#smartconnection

LANmark-OF ENSPACE

High density fibre solutions for data centres

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Get ready for 10G, 40G, 100G
... and beyond

As high density data centres migrate to 40 and 100 gigabit speeds, selecting the right cabling solution is becoming increasingly important and more difficult than ever before. Accommodating fast-changing technology and capacity involves detailed choices and requires specialist knowledge.

The ideal cabling solution should be ready for the future, support several generations of active equipment and present no obstacles during operation. It should be quick and easy to install. Easy access and management of connections is required to make fast and effective changes.

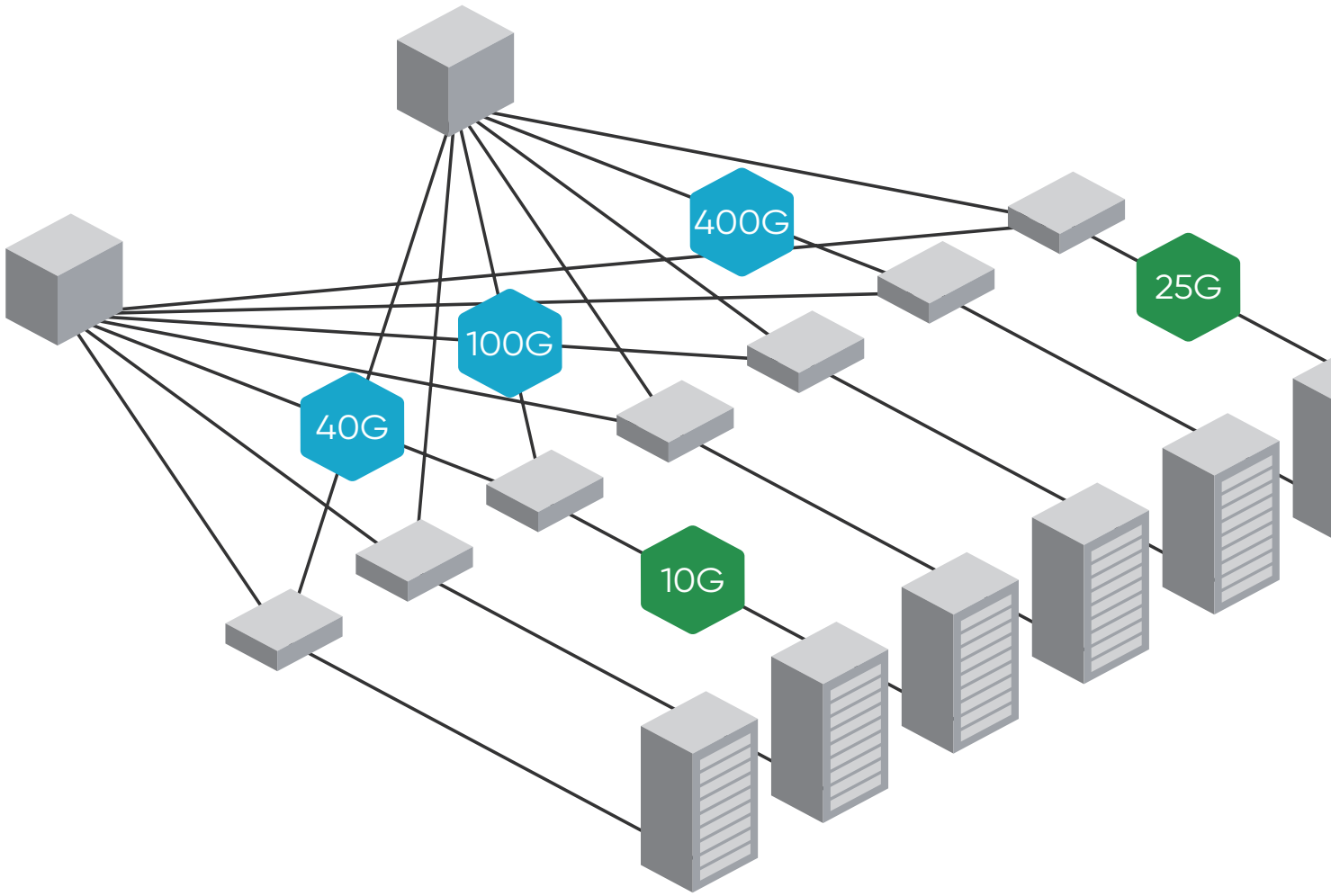
Aginode flexible, high-quality LANmark ENSPACE products facilitate the design of a wide variety of configurations, comprising high numbers of connections within the same channel, with reach beyond that of standards-defined distances.

A combination of quality products and technical know-how allows Aginode to support you during the design, installation and operational phases.

On the following pages, we'd like to show you just how.

