

# Carrier Networks Newsletter

CORNING

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## Access All Areas

### Phenomenal Progress in European FTTH

Corning is a founder member of FTTH Council Europe, and its recent conference in Warsaw gave the whole industry its annual opportunity to see how far the technology has penetrated. According to analysts at IDATE, 2014 was a good year that saw 50 percent growth on the European continent, to 14.5 million FTTH/B subscribers overall. Add in Ukraine and Russia and the total figure stands at nearly 30 million, though these countries are predominantly FTTB.

Warsaw was a fitting location to explore such matters, as both the city and the country as a whole has experienced strong fibre growth in recent years. While Poland doesn't meet the minimum 1 percent FTTH/B penetration threshold to appear on the FTTH Council's ranking of European nations, neighbouring Lithuania is top, with nearby Latvia, Romania and Bulgaria also featuring strongly.

However none of these European nations gets close to the world's leading fibre nation: United Arab



Emirates. With nearly 70 percent of its population enjoying pure FTTH services, the UAE even outstrips the fibre giants of South Korea, Hong Kong and Japan. Saudi Arabia, Turkey, Jordan and Kazakhstan are each also showing great progress; considerably more than the likes of Germany, Belgium and the UK – none of which has yet hit the 1 percent mark.

Corning plays a big role in the success of fibre broadband across EMEA, and had a major presence at the Warsaw event, receiving many of the 3,000 delegates visiting from 85 countries onto its large Gold

Sponsor booth to experience Corning technology. In the conference theatre, Corning's executive presentations on 'FTTH for low-density areas' and 'Addressing space constraints with 200 micron fibre' were well attended; the latter reflecting the importance of MiniXtend™ cables as a key enabler for improved microtechnology approaches.

Next year's edition of the world's biggest FTTH related event will be in Luxembourg. In the meantime, we at Corning look forward to seeing you next at ANGA COM – see Upcoming Events on page 4 for more details.

# Connected Continents

## Fibre news snippets from across EMEA

### SWEDEN

A new Broadband Forum survey has uncovered more than 1,000 community broadband networks in Sweden either in development, completed or planning to expand. Most are driven by the 'fibre to the village' concept, but the survey found room for improvement in sharing knowledge and experience.

### AFRICA

Liquid Telecom has raised an initial 132m€ to extend its African superfast fibre networks across the continent. The company already has 18,000 km of fibre across 15 nations, and plans to enter three more countries this year connecting 100,000 homes with 100Mbps broadband.

### GERMANY

The 9.6Tbps, 3,000 km fibre-optic route dubbed 'Baltic Highway' is now open, connecting Frankfurt and Western Europe to the new datacentre hubs of the east in Estonia, Latvia, Lithuania and Poland. Cabling has been laid over high-voltage electricity lines and gas pipelines.

### UNITED KINGDOM

Virgin Media has announced a 4.1bn€ investment to boost its fibre-optic network coverage from around half of the UK population to two-thirds by 2020. Rival BT has its own strategy based on the newly approved ITU standard G.fast, which it believes can take subscriber speeds to 500Mbps and beyond using existing copper from street cabinets.

### RUSSIA

According to Heavy Reading projections revealed at February's FTTH Council Europe annual conference in Warsaw, Russia is set for over 22 million FTTH (mostly FTTB) connections by the end of 2019 – four times more than any other European market.

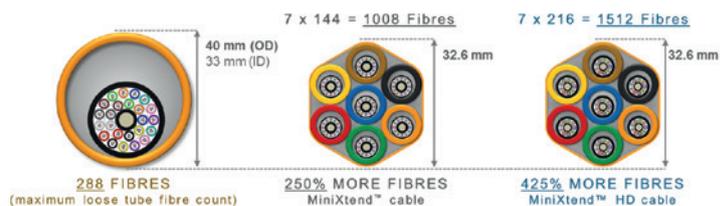
### BAHRAIN

National incumbent telco Batelco has extended its fibre optic network to Riffa, Bahrain's second largest city with over 120,000 inhabitants, and plans to continue its rollout to further new locations throughout 2015.

