Press release: key findings from IDATE "Green All-Fiber network facilities giga experience" report

On 27 February 2023, IDATE published its new report on Green All-Fiber network facilities giga experience. This report was published in parallel of 2nd "Green All-optical Network Forum 2023" organized by IDATE in Barcelona.

According to IDATE, as of December 2022, there were 899 million FTTH/B subscribers worldwide. FTTH connections speeds of up to 1000 Mbps, 20 to 100 times faster than traditional connections. With the innovations of fiber technology, fiber connection will extend to everything everywhere, including room, enterprises, industry 4.0 and 5G backhaul.

Over the past decade, we've seen average data rates explode. Downstream speeds have increased sixfold due to the growing influence of online video and cloud-based gaming services. Uplink speeds have seen an even greater increase: average speeds have increased tenfold.

These flows are expected to continue to grow. Indeed, within the deployments of fiber optic networks, the transport technologies are constantly improved. The first PON technologies allow to transport between 1 and 2 Gbps. These technologies have continued to evolve over time and today, using the same fiber networks, operators can offer up to 50 Gbps to their customers. These more powerful technologies allow an acceleration of the use of cloud services towards applications that are more and more greedy in bandwidth and require ever lower latencies.

Fiber to everything will provide ultra-high bandwidth, low latency, and high reliability to address different scenarios needs, to achieve "ubiquitous all-optical infrastructure" to promote the expansion always improved fiber networks.

For residential customers, traditional FTTH (Fiber to the home) connection can be further extended to every room (FTTR) to provide gigabit connectivity to every corner of room via WI-FI 6.

For businesses and industries, all fiber network demonstrates its benefits when traditional LAN architecture is challenged to handle high bandwidth and massive numbers of connections, exceeding network security and reliability requirements, while saving space and maintenance costs.

New standard such as F5G developed by ETSI will allow the increased quality of service required by the final customers and driven by the new services such as cloud gaming, online education and many more.

This report provides an overview of all-fiber network and the recent development of fiber technologies. It also explains how innovations can help operators to support the sustainable development.

The report contains four main chapters :
It provides an overview of current broadband market trends, covering data-heavy in-home applications, digital transformations of enterprises, and Industry 4.0;
It then presents the latest advancement of fiber technology, including ETSI's F5G fixed broadband framework, evolution of (N) GPON technologies and optical component innovations on transmission networks, such as OTN.
Later, it illustrates the use of fiber networks in different scenarios, such as fiber to the room, fiber to SMEs and fiber to industry to achieve Industry 4.0, as well as all-fiber work for fixed mobile convergence.
Finally, it discusses how fiber networks contribute to the achievement of sustainable development by reducing energy consumption in fixed networks, as well as helping industries to reduce carbon emissions. The section also provides quantitative forecasts of CO_2 emissions reductions by 2035.

You may find our full report at the following link:

https://en.idate.org/white-paper-green-all-optical-network-forum/

Montpellier, March 1st 2023

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