

Carrier Networks

Newsletter

CORNING

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Access All Areas

Copper innovation spells more fibre penetration in the race to quench EMEA's bandwidth thirst

There were times when you might have felt distinctly unwelcome standing up at a FTTH industry event and presenting a positive case for copper access networks. 10-15 years ago fibre and copper were almost like conflicting religions, both believing in the same essential endgame but each vehemently committed to pursuing its own exclusive route to achieving it.

If fibre was the new religion then copper was – by contrast - an ancient deity. With demand for broadband projected to rapidly surpass the expectations for ADSL and its ilk running across decades-old infrastructure, surely operators would have been foolish to overlook the need to roll out FTTH and plan a long term return on a big capital investment?

In many instances of course, fibre-to-the-home was proven to be exactly the right strategy to adopt. In many others, operators saw the opportunity to leverage

copper's extraordinary ability to push greater and greater performance over shorter and shorter distances.

Today, DSL vectoring and G.Fast are the latest copper technologies that increasingly define broadband business cases in EMEA. Every single one of them depends entirely on fibre to deliver its economic returns.

Without fibre extending its reach across the last mile to all but the last few metres, the promise offered by vectoring and G.Fast isn't realised. This will only continue, as the remaining innovations copper has up its sleeve will all rely on the shortest possible loop lengths, backhauled onto fibre.

That's not to say that FTTH itself isn't still a highly compelling technology; throughout the world, FTTH has become a standard choice in greenfield areas. The common sense approach

is to employ both FTTH and FTTx as circumstances dictate.

The reality is that fibre and copper need to work together harmoniously to deliver sustainable mass-subscriber next generation broadband in the majority of EMEA markets. They are co-dependent rather than conflicting, and anyone who suggests that the extended lease of copper's life is a threat to the feasibility of fibre is sorely mistaken.

Thankfully the solutions are technological, and this is Corning's strength. Corning is at the forefront of delivering the future for network operators today, whatever their network challenges and however they wish to overcome them with both fibre and copper solutions.

Connected Continents

Fibre news snippets from across EMEA

SWEDEN

New research shows nearly half of Swedish homes have access to a FTTH connection. According to its Minister for IT & Energy, the Swedish government aims to give 100 Mbit/s access to 90 percent of households and companies by 2020.

SAUDI ARABIA

STC has commissioned a new DWDM network, claiming it to be the most sophisticated in the Middle East and North Africa. The new network utilises 12,000 km of routes across the nation, as well as the international interface through submarine cables and neighbouring countries.

FRANCE

A new report by Research and Markets suggests that the fibre-hungry French telecom services market, already the largest in Western Europe, is expected to reach \$65.4bn in the next four years. Overall service revenue is expected to grow at 1.9 percent CAGR over the 2012-2018 period.

GERMANY

According to IDATE, Germany has only 0.51% penetration of FTTH/B and it is unlikely to reach full 'fibre maturity', where at least 20 percent of homes subscribe to FTTH/B, by 2020. However, the figures do not take account of Germany's extensive deep fibre deployments where copper is used in the last few metres.

ANGOLA

Angolan broadband and cable television provider TV Cabo has launched a new range of business fibre services under the '+Fibra Negocios' banner. The new FTTP network offers download speeds of up to 20Mbit/sec – the fastest in the country.

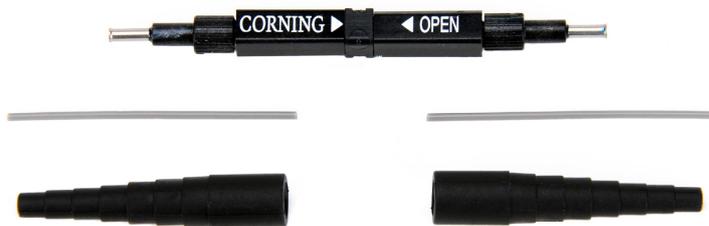
SOUTH AFRICA

South Africa's National Broadband Advisory Council launched in March, with a mandate to advise the Minister of Communications on the implementation of new broadband policies and strategies. The Council is comprised of independent technical experts, trade unions and representatives of civil society.

