



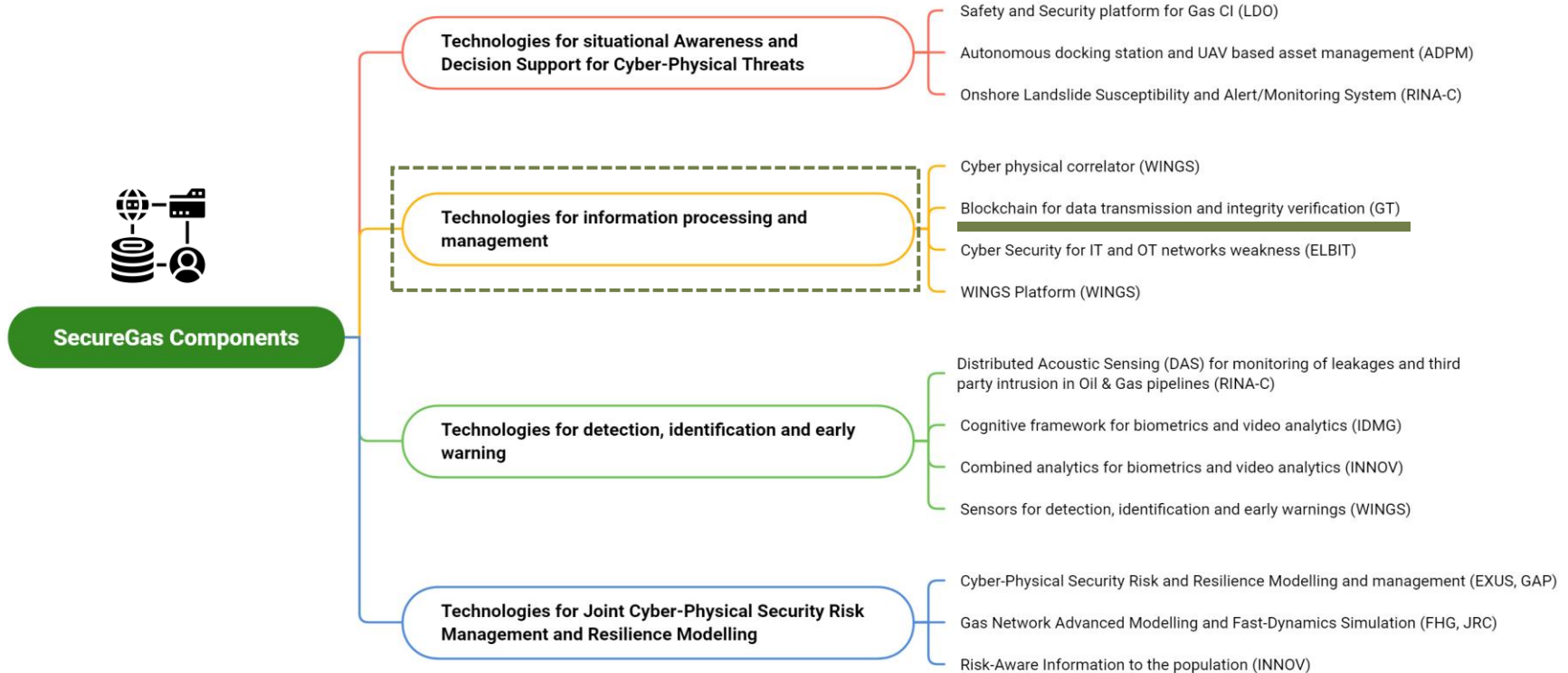
SecureGas

Securing the European Gas Network



SecureGas project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 833017

SecureGas extended components



Blockchain for data transmission and integrity verification

DESCRIPTION

GT will provide through Application Program Interface (API) the proprietary KSI® Blockchain technology, that is a method and a globally distributed network infrastructure for the issuance and verification of KSI® signatures.

The KSI® Blockchain technology will be applied to the Safety & Security (S&S) Platform for Gas CI.

The main advantages of the use of this technology with respect to existing ones in the Blockchain are massive scale compared to competing technologies (Public Key Infrastructure, etc.). The KSI signatures can be generated at Exabyte-scale. Even if an Exabyte (1,000 petabytes) of data is generated around the planet every second, every data record can be signed using KSI with negligible computational, storage and network overhead; portability: the properties of the signed data can be verified even after that data has crossed organizational boundaries and service providers. This is especially useful when dealing with multiple sensor networks from different operators.

This component may be also used in general for providing audit services. The technology is mainly made of a SW and an interface for clients (also HW may be foreseen, to be confirmed).

Blockchain for data transmission and integrity verification

BENEFITS



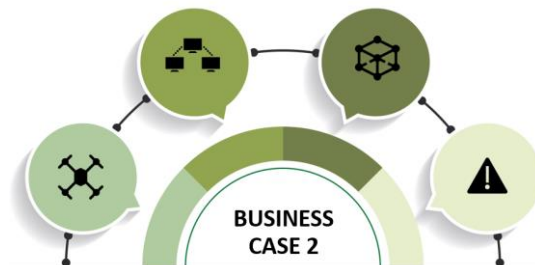
The **MAIN INNOVATIVE ELEMENTS** are:

- (a) Use of KSI® blockchain technology as a means for building integrity verification mechanisms to protect the input provided by different SecureGAS modules and distributing these inputs between all trusted participants in the system.
- (b) The input can be flexible from securing the system logs and cyber incidents registry to the integrity verification of monitoring processes. Moreover, through the KSI® blockchain technology the capability to deal with Quantum computers will be added to the S&S platform.
- (c) The cryptography behind the KSI signatures ensures that they never expire and remain quantum-immune i.e. secure even after the realization of quantum computation. This is crucial to strengthen capabilities of CI against cyber and cyber physical threats.

Blockchain for data transmission and integrity verification

APPLICATION CASE

- **Business Case 2**



TARGETS

- **Target End Users:**
 - 1) R&D
 - 2) CTO
 - 3) Auditing unit
 - 4) IT security CISO
 - 5) CFO
- **Target Assets:** Critical infrastructure operator (gas, electricity, oil, water) responsible for the SCADA, including both the grid operators as well as supporting service providers (storage, network terminals, transport systems).



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