PLAN

Keeping you up-to-date on latest innovations, helping you to plan ahead for future changes



CORE

↓

Space Saving

↓

ENSPACE UHD

Ultra High Density

SERVERS

↓

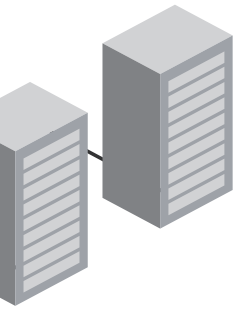
Ease of operations

↓

ENSPACE HD

High Density

ENSPACE for every zone of your data centre



Data centres have many network layers and zones. The core network from Spine to Leaf switches and the access network towards servers have different speed and density requirements. Moreover every data centre has its own set of challenges. ENSPACE offers flexible solutions for different installation needs.

ENSPACE supports core and access networks

Core networks are moving quickly from 40G to 100G. Very large data centres start even to look into options for 400G. For 40G and 100G IEEE approved solutions for multimode are based on parallel optics. Recently proprietary solutions based on duplex LC are rapidly gaining popularity. ENSPACE can support both approaches.

For the network between the servers and the switches, IEEE has already approved standards for 10G, 25G and even 50G. All these solutions are based on duplex LC. ENSPACE solution with LC or MTP/LC modules support the access network for the next 3 generations! No migration in cable infrastructure is expected for the foreseeable future.

Different zones, different density requirements

Density requirements vary from zone to zone in a data centre.
In patching zones to the Spine switches many hundreds of connections need to be managed. ENSPACE UHD panels reduce the number of racks required saving expensive space in data centres.

Other zones like server racks have less connections. And stacking of the panels is not required. ENSPACE HD panels, with 48 ports per height unit, offer a cost effective solution.

PLAN
Keeping you up-to-date on latest innovations, helping you to plan ahead for future changes

HD

2 trays per unit

1U = 96 x LC
or 48 x MTP

UHD

3 trays per unit

1U = 144 x LC
or 72 x MTP

-50% rack space

The right Density Everywhere

The right density and scalability without compromising operations.

In a modern data centre there is limited space for passive cabling. Furthermore, you must be able to migrate to higher speeds or add ports without disrupting operation. To accommodate these requirements, density, accessibility and scalability are key.

ENSPACE HD

The ENSPACE HD panel accommodates 8 ENSPACE modules on 2 fixed trays for a density of 96 LC in 1U. The panel is typically used in server racks or patching zones of medium sized data centres. The modules can be installed from the front or the rear for a maximum of flexibility during installation.

With the integrated guides on every tray the patch cords are neatly managed to the side. Uniboot patch cords with bend-insensitive fibre allow for sharp turns and bends within cable routes in the rack. The round patch cable's 2mm diameter is optimised for high density areas.

ENSPACE UHD
Ultra High Density with fingertip access patching

LANmark ENSPACE UHD solution increases the number of connections in 1U by 50%. ENSPACE UHD panels feature three individual sliding trays per "U", which can be pulled forward for fingertip access when installing or disconnecting patch cords. This approach allows 144 LC connections in a 1U panel and up to 576 LC connections in 4U without compromising the operational efficiency of patching. A sliding and tilting rear tray facilitates installation from the rear and allows for scalability without interrupting already installed ports.

DESIGN
Supporting you in designing robust, flexible and scalable systems

Longer distance
More connections

LC Connectivity

Access:

