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Telco Cloud Innovation Challenge: Advancing Open, Secure, Resilient, and Sustainable Cloud Solutions for UK Strategic Needs

Background

The Telco Cloud Innovation Challenge aims to support companies/organisations to develop new systems/components/subcomponents (across hardware and software) to foster innovation and technological advancements in cloud solutions for the telecommunications industry. The challenge specifically focuses on developing prototypes of cloud solutions that promote an open, secure, resilient, and less carbon-intensive Telco Cloud infrastructure, aligning with the strategic needs of the United Kingdom for open, interoperable network infrastructure. By delivering these prototypes by 2025, the challenge seeks to address the growing demand for advanced cloud technologies in the telecommunications sector. Additionally, the challenge emphasises the importance of commercial scalability, with the objective of facilitating the commercial rollout and integration of these solutions by 2030.

Objectives

- **Prototype Delivery:** The primary objective of this challenge is to develop and deliver prototypes of cloud solutions that enable a more open, secure, resilient, and less carbon-intensive Telco Cloud infrastructure. These prototypes should showcase cutting-edge advancements in cloud technology and demonstrate superior performance and sustainability.
- **Strategic Alignment:** The challenge aims to develop cloud solutions that align with the strategic needs of the United Kingdom's telecommunications industry. The prototypes should address key requirements and challenges specific to the industry, including security, resilience, scalability, and sustainability.
- **Commercial Scalability:** The challenge places significant importance on prototypes that demonstrate commercial scalability. The developed cloud solutions should have the potential for widespread deployment and integration into existing and future Telco Cloud infrastructures. The scalability plan should consider factors such as cost-effectiveness, interoperability, regulatory compliance, and market demand.

Scope and Deliverables

- **Research and Development:** Participants are encouraged to conduct research and development activities to advance cloud solutions for Telco Cloud infrastructure. The focus should be on developing innovative solutions that enhance openness, security, resilience, and sustainability while addressing the strategic needs of the UK telecommunications industry.
- **Prototyping:** Participants must deliver functional prototypes that showcase the capabilities of their proposed cloud solutions. These prototypes should demonstrate advanced features such as secure data management, efficient resource utilisation, high availability, fault tolerance, and reduced carbon footprint. Participants should provide comprehensive documentation, test results, and analysis to support the effectiveness and viability of their prototypes.
- **Performance Metrics:** The delivered prototypes will be evaluated based on key performance metrics, including scalability, reliability, security, energy efficiency, and environmental impact. Participants should provide thorough performance data to

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demonstrate the superiority of their solutions compared to existing Telco Cloud infrastructure.

- **Scalability Assessment:** Participants should assess the commercial scalability of their prototypes. This assessment should consider factors such as deployment complexity, compatibility with existing infrastructure, cost-effectiveness, regulatory compliance, and market demand. A clear roadmap and plan for commercial rollout and integration should be provided, outlining steps for mass adoption by 2030.

Collaboration and Evaluation

Collaboration: Participants are encouraged to collaborate with industry partners, research institutions, and relevant stakeholders to leverage collective expertise and resources. Collaboration should foster innovation, accelerate prototype development, and ensure alignment with UK strategic needs.

Evaluation: The delivered prototypes will be evaluated by a panel of experts based on their performance, security, resilience, sustainability, and alignment with the objectives of the challenge. The evaluation process will consider the potential impact of the prototypes on advancing Telco Cloud infrastructure and meeting the strategic needs of the UK telecoms industry.