



# IDEMIA Secure Transactions and Three French Technology Companies Create the HyGARDE Consortium to Address Cybersecurity Challenges for Connected Equipment

Led by IDEMIA Secure Transactions and funded by the France 2030 investment plan, the HyGARDE project aims to deliver an off-the-shelf cybersecurity platform that ensures the security of critical connected equipment, starting with hydrogen facilities to drive the renewable energy transition.

# CONNECTIVITY

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In light of the growth of IoT device deployments, coupled with the increasing frequency and sophistication of cyber threats, the need for comprehensive cybersecurity solutions has never been more urgent. Recognizing this imperative, the HyGARDE consortium has been established to develop a state-of-the-art cybersecurity solution to protect connected equipment, ensuring the security of the devices and the sensitive data that flows through them. This approach is essential to safeguard the entire ecosystem of connected technologies.

## HyGARDE: Securing Critical Systems for the Future

The HyGARDE consortium unites several leading players in the French cyber-security sector: IDEMIA Secure Transactions, project coordinator and a leading provider of cryptography and security solutions for payment and connectivity, IoT.BZH, an expert in cybersecurity and open-source embedded software, and SOLENT, a leading provider in critical device development and monitoring. Together, the partners will work to create an off-the-shelf platform that will secure and maintain critical connected equipment throughout its lifecycle – from development to deployment and maintenance. A special focus will be given on long-term certification and compliance management, as these are essential to guaranteeing the sustained security of the equipment.

Offering tools to support certification, monitor and maintain cybersecurity over-the-air, and support the lifecycle of equipment on the field, HyGARDE takes advantage of an onboard SIM or eSIM to protect the operating system and business applications. It offers businesses and governments a long-term, cost-effective solution that meets the stringent cybersecurity requirements mandated by NIS 2<sup>1</sup>, the Cyber Resilience Act and the NIST Cybersecurity for IoT program<sup>2</sup>, each coming into effect starting 2025.

## Consortium first work to secure the renewable energies transition

As a first use case, the HyGARDE solution will be used by SOLUTIONS HYDROGENE, a company specialized in the design of renewable hydrogen storage systems for industry, local authorities and private customers, to secure its new

equipment. This equipment can be installed in residential houses, to complement solar panels or windmill energy, and is remotely managed.

Funded by France 2030, the French government's investment plan, the consortium has made significant progress since its launch in September 2023. The first prototype will be made available by the end of 2024, with the full platform – including a fully functional hydrogen storage equipment – set for release in Fall 2025. An AI-powered behavior monitoring system will be tested on live systems in 2026.

In the future, the solution may also be adapted to any critical systems connected to public or private networks, benefiting sectors such as automotive, transportation, industrial control systems, and healthcare devices.

*As the digital world continues to grow, so do the risks associated with it. At IDEMIA Secure Transactions, we understand the need for robust, cost-effective cybersecurity solutions. The HyGARDE project highlights our dedication to securing critical infrastructures and promoting sustainability.*

Marc BERTIN, Chief Technology Officer at IDEMIA Secure Transactions

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<sup>1</sup> NIS 2 (Network and Information Security Directive 2) is a European Union directive adopted in 2022 to strengthen the cybersecurity of critical infrastructures and essential services in several sectors.

<sup>2</sup> NIST 8259, Recommendations for IoT Device Manufacturers: Foundational Activities

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**About IDEMIA Group** - IDEMIA Group unlocks simpler and safer ways to pay, connect, access, identify, travel and protect public places. With its long-standing expertise in biometrics and cryptography, IDEMIA develops technologies of excellence with an impactful, ethical, and socially responsible approach. Every day, IDEMIA secures billions of interactions in the physical and digital worlds.

IDEMIA Group brings together three market-leading businesses that enable mission-critical solutions:

- **IDEMIA Secure Transactions** is the leading technology provider who unlocks safer and easier ways to pay and connect.
- **IDEMIA Public Security** is a leading global provider of biometric solutions that unlock convenient and secure travel, access, and protection.
- **IDEMIA Smart Identity** leverages the power of cryptographic and biometric technologies to unlock a single trusted identity for all.

With a global team of nearly 15,000 employees, IDEMIA Group is trusted by over 600 governmental organizations and more than 2,400 enterprises in over 180 countries. For more information, visit [www.idemia.com](http://www.idemia.com) and follow @IDEMIAGroup on X.

**About IOT.BZH** - IoT.bzh is a company expert in cybersecurity and open source software for embedded systems (automotive, energy, aeronautics, military, maritime...). IoT.bzh proposes an all-in-one Linux platform called redpesk® that includes, inside a per-package build factory, pre-integrated key technologies (microservices architecture, ultra-lightweight container, OTA update system etc) mandatory to any modern connected equipment. redpesk® drastically simplifies embedded Linux project development and enables long term maintenance at lowest costs leveraging standard Linux distributions communities. Developers can customize their embedded Linux distributions using redpesk® either through a free community edition or subscribing to a professional version with industrial support. For more information, visit <https://iot.bzh>.

**About SOLENT** - SOLENT is an innovative company specializing in supporting businesses in their digital transformation. With advanced technical expertise, SOLENT operates in areas such as software development, system engineering and integration, IT infrastructure, and cybersecurity. The company offers tailor-made solutions that enable clients to leverage intelligent automation and advanced data analytics to transform their operations. With a passionate and skilled team, SOLENT helps clients maximize their performance while addressing the unique challenges of each industry sector.

Smart4 Engineering Group, a digital engineering group that includes SOLENT, stands out for its ability to manage complex projects in key sectors such as automotive, aerospace, Industry 4.0, banking, and healthcare. Through its agile approach and expertise in consulting, Smart4 Engineering Group contributes to shaping the technological future of its clients, while addressing the specific challenges of each sector.

For more information, visit [www.smart4engineering.com](http://www.smart4engineering.com) and [www.solent.fr](http://www.solent.fr).

**About SOLUTIONS HYDROGENE** - Founded in 2021, Solutions Hydrogène is a French startup designing clean energy systems.

Founded in 2021, Solutions Hydrogène's mission is to design clean, turnkey energy systems at low cost. Indeed, we are convinced that in the face of today's environmental challenges, the best solution will be the one capable of being deployed on a large scale. And to do that, we need to make the solution accessible to as many people as possible, so that every individual can become a player in the energy transition. By using hydrogen as an energy carrier, we aim to stimulate the hydrogen industry so that within a few years its use will become as natural as using a telephone. For more information, visit <https://www.solutionshydrogene.com/>



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