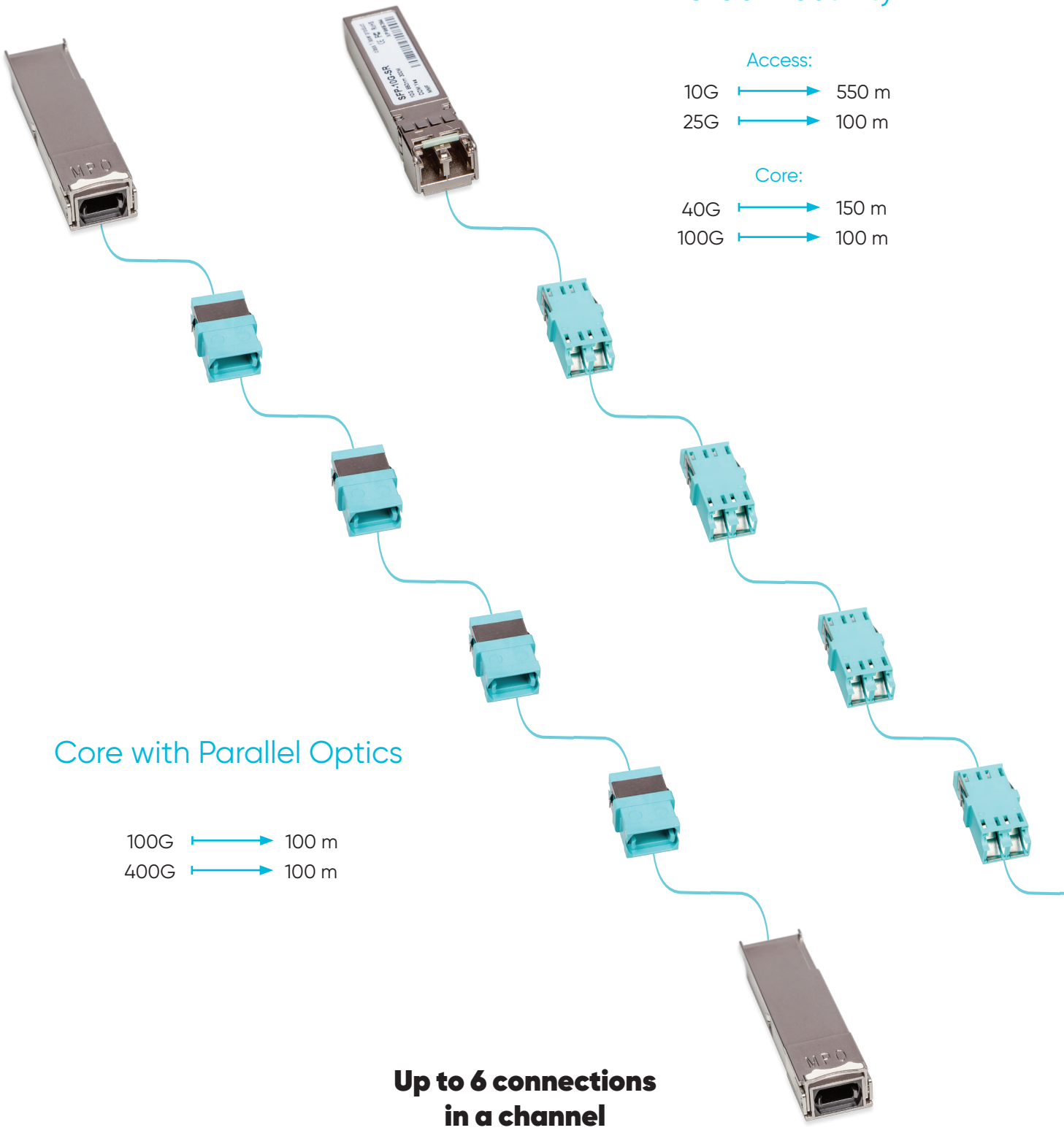
10G → 550 m

25G → 100 m

Core:

40G → 150 m

100G → 100 m



Core with Parallel Optics

100G → 100 m

400G → 100 m

Up to 6 connections in a channel

Optimising Design

Complex configurations made easy

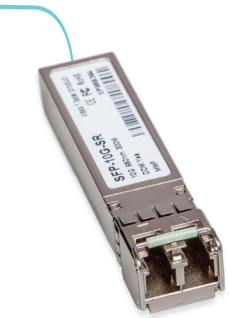
One of the trickiest parts of designing a data centre is capturing all the cabling requirements, taking into account the widely varying requirements, benefits, specifications and technological limitations of different cable types, network devices and systems. Will a certain cable type work correctly at the specified length? Where can I best place storage capacity? How many connections can I add per channel in a given design?

Aginode can provide detailed, documented advice, based on decades of practical experience, far-reaching knowledge and state-of-the-art hardware. With our advanced solutions for ultra high density patching and rack cabling, we can support the creation of optimal designs for every data centre build or expansion.

