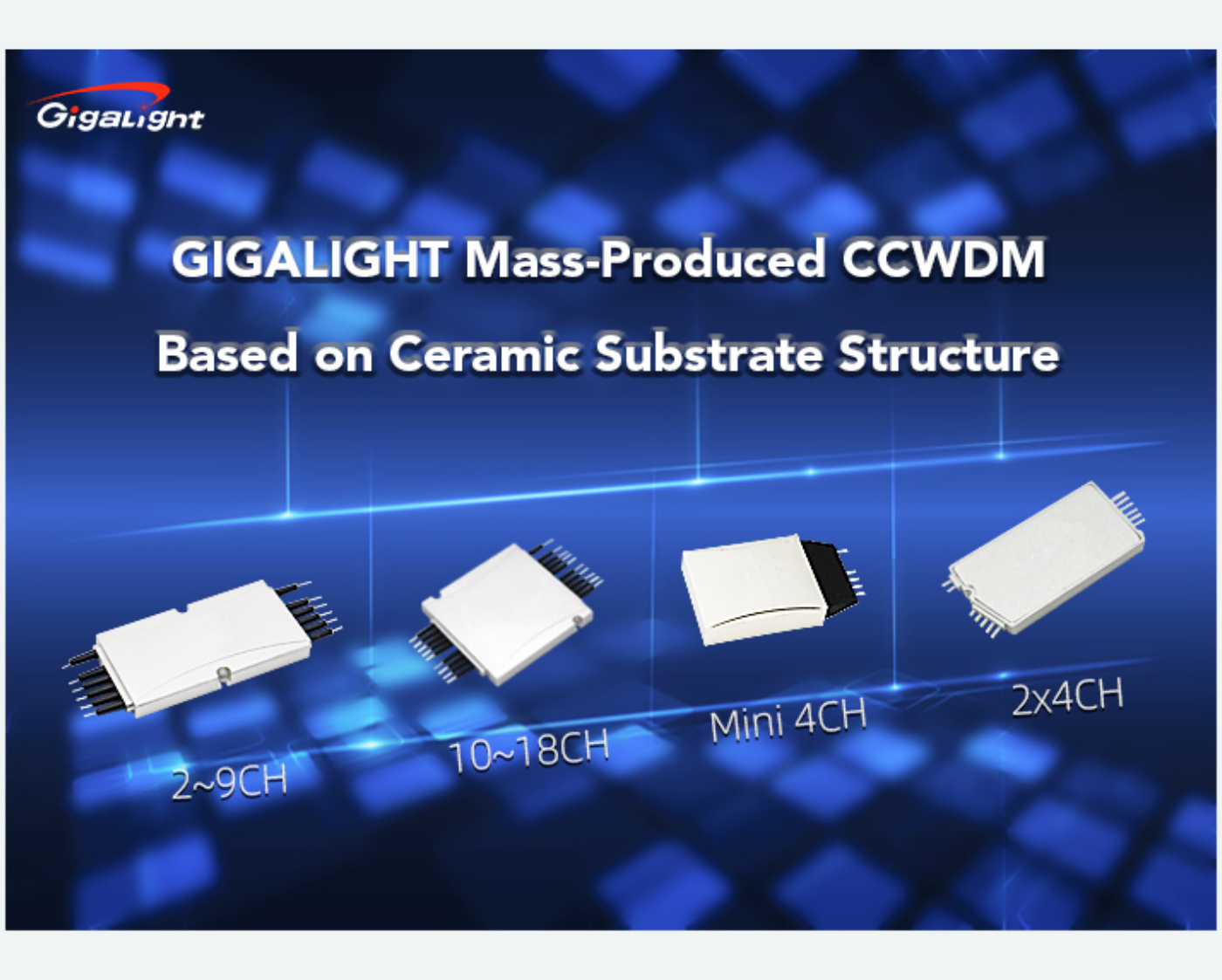
GIGALIGHT Marketing Report

Special Issue on Optical Passive Devices

2022 Q3 Vol.3

New Products

Compact CWDM (CCWDM) MUX/DEMUX



In June 2022, GIGALIGHT officially mass-produced the Compact CWDM (CCWDM) passive MUX/DEMUX modules, which adopt ceramic substrate structure and the Free Space Optics (FSO) technology.

The GIGALIGHT's CCWDM modules feature strong scalability and support up to 18 channels, suitable for the cost-sensitive datacom and telecom networks based on uncooled laser technology.

