

ESA-ECSAT 5G/6G Hub

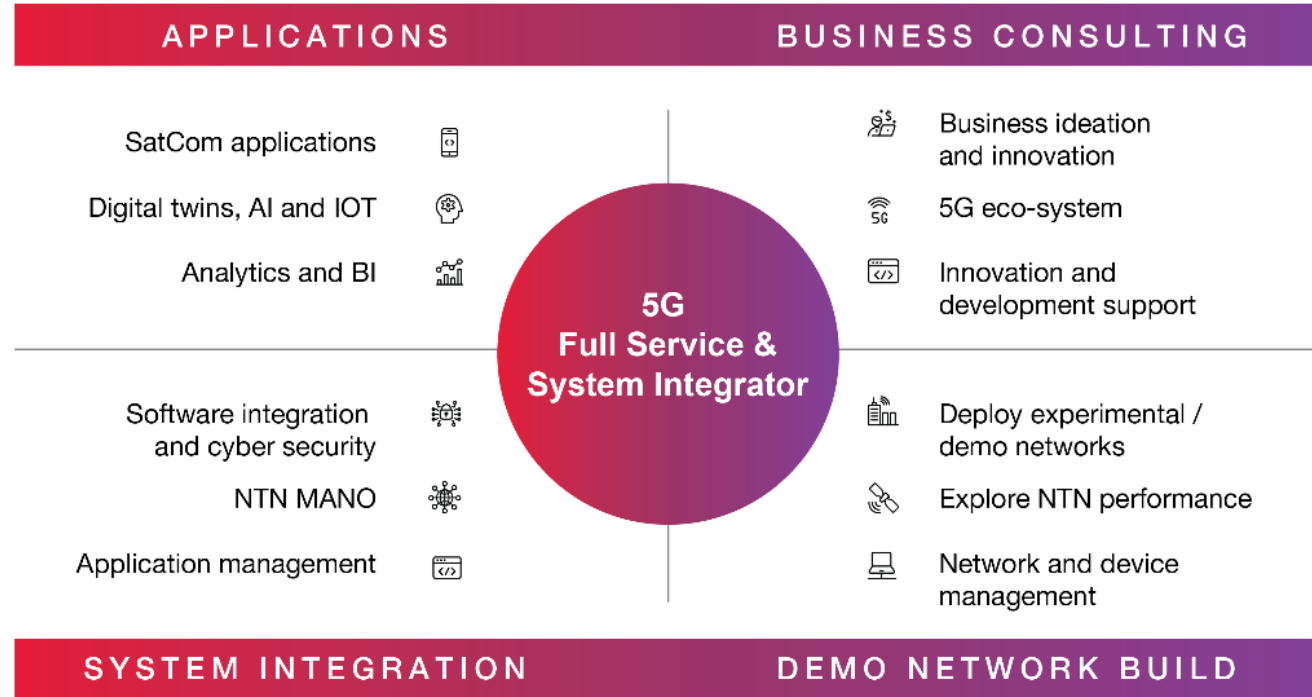
Andy Marr

February 2022

CGI



CGI – trusted to do complex things well