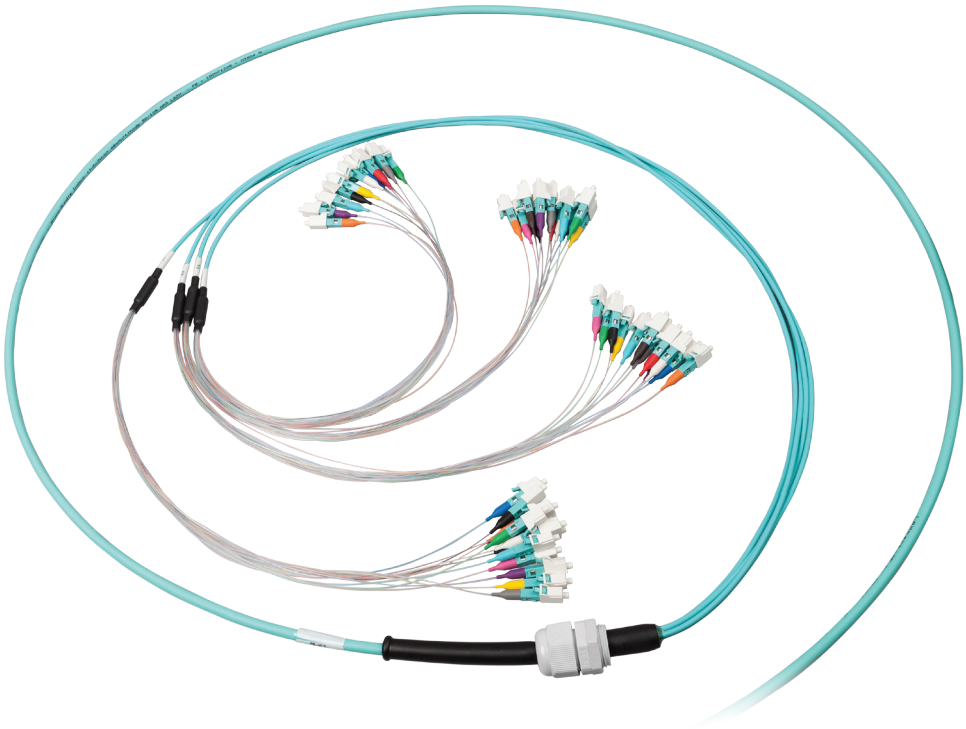
Building in flexibility

Today's data centre infrastructure requires built-in flexibility. Different racks and rooms have to be connected with high-speed protocols. The higher the speed, however, the lower the available optical power budget.

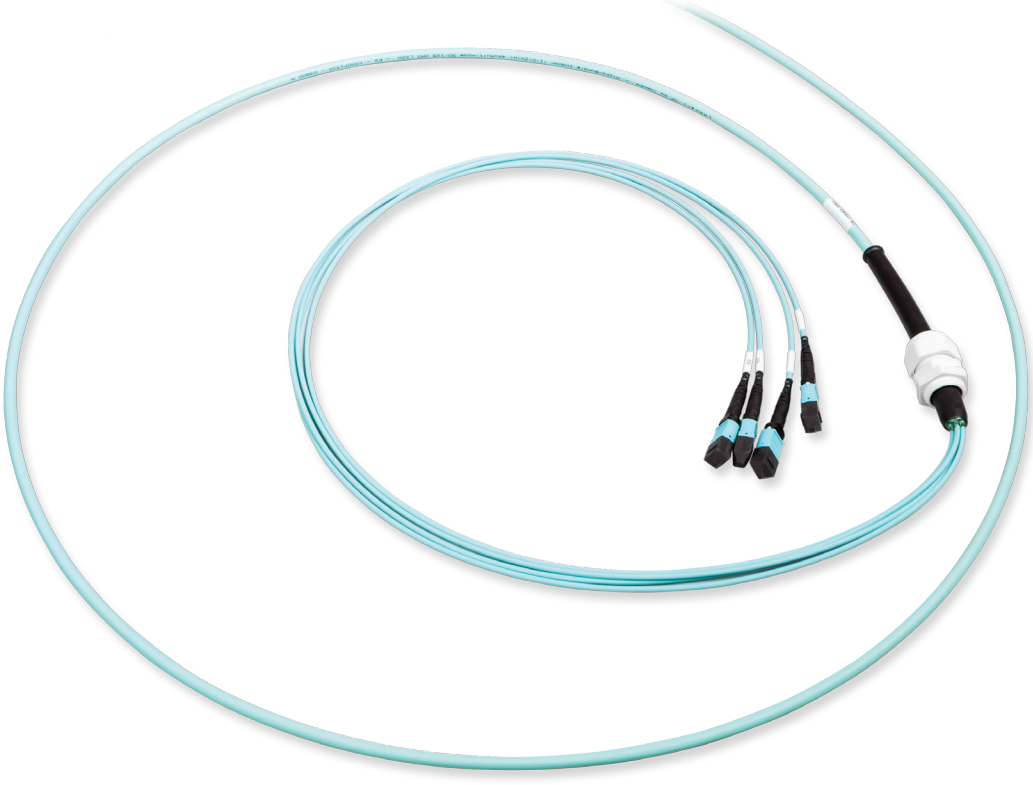
Aginode high-performance LANmark-OF connectivity with minimised insertion loss allows greater lengths and more connections without sacrificing quality or reliability. What's more, Aginode expertise and deep involvement in the development of new protocols and cabling standards means we can help you find the right solution every time. Our low-loss connectivity solutions exceed all of the requirements of the relevant standards to ensure your data centre performs better and more reliably.



DESIGN
Supporting you in designing robust, flexible and scalable systems



Reduced space for cabling



Different environments, different cabling

Choosing the right pre-terminated cabling types

When making cabling and infrastructure decisions, there are many aspects to consider; different 'environments' – Spine to Leaf switch, Leaf switch to server, SAN, representation of switches... - all require different types of cabling. What type of connectivity should you be using? Multimode or Singlemode with LC connectors? Or MTP* for protocols based on parallel optics?

