



CCS Metnet 60G integrated with Sivers Semiconductors 60 GHz mmWave radio/antenna solution

“After an extensive search, we concluded that Sivers Semiconductors offered truly unique capabilities and performance that we could integrate within our hardware platform and utilise to deliver a differentiated solution – offering highest capacity per node, use of all six channels in the 57-71 GHz band, and best range performance.”

*Martin Harriman
Executive Chairman, CCS*

Broadway Partners rural broadband

THE CASE STUDY IN BRIEF

If possible, operators would build fibre networks everywhere; however, in some locations, this is simply not practical, or economically viable. With the Metnet 60G solution CCS assists service providers to extend the reach of their fibre assets to deliver the services wherever they are needed.

CCS Metnet 60G consists of CCS's own software integrated with Sivers Semiconductors 60 GHz mmWave radio/ antenna solution and Renesas IDT modems instantiated with the Blu Wireless IPR to provide gigabit connectivity to the global market. CCS has established a global relationship with ADTRAN to deliver industry-leading solutions to service providers. CCS rigorously evaluated the market and selected Sivers Semiconductors as a key technology partner when designing the integrated hardware platforms for today and tomorrow.

Strategic background to market opportunity

CCS helps service providers extend the reach of their fibre networks to deliver connectivity wherever it is needed. The two most compelling use cases are fixed wireless access –ultra-fast, gigabit connectivity to businesses and homes – and mobile backhaul, with high-speed, low latency connectivity delivered via street furniture assets to support mobile operators as they densify their networks and build out 5G capability.

The Metnet 60G solution has already more than 30 customer deployments, trials, and Proof of Concepts underway. Due to the strategic partnership with ADTRAN, CCS has solved the scaling of manufacturing and go-to-market, and is well-positioned for long-term success.

In 2010 the company founders' ambition was to build mmWave radio solutions that were intelligent and incorporated machine-learning into a multi-point to multi-point mesh network. The initial products CCS brought to market operated in the licensed 24-29 GHz bands, however, the time to market was hampered by the lack of available technology partners from which to source key elements of the solution.

Customer

CCS (Cambridge Communication System)
Cambridge | United Kingdom
www.ccsl.com | info@ccsl.com

Challenge

- Help operators build hybrid fibre-wireless networks delivering the lowest overall network TCO
- Address the 60 GHz market for FWA and mobile backhaul
- Design a complete best-in-class 60 GHz solution
- Reduce time-to-market
- Achieve scale to business and manufacturing

Solution

- CCS software together with Sivers-Semiconductors 60 GHz mmWave radio/antenna solution and Renesas IDT modem and Blu Wireless IPR - **Metnet 60G**
- Sales and manufacturing agreement with ADTRAN reaching hundreds of service providers across the globe

Result

- Maximise the full-fibre service reach at the lowest possible total cost of ownership
- Engineering project completed thanks to close collaboration between the engineering and management teams of CCS and Sivers Semiconductors
- Highest capacity per node, use of all six channels in the 57-71 GHz band, and best range performance



As you would expect with any engineering project, building our hardware platform and achieving the integration with our Metnet software was not without its challenges, but the strong working partnership and close collaboration between the engineering and management teams of our two companies has always found solutions to overcome these.

Martin Harriman
Executive Chairman, CCS



Trafalgar Square, January 2020

In 2010 the company founders' ambition was to build mmWave radio solutions that were intelligent and incorporated machine-learning into a multi-point to multi-point mesh network. The initial products CCS brought to market operated in the licensed 24-29 GHz bands, however, the time to market was hampered by the lack of available technology partners from which to source key elements of the solution. "As a result, we spent years designing radios and antennas when our real interest was the underlying software that delivered the self-organising, self-optimising and self-healing networks", Martin Harriman the company Executive Chairman says. Even so, the 28GHz solution went on to be successfully deployed in some incredible use cases, including the landmark network in the City of London, where it is being used to backhaul all of Telefonica's Wi-Fi and LTE small cells.

"When we identified the need to develop a solution to address the significant opportunity that 60 GHz spectrum presented, we scoured the market looking for suitable technology partners with best-in-class capability to incorporate alongside our Metnet software and maximise its applications and potential. After an extensive search, we concluded that Sivers Semiconductors offered truly unique capabilities and performance that we could integrate within our hardware platform and utilise to deliver a differentiated solution – offering highest capacity per node, use of all six channels in the 57-71 GHz band, and best range performance. As you would expect with any engineering project, building our hardware platform and achieving the integration with our Metnet software was not without its challenges, but the strong working partnership and close collaboration between the engineering and management teams of our two companies has always found solutions to overcome these" Harriman continues.

Status of commercial deployment of solution

In 2019, CCS signed sales and manufacturing agreements with ADTRAN. These agreements were designed to deliver scale to their business, allowing access to both ADTRAN's manufacturing scale – the company ships 2 million units per annum – and to its global sales team that services more than 500 customers in over 60 countries. The CCS solutions now form an integral part of the ADTRAN fibre extension portfolio. One of the earliest adopters of the solution was Ontix in London, which acquired the rights to access street furniture assets across two London boroughs, including Westminster. Ontix has already built-out more than 100 sites as part of its next-generation neutral host network, to backhaul mobile operator small cells and Wi-Fi access points, as well as delivering gigabit Fixed Wireless Access directly to businesses in the capital.



Sivers Semiconductors
Radio Frequency Module
BFM 06010
57-71 GHz

CCS Metnet 60G