### NETHERLANDS

Dutch FTTH penetration has now reached 31 percent according to new 2014 figures. The number of fibre lines now stands at 2.3 million, up from 1.95 million the previous year. Reggefiber continues to dominate the market with 85 percent of all homes passed.

# Product News



## MiniXtend™ HD cable: Smaller cables, bigger possibilities

Network operators addressing duct congestion, capacity exhaust and cable handling challenges understand that the solution lies in smaller, lighter cables with greater fibre density.

Recognising this, Corning has introduced MiniXtend™ HD cable – a high-density micro cable that delivers up to 288 fibres in an SZ-stranded loose tube design. These cables are up to 60 percent smaller and up to 70 percent lighter than traditional loose tube cables; and also 20 percent smaller and 30 percent lighter than standard MiniXtend cables, with 33 percent greater fibre density.

MiniXtend HD cables feature Corning® SMF-28® Ultra 200 fibre, the industry's first 200 micron fibre with a 9.2 micron nominal mode-field diameter (MFD), for seamless integration into existing networks. SMF-28® Ultra fibre boasts industry-leading attenuation and a macro-bending response surpassing the requirements of ITU-T G.657.A1 recommendations.

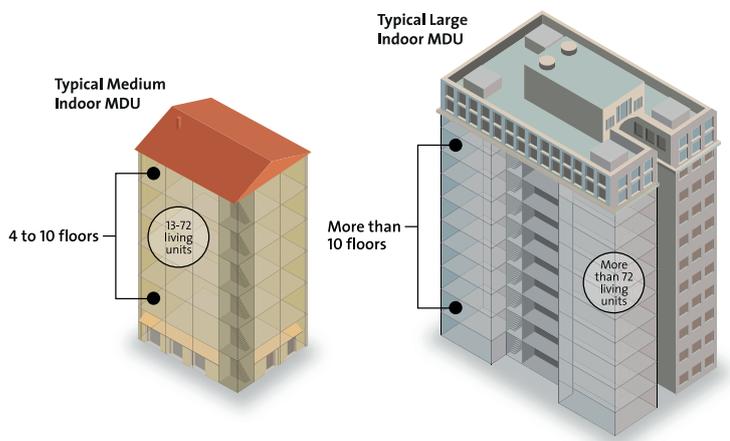
In EMEA, the most common duct size is 40/33 mm (outer/inner diameter) and the largest traditional loose tube cable able to fit inside counts 288 fibres. By contrast, a seven-way microduct bundle with

12/10 mm microducts has an outer diameter of 32.6 mm and can accommodate seven 144-fibre MiniXtend cables (8.1 mm diameter), for 250 percent greater fibre capacity (1,008 fibres in total). Owing to the tighter fibre-packing capability of 200 micron fibres, MiniXtend HD cables now offer 216 fibres in an 8.0 mm cable, for 425 percent more fibres (1,512 fibres in total) in the same space as the traditional duct and loose tube cable.

Smaller, lighter cables enable easier installations that can be performed by smaller crews. Cable miniaturisation also means a lower installation footprint with smaller ducts and handholes, and lower freight and storage costs.

# Focus On...

## Enhanced MDU Selection Tool Coming Soon



Corning's popular MDU Selection Tool is due for a series of enhancements in the coming months as the latest cabling solutions are incorporated into its simple, user-friendly design.

Multi-Dwelling Units (MDUs) are a critical consideration in the rollout of FTTH networks, and typically present a number of differing scenarios to network planners, making the choice of optimum solution difficult. Typically, spliced solutions have lower material costs but take longer to deploy, while pre-connectorised solutions could have slightly higher material costs but are considerably faster to deploy and most times reduce the OPEX. The MDU Selection Tool helps define the options into a logical business case.

The Corning MDU Selection Tool captures the definition of

each bespoke MDU scenario based on information about the building, its architecture and even the cost of high/low skilled labour. Users simply push a button to convert these inputs into an actionable series of deployment options, complete with cost, time and full BOM (Bill of Materials) describing the specific Corning solution down to each individual part number and quantity.

Since its introduction, the MDU Selection Tool has proved to be a flexible and useful tool for network planners, regardless of their primary deployment objective. The tool is equally applicable to carriers and installers driven by lowest cost, fastest install or lowest skill requirement.

