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### Taiwan Photonics News

#### Taiwan Optical Fiber Communication Industry Craving 5G business

The total number of global Internet users is predicted to grow from 3.9 billion in 2018 with a CAGR of 6% to 5.3 billion in 2023. This represents 51% of the world's population in 2018 and will grow to 66% in 2023. According to Cisco's statistics and forecasts, the number of Internet users and global data center IP continue to grow substantially. Optical fiber communication is the only way to support the growth of a large amount of information transmission and ensure data reliability and energy saving. The transmission rate has been hundreds of times Tbps from Gbps in the 1990s to today, and it is expected that technologies and products with faster transmission will continue to appear to meet the growing demand for human information.

Taiwan's optical fiber communications industry started to develop with the construction of Taiwan's telecommunication infrastructure in 1990. With decades of development, the upstream and downstream industrial chain of the optical fiber communication industry has generally taken shape, with some important components such as higher-speed (? 28Gbd) Laser Diode Drivers and Analog/Digital signal processors and semiconductor high-speed modulators, as well as software and the overall industry. The integration of hardware technology still requires heavy investment, which can be regarded as a new opportunity. As everyone knows, Taiwan is the largest manufacturer and supplier of global enterprise and data center network equipment such as Switch/Server/Router/NIC, which can provide opportunities and promotion for the development of the optical fiber communication industry.



### Taiwan Photonics News

#### Global High-Speed Optical Transmission Equipment Market

With the advent of the era of high-speed optical transmission, the bearer network used for 5G fronthaul is facing challenges. The fronthaul of 5G base stations requires a bandwidth of up to 25 Gbps, and the number of base stations has increased. The carrying capacity of the base stations has brought huge challenges to the optical fiber infrastructure network and deployment costs. In addition, uRLLC services require ultra-low and

highly reliable networks for end-to-end traffic transmission. In 5G fields or hotspot scenarios, operators are under pressure to reduce the number of sites and leased computer rooms, so they can significantly reduce the capital expenditure (CapEx) of sites through centralized deployment. Therefore, the use of centralized radio access network (C-RAN) architecture for 5G fronthaul is very attractive to operators, but the current dark fiber solution for C-RAN architecture requires a large amount of mobile backhaul fiber. Therefore, most operators are looking for the best solution to meet the needs of 5G fronthaul.

On the other hand, with the rapid development of 5G high-performance dedicated line services and the growing demand for IDC interconnection in cloud networks, the demand for higher optical network bandwidth is increasing exponentially. Therefore, coherent transmission of more than 100G represented by single carrier 200G/400G has also become a hot topic. Because the optical transmission network (OTN) technology with high bandwidth, low latency and long-distance transmission provides high-quality bearer for global operator networks, 100G transmission has rapidly replaced 40G transmission by using revolutionary technology of coherent communication, and Become a new generation of long-life technology.



### Company Note

#### First Zhaga-D4i Controller Earns Certification

The ecosystem of Zhaga-D4i certified products for road lighting now includes DALI-based control devices with Zhaga connectors, as well as luminaires.

The world's first Zhaga-D4i RF Node, which allows control and monitoring of public lighting, has been certified by the Zhaga Consortium and the DALI Alliance. This Tridonic controller enables Zhaga-D4i certified luminaires to connect with IoT/Smart City platforms for intelligent use cases and energy savings.

The joint Zhaga-D4i certification program from the DALI Alliance and the Zhaga Consortium has already qualified 100 product families of Zhaga Book 18 outdoor luminaires with Zhaga receptacles and D4i components.

“Up to now, it has been very difficult to match the long lifetime of outdoor lighting infrastructure with the dynamic developments in digital communication and sensor technology. This has led to an underutilization of the lighting infrastructure for smart applications. Now, luminaires can be upgraded in the field and thereby keep pace with rapid developments in digital networking technology,” says Dee Denteneer, Secretary General of the Zhaga Consortium.

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