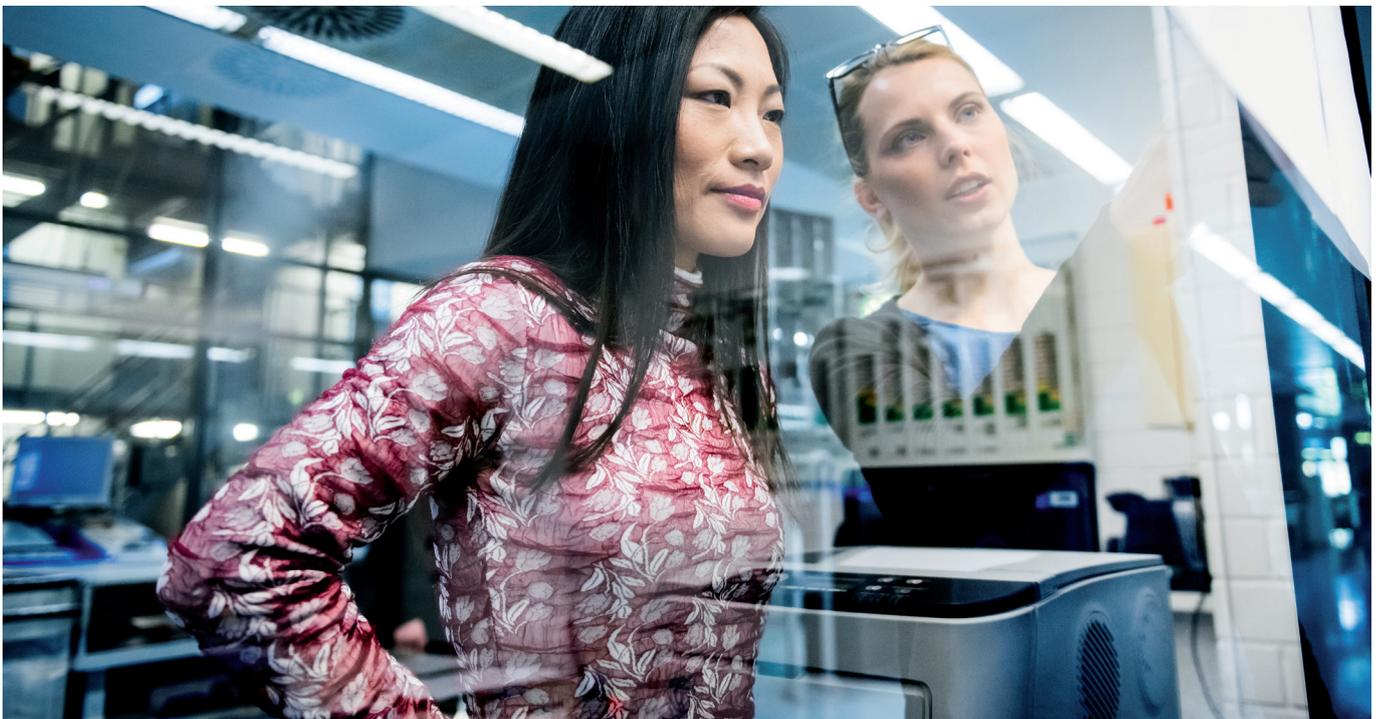# Securing the Internet-of-Things end-to-end protection for connected objects

Objenious, Bouygues Telecom IoT subsidiary, chose Atos as their specialist security partner for their strategically important IoT business. The security solution uses the LoRa® network protocol which is fast-becoming the prevailing choice of IoT network developers.

"By partnering with Atos, Objenious has been able to design and implement France's first highly-secure LoRa® network." This means our IoT solutions deliver both top-performance and high level of security."

Philippe Cola
Core Network Senior Architect,
Bouygues Telecom

The context

In 2015, to be ready to meet the challenges and opportunities of the Internet-of-Things, Bouygues Telecom established Objenious.

Objenious' IoT application areas include smart cities, building, industry, agriculture and logistics.

While 70% of European tech buyers see the IoT as transformational or strategic, this is matched by similarly high levels of concern for security. End-to-end security is critical: one crippling cyber-attack could bring activity in any of these areas to a standstill.

As with any new technology landscape, we only come to understand the scope of the security challenges as it begins to mature. With the massive attack surface created by millions of connected devices, for example, we need to understand the cyber-security characteristics of everything from tractors in agriculture to smart coolers in supermarkets.

The challenge

In offering IoT networks and services, Bouygues Telecom and Objenious needed to present a convincing and demonstrable security strategy and architecture to potential clients.

Point solutions were no good. They needed a platform which would allow them to respond to any security concerns with a confident "end-to-end" approach.

There are thousands of cyber-security products on the market. But Bouygues Telecom were not looking for products. They sought a security partner.

The partner would need to be able to work with them to analyze security requirements and to ensure that all IoT devices, networks and data could be secured from end-to-end for their own customers.

Most importantly, the partner would need to maintain and manage security in a continually developing and mutating cyber-security landscape while delivering a continuous stream of meaningful analytics.

The solution

Bouygues Telecom chose Atos as its strategic security partner for its new IoT business. In part, their decision was influenced by the fact that Atos works closely with the LoRa Alliance™.

LoRa® is fast-emerging as the go-to standard for secure IoT architecture and the solution proposed by Atos was fully compliant with LoRa® network standards.

Atos showed how their Horus security platform spans the most extensive IoT ecosystems. Horus could comfortably handle the vast quantities of security data generated by millions of IoT devices working concurrently.

Perhaps most importantly, Horus generates and manages security keys in real-time. This eliminates the need for stored keys, and thus disarms this critical IoT point of attack.

It is worth noting that from the start, the security relationship between Atos and Bouygues was highly collaborative: when navigating new business territory, the quality of the relationship is as important as the technical foundation of the proposed solution.

The results

Objenious needed to move fast, and from the initial discussions through to definition and implementation took just twelve months. The Atos solution is eminently scalable and allows Objenious to generate trusted identities for IoT devices as fast as they need to be added, thanks to its use of Public Key Infrastructure.

It is also worth highlighting the automated tooling for full lifecycle management. When so many IoT implementations make use of low-cost and often transient devices, such as shipment-specific sensors in logistics, for example, it is essential that the security solution can add, monitor and decommission devices without human intervention.

Objenious also benefits from access to Atos' own computing security resources. Atos highly-secure Hardware Security Modules, for example, deliver and manage all IoT-dedicated security functions.

About Objenious

The Internet of Things (IoT) is a new industrial revolution that impacts all businesses. Objenious by Bouygues Telecom has selected LoRa® technology, a global standard, in order to provide the best support to these businesses through every step of their transformation. Objenious also provides a network, an IoT platform and tailored services to meet businesses needs.