GIGALIGHT's CCWDM modules adopt unique optical path design and packaging process to ensure ultra-low insertion loss and temperature dependent loss.

Meanwhile, GIGALIGHT has achieved semi-automation in the processes of TTF placement, coupling, packaging, etc., which improves production efficiency and product yield while ensuring product consistency.

5G OMUX MUX/DEMUX

Since 2018, GIGALIGHT has accurately positioned the Korean 5G market, launched a series of 5G products, and helped local manufacturers complete a series of 5G fronthaul projects.

In December 2020, GIGALIGHT's 5G OMUX MUX/DEMUX passive modules were adopted on a large scale by two major operators, KT and SKT in South Korea.

Up to now, the product failure rate of passive WDM modules delivered by GIGALIGHT to the Korean market is lower than 300DPPM, and the quality is among the best.

GIGALIGHT has won an excellent reputation for excellent product quality and reliability, and has also won applause for Made in China.

Athermal Arrayed Waveguide Grating (AAWG) MUX/DEMUX

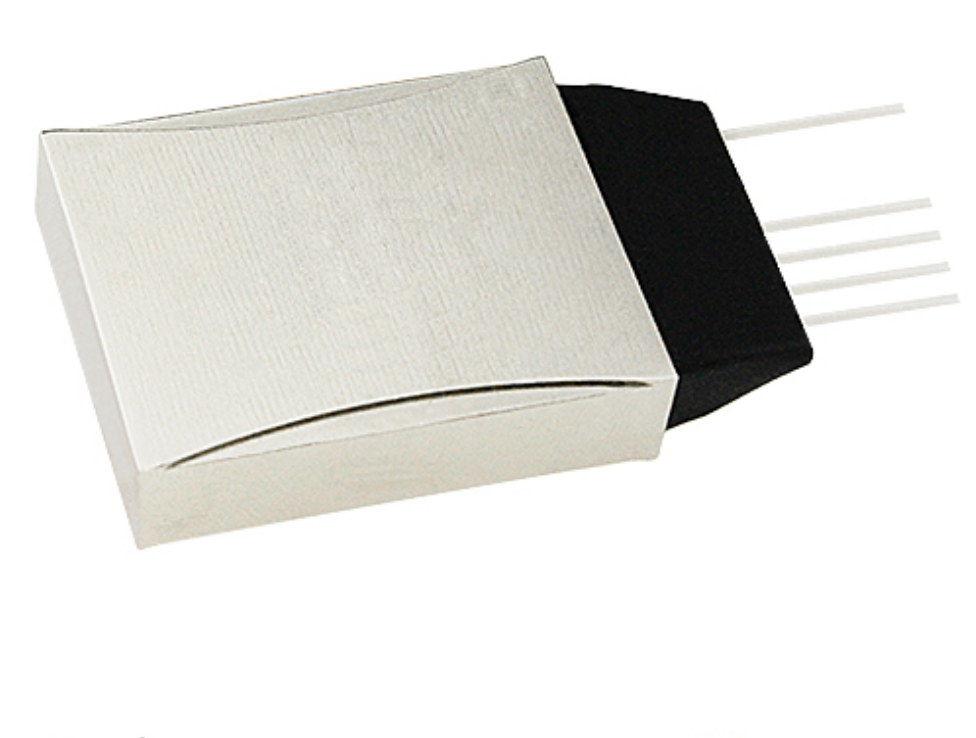
In March 2022, GIGALIGHT successively launched two DWDM MUX/DEMUX passive module products, 75GHz AAWG and 100GHz AAWG.

Among them, the 75GHz AAWG (flat-top type) perfectly supports 64-channel 400G DP-16QAM coherent optical transmission, meeting the high bandwidth requirements of DCI optical networks in data centers.

The 100GHz AAWG is suitable for 5G fronthaul WDM-PON outdoor environment, meets the industrial-grade operating temperature range (-40°C to +85°C), and supports ITU G694.1 C18-C61 DWDM multi-channel transmission, which can greatly improve the 5G fronthaul fiber network capacity.

