

Brochure

# Elevating Security, Performance, and Compliance in Private 5G Networks

The Thales-Celona  
Partnership

[cpl.thalesgroup.com](https://cpl.thalesgroup.com)

**THALES**  
Building a future we can all trust

## Introduction: Setting the Stage for the Next-Gen Private 5G Networks

The rapid evolution of wireless technologies and the surging demand for business-critical applications have spurred the emergence of private 5G networks. These networks address the vital aspects of performance, reliability, security, and coverage, propelling them into key sectors such as manufacturing, refineries, logistics, and warehousing. Celona 5G LAN has harnessed the potential of private 5G with innovative architecture, fusing the simplicity of Wireless LANs with cutting-edge cellular technology.

## The Convergence of Security and Performance in 5G

As the momentum shifts to Private 5G networks, enterprises are confronted with the pivotal question: Can top-tier security be integrated into the next generation of wireless networks without compromising performance? New 5G LAN technology from Celona addresses this by offering industry's most comprehensive suite of security capabilities across the full IP protocol stack, giving organizations the highest levels of user confidentiality and data privacy possible from the RAN across the enterprise L2/L3 LAN. This includes - Strong device identification and authentication using physical SIM & eSIM, Enhanced user confidentiality using SUCI, Granular end-end traffic segmentation, integrations with Firewalls, device finger-printing and secure cloud-based management.

Thales and Celona have embarked on a collaborative journey to further enhance the security posture of Private 5G networks by delivering FIPS 140-2 Level 3 compliant data-in-motion security without compromising performance.

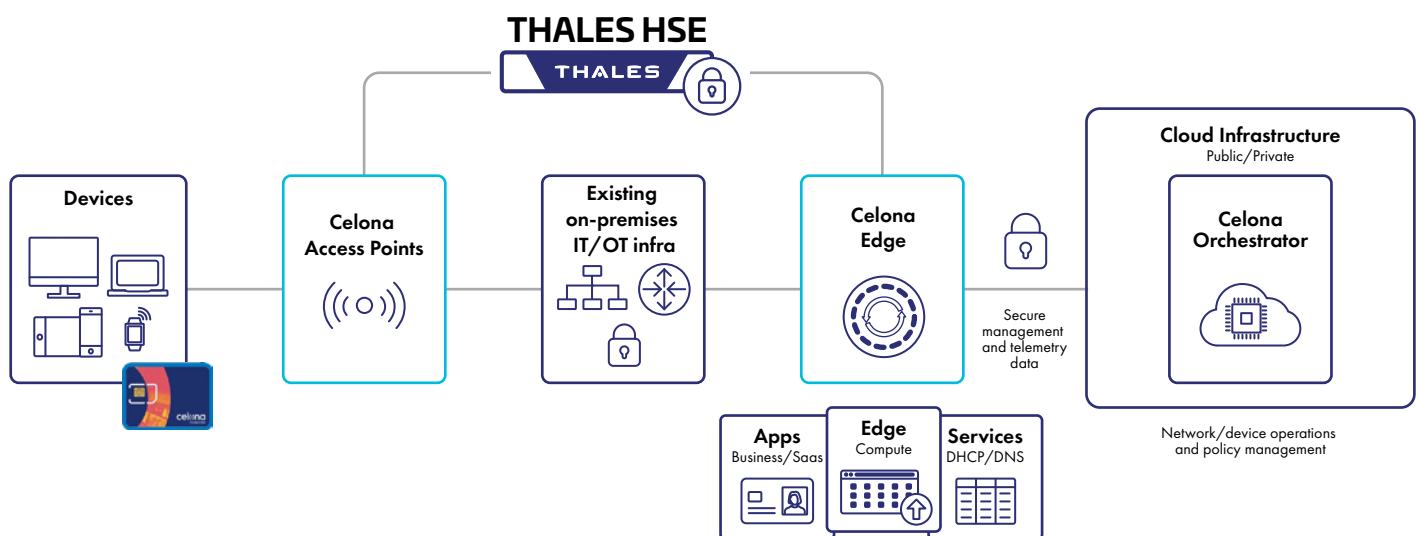
## Unveiling the Collaborative Solution: A Synergy of Strengths

Celona's 5G LAN networks, underpinned by a cloud-native architecture, empower enterprises to retain data control while embracing wireless mobility. Thales High-Speed Encryptors (HSE) encryption devices, celebrated globally for their data protection across networks, align seamlessly with Celona's expertise. This collaboration marries Celona's Private 5G network with Thales' HSE solution, resulting in unparalleled reliability, security, low latency, and high performance.

## Advantages of the Joint Solution: Security with Uncompromised Performance

Thales and Celona's partnership champions the equilibrium of performance and security. At the core of this collaboration lies Thales' prowess in encryption, offering line-rate encryption at speeds up to 100Gbps. The distinctive hallmark of Thales is its robust certification portfolio, encompassing FIPS 140-2 Level 3, Common Criteria EAL2/4+, DoD APL, NATO Restricted, and ASD ISM. In anticipation of the evolving threat landscape, quantum-safe security is integrated, ensuring the solution's resilience against quantum and classical threats.

## Performance Validation from Thales and Celona :



The joint design featured a Celona Private 5G network and Thales HSE. It underwent comprehensive testing, measuring performance, latency, and jitter from User Equipment (UE) to Access Point (AP) and back, all while utilizing Thales HSE encryption processes. This test highlights the effective real-world application of the Thales-Celona solution.

## Empowering Performance with Security: Real-World Metrics

The impact of Thales HSE's encryption on performance is evident. An impressive 20-30% reduction in latency, a critical metric for latency-sensitive applications like guided vehicles and cameras, is observed in a private network fortified with IPSEC. Similarly, jitter is enhanced by 20-30%, effectively securing voice and video traffic without compromising performance.

## Conclusion: A Secure, High-Performance Future Beckons

The Thales-Celona partnership signifies the convergence of security, performance, and compliance in the realm of private 5G networks. Through this collaboration, businesses can embrace the full spectrum of 5G benefits, ensuring a future-proof, high-assurance, secure, and operationally controlled private 5G network.

## Benefits of the Thales-Celona Solution:

- **Seamless Security and Performance Integration:** Achieve high-level security without sacrificing performance, ensuring optimal network functionality.
- **Quantum-Safe Security:** Quantum-safe cryptography safeguards against evolving quantum and classical threats, bolstering future security.
- **Certification Credibility:** Leverage Thales' extensive certifications, including FIPS 140-2 Level 3, Common Criteria EAL2/4+, and more, for maximum assurance.
- **Latency and Jitter Improvement:** Experience 20-30% latency reduction over IPSEC for latency-sensitive apps and a similar jitter enhancement for voice and video traffic.
- **Operational Control:** Enjoy full data and operational control over private 5G networks for unparalleled management.
- **Sustainability energy** – Thales HSE consumption is low 80W for 100G.

# THALES

Building a future we can all trust

## Contact us

For all office locations and contact information,  
please visit [cpl.thalesgroup.com/contact-us](https://cpl.thalesgroup.com/contact-us)

[cpl.thalesgroup.com](https://cpl.thalesgroup.com)

