

# ECSAT 5G/6G Hub

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**CGI**



# ESA-ECSAT 5G/6G Hub

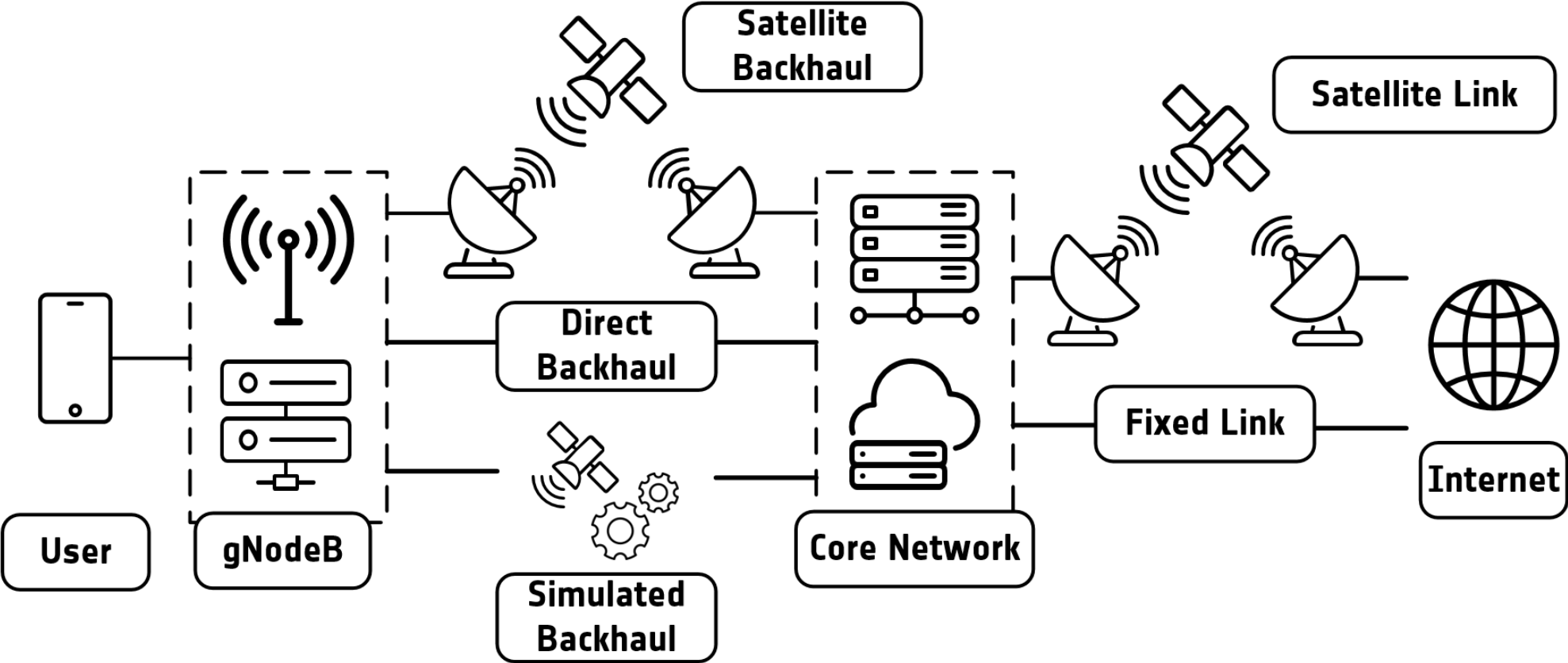
A collaborative place for realising the promise of satellites for 5G