Best Deals

4CH Mini CCWDM MUX/DEMUX



- ✓ Low insertion loss
- ✓ high isolation
- ✓ Low polarization dependent loss
- ✓ High reliability and thermal stability

From **$49.99**

Order Now >

8CH CCWDM MUX/DEMUX

- ✓ Low insertion loss
- ✓ high isolation
- ✓ Low polarization dependent loss
- ✓ High reliability and thermal stability

From **$88.88**

Order Now >

New Technology Insights

Research on WDM-PON and Its Global Market Trend

The WDM-PON system combines WDM technology and PON topology to realize long-distance point-to-multipoint high-bandwidth transmission. It includes key technologies such as ONU, AMCC, optical transceiver, OAM, and protection switching, which are very important for its mass use in 5G carrier network. With these technologies, WDM-PON is considered an ideal solution to meet 5G requirements and is gaining attention today.

Research on Applications of WDM-PON in 5G Carrier Network

When operators have requirements such as solving the pressure of base station site selection, releasing the BBU equipment room and centrally deploying DU pools in dense urban areas, they can move the location of DUs up and deploy them centrally.

The solution that uses WDM-PON as the fronthaul interface in 5G carrier network is especially suitable for operators who have both cable network service and wireless service requirements in new scenarios, because that the WDM-PON can take advantage of the OLT access equipment room, centrally deploy DUs, and deploy the DU pool and OLT at the same site.

To carry 5G uRLLC services, it is recommended that the CU, OLT and DU be co-site deployed, so the transmission path of users' data between DUs (such as CoMP) will be closer, and the delay of 5G RAN will be reduced as the midhaul disappears.

