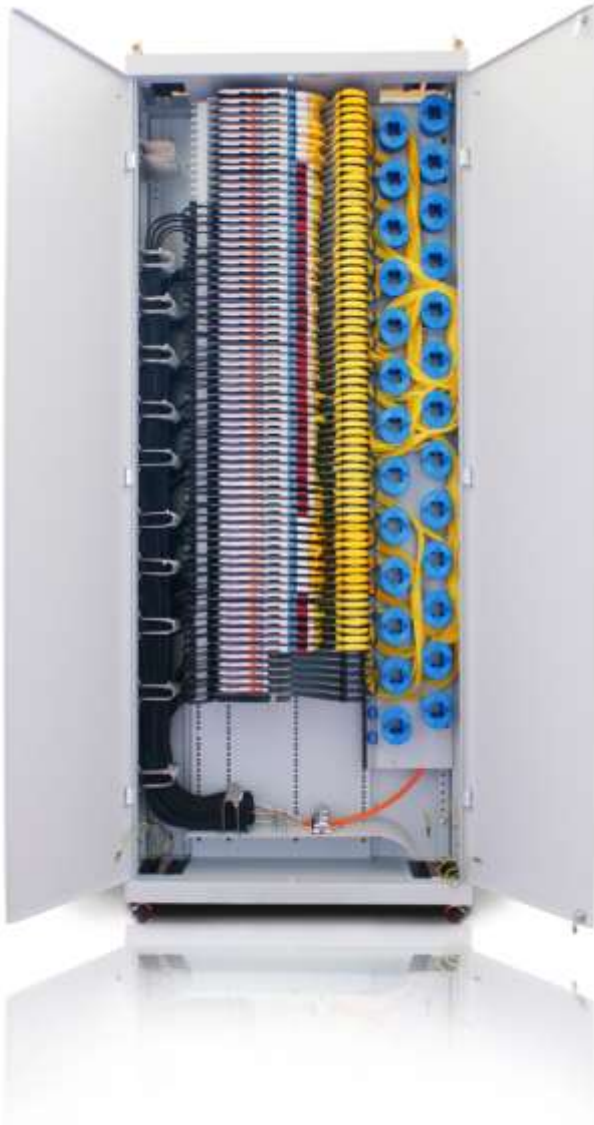


TYPICAL GPON NETWORK TOPOLOGY





TROY ODF SYSTEM



- H x w x d: 2200x900x300
- 19" or ETSI options
- 14 X 3U Modules in 47 U Frame
- 144 Duplex adaptors / 3U Module – 2.016 ports / Frame
- LC, FC, SC,ST, E-2000 interfaces etc available
- The Frames are compliant to Telcordia Specification GR-449-core
- Professional cable management to maintain bend radius criterias

3U SIDE ACCESS TROY MODULE



NEW DOUBLE SIDED CASSETTE SYSTEM-PATENT PENDING

➤ Pigtail Storage Side



➤ Splice Side



➤ Unique Cable Entry System

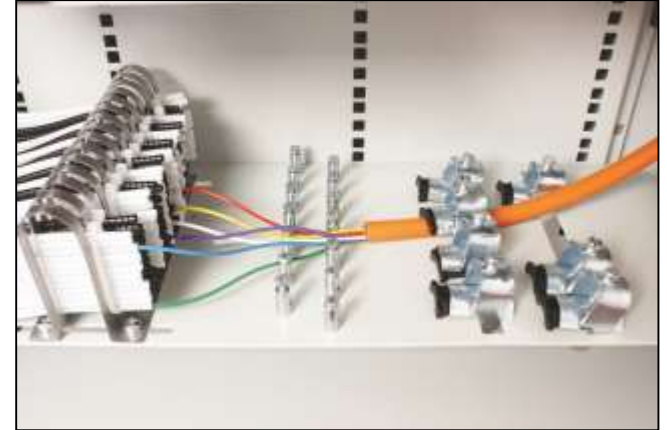
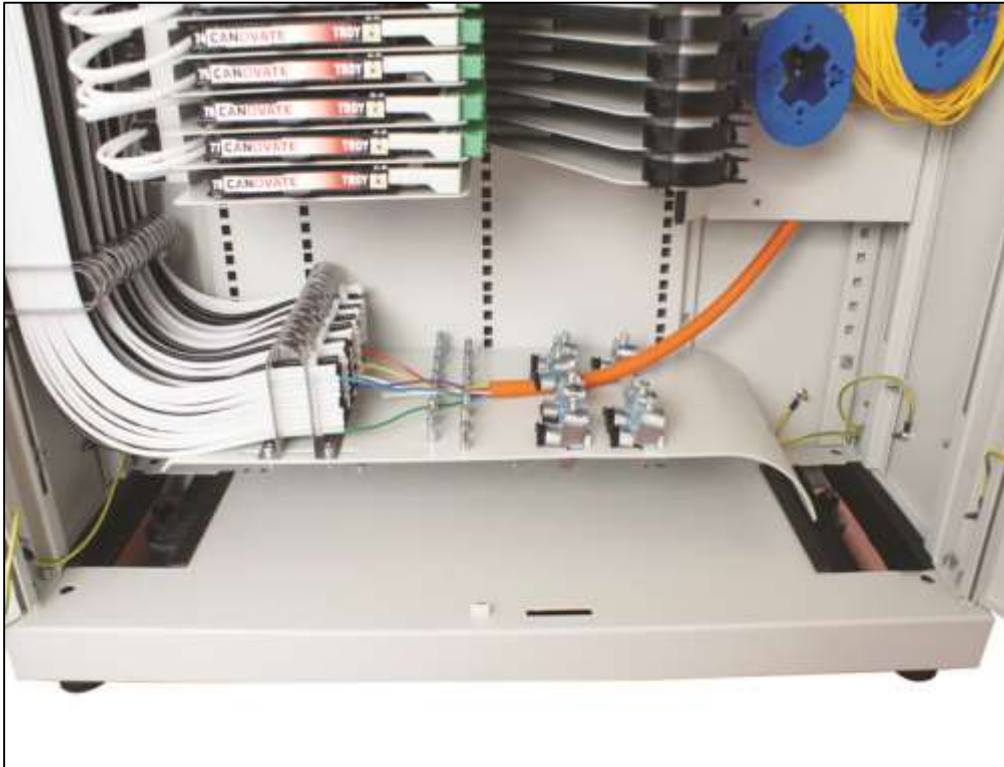