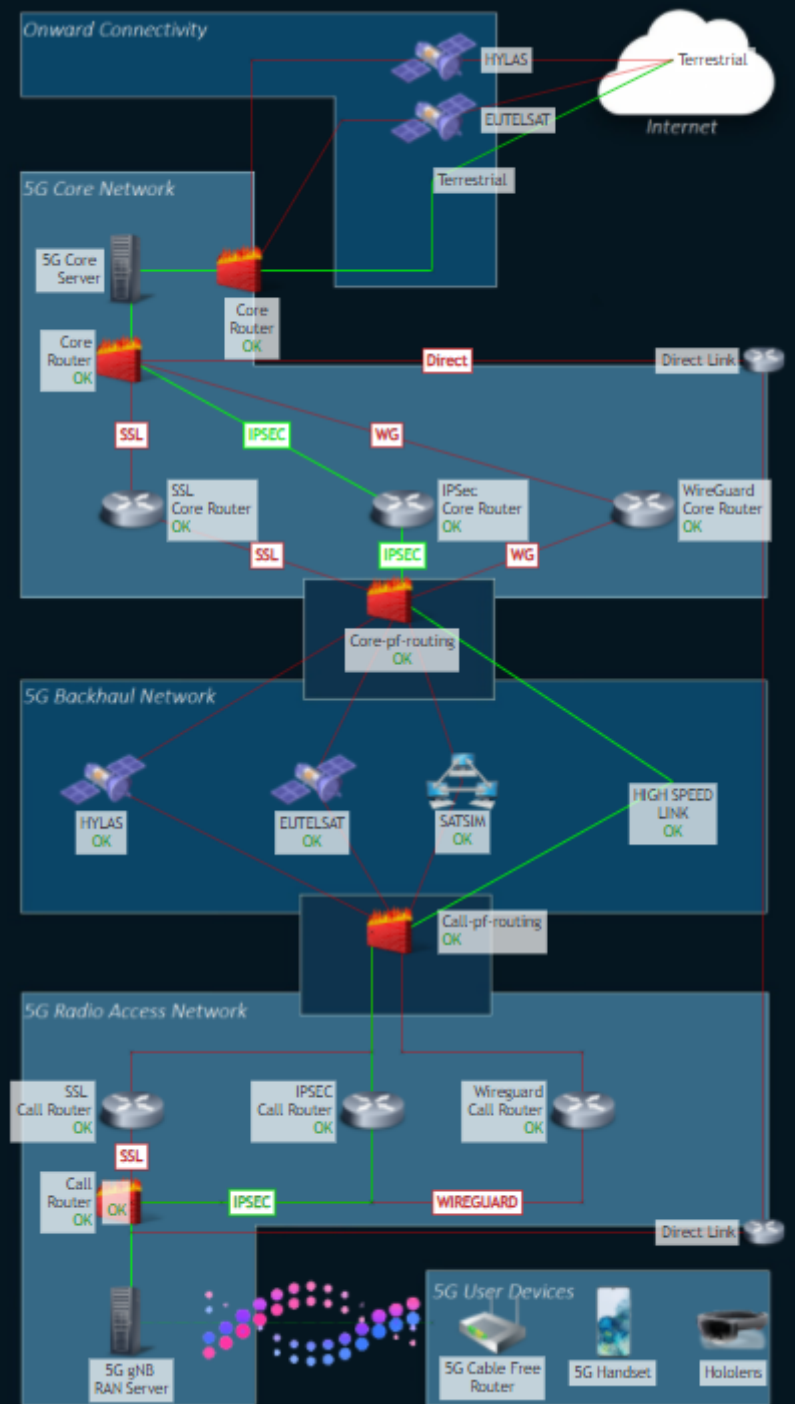
- An integrated **5G hybrid** private network
  - **5G network**
  - Two commercial **satellite links**
  - A **satellite simulator**
- **Automated switching** between configurations via simple user interface
- Local compute and storage, supporting **edge processing** and operations
- **Augmented Reality**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

For External Use

# 5G/6G Hub - **esa** ECSAT Phase 2

## Further focus on application demonstration and technology evaluation

Internal and External 5G Coverage

Satellite links for resilience scenarios

Virtual resource for edge compute

Enable connectivity to other facilities.

