ARI - 5G

Vish Mathur
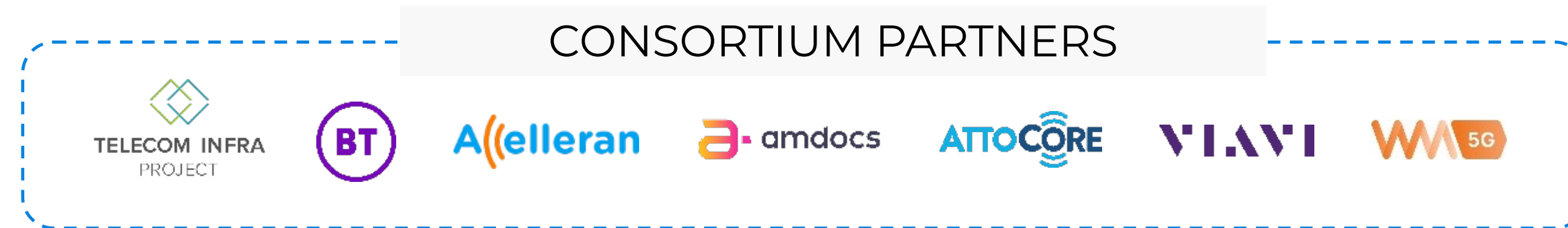
Department for Digital, Culture, Media & Sport

UK 5G Innovation Network

Accelerating RAN Intelligence in 5G project in a nutshell

CONSORTIUM PARTNERS

TELECOM INFRA PROJECT · BT · A(elleran · amdocs · AttoCORE · VIAVI · WM5G

Goal

Test and measure performance of 5G RAN (in lab and near field setting) for energy efficiency, spectral efficiency, interference (in Massive MiMO setting) managed through the use of TIP defined xAPPs and rAPPs, which interface into a multi-vendor Open RAN & RAN Intelligence Controller stack, built with standards based open interfaces

Beneficiaries

Mobile Operators

- Lower OPEX & energy consumption through intelligent and targeted delivery of network performance in cell site geographies where there is citizen demand for capacity & coverage

AI/ML Application developers

- Lower barriers to entry for xApps, rApps developers because decoupled dependence on physical network + proven multi-vendor interoperability

UK R&D, Testing, Standards

- Vendor compliance to pre standard E2 interfaces
- Input into standards development for various E2 interface technical architectural constructs

Our Impact on the market

1. Lowering the barrier to entry for RIC & xAPPs/ rAPPs development

- Decoupling the dependency on physical networks
- Showcasing opportunity for growth in the AI/ML developer marketplace and the RAN Intelligence Controller market

2. Multi-vendor interoperable & intelligent RAN

- Pave the way for transition from proprietary based self organizing network solutions to multi-vendor interoperable intelligent, software centric RAN networks, built with open interfaces and managed through AI/ML based solutions

3. Provide a blueprint for RIC based test beds in UK

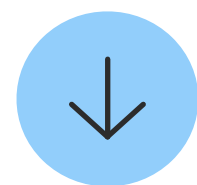- Provide a solution blueprint for new RIC based test beds in UK