➤ Splitter Option

HIGH DENSITY SIDE ACCESS ODF



ADVANCED CABLE MANAGEMENT

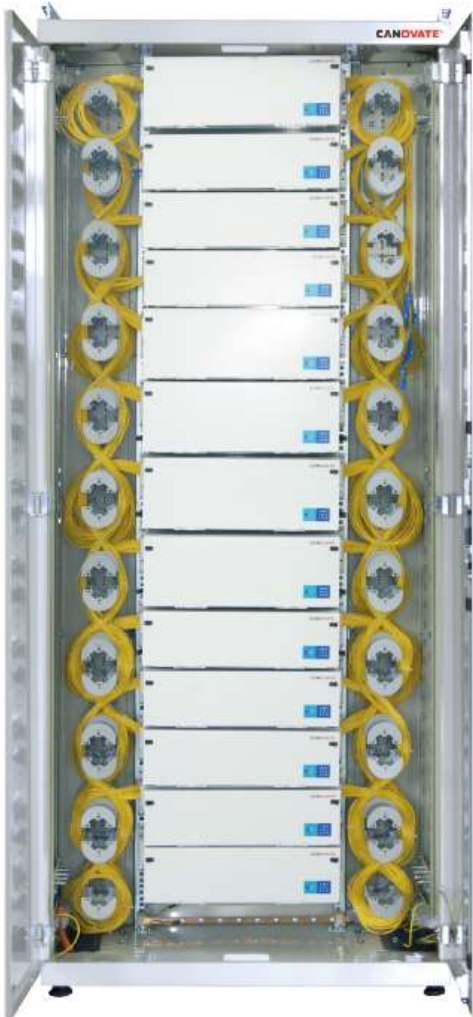


ADVANCED CABLE MANAGEMENT



- Incoming cable - Special miniflex tubes
- Excess cable storage

OLYMPUS ODF SYSTEM

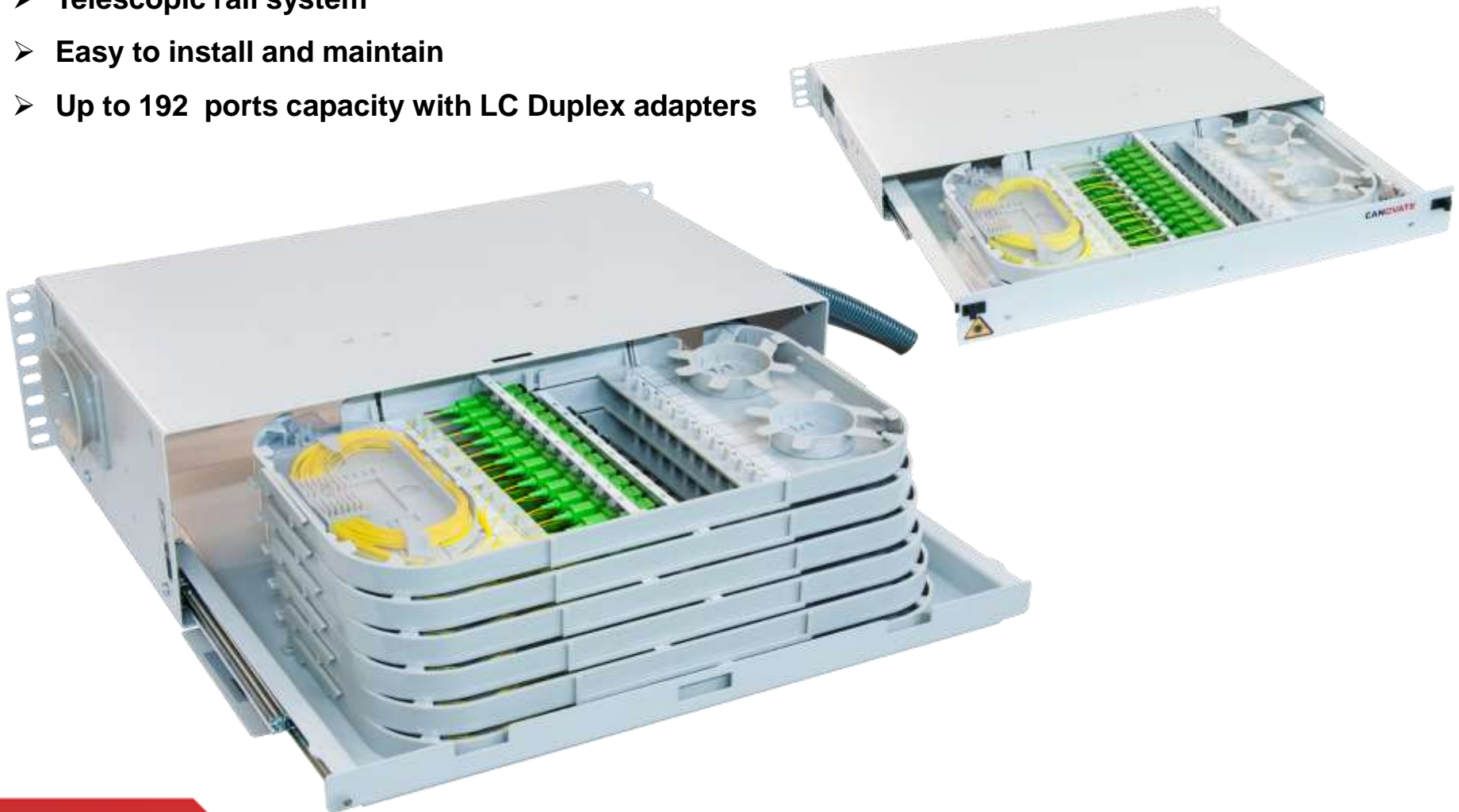


- Up to 2016 fiber termination with LC duplex adapters
- H x w x d: 2200x900x300
- 19" or ETSI options
- Professional cable management to maintain bend radius criterias
- LC, ST, MTRJ, E-2000 interfaces etc available
- The Frames are compliant to Telcordia Specification GR-449-core

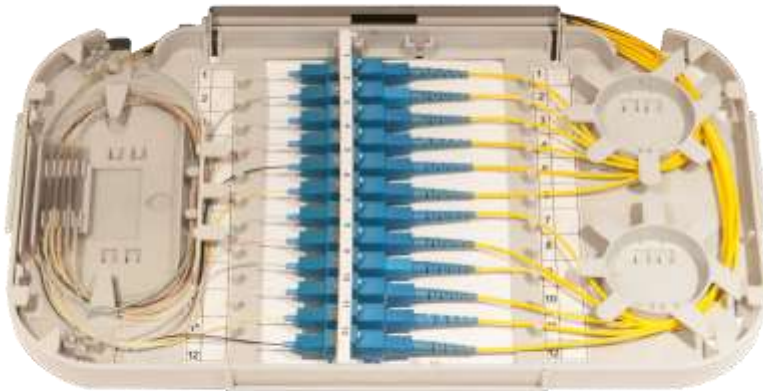


HIGH DENSITY OLYMPOS SLIDING MODULE

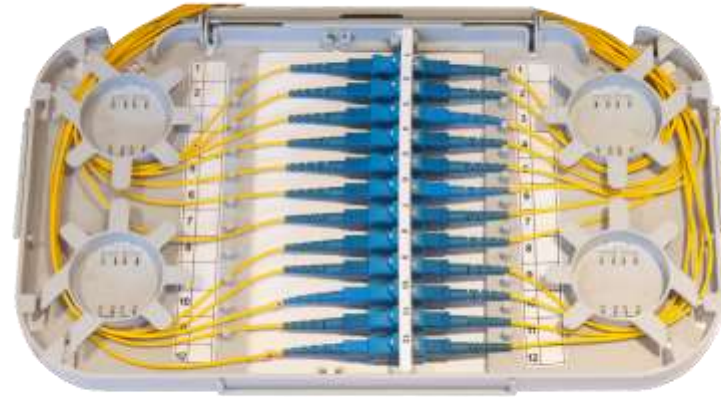
- 1U, 2U, 3U, 4U Subrack options
- Telescopic rail system
- Easy to install and maintain
- Up to 192 ports capacity with LC Duplex adapters



