

# ICENI™

## The World's Most Secure MCU



## PRODUCT OVERVIEW

ICENI, the world's most secure MCU for securing against memory safety exploits, is a device family of 32-bit highly secure microcontrollers, delivering hardware-enforced memory safety and robust isolation of software at the edge.

ICENI is **secure by design**, eliminating entire classes of vulnerabilities through hardware-enforced memory safety. It **brings simplicity**, being tailored for low-power embedded applications and offering pin-compatibility with legacy MCUs to ensure seamless migration to memory-safe computing. At the same time, ICENI **delivers performance without compromise**, providing real-time responsiveness and deterministic execution.



## APPLICATIONS AND USES

ICENI delivers the **performance** and **reliability** demanded by critical systems. Its robust, real-time architecture ensures **seamless** operation, even under the toughest conditions.

- **Secure** and fault-tolerant for uninterrupted uptime
- **Deterministic** and **responsive** for maximum efficiency
- Proven, compliant, and **scalable** for mission-critical use



Critical National Infrastructure



Industrial Automation



Aerospace



Medical



Automotive



Secure. Resilient. Uncompromised.



Semiconductor



## KEY FEATURES

**Robust Security** – Hardware-level CHERI-enabled security against cyber threats.

**Advanced Performance** – Optimized processing architecture with high throughput and low latency.

**Energy Efficiency** – Low-power design ensures reduced operational costs and improved sustainability.

**Scalability** – Modular platform for entry-level to enterprise-scale deployments.

**Interoperability** – Standards-based design for seamless integration.

**Future-Proof Design** – Ready for AI, ML, and data-intensive analytics.

## CHERI OVERVIEW

CHERI (Capability Enhanced RISC Instructions) technology integrates security **directly** into hardware design, providing a robust foundation for digital systems. By **eliminating** memory safety vulnerabilities and enabling stronger **compartmentalization**, CHERI significantly reduces cyber risks and enhances system resilience. This built-in security empowers businesses to adopt digital technologies with confidence, unlocking greater **productivity** and **efficiency** across the economy.

## The World's Most Secure Microcontroller

- Digital Security by Design
- 100% Memory Safety
- Hardware Compartmentalisation
- Fearless Code Reuse
- Scalable Device Roadmap

In partnership with



Microsoft

