



Rural fibre rollouts

are key to breaching the digital divide

By Raf Meersman, CEO, Comsof

Rural FTTH rollouts are a massive challenge for Europe. Only 22% of households in rural areas have been passed, which leaves a huge number of households that still don't have access to fibre. Fibre will soon be the basic standard for digital life, firstly because more than 50% of all households in Europe have been passed, and secondly it provides a stable and fast internet connection.

Between the COVID crisis which saw millions of workers across the continent teleworking, and with the UN decreeing that having access to the internet is a human right, which facilitates the right to education and the right to work, it's up to Europe to implement an overarching strategy to ensure that both urban and rural households have access to fibre so that everyone has an equitable chance of civil participation.

There are two big issues that spring out when addressing this issue, firstly how to meet the EU's ambitious targets for rural fibre rollout amid a skills, labour and material shortage. Secondly, how to start to address the digital divide between rural and urban areas, particularly in a post-COVID world.

To tackle FTTH rollout to rural areas the European Commission has implemented the "Gigabit Society 2025" and "Digital Compass 2030" initiatives, the first which aims to provide an internet connection of at least 100Mbps to all European

households by 2025 and the second aims to have all European households covered by a Gigabit network. A report from the FTTH Council of Europe, "FTTH-B in Rural Areas", found that these targets will drive full-fibre connectivity growth in both urban and rural areas. But how each country achieves this goal is on them.

We can see that these rollouts aren't uniform and are heavily dependent on government backing and funding. For instance, Germany only has 9% of its rural households passed compared to Spain, which has a 60.5% pass rate for rural households. The key to Spain's success can be traced back to 2015 where Spain's telecom regulatory body CNMC ruled that their telecoms giant, Telefonica, must open its fibre infrastructure to rivals in approximately three quarters of the country. Vodafone and Orange, among other providers began heavily investing in fibre rollouts, the end result being that Spain now is in the lead when it comes to homes passed in rural and urban areas.

Another EU success story is in Ireland, where the government first identified regions where they believed there wouldn't be any commercial development – which of course was mainly rural areas. At Comsof, we worked with Eir to evaluate the commercial viability of their rural areas and discovered there were 300,000 homes to be passed in rural Ireland, making it one of the largest infrastructure projects in the country for

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a long time. The government has since set up a national broadband initiative to fund the fibre rollout across these areas. Another mechanism to get government muscle behind a rural fibre rollout is to show that there will be a high adoption rate. This occurred in Lower Austria, a province which is very rural. State-owned infrastructure company nōGIG deployed fibre in this rural area on an open access model.

The notable thing about this is that adoption was extremely high; even before the rollout 50% of the homes had signaled their interest in adoption. This is different than deploying in urban areas, where you have alternative technologies such as coax cable. Deployment may be more expensive, but with high adoption rates – a monopoly in fact – rural is an interesting case, simply because there is no alternative. In the case of nōGIG, they were so confident of their ROI, they only asked for a government loan rather than funding, because they truly believed in the commercial case.

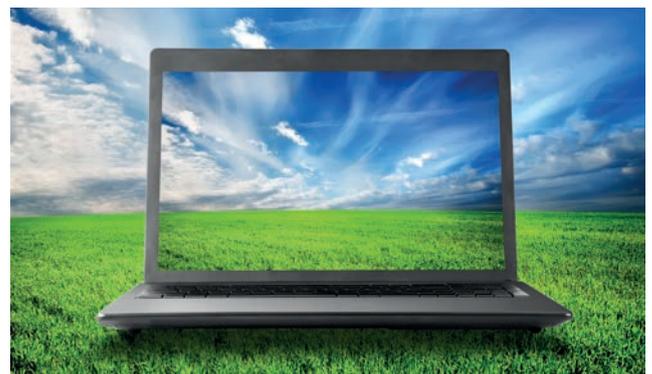
We know deploying fibre in rural is expensive, due to longer distances between houses, but this also means that the opportunities for cost optimisation are significant. There is room to optimise materials, architecture, splitter schemes, types of cables, there are cables with a lower attenuation per kilometre, which means you can go further with the same cable, these and other technological optimisations can help significantly lower costs in a rural deployment. Not to forget that using automation tools also helps to get the design right the first time, so that time and money can be saved on the construction side. We have helped optimise those architectures using Comsof Fiber.

However, even if each country had all the regulatory backing and all the funds in place to get going immediately on their fibre roll outs, there is still the issue of a skills and labour shortage. The biggest challenge that we now face due to the acceleration of the fibre market, is ensuring supply can keep pace with the demand for materials and skilled labour. The latest report from the FTTH Council noted that the availability of skilled labour to build out new fibre networks is beginning to be felt in late

2020. The growth of fibre which is expected in 2021 and 2022 will make the skills shortage more pronounced. Let’s talk about what this means in more concrete terms.

Construction is seen as a bottle neck for many rollout programs as there is a serious skills shortage. In the US, there have been efforts to circumnavigate this problem, by employing pre-connected plug and play fibre solutions for example, something similar could also be implemented in Europe. Obviously, investment needs to go into training a skilled labour force, which is a great opportunity for local economies, as mentioned before, and these skills will be in high demand for many years to come. There is also a case for automation for the construction portion of the rollout. There are many companies who have tools on the market that help make deployment more efficient, and therefore make the best use of the skilled labour that’s available.

But the skills shortage doesn’t just stop with construction. There is also a shortage of skilled network designers across the globe. The profiles needed for these jobs are highly skilled, and very niche; it takes years before a designer can produce network plans that are high quality. It is possible to amass a team of more junior designers, but with the demand for high quality designs, and fast, the risk of producing lower quality designs rises, which will ultimately incur huge costs on the construction side as mistakes are inevitable. To maintain the quality, highly skilled people are needed, but we simply don’t have enough designers in the industry to keep pace with the demand we





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are seeing. So, it is important to make efficient use of the highly skilled people and support them with the right tools and use automation and strategic partners when necessary.

Take our customer Proximus as an example. They needed a network design for 4.2 million homes across Belgium. It took their design team of four people, a whole year to create a complete fibre network design for one million homes. With their ambitions to accelerate the rollout, they have brought in Comsof partner Yungo, to help them produce more quality network designs in a short amount of time. The speed in which they produced a design is astonishing, but on top of this, they also kept their project within the bounds of their forecasted budget.

Even if there is a 100% successful FTTH rollout across all urban and rural areas, that still only addresses half of the problem when it comes to the digital divide. We must also be prepared to look at the affordability of fibre and for the supply of connecting devices for all households and implement inclusive policies. In Belgium, and I am sure other countries, we have already seen these issues arise with the first round

of lockdowns for school children. The children were offered home schooling via their devices, but it soon emerged that many children didn't have access to a laptop or a connected device, so cities across Belgium began giving laptops to these children. If full civil participation is the goal, then each household not only needs fibre, but they also need to have access to affordable connections and devices that allow them access to the internet.

While the future is certainly bright for further rural fibre rollouts, there are still key challenges that need to be addressed, both for industry players and governing bodies. We must ensure that our labour force is trained and supported by every means possible, so that high quality network designs are created, as the demand continues to rise. Governing bodies also must ensure that the promotion and investment into the infrastructure is implemented, and in particular they must take this opportunity to address the digital divide.