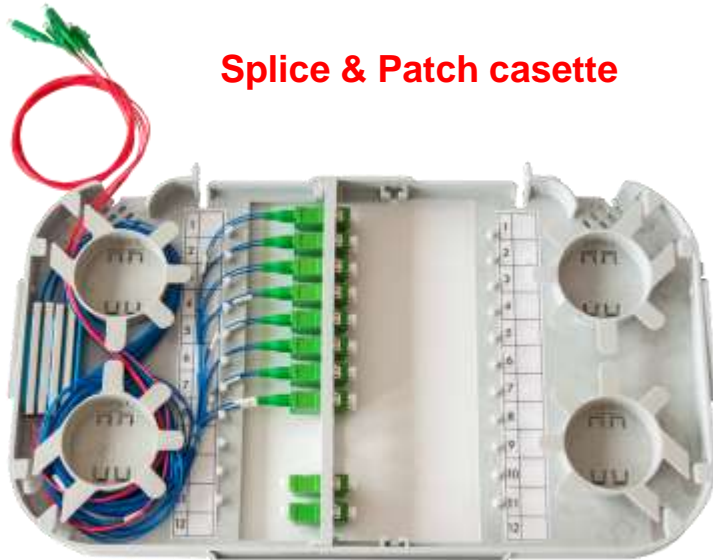
HIGH DENSITY OLYMPOS MODULE



Splice & Patch cassette



Patch only cassette



- Versatile cassette options for splice, patch and splitters
- Cut-out in the middle of the splice tray provides easy access to adapters from top and bottom
- Professional cable management to maintain bend radius criterias

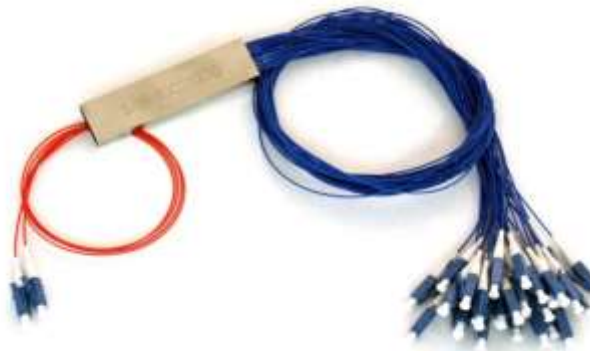
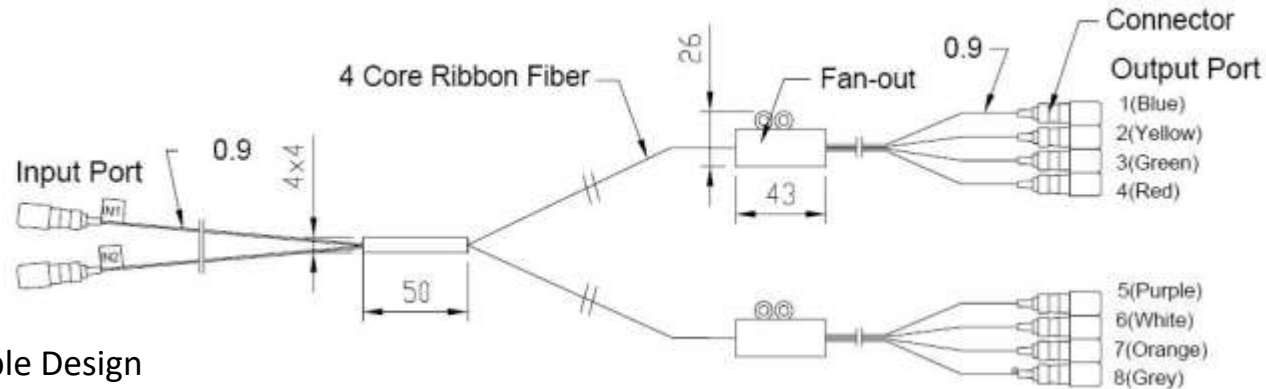
FIBER OPTIC SPLITTERS FOR FTTx APPLICATIONS

- PLC and Fused Splitters
- Wider Range Of Splitter Family

• 1x2	* 2x4
• 1x4	* 2x8
• 1x8	* 2x16
• 1x16	* 2x32
• 1x32	* 2x64
• 1x64	

- 3U Height Chassis for Rack Mountable Design
- High Reliability
- Low Intension Lost
- Compact Size

- APPLICATIONS
- Telecommunications
- LAN and WAN Systems
- FTTX
- PON
- Network Monitoring



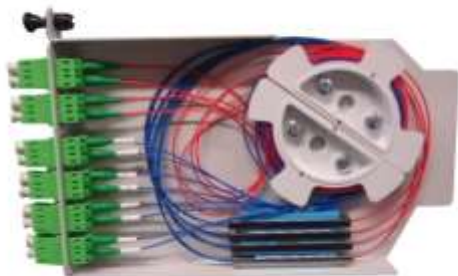
HIGH DENSITY FRONT ACCESS SPLITTER SUBRACK



- 3U Front Access Subrack with a capacity up to 18 Splitter cassettes



- Splitter Cassettes 3u

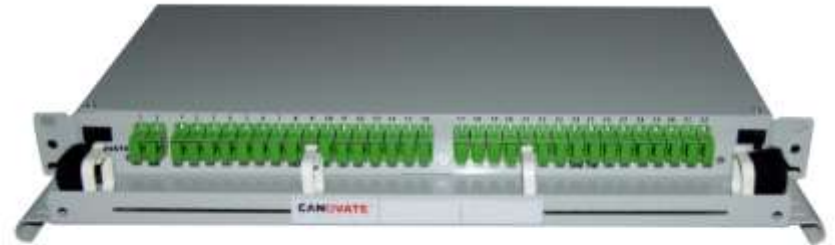
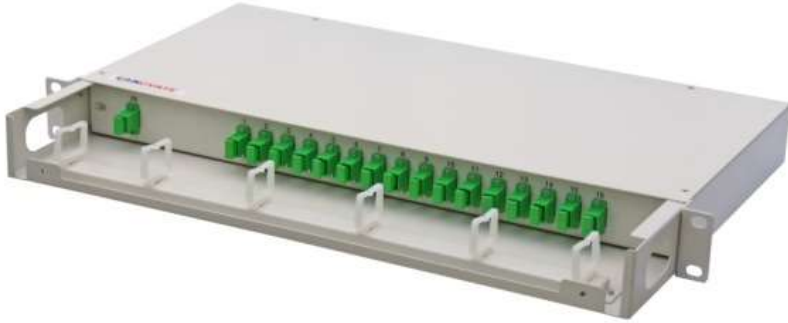


- Splitter cassette with embedded splitter and adapters

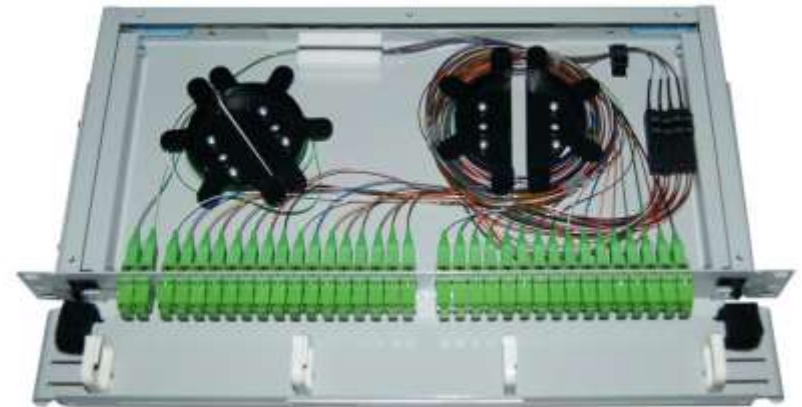
- 3U Front Access Subrack with a capacity up to 18 pcs splitters (box type)