Aginode can advise you in the choice of assemblies using LC or MTP connectivity optimised for fast installation, with no technology or connector bias, choosing the best solution for each individual section of the network.

* MTP is a trademark of US Conec

LC connectivity moving from 10G to 25G/40G and even 100G

LC connectivity has a proven track record for 10G in data centres. New standards developed for 25G and proprietary solutions for 40G and even 100G based on duplex transmission are extending the functional lifetime of LC connectivity in data centres. What's more, LANmark ENSPACE LC Pre-Term solution facilitates quick and easy installation with its innovative dual stage fan-out.

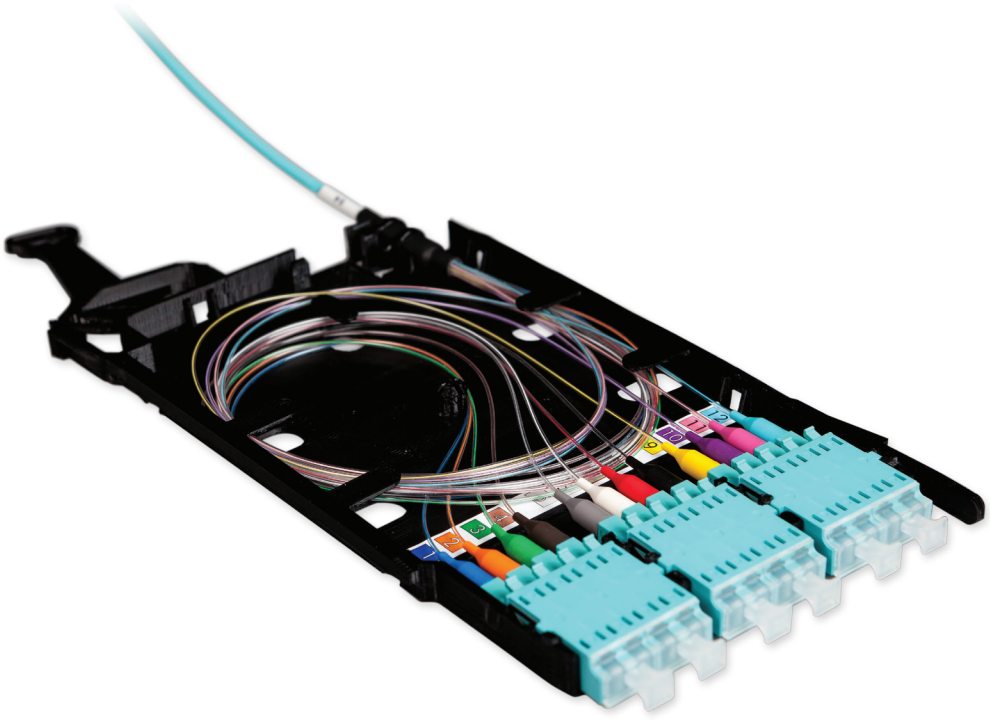
MTP for 100G/400G and for rapid deployment of LC connectivity

High-speed protocols require parallel optics supported by advanced multi-fibre MTP connectors. Pinned connectors on the MTP-MTP Pre-Terms require only one type of patch cord, reducing operational complexity for 100G and even 400G.

With pre-installed MTP-LC modules LC connectivity based networks are deployed easy and very fast.

DEFINE

Sharing our expertise in defining state-of-the-art specifications and solutions



Designed for fast deployment

Short deliveries and fast installation

Deployment speed is essential to successfully build and expand data centres. This requires fast deliveries and rapid, hassle-free installation – Aginode can help in both these areas.

Short delivery times

Aginode can guarantee short delivery times and respond rapidly to changing demands with its own factories throughout Europe and around the world, in-house specialist design knowledge and logistics experience.

Tailor delivery schemes

We create tailor-made delivery schemes and palletising, perfectly aligned to construction planning. The right deliveries take place at the right time, for fast and perfectly coordinated installation. Clear labelling on individual Pre-Terms, boxes and pallets allows for immediate identification.

Fast and easy installation

LANmark ENSPACE MTP-MTP Pre-Terms can reduce time required on-site by as much as 70 % compared to traditional termination methods.

LC Pre-Terms with dual staged, neatly packaged fan-outs avoid tangled connectors and allow hassle-free, cassette-by-cassette installation. Coloured boots facilitate error-free implementation of the required fibre pair-flip during installation and make fibre identification faster and easier. MTP-LC modules reduce installation time even further.

Cables are delivered at individually specified lengths - there's no excess cable to be organised in racks and space is used optimally.

