

The B4RN logo is displayed in blue text within a white rounded rectangle, which sits atop a three-tiered golden pedestal. The background is a dark brown gradient with light rays emanating from behind the pedestal.

B4RN[®]

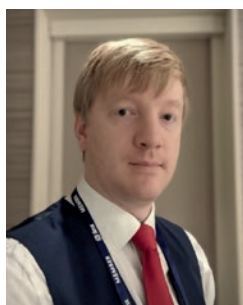
Interview

with Michael Lee, CEO and Tom Rigg, COO at B4RN

By Melissa Cogavin, Managing Editor, SCTE



Michael Lee
Chief Executive Officer
B4RN



Tom Rigg
Chief Operating Officer
B4RN

The explosion of altnets in recent years has added a unique dimension to the broadband landscape; an unforeseen consequence of business decisions made long ago, the gap left by Openreach has been ably filled by one enterprising start-up after another, winning awards, plaudits, investment, and government endorsed by one incoming (and often quickly outgoing) DSIT minister after another. Ten years down the line the industry is dominated by a few big players as it matures and consolidates, but there are countless smaller enterprises all over the country racing to provide fibre connections using the latest technology. Broadband Journal talked to Michael Lee, CEO and Tom Rigg, COO at B4RN, one of the industry's best-known operators whose

non-profit business model, innovation and passion for working with local communities in the North West have set them apart and earned them awards of their own.

When did B4RN start out and how has the business evolved over the last few years?

Michael: B4RN was started by a rural community that decided that they weren't going to wait any longer for someone else to offer them better connectivity, or for someone else to decide that they deserved better connectivity, so they did it themselves. They sat around their kitchen tables and they planned a full fibre network. They raised investment, and they got it built. It all snowballed from there. Once one community's done it, the next community wants it, then the next community.

Tom: I just couldn't help but get involved, I offered my time right from the beginning as a volunteer. I fully believed in the mission and the goal, working to connect those who had been left behind with the best possible service. What we were doing was fundamentally different to the rest of the industry at that point, we were putting full fibre in the ground when the rest of the industry here in the UK were predominantly installing the next iteration of copper technology. We were putting in gigabit full fibre symmetrical connections in 2011.

What makes the B4RN offering different to that of your competition?

Michael: Our service is delivered without compromise. Every B4RN customer gets a 1,000mbps symmetrical connection no matter who they are or where they are. We don't compromise on who we get to. We offer a connection to 100% of the properties in that community that we can reach; if that means going five kilometres up a single track to get to a farm that's not got running water or electricity, then we'll do it, and we have done it.

Anything else?

Michael: We are local and we are rural. We recruit locally, and we train people up. The people who work for B4RN understand the pressures of what it's like to be a farmer; that's the environment a lot of them grew up in. It makes so many conversations so much easier, when someone has the same background and understands the pressures of the environment that we're all working in.

There is well-documented suspicion from small communities about companies coming in, promising the earth, not delivering, repeated disappointments. It's a familiar story.

Michael: We couldn't do that. And it's not just because we're from the area, it's because the communities are fully integrated into the model. As Tom said, it's 'we', not 'they' - we work hand in hand with the communities and we deliver the projects and meet our goals together.

Your reputation would suffer as well, presumably.

Michael: Exactly, and very quickly the next community wouldn't then want to work with us.

What separates your business model from the competition, and how do these differences inform the strategic differences that you make?

Michael: Fundamentally, we exist for the benefit of the communities. That means our focus isn't about how to make a return on a short-term investment, or how to maximise the return on some capital investment made by a third party. We are focused on how to build a lasting asset that delivers the best service it can, and delivers an enduring benefit to the

communities we work with. Our whole strategy is shaped around that concept. A really good example of that is the HALO project.

Tell me how that works.