ESA-ECSAT 5G/6G Hub

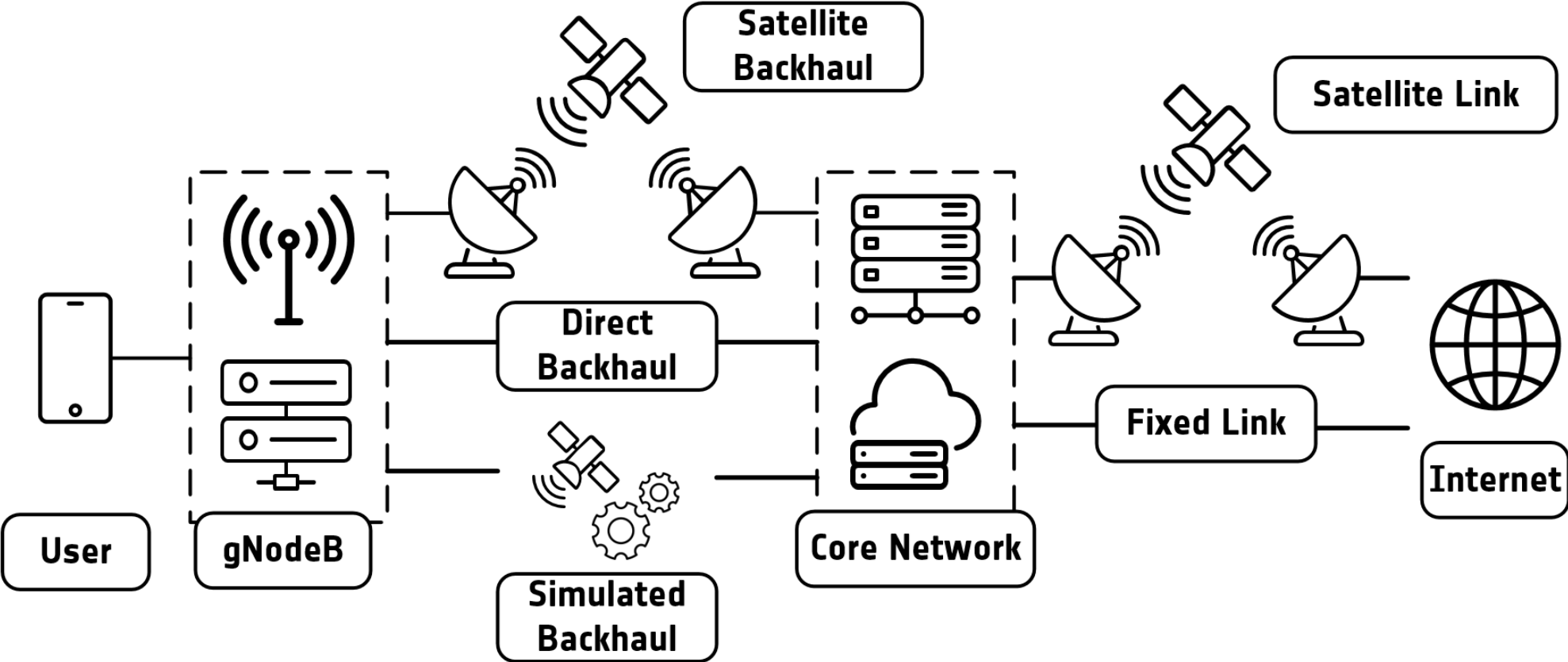
A collaborative place for realising the promise of satellites for 5G

