Arqit Demonstrates Industrial IoT Security

DCMS supported project enhances IoT security standard

London, UK – 11 May 2022 – Arqit Quantum Inc. ("Arqit"), a leader in quantum encryption technology, and Blue Mesh Solutions Limited ("Blue Mesh"), a UK-based sensors and IoT specialist, have successfully completed and demonstrated a Quantum Secure "MQTT" (MQ Telemetry Transport) service for Industrial IoT.

The project was funded by the UK Government's Department for Digital, Culture, Media and Sport (DCMS) 5G Trials and Testbeds programme.

The global market for Industrial Internet of Things is potentially very large. However due to the limited computing resources typically used in IoT sensors and the proliferation in the number of endpoints, encryption is often overlooked with 83% of all online IoT transactions being in plain text according to the cloud security company Zscaler.

Arqit and Blue Mesh collaborated to integrate Arqit's QuantumCloud™ to secure sensor network equipment through a security enhancement to an internationally standardised protocol known as MQTT which is a ubiquitous method used for sending data from Industrial IoT devices to cloud servers for data manipulation and analysis.

Adding a security layer to the existing MQTT standard increases the protection of IoT systems used in strategic assets such as ports, petro-chemical industries and rail networks.

Arqit Founder, Chairman and CEO David Williams, said: "We are delighted to have delivered this capability to enhance the security of Industrial IoT. Our core product QuantumCloud™ delivers stronger, simpler key agreement technology to counter the threats that we read about every day, and it has built in protection against the future threats from quantum attack. We believe that QuantumCloud™ delivers a significant advantage to many potential customers in strategic IoT networks by solving the encryption problems of MQTT and guaranteeing privacy."

Managing Director for Blue Mesh Solutions, Richard Brooks said: "Having the opportunity to work with Arqit's QuantumCloud™ to build the world's most secure over-the-air IoT Sensor Data Solution is hugely important for the future of IoT, artificial intelligence, condition monitoring, autonomous transport and any number of digital systems that require the highest level of asset and data security. By increasing IoT data security to a quantum secure level, we can help to protect all power, chemical, transport and energy assets that need the highest level of operational data security."

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About Arqit

Arqit supplies a unique quantum encryption platform-as-a-service which makes the communications links of any networked device secure against current and future forms of attack – even from a quantum computer. Arqit's product, QuantumCloud™, enables any device to download a lightweight software agent, which can create encryption keys in partnership with any other device. The keys are computationally secure, optionally one-time use and zero trust. QuantumCloud™ can create limitless volumes of keys in limitless group sizes and can regulate the secure entrance and exit of a device in a group. The addressable market for QuantumCloud™ is every connected device.

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About Blue Mesh Solutions (BMS)

BMS is a leading UK technology company providing innovative IoT solutions to improve traditional ways of doing things. They work closely with UK5G and the DCMS 5G Testbed Programme.

Their mission is to help make sense of the data collected from sensors via 5G networks and help their customers to turn an experimental idea or system into tried and tested solutions.

The ongoing projects they are currently involved in, include:

1. Smarter Parking - using bluetooth sensors - and Google Maps so the parking space tells drivers when it is free.
2. AI powered Predictive Maintenance - using 5G and our own sensor data network, helping make the long-term management of large assets AI powered.
3. Making IoT data unbreakable - using QuantumCloud for security and MQTT for the communications layer.

They have technology collaborations with Nordic Semiconductor, Wirepas, Cambridge University and Arqit, as well as collaborations with Google, Wayra, Cambridge University, Centre for Smart Infrastructure, Cambridge Science Park and Three.

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