



SandGrain

CyberRock

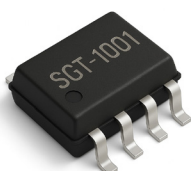
- Post-quantum resilient security
- Immutable hardware-rooted identity
- Certificate-free authentication
- Trusted edge-to-cloud connectivity
- Scalable lifecycle management
- Lowest total cost of ownership

Secure your professional IoT nodes – for life

The IoT landscape operates within millions of connected networks—agile, rapidly expanding, and highly fragmented—creating blind spots and vulnerabilities across ecosystems. Existing security solutions are often costly, complex to deploy, and insufficient, leaving cybersecurity resilience underprioritized. This is especially critical in mesh-based IoT networks with billions of daily endpoint connections, or in vital sectors like critical infrastructure (energy grids, hospitals, transport systems), where cyberattacks can disrupt economies, halt services, endanger safety, and erode public trust.

Each connection is a potential failure point, enabling cascading breaches, and with looming quantum computing threats alongside evolving regulations like NIS2 and the EU Cyber Resilience Act (CRA), digital trust itself is at risk.

That's why SandGrain developed CyberRock—a scalable, future-proof IoT security platform fully compliant with standards like NIS2, CRA, and Common Criteria certification. Built on immutable, hardware-rooted identities with symmetric challenge-response authentication, communicating via the CyberRock-Cloud to a secure enclave, CyberRock embeds secure-by-design principles to make cyber-resilience straightforward and cost-efficient in one solution. The result? Components, data, and connections in connected devices and IoT networks can be trusted—now and into the future.



One trusted solution for professional IoT

SandGrain delivers cost-effective, standards-aligned protection for the non-consumer IoT market:

- **Industrial IoT** safeguarding connected sensors, field devices, gateways and servers – enabling secure Industry 4.0/5.0 networks, legacy retrofits, and circularity.
- **Critical infrastructure** trusted protection for energy grids, hospitals, and transport systems from communication and control infrastructure to smart meters, traffic lights and sensors, as well as Digital Product Passport compliance. An additional benefit is the SandGrain-based cost-effective retrofitting components of legacy IT/OT systems within critical infrastructure.
- **Aerospace & defense** mission-ready security with supply chain integrity, anti-tamper measures, and compliance with ITAR/CMMC

The SandGrain solution is focused to secure every node—from edge sensors to cloud (public and private)-connected gateways—is protected with immutable, hardware-rooted identities and certificate-free authentication, making CyberRock ideal for professional, high-stakes IoT deployments.

The CyberRock platform



CyberRock is SandGrain's secure-by-design IoT security platform that embeds uncompromised trust into every node—for life. It combines post-quantum resilient symmetric authentication with immutable, hardware-rooted identities, eliminating certificate management and provisioning complexity.

Purpose-built for industrial IoT and meshed networks, CyberRock delivers scalable, future-ready protection across billions of endpoints—from edge sensors and gateways to cloud-connected systems—while ensuring full compliance with standards like, EU Cyber Resilience Act (CRA), NIS2, and Common Criteria Certification EAL 4+.

The solution also allows for securing software stacks, increasing importance for IP protection of SW stacks running on any type of processors, ultra complex AI to simple microcontrollers.



Watch video

CyberRock-Cloud

Provisioning and lifecycle management are effortless with CyberRock-Cloud—a secure, scalable cloud platform that centrally administers all device identities and enables advanced security services. It supports mutual symmetric authentication, real-time device verification, attested and targeted firmware downloads, secure multi-level boot (with external authentication/attestation), birth certificate issuance, encrypted communication channels, and sensor authentication—all without certificate overhead or deep in-house expertise.

Symmetric keys generated by the Token are validated through our secure enclave service, ensuring complete trust from edge to cloud. CyberRock-Cloud integrates seamlessly with your existing Device Management platforms, private/enterprise or public, offloads complexity, and scales effortlessly for billions of nodes—driving the lowest total cost of ownership.

CyberRock-Token

At the heart of CyberRock's certificate-free architecture is the immutable CyberRock-Token—an ultra-compact, patented IC seamlessly integrated into any end-node. Each token features a permanently hard-coded, globally unique ID and symmetric HMAC key generation for challenge-response authentication. With ultra-low power consumption (<1 μW standby) and minimal processor overhead, it's ideal for battery-powered sensors, edge devices, and power-constrained IoT networks—delivering hardware-rooted, uncompromised trust right at the silicon level.



	1 End-node managed identity	2 Centrally managed identity	3 CyberRock
Cloud approach	None	Using IDs assigned centrally, given to end-node on each start-up	Unique ID for life, assigned and administered centrally
End-node approach	ID assigned during production	Assigned ID stored in memory	Unique ID tokens hard coded during production
Main advantage	All products are identical, produce and forget	Central overview of all assigned IDs	Central management of all ID tokens
Vulnerability	Break one = Break all	No assured link between physical device and ID	Break one = Break one

SandGrain vs legacy solutions



Ready to secure your IoT designs?

Take a tour of the platform:
<https://secure.sandgrain.io>