ARIANE II
Accelerating RAN Intelligence
across Network Ecosystems II

April 2025 – December 2025

Open Networks Ecosystem Competition

Department for
Science, Innovation
& Technology

ARIANE™

TELECOM INFRA PROJECT®

Acceleration RAN Intelligence across Network Ecosystems II

PROJECT SCOPE

ARIANE-II is an extension and builds upon its predecessor ARIANE, which was developed to tackle key Open RAN challenges such as API harmonization across RIC platforms, the development of prioritised xAPPs/rAPPs, and the assurance of performance, security, and portability for RIC apps across multiple RIC platforms. ARIANE-II focuses on extending selected outcomes where time and budget permit, to deliver additional value to the Open RAN ecosystem.

ARIANE-II is a consortium including Telecom Infra Project (TIP) as project lead, Arqit, Digital Catapult (SONIC labs), HCL Technologies, Net Reply UK, Viavi Technologies and British Telecom.

A key enhancement in ARIANE-II is the collaboration with Digital Catapult's SONIC Labs, where Capgemini RICs, RU-DU-CU infrastructure, and indoor OTA test environments will be used to validate and showcase the performance impacts through Energy Management rAPPs, in practical simulated scenarios. The Energy Management use case will be expanded to include both cell ON/OFF functionality and MIMO mode reconfiguration, implemented as rApps on Capgemini's non-Real Time RIC. These applications will be tested in private network scenarios, using Viavi's simulated RF environment (RSG) alongside the SONIC Labs indoor testbeds to demonstrate automated, AI-driven power-saving techniques based on real-time traffic demands.

A major technical development is the integration between Capgemini's non-RT RIC and the Viavi RSG, enabling SONIC Labs to support advanced rApps at scale under high traffic loads and user density.

ARIANE-II will also introduce a security extension, incorporating AI-assisted encryption risk remediation. This includes the development of a prototype AI advisor, based on commercial large language models, trained on public security standards and frameworks from bodies such as NCSC, NIST, and GSMA, as well as known vulnerabilities (CVE/CWE) and mitigation best practices. A chat-based

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interface will extend the Encryption Intelligence capability established in ARIANE-I, providing a more interactive and accessible user experience.

To ensure efficient validation while maintaining manageable complexity, ARIANE-II will use three indoor sites and six high-density Viavi RSG sites, with a minimal number of users, to demonstrate the full functionality and control of the rApps. Finally, BT will offer commercial insights on the ARIANE-II solution, assessing its readiness, adoptability, functional performance, and security for deployment in real-world networks.

To Find Out More

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