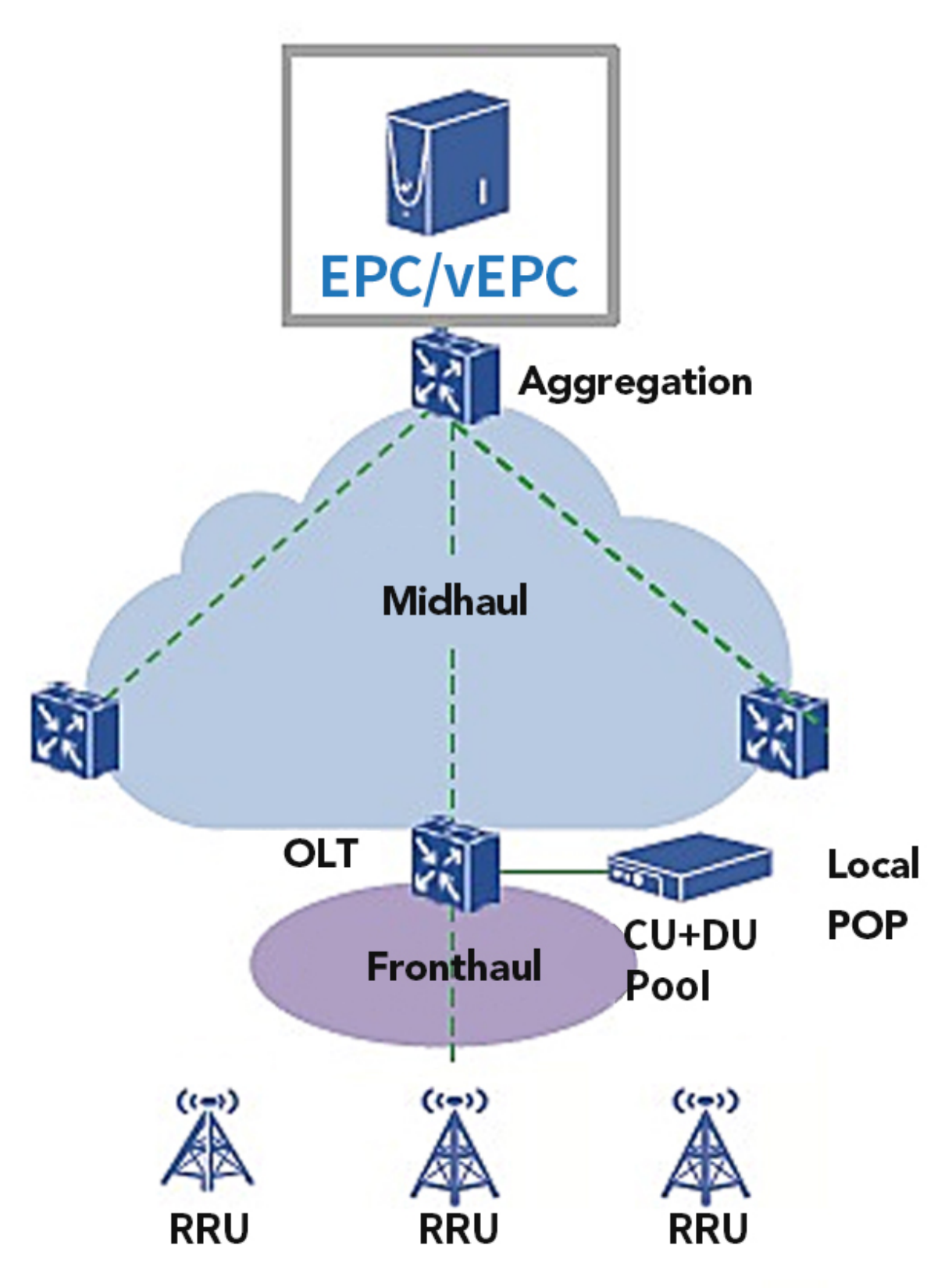


Figure 1: Research on 5G new scenarios or hotspot scenarios

Global Progress of WDM-PON Technical Solutions

Since 2017, international operators have paid close attention to the application of WDM-PON technology in 5G fronthaul, and have studied it as a key solution.

- Orange, the France Telecom, has been considering to place the CU of 5G C-RAN at the NG-POP point.
- Deutsche Telekom has been researching the technical details such as C-RAN, CU/DU separation, and CU focus on the aggregation layer.
- CAICT is actively promoting the testing and commercial trial of WDM-PON.
- China Unicom is promoting the WDM-PON technology as the simplified version of G.metro.
- China Mobile is mainly promoting FlexE, which integrates WDM-PON and FlexE.