RUSSIA

Inmarsat and Eutelsat, two of the world's most significant satellite operators, have each opened up Russian subsidiary businesses with a view to better capitalising on local market opportunities.

Product News



CamSplice™ Mechanical Splice with extra strength relief

Suitable both indoors and outdoors, and ideal for restoration or permanent link, the CamSplice Mechanical Splice is recommended for through or branch splicing, pigtail splicing, and transition splicing between listed and non-listed cables. Incorporating a unique mechanism that self-centres the fibres for accurate alignment, the CamSplice

Mechanical Splice requires minimal training and no accessories to assemble.

The completed splices fit in Corning splice trays as well as industry-standard splice trays and a typical installation takes less than two minutes, with no special tools or polishing required.

Contact your distributor for details of a special offer on this product, while stocks last.

DualDrop™ Cables and Assemblies

The DualDrop dielectric cable is a two-in-one cable uniquely designed for rugged outdoor and challenging indoor environments. The design features a gel-free, flame retardant drop cable centred inside a rugged outside plant drop cable. All DualDrop products feature ClearCurve bend-insensitive single-mode fibre inside the subunit, enabling installers to deploy within space-constrained areas. The cable also features Fast Access™ technology, which enables long lengths of the inner subunit to be accessed in seconds simply by peeling away the outer jacket by hand.



pre-connectorised with Corning OptiTap®; a factory terminated, environmentally sealed and hardened connector.

DualDrop eliminates the need for termination hardware to transition from the outdoor environment to an indoor terminal. This dielectric cable eliminates any bonding and grounding requirements and is suitable for aerial, facade, direct buried and duct installation.

The product is also available

Focus On...

Corning Fibre Optic Cables with SMF-28® Ultra Fibre



Corning SMF-28 Ultra Fibre is the first in the market to combine the benefits of industry-leading attenuation and improved macrobend performance in one fibre.

Designed for high performance across the range of long haul, metro, access, and fibre-to-the-home (FTTH) network applications, SMF-28 Ultra Fibre is fully backward compatible with the installed base of legacy single-mode optical fibres.

Previously, network operators had to choose whether to improve attenuation or macrobend performance, but now they can have both with no design trade-offs. Plus, by having low-loss and bend in a single solution, operators no longer need manage as much cable inventory for outdoor and indoor scenarios, or have installers spend time splicing as much cabling together.

The improved attenuation of SMF-28 Ultra Fibre provides additional margin that can be used to extend spans, lengthen the distance between regenerators,

increase the allowable number of cable-cuts, or allow for the broader use of pre-connectorised solutions. This improved system margin will provide a pathway to low-cost capacity through equipment reduction, extended-reach links and optical switching with minimal compromise on network design. It enhances FTTH coverage and infrastructure consolidation in access networks, all while providing greater repair resilience throughout the whole network.

The improved macrobend performance provides greater margins for bends that regularly occur in the field during installation and maintenance, and allows for the design and deployment of smaller and lighter cables that can improve duct utilisation, enable smaller enclosures, or reduce pole/tower loading in aerial deployments. It also provides capacity robustness through supporting transition to the longer transmission wavelengths used by next-generation and WDM PON systems. The macrobend performance is delivered with a 9.2 µm mode-field diameter, which is equivalent to the majority of standard single-mode fibres on the market today and allows for seamless integration into existing networks.

Three-Minute Interview

Next generation broadband is taking an increasingly pragmatic course, away from the aspirational panacea of FTTH everywhere toward a world where fibre innovation complements the latest breakthroughs in copper access technology.



For this issue of the three-minute interview we ask Corning's Tuy Nguyen, Global Director of Product Line Management, Copper Connectivity, what operators stand to gain from this approach.

Q: Why are many operators continuing to invest in copper access networks?

A: Operators have to be very good at managing embedded assets for long-term value as installed copper still represents a viable investment opportunity for them in many situations. The onus is between distance and speed. Copper loop lengths have to be shorter if investment models for new technologies are going to make financial sense for the application. Subscribers demand faster speeds and of course they aren't too interested in the choice of medium that delivers their experience – so long as it works.