19" & ETSI SPLITTER MODULES



- 1U 1:16 and 2:32 splitter module with front cable management



ANGLED FIBER PATCHPANELS



2U 19" angled patch panel



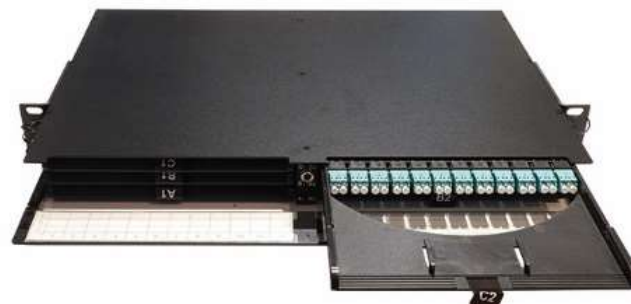
Telescopic rail



1U 19" angled patch panel



High density MTP & MPO Solutions



- 576 LC fiber capacity in 4U
144 LC fiber capacity in 1U
- 5760 LC fiber capacity in 2200x900x450 frame
- Max fiber capacity in smallest footprint
- Ideal solutions for datacenters and SAN applications

High density MTP & MPO Solutions

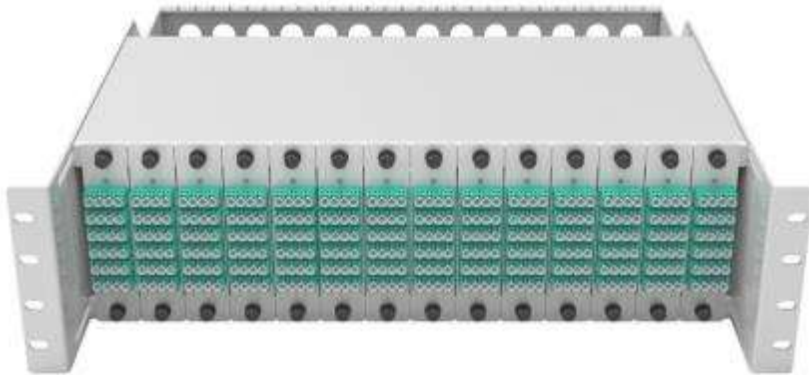
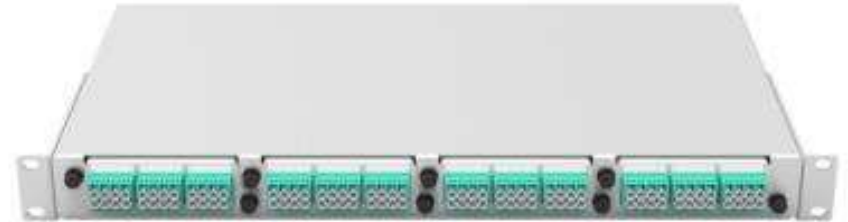


- Modular type 12&24 port fiber cassettes



Pre-terminated trunk cables

MTP & MPO Solutions



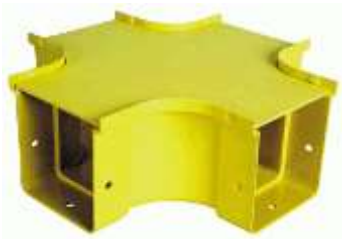
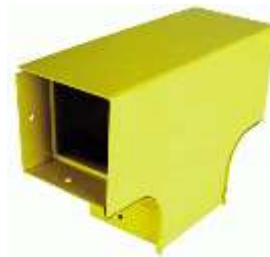
DUCT SYSTEM FOR FIBER OPTIC CABLES

- Halogen Free
- Flame-retardant UL94/VO Plastic
- Designed For European and US Market
- Used in telecom Exchange, datacenter and POP stations



DUCT SYSTEM FOR FIBER OPTIC CABLES

- Wide range of accessories for convenient cable management



Fiber Raceway
Outlet is
Applicable to all
Existing Duct
Systems



ODF Application

Outdoor Access Solutions

MSAN & DSLAM & VDSL Cabinets



GSM Base Station BTS Cabinet



Fiber FTTX & Cross Connect Cabinets



Hybrid Cabinet as POP Station



HYBRID CABINET AS POP SITE APPLICATION



- Compact solution with OLT, DC power supply, fiber ODF modules for subscribers, EMS system, Heatexchanger or AC option
- Cost Effective solution as an alternative for POP stations
- Eliminates construction work and investment for POP stations (Low CAPEX and OPEX)
- Faster time to market
- Double Wall aluminum construction with thermal isolation and high anti corrosion resistance
- IP 55 protection according to EN 60529 standard

HIGH DENSITY FIBER OUTDOOR SITE APPLICATION



- Double skin aluminum cabinet
- 1044 fiber capacity
- Dimensions: 1400mmx1600mmx700mm (wxhxd)
- IP55 protection according to EN 60529 standard

MAIN FIBER DISTRIBUTION HUB



- 3 compartment design for multi operator use

FIBER DISTRIBUTION TERMINAL

- Motorhood type of cover to provide shelter against rain and sun
- Splitter Modules can be installed inside
- IP 55 protection according to EN 60529
- Bend radii on both sides for cable management



MICRO DUCT FIBER DISTRIBUTION CABINET



Swing frame system

IP68 Underground cabinet

- Designed and produced according to the feedback and in collaboration of operators like Vodafone, and Turkcell
- Patent pending
- Innovative design using «Diving bell principle» to ensure IP68 protection under the ground
- Stainless steel for maximum corrosion resistance

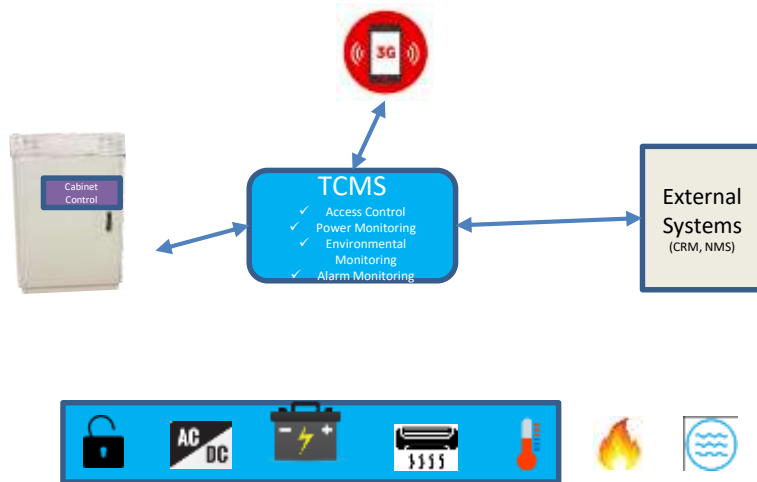
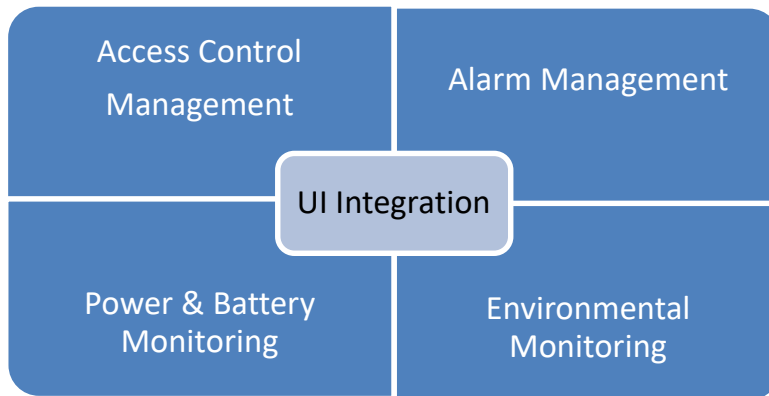


TCMS - Total Cabinet Management System

- **TCMS** is a family of Hardware and Software products that provides a solution for **Total Cabinet Management System** bringing IOT technology in focus.

