



Press release

SES, ESA and European Commission Partnering to Deliver Satellite Quantum Cryptography System for European Cybersecurity

SES-led consortium will design, develop and validate in-orbit technologies for secure transmission of cryptographic keys and operate EAGLE-1 satellite to securely connect countries in Europe

Luxembourg, 22 September 2022 – An SES-led consortium of 20 European companies, with the European Space Agency (ESA) and European Commission support, will design, develop, launch and operate the EAGLE-1 satellite-based end-to-end system for secure Quantum Key Distribution (QKD), enabling in-orbit validation and demonstration of next-generation cyber-security across Europe.

The groundbreaking partnership between ESA and an SES-led consortium, with the European Commission support, is advancing Europe to the front of space innovation with satellite-enabled QKD. Together with its European partners, SES will build the first sovereign European end-to-end space-based QKD system, developing and operating a dedicated low earth orbit (LEO) satellite and building a state-of-the-art QKD operations centre in Luxembourg. The project is co-funded by the ESA contribution of Germany, Luxembourg, Austria, Italy, the Netherlands, Switzerland, Belgium and the Czech Republic under ARTES, as well as the European Commission through Horizon Europe.

Using the EAGLE-1 system, ESA and the European Union Member States will achieve the first step to demonstrate and validate QKD technologies from low earth orbit to the ground. The EAGLE-1 project will provide valuable mission data for next generation Quantum Communication Infrastructures (QCIs), contributing for example to the EU plans to deploy a sovereign, autonomous cross-border quantum secure communications networks.

The EAGLE-1 satellite is due to launch in 2024 and will then complete three years of in-orbit mission supported by the European Commission. During this operational phase, the satellite will allow European Union governments and institutions as well as critical business sectors early access to long-distance QKD to path the way towards an EU constellation enabling ultra-secure data transmissions.

To implement the ultra-secure cryptographic key exchange system of EAGLE-1, the consortium will develop the QKD payload, terrestrial optical station, scalable quantum operational networks and key management system to interface with national QCIs.

Josef Aschbacher, ESA Director General, said, “European space innovation has gained strong momentum both from a technology perspective and in terms of commercialisation. It allows us to develop and implement next-generation, future-proof projects in space across critical domains like secure communication, next-generation networks and cybersecurity. Led by ESA, partially



financed by the European Commission and implemented by SES, EAGLE-1 is a major step towards making the secure and scalable European Quantum Communications Infrastructure a reality.”

Elodie Viau, Director of Telecommunications and Integrated Applications at ESA, said, “In today’s increasingly interconnected world, keeping information secure is paramount. Robust encryption keys as well as technologies enabling their secure distribution are vital to this endeavour. We are proud to forge this partnership between ESA and a consortium led by SES to create the EAGLE-1 highly secure and autonomous quantum key distribution system. ESA enables the European space industry to succeed by federating industry around large-scale programmes, achieving competitive leaps forward.”

“European security and sovereignty in a future world of quantum computing is critical to the success of Europe and its Member States,” said Steve Collar, CEO of SES. “We are proud to leverage our multi-orbit credentials and our innovative platforms and solutions in partnership with ESA, the European Commission and the Luxembourg Government to advance quantum communications and implement the EAGLE-1 system, which is called to be a cornerstone for the development of secure and sovereign European networks of the future.”

For more information, visit the [EAGLE-1 Newsroom](#)

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The European Space Agency (ESA) is Europe’s gateway to space. ESA is an intergovernmental organisation, created in 1975, with the mission to shape the development of Europe’s space capability and ensure that investment in space delivers benefits to the citizens of Europe and the world. For more information see www.esa.int

The Telecommunications and Integrated Applications Directorate (TIA) supports innovation to boost the competitiveness of European industry in the global space market. This involves a wide range of activities, from space-based technology, systems, products for telecommunications development to the down-to-



Earth application of space-based services. It also calls for engagement with a wide range of industrial, academic, and institutional partners. For more information, please visit our website: <https://artes.esa.int/>

About SES

SES has a bold vision to deliver amazing experiences everywhere on earth by distributing the highest quality video content and providing seamless connectivity around the world. As the leader in global content connectivity solutions, SES operates the world's only multi-orbit constellation of satellites with the unique combination of global coverage and high performance, including the commercially-proven, low-latency Medium Earth Orbit O3b system. By leveraging a vast and intelligent, cloud-enabled network, SES is able to deliver high-quality connectivity solutions anywhere on land, at sea or in the air, and is a trusted partner to the world's leading telecommunications companies, mobile network operators, governments, connectivity and cloud service providers, broadcasters, video platform operators and content owners. SES's video network carries ~8,000 channels and has an unparalleled reach of 366 million households, delivering managed media services for both linear and non-linear content. The company is listed on Paris and Luxembourg stock exchanges (Ticker: SESG). Further information is available at: www.ses.com.