Installation flexibility

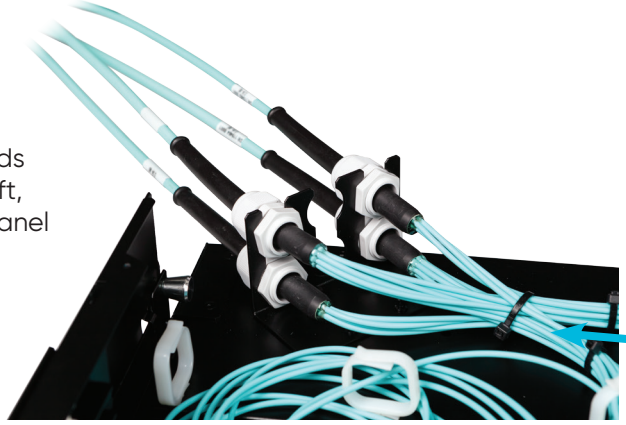
In some situations, there is an installer preference for either the MTP trunks or the LC trunks, or even field termination. With ENSPACE products, the end-user maintains an identical product use and performance, allowing the installer to utilize their cost effective method.

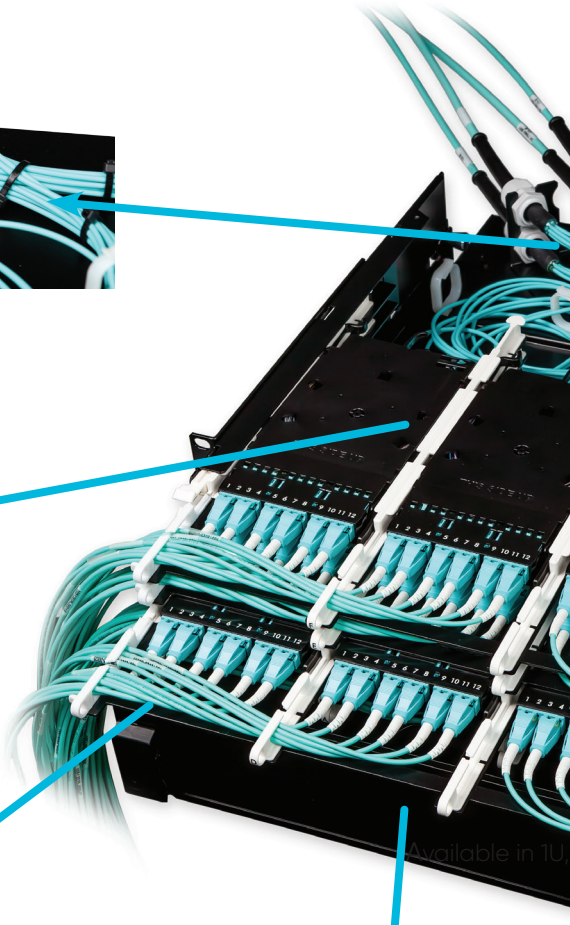
DEPLOY

Blueprinting your infrastructure for cost-effective and accurate installation, assisting you on-site and ensuring warranties

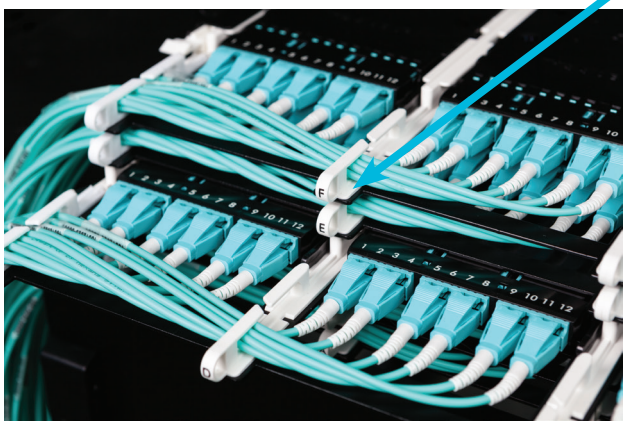
ENSPACE
Easy patching and flexible scalability

- Cables fixed with glands
- Cables can be fixed left, middle and right of panel

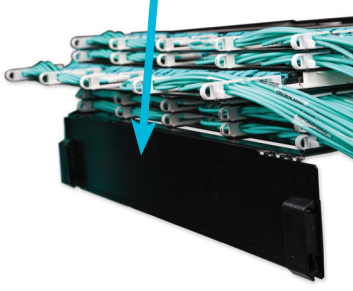




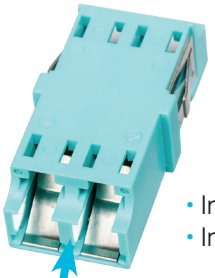
- Can be installed from front and rear
- 12x LC or 6x MTP



- Finger tip access to patch cords
- Individual sliding tray with 4 modules (UHD only, HD trays are fixed)
- Locking positions when installed, for patching and before removal