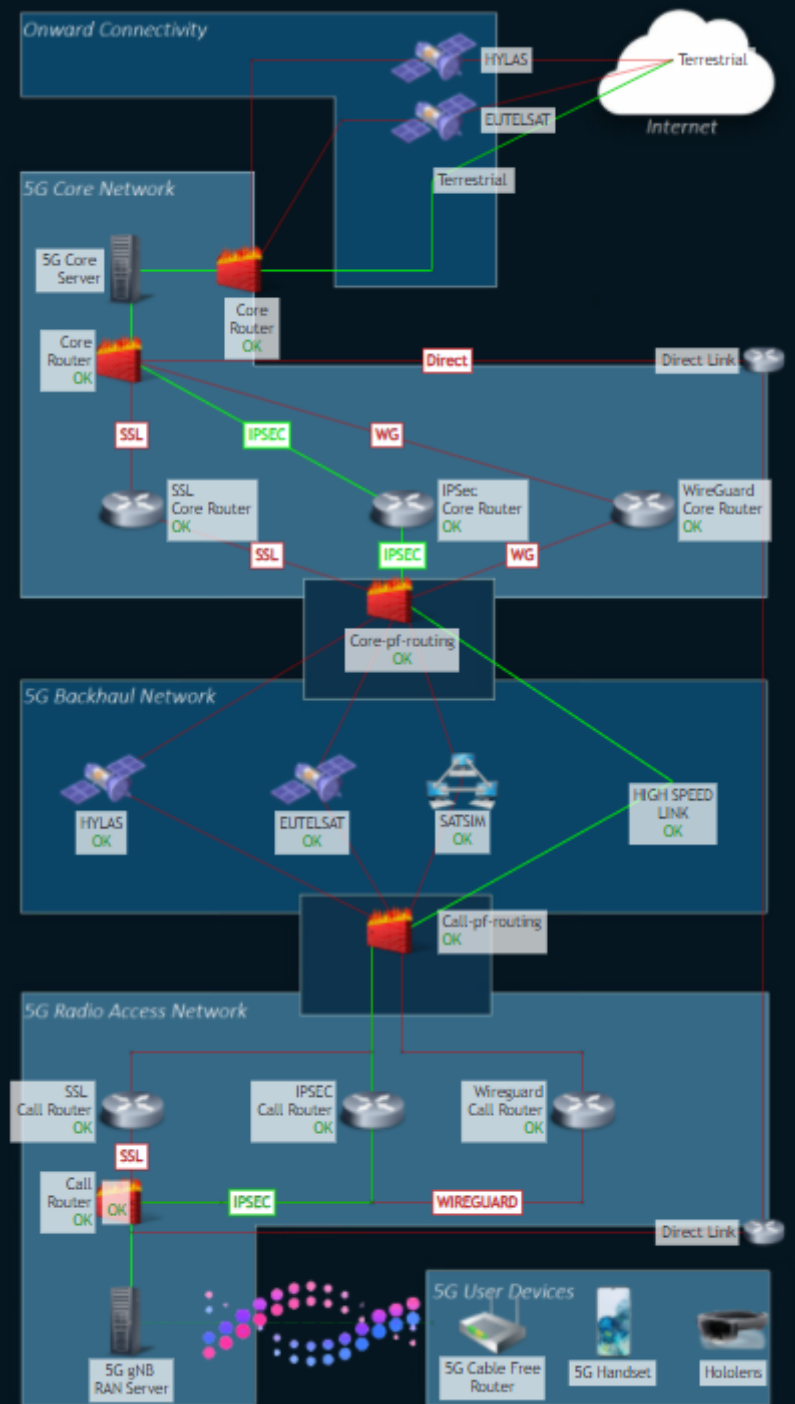
- An integrated **5G hybrid** private network
 - **5G network**
 - Two commercial **satellite links**
 - A **satellite simulator**
- **Automated switching** between configurations via simple user interface
- Local compute and storage, supporting **edge processing** and operations
- **Augmented Reality** demonstrations
- **Open to all** to use



European Centre for Space Applications & Telecommunications (ECSAT), Harwell, Oxford, UK.

ESA-ECSAT 5G/6G Hub Architecture





Network Map

Complex configuration simplified.

Monitoring
Close

Satellite link

Status: Idle

General Logs

5G standalone mode network, using the an unidentified satellite to provide the backhaul link between the 5G Radio and the Core Network.

This configuration provides the opportunity to test the use of a geostationary satellite for backhaul (e.g. where the radio part of the network is deployed in a remote location). All traffic, both user and 5G control plane, is transferred over the satellite link.

The configuration makes use of the Amarisoft Core Network and gNodeB. Traffic is encrypted between the gNodeB and Core Network using an SSLVPN. The satellite link is a contended commercial link, with a best effort airtime package providing 30Mbps downlink and 2Mbps uplink. During a demonstration the amount of throughput available is dependent on how many other users are also using the satellite.

Apply

ESA-ECSAT 5G/6G Hub

- A high profile showcase
- Accelerated application/service development
- Open to all

A collaborative place for realising the promise of satellites for 5G



Andy Marr
Director Consulting Services

andy.marr@cgi.com
+44 7786 661 921



European Centre for Space Applications & Telecommunications (ECSAT), Harwell, Oxford, UK.