

Press Release

Lumenicity[®] Limited's new generation of Hollowcore CoreSmart[®] cable demonstrates first 400ZR DWDM Transmission

07 June 2021 Romsey, UK: In October 2020, Lumenicity[®] Limited made their [first public product announcement](#) having reached a milestone providing the world's first deployable NANF[®] based hollowcore fibre optic cable solutions, [Hollowcore TradeSmart[®]](#) and [CoreSmart[®]](#), with 10Gb/s, 40 channel DWDM transmission over 10km links. Today, Lumenicity introduces the next generation of CoreSmart cable; offering high bandwidth and longer reach for Data Centre Interconnects (DCIs) including 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. Trials were held by BT with ZR pluggable modules and Lumenicity's new generation of field deployable CoreSmart hollowcore cable.

The trials proved to be very successful with results showing the first demonstration of error-free DWDM transmission at 400Gb/s with 38 channel loading over the C band including 3x 400Gb/s probe channels using 400ZR QSFP-DD transceivers, through 10km hollowcore NANF[®] cable.

These results are thought to be the first of this kind reported; more detail on these trials can be found in the accepted OFC paper '*First Demonstration of 400ZR DWDM Transmission through Field Deployable Hollow-Core-Fibre Cable*'.

The paper also highlights the improved nonlinear performance benefits of transmission through hollowcore NANF cable compared with single mode fibre, emphasising the huge potential of future low-loss hollowcore fibre in high-speed, ZR pluggable modules in DCI networks, due to improved SNR resulting from low nonlinearity and reduced load on the digital signal processing from lower accumulated dispersion.

Lumenicity's CoreSmart NANF is robustly single moded which provides continuous uninterrupted simultaneous single mode transmission at 1310nm, as well as over the full C and L bands and beyond. The hollowcore cable used in this trial passed strict environmental testing over temperatures ranging from -30°C to +70°C.

The advancements made in this new generation cable also 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, "With our latest generation of cable solution, we're continuing to unlock the huge potential of the NANF hollowcore fibre design, coupled with our field deployment solutions. These build on our extensive field experience in HFT with a number of DCI deployments expected in the near future".

Mike Fake, Director of Product Management at Lumenicity commented, "Along with the link extension between 5G wireless towers and base units, this generation delivers a significant new capability to the high bandwidth DCI route deployment toolbox, with route extension up to 1.5x and geographic site selection expansion by 2.25x within existing latency envelope design rules. We are delighted to be able to demonstrate this capability in Terabit applications".



About Lumenisity® Limited

Lumenisity® 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. Lumenisity®, NANF®, Hollowcore TradeSmart® and CoreSmart® are registered trademarks of Lumenisity Limited.

OFC booth number: 2935

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