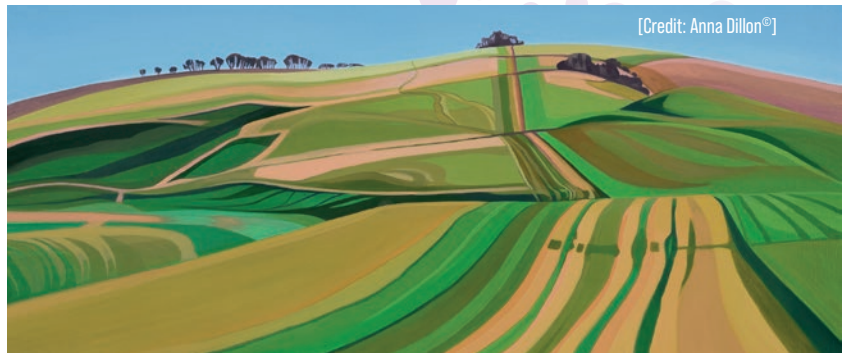


Bridging the Rural Divide: How Technetix rOLT is Transforming Fibre Access

BY ADE BRITTAIN, VP OF CUSTOMER INSIGHT AND INNOVATION, TECHNETIX

AS WE SAW AT OUR RECENT SELL OUT EVENT, SCTE® PRESENTS: RURAL FIBRE & THE LAST MILE, REACHING THOSE REMOTE COMMUNITIES REMAINS A SIGNIFICANT CHALLENGE, BUT THERE ARE INCREASINGLY INVENTIVE SOLUTIONS NOW AVAILABLE, DEPENDING ON BUDGET, LANDSCAPE, ACCESS AND POPULATION. ADE BRITTAIN TELLS US WHAT TECHNETIX ARE DOING TO BRIDGE THE RURAL DIVIDE.



[Credit: Anna Dillon®]



WHAT ARE THE ISSUES FACING THOSE IN RURAL NOT SPOTS?

In today's digital landscape, access to fast, reliable internet is essential and should no longer be seen as a luxury. Yet inconsistent connectivity - even lack of service altogether - is still true for some ultra-remote communities. Despite government-led initiatives to address digital disparity and underserved areas, FTTH operators overwhelmingly favour urban areas, prioritising cities and suburbs for faster ROI based on greater property density.

Furthermore, well-intended initiatives served to reinforce the imbalance, rewarding operators on homes passed: not homes connected. The resulting rapid trunk deployments have proliferated the so-called 'Swiss Cheese' effect - holes in service provision when budget limits prevent fibre routes reaching isolated pockets of unserved premises.

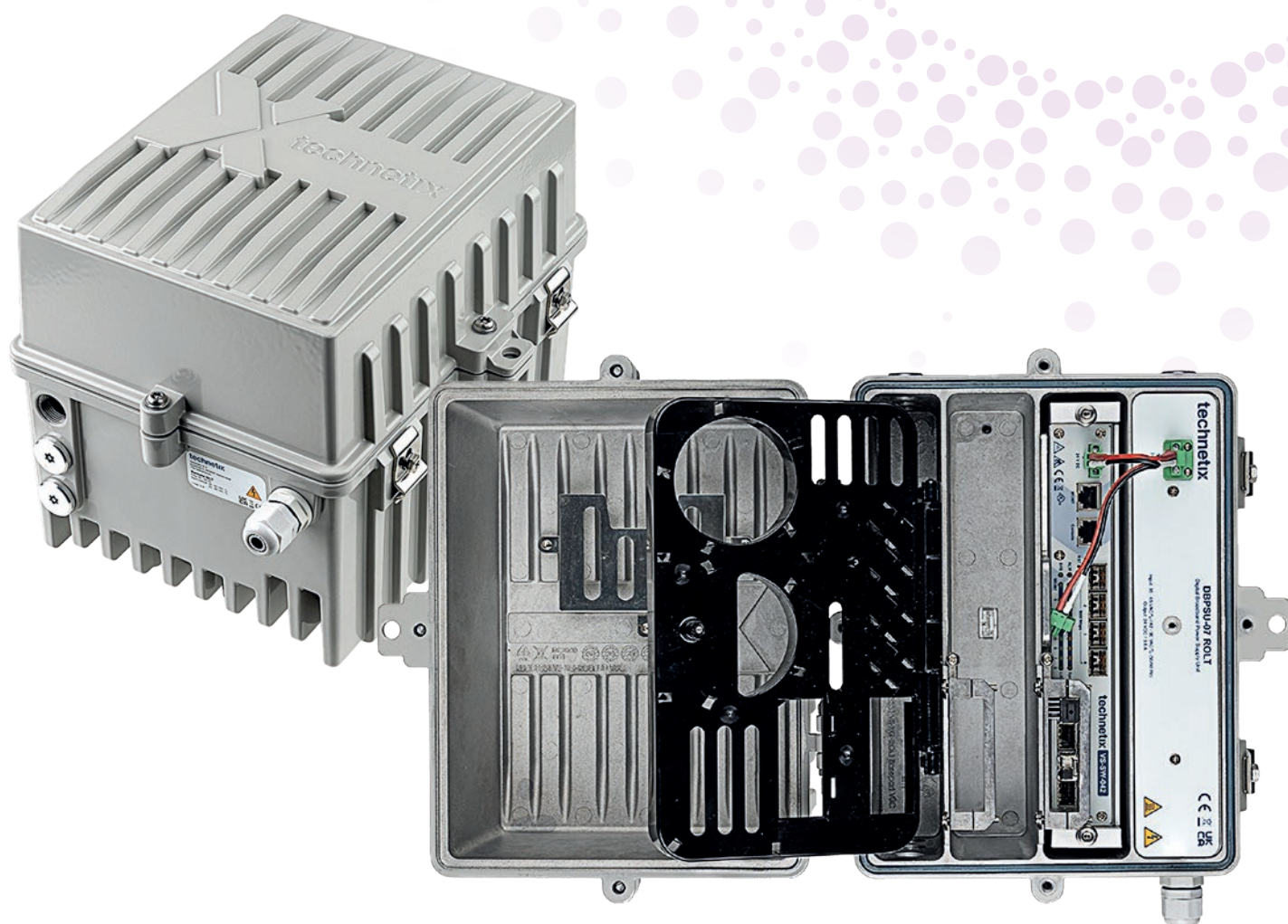
Built for rugged, scalable edge deployment, Technetix' rOLT (remote OLT) is a compact solution that enables