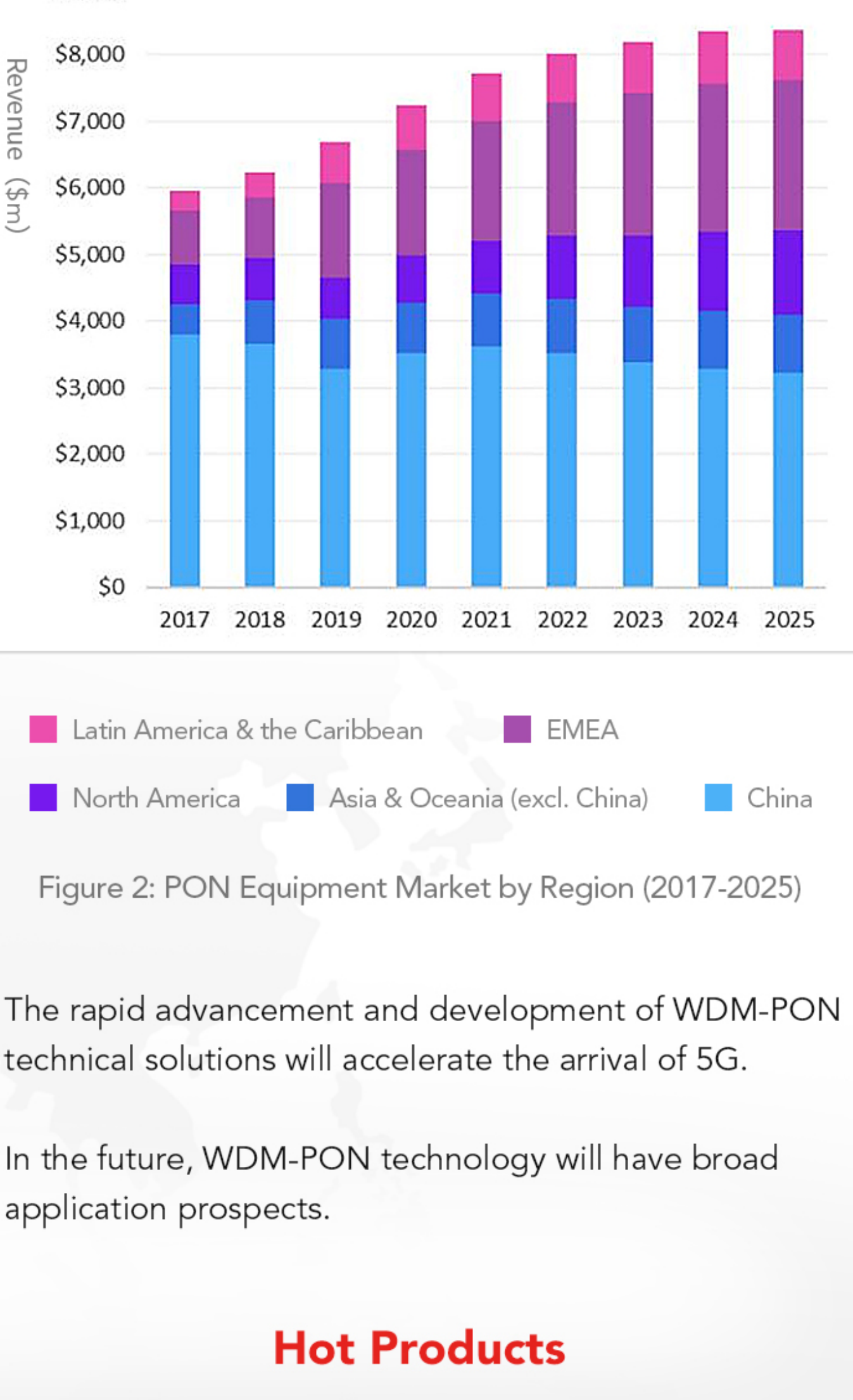


Figure 2: PON Equipment Market by Region (2017-2025)

The rapid advancement and development of WDM-PON technical solutions will accelerate the arrival of 5G.

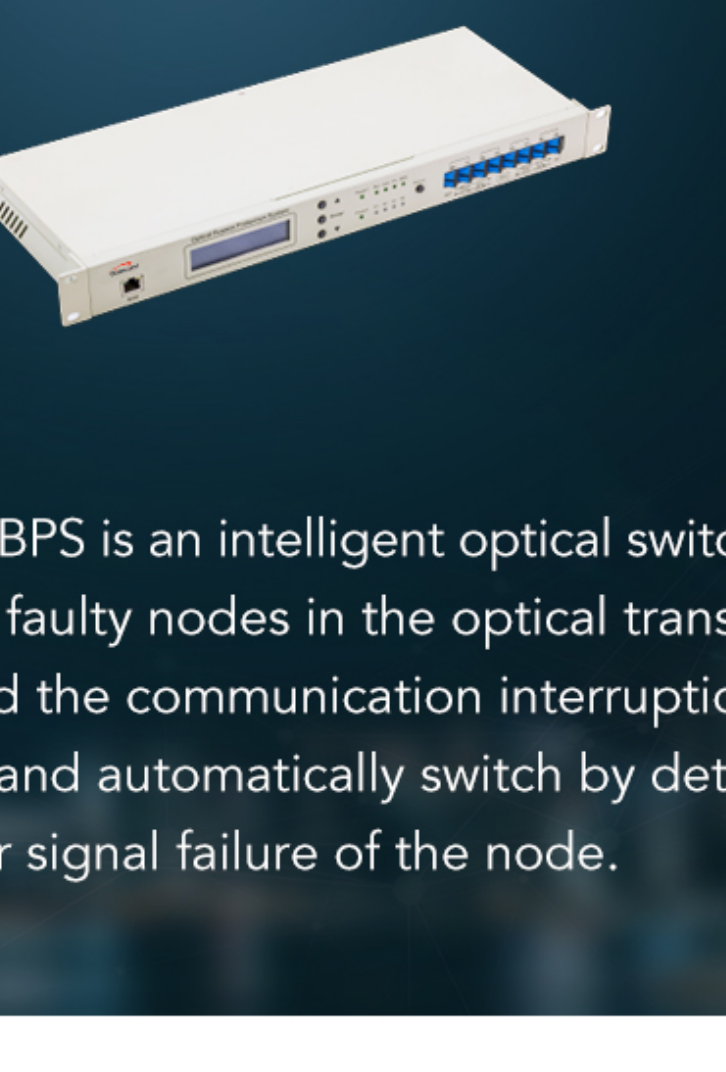
In the future, WDM-PON technology will have broad application prospects.

Hot Products for Metro Optical Transmission

AAWG DWDM Passive Systems

GIGALIGHT's AAWG DWDM rack mount passive systems with low insertion loss can improve the transmission quality, prolong the transmission distance and save fiber resource, suitable for metropolitan area network, local area network and DWDM network.

Optical Bypass Protection System (OBPS)



GIGALIGHT's OBPS is an intelligent optical switching device that can bypass faulty nodes in the optical transmission network to avoid the communication interruption of the entire network, and automatically switch by detecting the optical power or signal failure of the node.

*If you are interested in our products or solutions, please reply to the email directly to explain your needs, and our sales manager will get in touch with you as soon as possible!

Gigalight

Open Optical Network Device Explorer