Q: What impact has vectoring had on carriers' long-term plans for FTTH rollout?

A: Vectoring is an interesting technology and, in simple terms, it is an enabler of noise/interference cancellation to further the signal reach. It is proving popular among operators with big VDSL investments that see it as a comparatively straightforward way to migrate customers to the next level of performance. In addition to noise cancellation, it is important to recognise that deeper fibre deployments are essential in making a vectoring business case stand up. Having said that, FTTH is still a highly compelling technology that many operators remain committed to – it is often chosen as a standard in greenfield areas. For brownfield, particularly where the barrier to conversion is at the subscriber premises, bringing fibre closer to the dwelling and leveraging the existing copper infrastructure makes financial sense.

Continued overleaf...

Q: What about G.Fast? Speeds are incredible so doesn't this threaten fibre?

A: Everyone is talking about G.Fast and are all very excited about projections of 1Gbit/s speeds over very short copper loops. It will likely be ratified as a standard in 2015 but already operators are keen on exploring how it could be implemented in their strategic planning. It absolutely does not threaten the existence of fibre; if anything it supports it. G.Fast and fibre are complementary technologies – as mentioned, you need fibre to get deep enough into the network – to the node or the distribution point – from where G.Fast can work its magic over those precious last few metres.

Q: What role do Corning's copper solutions play in this evolution?

A: Corning's relevance to next generation copper-based networks is linked to our long history in the design and integration of key components for outside plant applications – this includes our expertise in surge protection for copper networks and fibre connectivity throughout the various elements in the network. In the case of G.Fast, we are in the early phase of developing the business case for a single robust and flexible solution to extend fibre and to enable power to the active components and the eventual delivery of higher bandwidth over the existing copper lines to the subscribers. Operators are perhaps more familiar with our excellence in fibre optics but, as demonstrated in the industry, we have unparalleled solutions and we want to be prepared for key deployment scenarios, whatever the access medium may be.

Q: Is there further copper evolution coming after vectoring and G.Fast?

A: Yes, and there's no reason to suspect this won't continue for some time to come. Many thought that VDSL was at the nadir of copper innovation a decade or so ago, then came VDSL2, bonding, vectoring and soon, G.Fast! New innovations include Phantom Mode, which leverages the bonded copper pairs to create a virtual third pair to enable even greater bandwidth capacity. Well-established electronic OEMs are heralding downstream speeds of 5Gbit/sec by 2020.

Upcoming Events

Find Corning at the following upcoming events:

13/05/2014 – 20/05/2014 Sviaz-Expocomm

Moscow, Russia

Listen to Sergey Akopov discuss "Innovation in Optical Fibres", and see the showcase of Corning's new optical cables with SMF-28® Ultra Fibre for trunk and access networks at Booth 21C10.

<http://www.sviaz-expocomm.ru/en/>

20/05/2014 – 22/05/2014 AngaCom 2014

Cologne, Germany

Catch up with Corning at AngaCom 2014 (Booth 10.2/K31). Please refer to your commercial lead for details and to schedule a meeting.

<http://www.angacom.de/en.html>

Distributor Programme

Be part of the Exclusive Distributor Programme

Corning is excited to invite you to the Corning Carrier Training Programme for preferred distributor partners. Sessions will be held in Berlin and divided into two independent training streams, Basic and Core, with spaces available - depending on accreditation level - for members of the Corning Carrier Exclusive Distributor Programme.



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Each issue, we look behind the news reports to explore a new reality for the FTTx industry.

Taken from the South Korean Sunrise

A gang of metal thieves has been caught blue, rather than red, handed after hijacking a city-centre consignment of copper cabling on one of the rainiest nights of the year.

The thieves, who planned to sell the base copper from seven cabling drums for more than 3,000 KRW per tonne, had assumed it was all brand

new stock and bound for one of Daejeon's largest new residential districts.

In fact, each length of the heavily oxidised copper was well over 40 years old and in the process of being decommissioned. The thieves left a watery trail of blue rust in their wake, leading the police to make an easy arrest.