

Press Release**Lumenicity[®] Limited demonstrates over 1000km reach with 45x 400Gb/s channels using next generation Hollowcore CoreSmart[®] cable solution and Ciena's WaveLogic 5 Extreme**

08 June 2021, Romsey, UK: Yesterday, Lumenicity[®] Limited [introduced their latest generation of field deployable CoreSmart[®] hollowcore fibre cable demonstrating 400ZR WDM transmission](#). Today, Lumenicity announces CoreSmart cable trials with Ciena supporting reaches of more than 1000km for 400Gb/s WDM transmission in a recirculating loop. This achieved performance demonstrates the potential of the CoreSmart technology across multiple applications for higher bandwidth and longer reach latency sensitive applications such as Data Centre Interconnects (DCIs) as well as Edge and 5G xHaul.

Lumenicity develops and manufactures advanced cable solutions to address the need for high speed transactions and bandwidth increases in advanced communications systems. Over the last six months, extensive testing has been underway at Lumenicity's System Lab in Romsey, UK and with eco-system partners globally. In particular, Lumenicity and Ciena completed a number of DCI transmission trials using Ciena's WaveLogic 5 Extreme (WL5e) and WaveLogic 5 Nano (WL5n) commercial systems. This includes the achievement of a capacity of 38.4Tb/s with 48x 800Gb/s channels over greater than 20km of CoreSmart[®] field deployable cable without in line amplification. These results were gained using a fibre and cable configuration that is shipping to customers today. A new generation of cables available next year will allow reaches of between 50-100km with WL5e with no inline amplification.

Lumenicity and Ciena also completed characterization testing of the cable in a recirculating loop to explore the reach and capacity capability of CoreSmart, achieving over 1000km reach across the C band with 45x 400Gb/s WL5e channels.

These successful trials prove that this cable solution is taking the promise of geographic expansion for DCI, longer reach financial trading and premium service applications and the extension of wireless xhaul while meeting critical network latency requirements and making it a reality. The testing shows that there appear to be no fundamental technical barriers to using this technology for future long-haul applications.

Other significant advancements in the new generation cable unlock the door to longer haul 10Gb/s DWDM transmission for HFT far beyond the [10km previously announced](#).

Tony Pearson, Business Development Director at Lumenicity said, "The results obtained both internally and with Ciena commercial WaveLogic 5 systems, show further evidence that we are bringing our world class hollowcore fibre cable technology to market at an accelerating rate for multiple high capacity applications, that solve real world latency issues for our customers."



“System characterization results of WaveLogic 5 Extreme programmable 800G and WaveLogic 5 Nano 400ZR coherent pluggables running over CoreSmart show promising results with hollowcore fiber now proven to preserve high-capacity while materially reducing latency,” said Steve Alexander, Senior Vice President and Chief Technology Officer, Ciena. “We are proud to be at the forefront of this breakthrough technological achievement where we can enable a 50 percent increase in reach for latency-sensitive data center interconnects.”

CoreSmart cable uses a unique nested anti-resonant nodeless fibre (NANF[®]) patented technology. NANF is robustly single moded which provides continuous uninterrupted simultaneous single mode transmission, as well as over the full C and L bands and beyond.

Mike Fake, Director of Product Management at Lumenicity commented, “This announcement is further evidence of Lumenicity entering the coherent Terabit application space. We believe that our advanced NANF technology offers the promise of realising loss values at, or better than, conventional solid silica core fibres which will unlock future long haul applications.”

About Lumenicity[®] Limited

Lumenicity[®] Limited was formed in early 2017 as a spin out from the University of Southampton to commercialise breakthroughs in the development of hollowcore optical fibre. The company has built a team of industry leaders and experts to realise their goal to be the world’s premier high-performance hollowcore fibre optic cable solutions provider offering their customers reliable, deployable, low latency and high bandwidth connections that unlock new capabilities in communication networks. Lumenicity[®], NANF[®], Hollowcore TradeSmart[®] and CoreSmart[®] are registered trademarks of Lumenicity Limited.

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