Tom: The HALO project is all about creating a resilient ring network in the North of England to support all our existing and future communities, it is also timed around the refresh of aging hardware running the current backbone network. This will see our backhaul speeds increase tenfold to 400Gbps around the entire ring, allowing us to distribute our network deep into our communities at speeds of 100Gbps aggregation. With this upgrade we are securing the long-term operation of the core network, allowing new communities to connect and additional benefits such as the offer of backhaul services to the industry.

So, you've future-proofed the network?

Tom: Exactly. The HALO project follows our investment strategy by ensuring we have the capability and capacity we need. As an example, in 2016 we installed equipment connected by 10Gbps circuits. With 100Gbps port capacity available and during the years since the installation, we grew into those 100Gbps ports and capacity as needed. Now we are looking at the next step up that will see us using one 400Gbps backbone link across the North West, with additional port capacity available for future growth.

What exactly does the HALO Ring network provide?

Tom: By connecting the backbone in a ring formation, so that every core device has a North/South (or East/West) path back to the main datacentres, including the datacentres themselves, we will gain a greater level of resilience and redundancy. This will allow hard down circuit events to happen, to get repaired and resolved, with next to zero customer impact. It will also allow for maintenance, repair and upgrades to happen on any network segment without loss of service to our customers. We can also then onboard B2B customers who wish to take advantage of the high capacity, highly available and low latency core with confidence that their service has a level of physical resilience for service loss protection.

How will that look in future?

Michael: In seven years' time, looking at the traffic growth trends on networks and the additional customers that we will

add, we will need that capacity. So we've invested in it now. We've partnered with ZAYO, Juniper Networks, Smartoptics and Kubus, who are all industry-leading vendors and suppliers, world-renowned for high quality, high availability, low latency equipment and networks.

Tom: We now have access to the latest technology in coherent 400G and we are now installing in some of the most remote parts of the UK. This presents its own challenges in harnessing the power of this equipment in some unexpected locations, such as hardened and environmentally controlled Rainford Solutions outdoor cabinets. It's been designed with engineering at the heart, built from the ground up to serve the best possible service to the customers, rather than having several different restrictions on the type of equipment you can access, the locations you can access, the backhaul you can access, which usually restricts you. Uncompromising - again.

Is HALO as a concept being adopted or imitated elsewhere?

Tom: HALO is a northern backbone network that goes from Manchester to Penrith and Carlisle, across to Newcastle, down to Leeds and back into Manchester again, with two separate paths to reach London. There are other organisations such as Commsworld and ZAYO amongst others who are offering B2B and Transit services but rarely with a predominantly residential focus. Traditionally companies would add spurs from the main network to reach new areas as needed, rather than planning the trunk and distribution networks to complement each other. We incorporate a high level of resiliency in this ring; it's adhering to industry best practices and you tend to only see this in the likes of the carrier grade networks that are out there, but because we have our own ability to choose to do it, we've chosen to do it.

Additionally, aside from the main core, all our distribution cabinets are what we call 'multi-homed', which means that there is more than one way to get to the internet in case of a fault. We have over a hundred aggregation cabinets; aggregation means that within all of our regional area, which is 2,300 kilometres squared (the same size as the landmass inside the M25), we have multi-home paths to every single distribution cabinet on the network.

Michael: You've got the HALO project, which gives you the fundamental foundation. You've then got the multi-home cabinets. The next design choice, in terms of resilience and

in terms of serving our communities, is our access network. This is 100% subsurface, it's all underground, which we believe gives the next level of resilience. We don't use any pole infrastructure. There is a lot of weather up here where we operate, events such as storm Arwen flattened whole areas of telegraph poles; our network is unaffected. And then the final design choice is that you get a full fibre into every home from the cabinet, belt and braces for future growth and adoption of new technologies.

Sounds fail-safe.

Michael: With deeply rural communities, we're often their only source of connection. The value they place on resilience of the internet connection is incredibly high. It's the same with damage to the network. If we experience a fibre fault on Friday evening, our teams will be out there in the dark with their head torches on getting it fixed that night, because they understand why it's so important.

