

## **Webinar Report: A Green and Digital Europe with Full Fibre: Opportunities, Challenges and Best Practices**

In March this year, the European Commission published its Connectivity Toolbox, a set of best practices to encourage the roll out of very high-capacity networks, including full-fibre broadband. Investing in fibre networks is a complicated jigsaw which involves telecoms companies, local, national and European lawmakers, regulators, infrastructure players, public and private finance, and end users whose desire for ultra-fast connectivity has only risen during the pandemic.

Full fibre is where optic cables make up every part of the network including the so-called “Last mile” of the connection into subscribers’ homes, where routing the signal over copper wires slows down internet speed. Achieving full fibre connectivity across Europe could greatly enhance the continent’s economic recovery. Forum Europe partnered with Huawei and consultancy IDATE DigiWorld to discuss with EU policymakers, industry and experts how the acceleration of full fibre rollout is key to cutting carbon emissions and delivering a greener world.

With 300 registered guests, panelists had a lively debate, with plenty of activity around the #Fullfibreonline hashtag. Keynote speakers and experts gave policymakers, industry players and investors plenty to think about as Europe moves towards a faster, greener, network.

### **Opening the Toolbox: State of Play**

Europe stands at a post-pandemic crossroads. “As much as we would like the vaccination campaigns to accelerate... nobody will contest the importance of digitalization in bringing people together,” said keynote speaker Rita Wezenbeek, Director of Connectivity at DG CONNECT in the European Commission. “In that sense digitalization is of course also a decisive enabler to enjoy rights and freedoms.” That means disparities between those who can fully benefit from a digital environment, and those who cannot.

The Commission has set out ambitious targets for 2030, notably gigabit connectivity for all households and 5G coverage in all populated areas. “Of course we realize the targets in themselves are not enough,” Wezenbeek added. A proposed “digital compass” will feature a robust joint governance structure with member states to monitor progress, along with “traffic lights” to show whether targets are due to be met. Red or orange could trigger a process of collaboration with member states to put things back on track, using resources from the MFF and [Next Generation EU funds](#).

Europe is already making substantial progress towards the targets. IDATE and FTTH (Fibre to the Home) Council Europe gave participants a sneak peek of their 2021 Market Panorama study, which showed that nearly 183 million homes in Europe are passed by fibre. For the first time, more than half of total homes in Europe are connected directly to fibre, while coverage in the EU and UK is at 43.8%. The data shows that fibre roll-outs are taking place at an increasingly faster pace in Europe, and the EU is making very significant, though uneven, progress.

“Fast roll-out of fibre networks is a prerequisite for the long-term competitiveness and sustainability of the EU”, said Michel Van Bellinghen, 2021 Chairman of BEREC, the Body of European Regulators for Electronic Communications. “We very highly support all the investments made in very high capacity networks, including 5G.”

The toolbox is a welcome step because it can really help EU countries make a difference in the short and mid-term by “incentivizing investment with measures on cost reduction and spectrum assignment, which again will help deployment,” said Lise Fuhr, Director General of ETNO, the European Telecommunications Network Operators' Association, which represents the continent's largest telecoms groups. “Permit granting is also one of the things that is a hurdle because it can be slow and costly.”

Factor in the EU's Green Deal, which pushes the continent to use less energy, embrace the circular economy and tackle climate change, and there's a range of reasons to pursue full fibre. The Connectivity Toolbox “is a swift answer to an emergency situation, which has been triggered by the COVID crisis,” said Miriam Mendioroz, Head of Sector in the Electronic Communications Policy Unit at DG CONNECT. How will it work in practice?

### **No Time Like The Present**

BEREC's Van Bellinghen invoked Winston Churchill's plea to never waste a crisis, and pointed out that the combination of the Green Deal, the toolbox and the aftermath of the pandemic make it the perfect time for Europe to pursue its full fibre targets.

“I cannot help thinking what could have happened in 2004 if we were hit by a coronavirus pandemic,” said Vincent Garnier, Director General, of the FTTH Council Europe. “Compared to today, the situation would have been much more difficult... one of the key reasons why we managed to go through this pandemic with limited damage is because of the quality of our network.”

With 50% of households potentially connected with fiber, it's time to get the other half up to speed, he said. “What is new... is that we also understand that fibre is key to enable us to tackle the challenges caused by climate change” and transition to carbon neutrality

### **Fibre Optic Cable: Clear and Clearly Green**

Richard (Yuzhi) Jin, President of Huawei's Optical Business Product Line said that fibre “is the greenest broadband technology.” Data from Huawei Lab presented in the Webinar shows that a shift of just 10,000 users from copper lines to fibre results in power saving of 560,000 KWh per year, equivalent to planting 6,000 trees. With “low power consumption, high bandwidth, and a long lifecycle, [fibre] is the most eco-friendly communication technology,” he added.