The new and improved MDU Selection Tool will be released soon with full details on how to access it. Watch this space!!

## Three-Minute Interview

**Ask any CTO: it's not just in the access network infrastructure that carriers stand to benefit from advanced cabling solutions.**

In this edition of the three-minute interview, we ask Manuel Pimenta da Silva – Corning's Director of Market Development EMEA for Carrier Networks – why the spotlight is falling on the carrier datacentre.



**Q: Why are datacentres becoming so valuable to carriers?**

**A:** Carriers operate in an increasingly fluid, rapidly evolving market that requires more dynamic service delivery than ever before. Traditional incumbents are diversifying into multiservice operators, delivering more sophisticated data and multimedia services that require storage, management and responsive performance. Combine this with a host of other drivers such as virtualisation and big data, and it's clear why most carriers now view their datacentre infrastructure as a strategic asset. To exploit these assets demands maximum flexibility, scalability and performance, which is where advanced cabling solutions play a vital role.

**Q: Datacentres are becoming more software-defined, so where does this leave datacentre hardware?**

**A:** It's true that carriers are among the most eager proponents of transitioning from a switching controlled network to a software controlled network, in order to leverage huge potential OPEX savings as well as more rapid management and service delivery. While this revolutionises the most intelligent layers of the network, the requirements at the physical layer-zero remain fixated on stability and performance. While no major carrier anywhere in the world has quite achieved a 100 percent software defined environment, we can see tremendous opportunities not just within the datacentre but also the central office. We are working closely with carrier customers to understand the cabling needs that will empower them to achieve maximum use of SDN and NFV technologies.

Continued overleaf...

**Q: What are the future opportunities to add value within the carrier datacentre environment?**

**A:** Corning datacentre cabling solutions are deployed at global leading hosting centres, financial institutions, and many other enterprise verticals – as well as at service providers such as Orange France and Portugal Telecom. We never assume that our innovations within hyperscale datacentres or low-latency financial trading environments automatically translate into benefits for the carrier. That's why we have a continual and intensive dialogue with carriers to understand nascent challenges and feed this back into the development of new products, and this is the same for datacentre technology as it is within the access network.

**Q: Are cabling requirements fundamentally the same across carrier network and IT infrastructures?**

**A:** We often have the privileged position of engaging a carrier's IT team and network engineering team on entirely distinct project areas at the same time. As carriers increasingly embrace the strategic value of IT, senior executives are faster to grasp the opportunities for density, modularity and installation simplicity that are common across the board. Again, this is clearly evidenced when carriers initially exploring a datacentre project begin to appreciate the benefits of extending their investment to switching centres and central offices.

Carriers that use the same supply chain channels for access network and datacentre achieve additional efficiencies, such as a single support agreement and the ability to apply common contractual terms and conditions.

## Upcoming Events

Find Corning at the following events:

**09/06/2015 – 11/06/2015 ANGA COM 2015**

Cologne, Germany

[www.angacom.de/en.html](http://www.angacom.de/en.html)

Meet us at the ANGA COM Exhibition & Congress where an expected 17,000+ visitors want to learn about the future of broadband services.

## Distributor Programme

**Corning Partner Summit is a Great Success**

Lisbon was the venue for the 2015 Corning Partner Summit where our highest performing distributors had a chance to experience the latest Corning innovations, meet top Corning experts and enjoy an exciting entertainment programme. More than 50 delegates from 25 countries attended, to make the event the most successful yet.



## Back Page

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

### Taken from the Murmansk Mercury

The northernmost town in the world's new fibre-optic connection with the rest of humanity has been put months behind schedule because of a typing error that failed to show its average winter temperatures were recorded in minus figures.

Subsequent designs had therefore not appreciated the permafrost -16°C conditions on land and frequent need for icebreakers in local waters.

Situated on the Norwegian island of Svalbard, the town elders of Longyearbyen had planned to use the new 20-terabit link to exploit its constantly cool climate and plentiful energy resources follow in Iceland's footsteps as a prime location for datacentres. However, in the face of such disappointment, it seems they are looking on the bright side.

"At least we still have fish – plenty of fish," commented one official.