

Infinera and BICS Complete Trial of Next Generation Optical Fiber: 7,400km “Trans-Atlantic Performance” With PM-8QAM Modulation

Sunnyvale, Calif. – March 17, 2015 – Infinera, provider of [Intelligent Transport Networks](#), and BICS, a global provider of international wholesale carrier services, announced the successful completion of an extended laboratory trial of Quadrature Phase Shift Keying (QPSK), 8 Quadrature Amplitude Modulation (QAM) and 16QAM transmission over [OFS Terawave™](#) large area/low loss (LA/LL) fiber, which is optimized for terrestrial cables. The trial included a range of advanced FlexCoherent modulation features that will continue to drive capacity and reach for the Intelligent Transport Network using the FlexCoherent Processor combined with photonic integrated circuit (PIC) technology.

This trial shows the dramatic improvement in optical reach and capacity that can be expected as these new fibers are deployed in the next generation of terrestrial and submarine fiber links. LA/LL fibers are being deployed in a handful of submarine cables now and will likely be the technology of choice for future submarine cable builds. The deployment of new LA/LL fiber in terrestrial applications could be delayed because of the large base of existing fiber, but there are early examples of such deployments. Existing fiber types typically have a much lower optical performance compared to LA/LL fiber.

High order modulations, such as 16QAM, promise to deliver double the capacity of QPSK – the *de facto* 100Gb/s modulation – at the expense of 80 percent reduction in reach, using existing fiber types. This makes 8QAM a promising option over existing fibers for both submarine and terrestrial applications. In a recent submarine [trial](#) performed on existing fiber, 8QAM delivered a reach of over 2,200 km while increasing capacity by 50 percent. When the same test was performed on the new LA/LL fiber, 8QAM demonstrated an optical reach up to 7,400km with a 50 percent increase in fiber capacity.

Steve Grubb, Infinera Fellow, and the architect behind the trial summarized the findings. “With the optical reach we achieved using this new type of LA/LL fiber we could envisage a future in which PM-QPSK could be used to close trans-Pacific links, PM-8QAM could cross the Atlantic, and PM-16QAM could span a European backbone. This would enable between 50 percent and 100 percent increase in new submarine or terrestrial cable capacity.”

“This trial was extremely useful for our future network planning process,” said Eric Loos, Senior Product Manager Capacity & IP at BICS. “It’s clear to us that many of the trials of 16QAM in the market today are performed on these new fiber types – because they dramatically improve the optical reach. When it comes to existing fiber types in the terrestrial applications, like SMF or LEAF, it’s clear that 16QAM can be useful at the shorter reach end of the scale, especially where no optical protection will be used. In contrast PM-8QAM seems to offer a sweet spot for longer metro, regional and even long haul distances, and could give us enough reach to include optical protection. 8QAM delivers a 50 percent capacity boost compared to QPSK, and that’s going to be extremely useful for service providers facing the unprecedented demand increase from Cloud-based services.”

For additional details, a blog describing the “[8QAM Sweet Spot](#)” is available [here](#).



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About BICS

BICS delivers best in class international wholesale solutions to any communication service provider worldwide. Through its Mosaic portfolio, a comprehensive, flexible and innovative suite of solutions designed to be used individually, or collectively, BICS meets the existing and future requirements of the global telecoms industry. BICS owns a 100 Gbps capable Optical network covering all major data centres & IP exchanges in Europe. Our international network includes direct connections to 100+ countries, 70 submarine cables. BICS' headquarter is located in Brussels with regional offices in Bern, Madrid, Dubai, New York and Singapore. We also have a satellite office in Beijing and local representation in Accra, Cape Town, Miami, Montevideo, Nairobi and Toronto. Our team continuously strives to provide our customers with the highest levels of quality, reliability and interoperability enabling them to maximize their end user value. With our successful consolidation strategy, and a continuing focus on technological advancement and innovation, we have achieved a world leading position in the international Voice and Mobile Data markets. For more information, please visit: www.bics.com.

About Infinera

Infinera (NASDAQ: INFN) provides Intelligent Transport Networks for network operators, enabling reliable, easy to operate, high-capacity optical networks. Infinera leverages its unique large scale photonic integrated circuits to deliver innovative optical networking solutions for the most demanding network environments. Intelligent Transport Networks enable carriers, Cloud network operators, governments and enterprises to automate, converge and scale their data center, metro, long-haul and subsea optical networks. To learn more about Infinera visit www.infinera.com, follow us on Twitter @Infinera and read our latest blog posts at blog.infinera.com.

Terawave is a trademark of OFS Fitel, LLC.

This press release contains forward-looking statements, among other things, statements related to the benefits of the features and functionality of Infinera's products including their potential benefits when deployed on new fiber types. These statements are not guarantees of results and should not be considered as an indication of future activity or future performance. Actual results may vary materially from these expectations as a result of various risks and uncertainties. Information about these risks and uncertainties, and other risks and uncertainties that affect Infinera's business, is contained in the risk factors section and other sections of Infinera's Annual Report on Form 10-K for the year ended December 27, 2014 as filed with the SEC on February 18, 2015, as well subsequent reports filed with or furnished to the SEC. These reports are available on Infinera's website at www.infinera.com and the SEC's website at www.sec.gov. Infinera assumes no obligation to, and does not currently intend to, update any such forward-looking statements.

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