

Connecting the UK- Made in the UK.

Our vision is to digitally compress the UK, bringing regions up to 30% closer together, whilst doubling UK hardware content in our networks and halving the UK digital carbon impact.

Covid-19 has demonstrated how essential it is to interact remotely and safely with colleagues, friends, services and even factories. By creating critical mass, the move to remote working has accelerated by at least a decade. As we have worked and sheltered at home, it is clear our quality-of-life, as well as productivity depends on a **reliable, trusted, interactive digital experience**.

The UK is investing significantly in optical fibre and 5G access. **Digitally levelling-up** and realising the full benefits of this investment now requires going further to ensure that users are not only connected, but receive the maximum possible performance uniformly across the country. Given interactivity is as the heart of the digital economy, this constrains the distance to digital infrastructure, e.g. datacentres, often requiring uneconomic duplication and puts new demands on the fibre and equipment in the network.

2020 has also highlighted the **importance of trust**, and security in our network equipment, restricting supplier choice and requiring a Telecoms Diversification Task Force. Whilst increasing the number of fully integrated network suppliers will take many years, the **UK has major strength and decades of heritage** in the embedded components and technologies. It is now time to capture this into UK equipment, with the latest open interfaces, to give greater resilience, performance and future proofing.

Enabling interactive remote working has had a **huge impact on decarbonising** our economy. Covid-19 is reported to have reduced UK emission by >11%. A clean recovery necessitates supporting the infrastructure that enables remote interactivity to continue to be a productive alternative to physical journeys. Yet our digital infrastructure consumes a considerable amount of energy, that will only grow with demand. Innovation is needed to deliver more interactivity, without increasing our digital carbon footprint.

Policy Briefing

Photonics Leadership Group

Nov 2020

On behalf of UK optical comms community

Delivering our vision requires **moving up the supply chain**, supporting development of the UK's world leading optical componentry into deployable equipment. It requires supporting investment in volume manufacturing, enabling the UK to capture more value from its strengths and investment in compound semiconductors, integrated photonics, data storage and quantum tech. The UK's diverse optical fibre network suppliers and installers need to be reconnected with those innovating equipment to focus market pull. Open interoperable standards must be pioneered to support supplier diversity and accelerate innovation, giving the UK world leading infrastructure and helping drive exports.

We call on Building Digital Britain, DCMS and BEIS to support a multi-tiered intervention strategy.

1. Harness the ventilator challenge spirit and UK supply chain to deliver **select UK made network equipment** to fill the highest priority challenges generated by removal of existing suppliers.
2. Invest in a **digital HS-5**, a visionary, hollow-core optical fibre connection from north to south. Leveraging this UK invention to bring Sunderland and London 100 miles digitally closer and making the UK leaders in developing the supply chain for this digital shrinking technology.
3. Provide dedicated collaborative R&D support to bring **network, nascent equipment and component suppliers together** to innovate and demonstrate UK network equipment solutions with advanced interoperability and UK production.
4. Support integrated photonic pilot lines and process innovation drawing in automation and digital expertise to support volume UK production.
5. Increase R&D into internationally leading solutions capable of meeting demand for ever increasing connectivity whilst **reducing energy footprint and enhancing security**.

We have a once in a generation opportunity to accelerate the intersection between UK designed & built equipment and the imperative for robust trusted interactive communications, putting the UK at the forefront of next generation networks.