TO WHOM IT MAY CONCERN

Professor A. J. Seeds,
Department of Electronic and Electrical Engineering,
University College London,
Torrington Place,
London,
WC1E 7JE.

30 September 2024

Dear Professor Seeds,

EPSRC National Dark Fibre Facility (NDFF)

I am writing to confirm our support for the bid that you are co-ordinating with the University of Bristol, Cambridge University and the University of Southampton in response to EPSRC's call for bids for the next phase of the National Dark Fibre Facility (NDFF).

CSA Catapult is a not-for-profit research and technology organization with a focus on translational research, supporting the development of new semiconductor technologies bridging academia and industry. The Catapult has a focus on net zero and future telecoms with these areas crossing over with a need for energy efficient networks. In particular, CSAC is developing hardware for future networks by providing design support in integrated photonics and testbeds for validating new devices and modules.

The Catapult is planning to gain access to the existing NDFF facility in 2025 through the JOINER project, which will connect the Catapult 'Future Telecoms Hub' in Bristol & Batch Science Park to the NDFF network. Access to this network will allow the Catapult, and its commercial partners, to test and validate their products locally and over distance.

CSA Catapult has three live research agreements in place with Bristol University and the Smart Internet Lab led by Professor Dimitra Simeonidou:

1) Development of novel all-optical switching for SDM networks based on integrated photonics and multi-core fibres
2) Quantum add-drop multiplexer that enables quantum and classical signal co-propagation
3) AI algorithm development for optical network control and optimization

We also have pre-existing relationships with UCL and Professor Mike Wale with a joint research programme developing integrated photonics PDK (process design kits) due to start imminently, and the Catapult has worked frequently with the University of Southampton and Cornerstone on several IUK funded CRD programmes.

Access to and expansion of the NDFF will allow for further test and validation of these technologies between sites and other members of the network. It is very important that this type of facility exists off-grid so that the underpinning communication technologies can be developed for the future internet.

CSA Catapult intends, subject to prevailing business conditions, to support the work of NDFF through:

- Providing an access point at the Future Telecoms Hub
- Attendance at any advisory board meetings
- Convening and/or facilitating workshops
- Developing testbeds for optical and quantum comms in partnership with NDFF members

Over the course of the 3 year funding period for the NDFF the support from CSA Catapult is indicated to be approximately £30k.

I look forward to hearing that you have been successful in obtaining support for the NDFF, and to fruitful collaboration going forward.

Sincerely,

Dr Nick Singh
CTO
30 September 2024