- A holistic solution able to Control & Monitor all cabinets using a Uniform User Interface
 - ✓ **Access Control** Management
 - ✓ **Power & Battery** Monitoring
 - ✓ **Environmental** Monitoring & Management
 - ✓ **Alarm** Monitoring

- The software platform is customizable based on specific customer needs and provides full integration capabilities with External Systems such as CRM and NMS



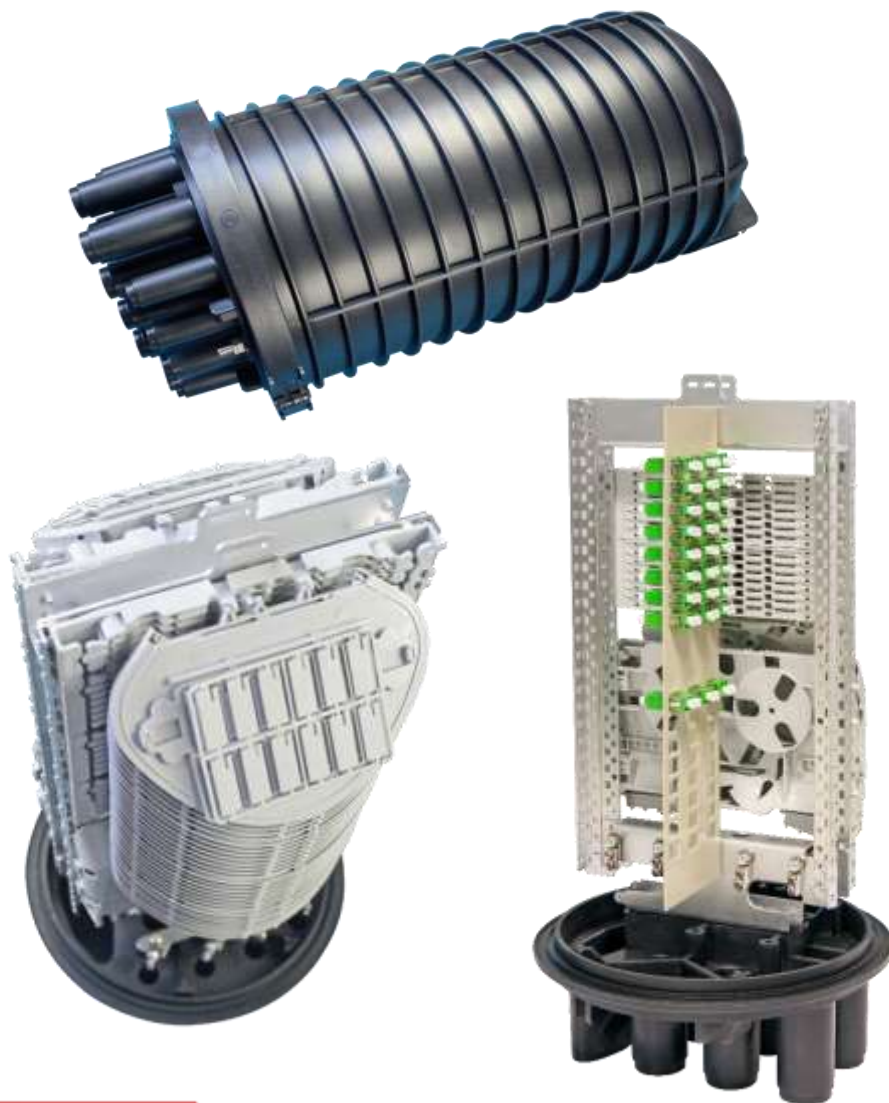


SPLICE CLOSURES



- IP68 protected
- Dome and Inline solutions up to 720 fiber
- Versatile solutions for buried and aerial applications

Versatile Splice Closure System with mechanical sealing

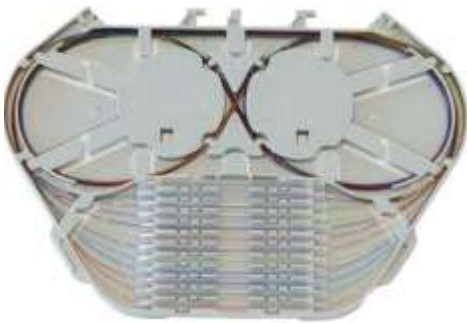


- IP68 protected
- Capacity up to 960 splice
- 1 oval for and 6 & 12 round port options
- Suitable for loose tube, ribbon and drop cable installations
- Buried, aerial and pole mounting options
- Adapters and splitters can be installed inside
- Mechanical sealing option for easy installation and re-entry
- Easy to maintain
- Can be used in areas where installation of outdoor cabinets is difficult or not permitted

Versatile splice closure System with mechanical sealing



Mechanical Sealing for drop cables



12 splice cassette



Splitter cassette



Ribbon cassette 24 splice

Splice closure System for drop cable applications



- IP68 protected
- 1 oval for and 6 round port
- Colored cassettes for visual identification
- Suitable for loose tube, ribbon and drop cable installations
- Buried, aerial and pole mounting options
- Splitters can be installed inside
- Mechanical sealing option



Mechanical Sealing for drop cables

INDOOR WALL MOUNTABLE OPTICAL BOXES



Stackable Cassette System



Splitter installation

INDOOR POLYCARBONATE FIBER TERMINATION BOXES

- IP 54 Protected with special gasketing
- 48 port fiber capacity
- Splitters can be installed inside



OUTDOOR WALL MOUNTABLE OPTICAL BOXES



- IP 65 Protected with special gasketing
- Up 104 port fiber capacity
- Splitters can be installed inside



OUTDOOR WALL MOUNTABLE OPTICAL BOXES



**4 ports
capacity**



**24 ports
capacity**



NAP (Network Access Point) Closures



- IP65 protected
- 16 port capacity
- 1:16 or 2x 1x8 Splitters can be installed inside
- Wall, aerial and pole mounting options



NAP (Network Access Point) Closures

- IP68 protected
- 16 port capacity
- 1:16 or 2x 1x8 Splitters can be installed inside
- Suitable for FTTX , 5G and FTTH
- Easy to install and maintain with mechanical sealed cable entries
- Wall, aerial and pole mounting options



NAP (Network Access Point) Closures

- IP68 protected
- 12 port capacity
- 1x8 Splitters can be installed inside
- Suitable for FTTX , 5G and FTTH installations



NAP (Network Access Point) Closures



- IP68 protected
- 4 port capacity
- 1:4 or 2x 1x2 Splitters can be installed inside
- Suitable for 5G and FTTA installations
- Easy to install and maintain with mechanical sealed cable entries

CPE termination boxes



OTO termination boxes



- Pre-terminated solution for inbuilding fiber connectivity
- Saves from installation time and cost
- Ease of installation and maintenance
- 10,20,30,40,50,60 m drop cable options
- Compact solution in a single box

