

UK 5G DU-Volution project

Part of the UK's 5G Diversification Strategy, the Adtran-led UK 5G DU-Volution project is driving integration of new technology suppliers for open radio access network (RAN) solutions. Together with partners, BT, the University of York, the Scotland 5G Centre, AccelerComm and CommAgility, Adtran is developing innovation that enhances spectral efficiency and reduces power, footprint and latency in mobile networks.

Focus: Removing high-risk vendors from the supply chain and enabling innovation in 5G

5G is re-inventing mobile networking and creating a host of new revenue opportunities for telcos and enterprises. But to ensure the security and resilience of 5G infrastructure requires high-risk vendors to be excluded from network architectures as well as tackling over-reliance on a small number of suppliers. Mobile network operators need the flexible supply chain options offered by open and disaggregated RAN solutions. A choice of best-in-breed technology is also key to unleashing the full power of 5G in terms of low latency, scale and download speeds. This is the vision of UK 5G DU-Volution – removing single-vendor silos, ensuring all stakeholders can add and gain value, and championing disruptive technologies, new operational models and open networking.

Rationale: Innovation creates opportunities but requires change

MNOs are looking to make the step from mobile connectivity to intelligent edge applications, extending cloud computing to the mobile edge. This requires the freedom to harness best-in-breed components from multiple stakeholders rather than having to settle for proprietary technology from a single supplier. A diverse supplier ecosystem maximizes value for businesses and society. Continuous innovation through open RAN networks and disaggregated baseband units (BBUs) is enabling a new world of edge computing. However, this does demand expertise and support to simplify the task of system integration.

Target: Building an incubator for disruptive mobile innovation

Part of the UK's Future RAN: Diversifying the 5G Supply Chain Competition, the UK 5G DU-Volution project aims to “evolve distributed unit (DU) devices to meet industry requirements including reduced power, smaller form factors, improved spectrum efficiency, and reduced latency.” It plans to “integrate products into an operational DU component ready for deployment in 5G networks.” The Adtran-led consortium is building an environment for mobile edge innovation, bringing new ideas to the mobile edge via experts in synchronization, transport and network functions virtualization. The project is leveraging software expertise from leading mobile application providers and incorporating application competence from scientific research and national 5G networking centers. Hosted in York in the north of England, UK 5G DU-Volution will build the ultimate platform for use case evaluation from early discussion to final evaluation.

Expected outcome: Making a difference at the mobile edge

Central to the UK 5G DU-Volution project is Adtran's end-to-end portfolio of open X-Haul technology. Comprising optical, packet, edge compute, and timing distribution and assurance solutions, Adtran innovation is targeted at providing optimized DU infrastructure/hosting capabilities. Partners in the project offer a wealth of experience with development at the mobile edge as well as comprehensive expertise in network design, integration testing, service activation and application innovation. UK 5G DU-Volution will attract global players to evaluate new solutions and verify interworking, and involve end users to address new application requirements. Channeling inward investment into UK companies, it will provide a platform for a new wave of open RAN software innovators as well as introducing UK based technology and talent to the global telecoms market. UK 5G DU-Volution partners will also be working towards the next generation of mobile connectivity by evolving the test facilities towards 6G.