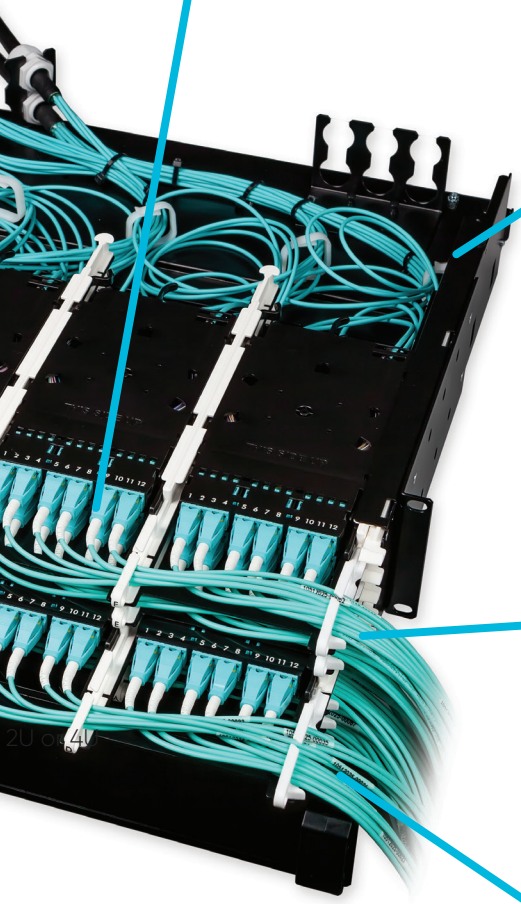


- Opens 180° even wit

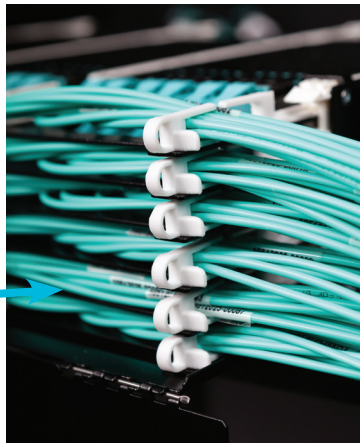


- Internal auto-shutter
- Improved eye safety

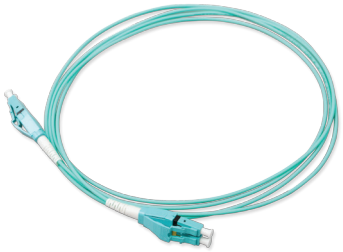
- Sliding and 40° tilting rear drawer (UHD only)