Tom: Additionally, every single one of our cabinets has a high-capacity battery backup system in it. If the region loses power, we can support a cabinet for over half a day without even visiting it. All our cabinets have layers of batteries in them, because if the power goes out, it might take you hours to get to the cabinet to put a generator on. So, we've deliberately invested in big battery systems for the cabinets to keep them online. We can then charge them up with a generator and repeat the process until mains power is restored, which would take some time in the hard to reach locations we operate.

The industry is maturing quickly, and consolidation is a feature of that maturity; I wondered what the future holds for B4RN given your unusual business model.

Michael: The fundamental principle has always been to grow sustainably. When we grow, when we expand into new areas, we do it with community support and community money. We don't have large external investors looking for ways to increase profit from the asset.

Tom: The market is consolidating at the moment, but B4RN as a community benefit society isn't in that realm because we exist in order to provide connectivity to our customers. There is no exit plan, we exist to serve the communities, what we're doing is for the enduring benefit of these communities.

Most altnets are in it to eventually sell up eventually and make money.

Tom: That's business, that's fair enough, but we're in it for a different reason. I think it's important to try and show that. We have a seat at the industry table with all the other operators, but at our heart we're doing this for the community. It will always be that way.

Well, from one nonprofit to another, I totally applaud that. It might not make you millionaires but it must be extremely rewarding. What about Project Gigabit?

Michael: We have a series of projects lined up where we have communities who are excited about working with B4RN, and where there is Project Gigabit voucher funding available. We will continue working with the voucher scheme. The strength of the voucher scheme is that it rewards properties connected, as opposed to properties passed. The industry is now waking up to the fact that properties passed can sometimes be quite a meaningless metric.

You're not alone; it's a common complaint.

Michael: Whereas because you only get paid the vouchers when you have a fibre going into someone's living room and you have someone taking service, you have to deliver properties connected and you have to deliver the benefits of that connectivity before funding is unlocked. So we think the voucher schemes really are the way to deliver to these really deep rural communities. Otherwise, you just end up with providers laying a fibre down the middle of a valley and claiming the job's done.

What do you personally get out of working with B4RN?

Michael: It's addictive; being surrounded by communities, by the staff, by the volunteers, all going above and beyond in order to build this enduring asset for the long-term benefit of their communities. It is levelling up in action.

When they were building the railways, the areas that they touched were transformed through connectivity. It's the same for full fibre. There are lots of other connectivity solutions out there, which are good enough for today, but as demand continues to increase, they will inevitably fall by the wayside.

Once you've got that fibre network into every single home, then the limiting factor is the speed of light - the same fibre can be delivering service in 100 years' time.

Tom: I have witnessed firsthand very rural primary schools, this was before B4RN, only receiving kilobits of speed, struggling to provide learning materials and conducting classes for the children. That's one of the reasons why I wanted to get involved in putting better connectivity out there. It's being able to go and change people's lives in these communities.

What about your sustainability strategy?

Michael: From my perspective, the sustainability comes from building a sustainable resilient network. If you build a network that's on poles or build a network that's cobbled together, and it's going to need repairing or upgrading every five to ten years - you've not built a sustainable network. Whereas if you build a full fibre underground network, then you achieve sustainability by building it right first time and really putting resilience at the heart of the strategy.

How do you stay ahead of your competitors?

Michael: We acknowledge our competitors and we applaud those who are putting full fibre into rural communities. We can't cover the entire of the United Kingdom and we are all trying to do the same thing.

In three to five years' time, where do you see B4RN, and more broadly, the industry going?

Michael: We're going to keep doing what we're doing. We'll be working with communities, we'll be expanding the network. And as we've gone through, the B4RN model is designed to be sustainable and to grow organically. I think the industry is going to look very different; it's starting to move into this consolidation phase. As far as we're concerned, we're in a position where we're happy to watch that happen. In terms of our core philosophy, I don't think anything will change.



For more information, please visit <https://b4rn.org.uk/>