Pre-terminated In-Building Fiber Connectivity Solution



Floor termination boxes



- Pre-terminated solution for inbuilding fiber connectivity
- Placed on the floor of the apartment
- Saves from installation time and cost
- Ease of installation and maintenance
- 10,20,30,40,50,60 m drop cable options
- Compact solution in a single box

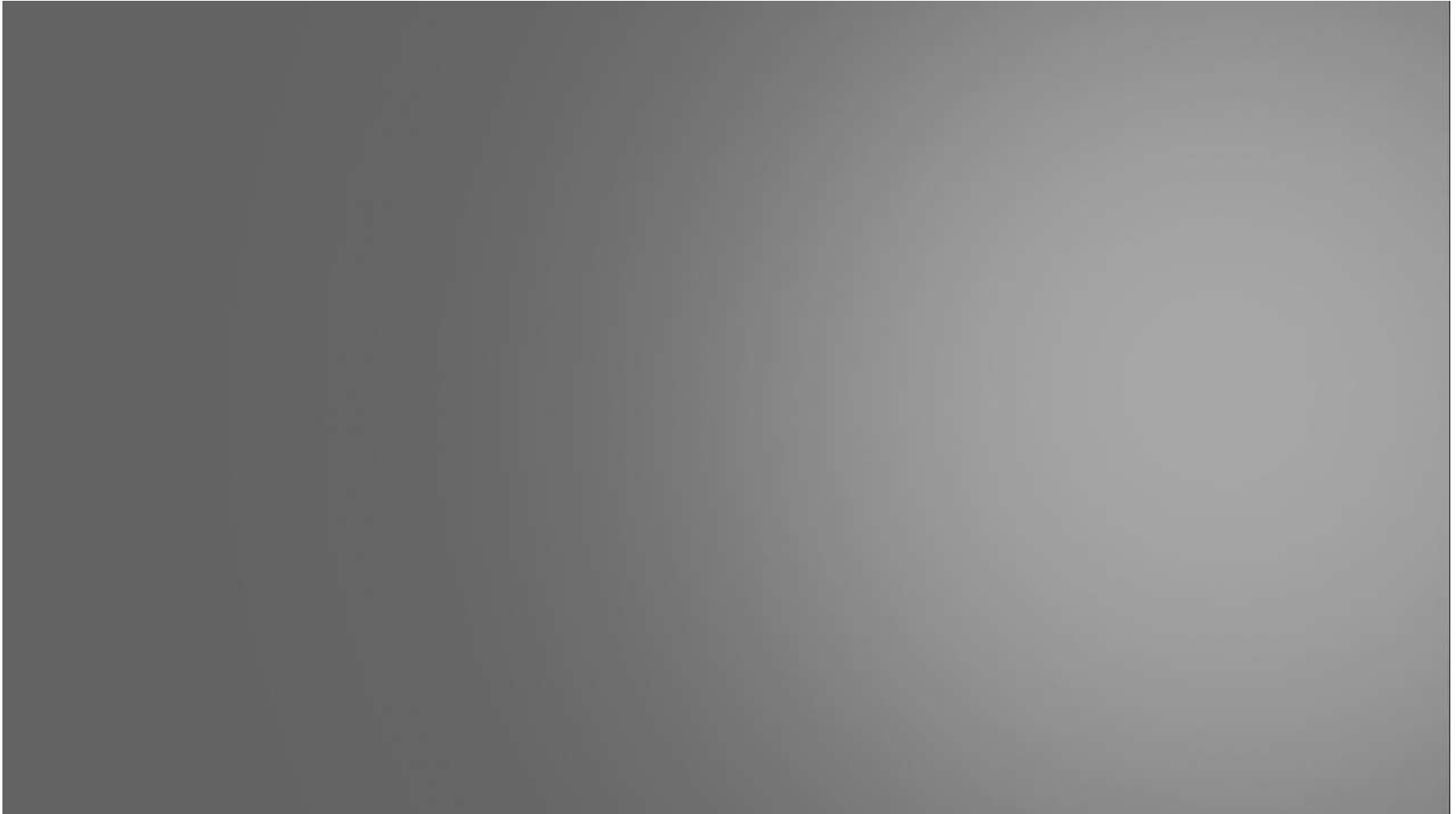
Classical System vs. Pre-terminated Solutions

	CLASSICAL SYSTEM STANDARD FLOOR BOX	NEW SYSTEM FLOOR BOX CAN-FLR-101 BOX
Fiber Cable	Min. 20m 4 core cable (1m cable= 0.50€ x 20 = 10€)	Sent as pre-terminated
Fusion Splice	4 pieces	-
Splice Connection Time	40 minutes	-
Splice Labor Cost	Min. 4x6 € = 24 €	-
Box Assembly Time	5 minutes	5 minutes
Connection Equipment	Fusion Machine (5.000€)	-
Total Assembly Time	45 minutes	5 minutes

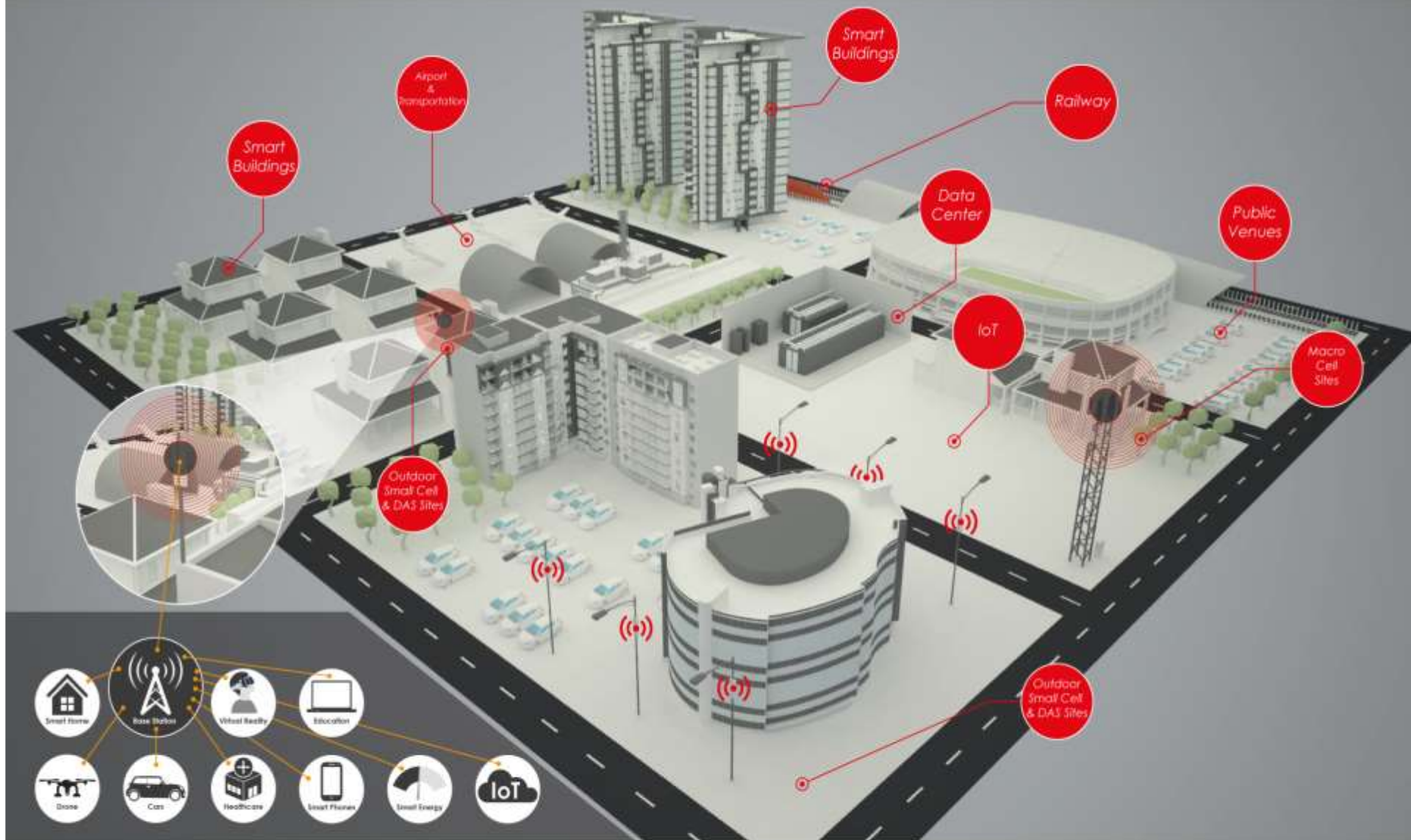
	CLASSICAL SYSTEM STANDARD INDOOR BOX	NEW SYSTEM OTO BOX CAN-OTO-101 BOX
Fiber Cable	Min. 20m 4 core cable (1m cable= 0.50€ x 20 = 10€)	Sent as pre-terminated
Fusion Splice	1 piece	-
Splice Connection Time	20 minutes	-
Splice Labor Cost	Min. 1x6 € = 6 €	-
Box Assembly Time	5 minutes	5 minutes
Connection Equipment	Fusion Machine (5.000€)	-
Total Assembly Time	25 minutes	5 minutes