FTTH operators to connect hard-to-reach areas and addresses efficiently and economically.

SOUNDS LIKE THIS IS A COST ISSUE...

Not just a scaled-down version of urban fibre build, rural FTTH present a different engineering and economic challenge. With more dispersion and more varied terrain, the likes of farms, isolated homes and country roads, works for fibre deployment can quickly become resource intensive. As a result, the cost to connect each home can be significantly higher than in towns and suburbs.

Designed for centralised service to thousands of premises, traditional OLTs are poorly suited to these environments. Installations to serve low-density rural zones can give rise to large and underutilised infrastructure with unattractive ROI. This mismatch in scale drains capital, discouraging investment in rural areas.



WHAT DOES TECHNETIX ROLT OFFER THAT OTHERS DON'T?

Offering a new model for rural broadband in low-density or underserved pockets, rOLT is housed in an IP68-rated enclosure and includes a hardened carrier-grade Ethernet switch. Its modular design supports pluggable modules for GPON and XGS-PON services and is highly scalable from just 32 up to 512 homes.

While it is weather-resilient and withstands challenging environments, rOLT is lightweight and pole, pit, building, or manhole mountable. This flexibility combined with its ruggedised specification removes the need for protective cabinets and buildings, eliminating costs and complexities associated with planning permission, wayleaves and civil construction works. Additionally, rOLT's compact footprint and minimal power consumption further reduce operational costs compared to traditional centralised OLTs.

WHAT'S THE OPTIMAL WAY TO DEPLOY CAPEX?

The common approach to FTTH models has given rise to full-sized installations irrespective of subscriber demand. In rural areas, the cost involved in sinking in oversized equipment promotes lengthy ROI timelines.

In response to this issue, rOLT supports to-scale capacities and proportionate deployments. Engineered to service low-density uptake, rOLT's modularity enables ISPs the option to scale up service provision as and when demand increases. With the potential to transform rural broadband economics, this 'right-size' model aligns CapEx to subscribers, maximising efficiency and minimising risk.

IS THIS JUST FOR RESIDENTIAL?

With rural locations more prone to the Swiss Cheese effect, rOLT provides a small form factor 'infill' solution to the gaps created by trunk fibre builds.

But its value extends beyond residential broadband. rOLT's carrier-grade switch includes Ethernet break-out for non-residential applications, supporting business-grade services for rural SMEs, as well as backhaul for mobile small cells. Indeed, where mobile reception can be poor in remote areas, this capacity offers critical improvements to 4G and 5G coverage along rural transport corridors. It can also connect smart infrastructure - environmental monitoring stations, security cameras, traffic systems and agricultural IoT sensors - enabling new service models for municipalities, farms and utilities.

SHORT TERM, THIS COULD REALLY BENEFIT COMMUNITIES BLIGHTED BY THE SWISS CHEESE EFFECT.

In phased housing developments where FTTH activation can be slow, rOLT presents an interim solution to serve show homes and early-phase residents. This helps accelerate occupancy and improve customer satisfaction.

SPOTLIGHT

WHAT ELSE CAN ROLT DO?

Technetix rOLT's flexibility simplifies scalability without creating operational complexity or compromising reliability. Supporting both GPON and XGS-PON technologies, rOLT is capable of delivering legacy and future services, and its northbound APIs and Netconf/YANG enablement integrates and is interoperable with existing OSS/BSS systems. This allows automated provisioning, monitoring, upgrades and positions distributed rural rOLT nodes as part of a unified, manageable network.

SEEMS TO TICK A LOT OF BOXES...

While pressures for better rural fibre extension models mount, balancing solutions with good economic and operational sense remains important. rOLT provides a smarter, modular alternative to oversized, centralised infrastructure and matches deployment size to actual demand.

Now, locations that were previously too complex or costly to serve might not be so out of reach after all.

<https://emea.technetix.com/fiber-networks/remote-olt/>