Latest developments in fibre can help data centres become more energy efficient, as well, Jin said, by changing the way the signal is sent through the network itself. Innovations include migrating fibre connections from the SDH to the OTN network, and new technologies such as all-optical cross-connect. These can provide high-quality services with large bandwidth to enterprise customers in sectors requiring low latency and high stability, all with improved energy efficiency.

The environmental benefits of switching to fibre mean there's a clear case for funding, said Harald Gruber, Head of the Digital Infrastructure Division at the European Investment Bank (EIB), which is focusing on areas of higher "market failures" that are hindering digital technologies. "Energy consumption and ICT equipment currently produce 2 - 2.5% of annual greenhouse gases," said Gruber. "Full fibre broadband access networks are a key component to tackle climate change and hence fully endorsed for financing by the EIB," he added.

### **But Who Will Push Us in the Right Direction?**

All the panelists agreed that full fibre is the right way to go for Europe. But how do we get there? One question that came up repeatedly is where this push should come from. The new EU Electronic Communications Code came into force around six months ago and aims to improve competition and drive innovation within the European single market.

Regulators certainly have a role to play, by tweaking the way they look at the landscape to facilitate investment, Van Bellinghen said. They are moving from a concept of principle based regulation based on competition law towards a new, softer, regulatory framework, based on the toolbox recommendations or BEREC guidelines.

"We think that we are entering a very interesting and relevant period in which the commission will work together with the regulators," said Wezenbeek of the EU Commission. "With the code, operators benefit from rules that incentivize investments in very high capacity networks, as well as from an enhanced regulatory predictability that fosters the development of more innovative digital services and infrastructure." Therefore, she said, it's important member states implement it quickly.

Member states definitely need to be proactive, so telcos can play their role, said ETNO's Fuhr. "We have a telecoms investment climate that is defined by a very positive pro-investment drive at the EU level," she said, but her members are seeing "significant friction in terms of implementation, especially at a national level."

Spectrum auctions can be slow, or make investing unattractive. Some local authorities are slowing down 5G rollout based on misinformation. European telecom markets remain weaker than those of our global peers. "Even with the recovery fund, the heavy lifting of this will come from the private sector," she said. "The issue of making European telecom investment attractive remains absolutely central."

### **So... What Happens Next?**

Initial member state submissions to the Commission are promising, Wezenbeek said. "Under the recovery and resilience facility, Member States need to propose not only investments and are doing that, but also reforms," she said. "And some we have seen are... referring to the connectivity roadmaps in the context of their recovery plans."

From an operator perspective, the potential is immense, said ETNO's Fuhr. Full fibre could bring 2.4 million new jobs, annual economic benefits of €113 billion, and 15% carbon emission cuts. "It's a win-win opportunity for society and for our sector," she said. "So a

transition into full 5G and full fibre, not only dramatically reduces the impact of our own networks, it is also an enabler of a green transition in Europe.”

Huawei’s Jin pointed to the impact improving critical infrastructures could have on the tech sector as a whole. The combination of fiber networks and latest technologies, such as AI and machine vision, will enable precise control and automatic production in manufacturing, he explained. “This will minimize energy consumption and maximize production efficiency, helping various industries achieve carbon neutrality.”

It’s just a matter of working out who pays, noted BEREC’s Van Bellinghen, and regulators don’t mind so long as it happens. “We think that it’s up to investors, to telco operators to decide the optimal perimeter for making co-investments and our core role is a rather limited as regulator.” That could mean different solutions in different countries, he added. In France, regulation obliged local operators to open fibre networks to potential co-investors. This is in contrast to Portugal, for instance, where there was no regulation, but a commercial co-investment agreement which led to about 2.6 million homes sharing dark fibre.

### **Conclusion: Greener, Faster, Better**

The green angle for investment in full fibre is clear and here to stay. The Commission is doing a study to calculate the enabling effect of digital infrastructure investment in other sectors, to see if they can come up with common indicators or methodologies to help establish the next steps. It is also assessing if there is room to provide for some incentives to move in the direction of more sustainable networks.

“A good solution to enhance FTTH coverage outside a dense area is really a strong private/public partnership,” said Roland Montagne, Principal Analyst, Director Market Development at IDATE DigiWorld. “And we see this happening where the fiber is a success in Europe.”

Citing Sweden and France as success stories, he noted that the open access model has worked well in rural and less dense areas. That ties in nicely with the best practice-led approach of the Connectivity Toolbox. Now it’s up to all stakeholders to ensure fibre gets put in the ground.

“With the Digital Decade, the EU wants to ensure that its citizens and businesses have access to a choice of state-of-the-art technologies that will make their life better, safer, and even greener – provided they also have the skills to use them,” said Rita Wezenbeek. “In the post pandemic world, this is how we will shape together a resilient and digitally sovereign Europe.”