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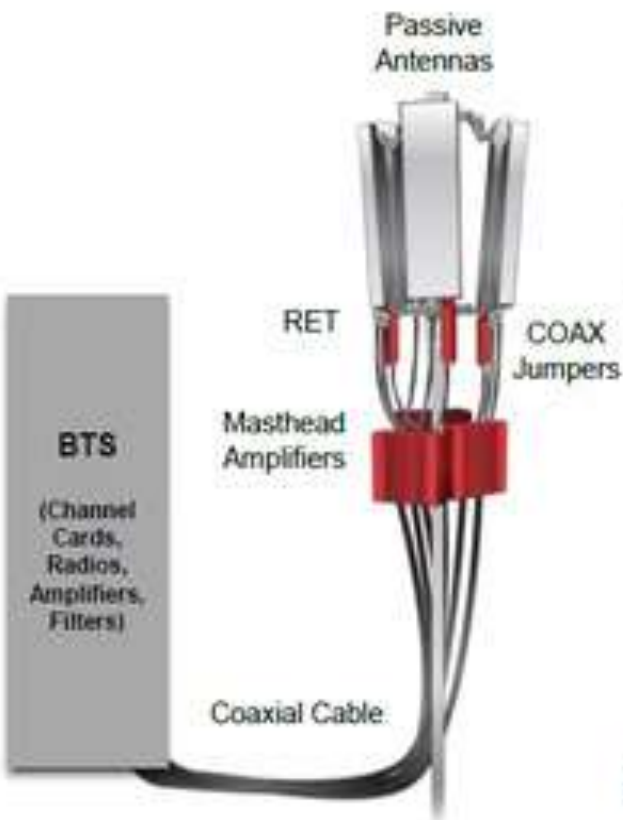
Canovate Fiber Tree Solution