4. Promote & build international demand for UK validated RIC based services

- Interface into TIP global membership and TIP Open RAN RIA subgroup and TIP global platform
- Interface through TIP into standards bodies e.g. O-RAN Alliance to promote need for new service forms for E2 interface architecture structures
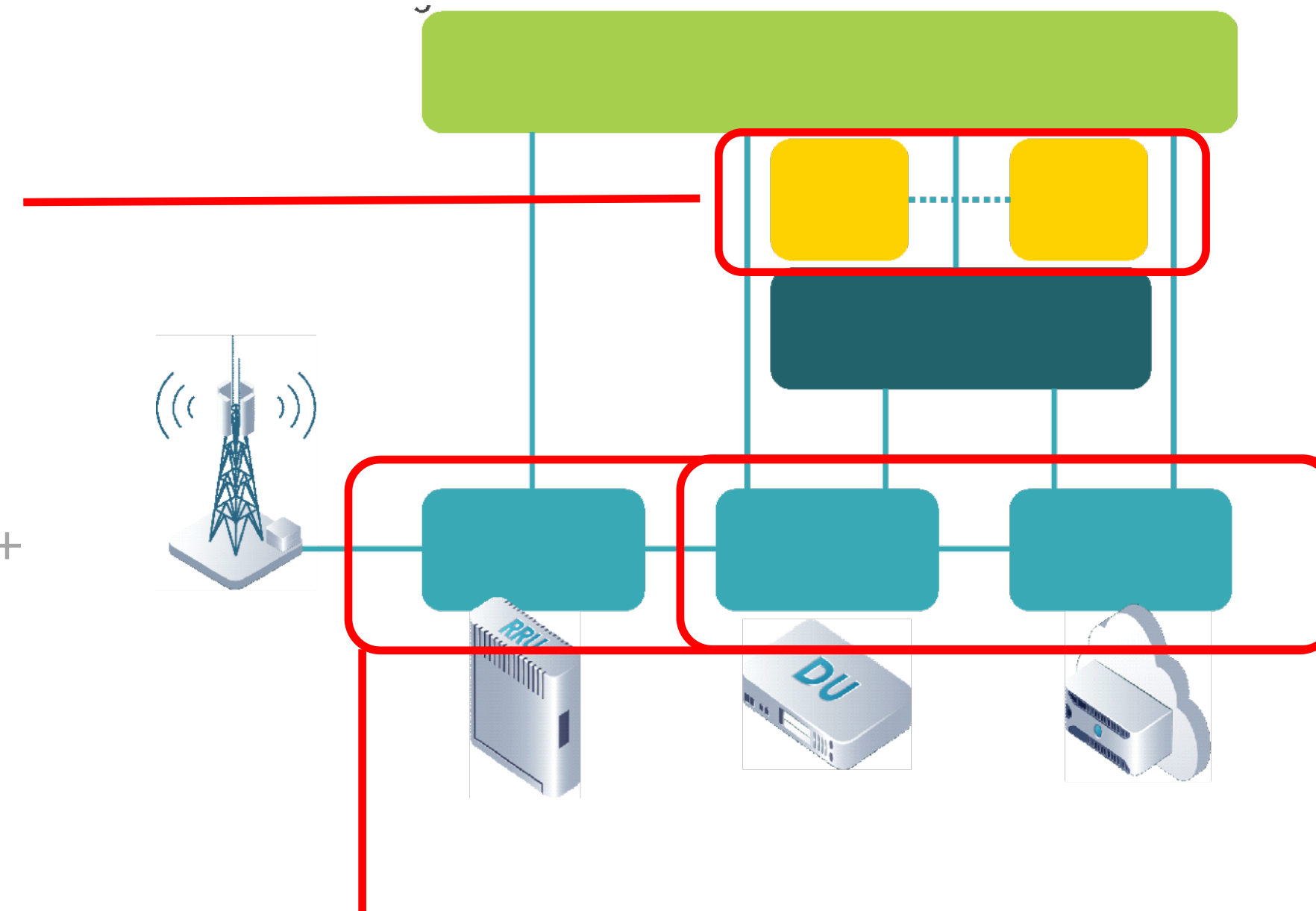
How are we doing it?

ARI-5G's project outputs, including the enhanced RIC platform, will be built in accordance with the interoperability, security by design and vendor diversity goals of OpenRAN architecture.

→Accelleran's RIC provides open APIs that allow any vendor to run any xAPP on the RIC platform

→Accelleran's RIC utilises open E2 interfaces* for third party vendors to provide the DU and CU nodes

→TIP-RIA has engaged over 90+ vendors to develop 10+ xAPP solutions that could be tested on the RIC with added scope and funding

→ARI-5G's RIC uses third party DUs and CUs. This 3rd party integration could be expanded to other vendors with added scope and funding
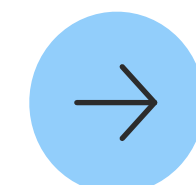
→Accelleran's RIC's integration with VIAVI's RIC Test enables evaluation of performance without native or third party RU, DU, and CU nodes

→ARI-5G is engaging possible alternative RIC simulator providers for future engagement with added scope or funding

Collaboration possibilities with ARI-5G

Synergies with FRANC winners focused on optimization & algorithm development
- ECORAN
- CoMP-O-RAN
- O-RANOS
- BEACON-5G

Complementary FRANC winners given focus on RAN component level architectures
- Best of British RAN Development
- UK 5G DU-Volution
- Flex-5G
- Towards AI Powered and Secure Carrier Grade Open RAN Platform

UK Testbeds
- Digital Catapult - SONIC