- Available in 1U, 2U or 4U



- Integrated patch cord guide
- Side grips for easy tray removal

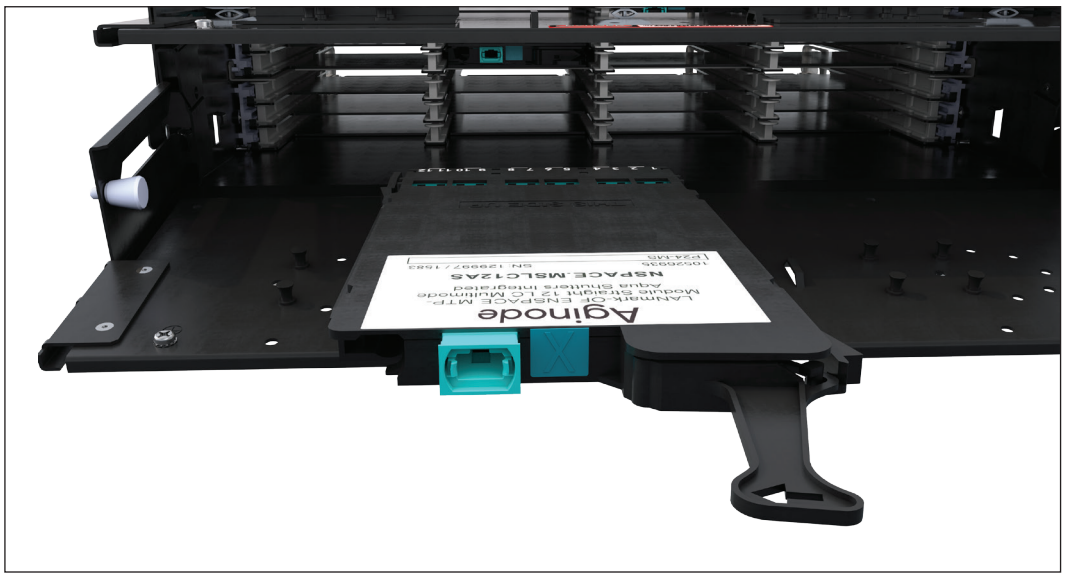


- Patch cord 2mm diameter
- Uniboot connector
- Bend insensitive fibre

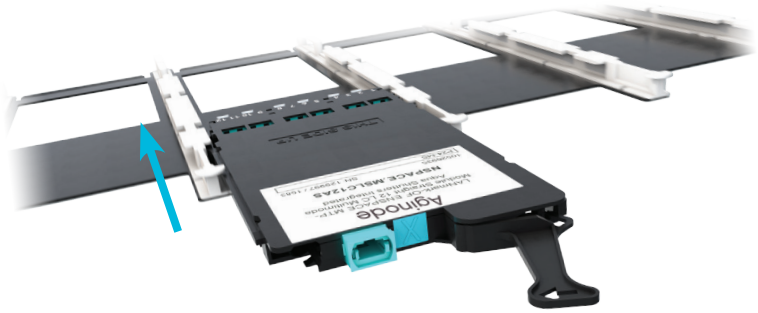
h panels below

USE

Offering training, monitoring and fast repair, replacement and third-level support


Aginode
LANmark-OT ENSPACE MTP
Module Straight 12 LC Multimode
Aqua Shutters Integrated
NSPACE.MSLC12AS


Aginode
NSPACE.MSLC12AS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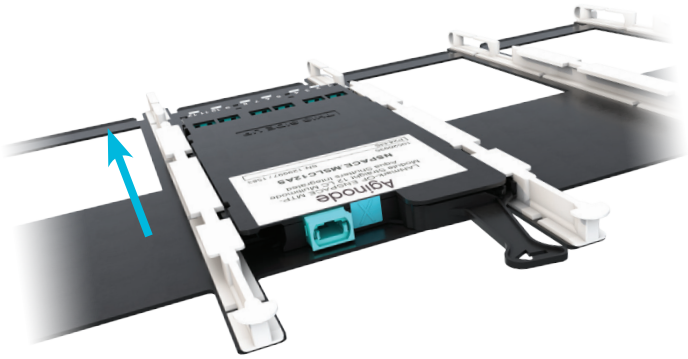
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ENSPACE...
your scalable solution

Adding ports without interrupting already installed ports

Every data centre has its unique set of challenges for installation of Pre-Terms, panels and modules. For maximum flexibility during installation, the ENSPACE modules can be installed from the front or from the rear of the panel.
For extensions and modifications, additional Pre-Terms and modules are installed when needed from the rear thanks to easy rear panel access, which makes loading of the modules and fastening of the cable simple. There is no interference with the already installed patch cords in the front. ENSPACE provides a scalable solution without interrupting operational ports.

ENSPACE UHD: Easy access to rear

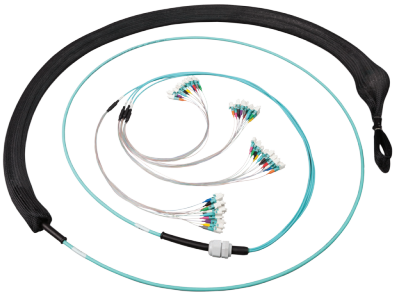
In ultra high density zones stacking of panels is common. With ENSPACE UHD Pre-Terms and modules are easily inserted into patch panels thanks to Aginode' unique design with a retractable rear drawer, allowing instant access and enough room to manipulate connectors and cables even when panels are stacked.

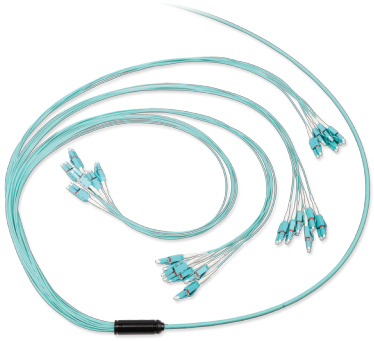
ENSPACE HD: without moving parts

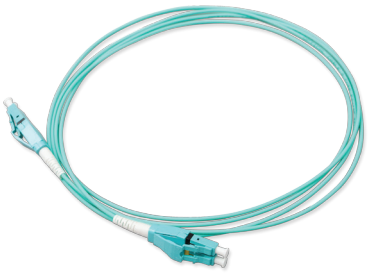
ENSPACE HD is targeted at lower density zones like server racks where stacking of panels is less common. The front and rear sides of the panels are easily accessed due to a more open panel design. Sliding trays are not required for installation and patching. ENSPACE HD has no moving parts, which can help avoid patch cords and trunks being trapped in tight spaces.

USE
Offering training, monitoring and fast repair, replacement and third-level support

ENSPACE: Your Data Centre Solution







LANmark™

With the digital transformation of business, efficient data access and exchange becomes ever more determinant for your company's success. As cabling systems survive different generations of active equipment, they need to be at the same time robust, flexible and scalable to adapt to new digital business requirements. Your IT infrastructure needs to be agile, well-planned ahead for accurate and efficient deployment and proactively designed for future changes.

PLAN
Keeping you up-to-date on latest innovations, helping you to plan ahead for future changes.

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