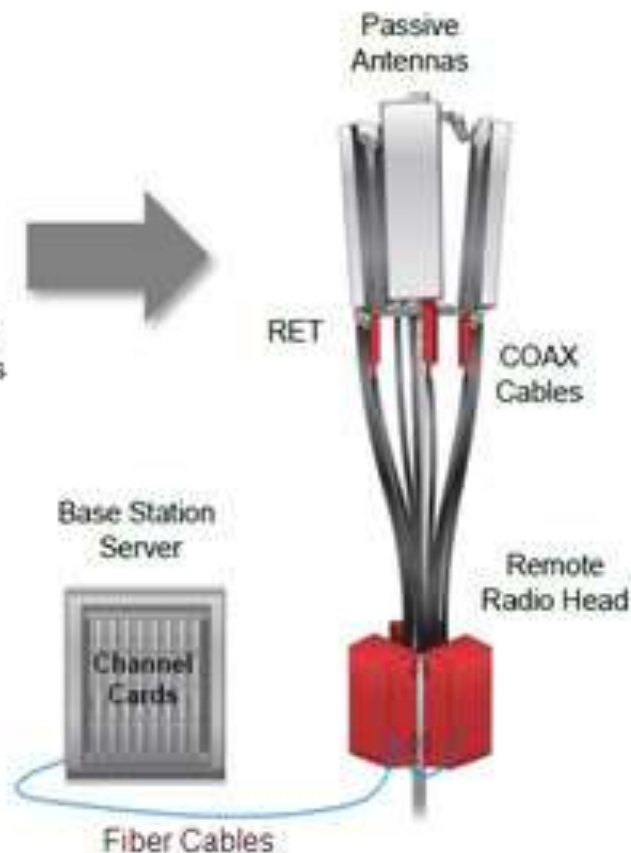
5G APPLICATION



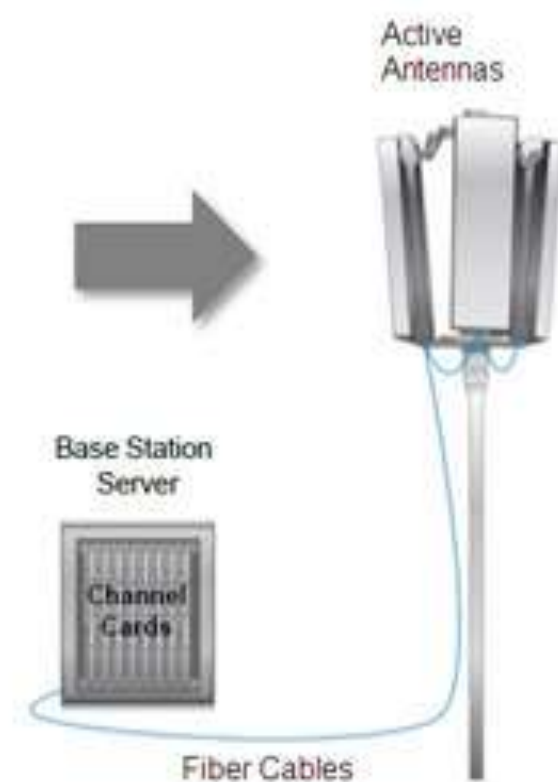
The Past Conventional BTS



The Present Remote Radio Head



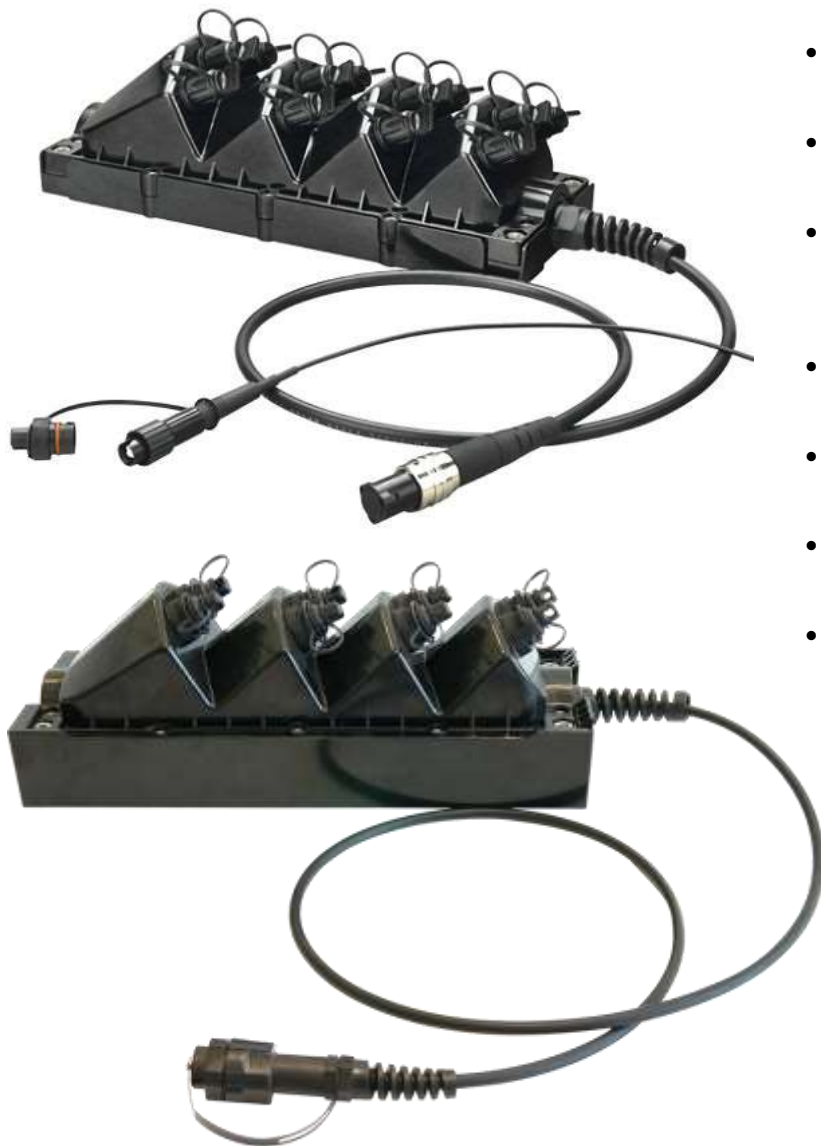
The Future Active Antennas



5G Fiber to The Antenna (FTTA) Solutions



FTTA (Fiber to the antenna) Closure



- IP68 protected
- 12 port capacity
- Enables secured connections to antennas via hardened patchcords
- Easy to maintain , install and enables quick re-entry
- ODVA-LC, H-Connector, PTLC adaptor options
- Suitable for FTTA and 5G installations
- Wall, aerial and pole mounting options



Hybrid FTTA (Fiber to the antenna) Closure



- IP68 protected
- 6 port fiber and 6 port power input capacity
- Enables secured connections to antennas via hardened patchcords
- Easy to maintain , install and enables quick re-entry
- ODVA-LC, and power plug options
- Suitable for FTTA and 5G installations
- Wall, aerial and pole mounting options



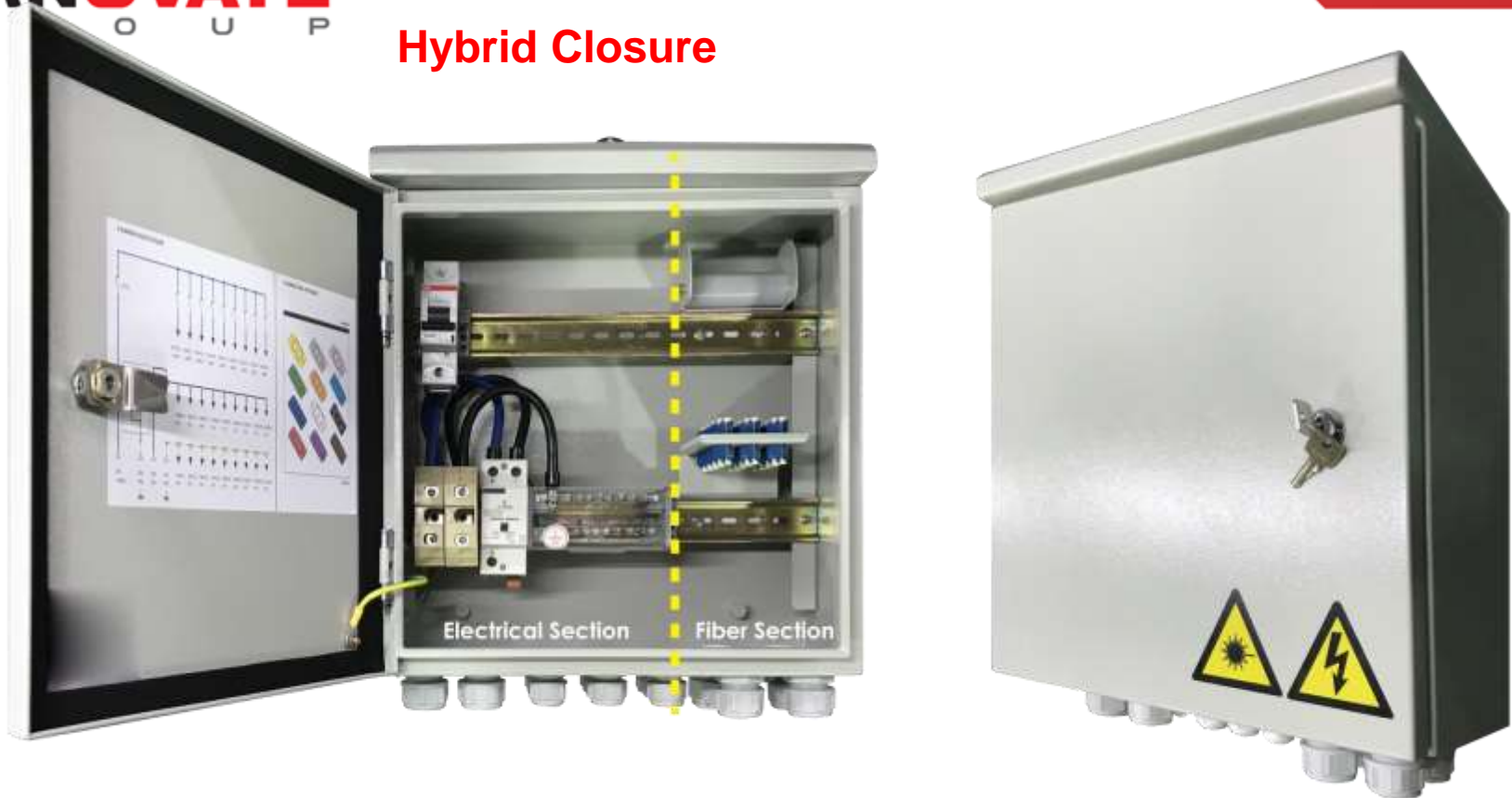
Pre-terminated IP68 hardened patchcords



- IP68 protected
- Enables easy installation and maintenance. (Plug&play solution)
- ODVA-LC, H-Conector (Minitap) , PTLC connector options
- Suitable for FTTX, FTTA and 5G installations.



Hybrid Closure



- Ruggedized IP66 outdoor distribution box for fiber connectivity and power supply to the antennas
- Factory terminated hybrid (fiber & electrical) solution
- Minimizes the amount of cables running up to the antenna mast
- Suitable for FTTA and 5G installations

THANKS FOR YOUR PARTICIPATION