

Al for Connectivity

INTELLIGENT FUTURE NETWORKS: HASC PROJECT SPOTLIGHT

PROJECT TITLE:

Signal Processing And Machine Learning For RF Transmission & Propagation Engineering

CORE CHALLENGE:

Connectivity



CHALLENGE:

As 6G networks evolve, they must connect far more devices than ever, using limited spectrum.

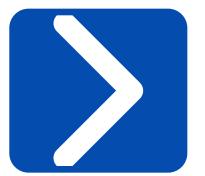
Current systems struggle to manage interference, energy efficiency and adaptability in complex real-world environments.



INNOVATION:

We're developing new multiple access and beamforming methods.

We're using rate-splitting, reconfigurable intelligent surfaces (RIS), unlimited sampling and machine learning (ML) to optimise wireless signals, even without detailed channel data.



IMPACT:

This research supports UK-born 6G technologies entering international standards and delivers patentable energy-efficient architectures.



This project enables rapid commercial adoption through new start-ups and collaborations with industry partners.



Al for Connectivity

INTELLIGENT FUTURE NETWORKS: HASC PROJECT SPOTLIGHT

With thanks to...

LEAD UNIVERSITY:

Imperial College London

PRINCIPAL INVESTIGATORS:

Bruno Clerckx, Ayush Bhandari & Kin Leung

The Hub is supported by substantial investment from the Engineering and Physical Sciences Research Council (EPSRC), part of UK Research and Innovation, and the UK Department of Science, Innovation and Technology. Grant References: EP/Y037197/1/EP/X040569/1



