

Zinnia Gateway

PRODUCT BRIEF

Industrial Grade

Secure by design

Powered by  **Torizon™**
Industrial IoT. Secure. Reliable.



Toradex AG | Ebenaustrasse 10 | 6048 Horw | Switzerland | T: +41 41 500 48 00 | info@toradex.com
www.toradex.com | www.torizon.io | developer.toradex.com | community.toradex.com

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Zinnia Gateway Product Brief

Certified industrial edge, ready for deployment

Zinnia Gateway is a ready-to-deploy industrial edge platform built on Toradex hardware and Torizon software stack, together forming a production-ready, CRA-compliant platform. It provides engineering teams with a solid foundation for building reliable edge applications, saving months of effort integrating hardware, operating systems, update and monitoring infrastructure.

Zinnia Gateway

A complete industrial edge platform with integrated hardware, production-ready software, and operations capabilities, certified and ready for deployment from day one!

Stop building infrastructure. Start building your application.

Use Zinnia Gateway as the foundation for your edge solution, so your team can spend more time building customer value and less time maintaining device infrastructure. Compared to traditional gateways, Zinnia Gateway provides a more integrated and scalable foundation for modern edge systems.

Traditional Gateways

- Hardware, OS, updates, and remote operations may be delivered as separate or loosely connected capabilities
- Product lifecycle and availability depend on the gateway vendor's suppliers roadmap
- OS maintenance, software updates, and security patching remain a long-term customer responsibility
- Security and compliance readiness depend on additional vendor or customer effort
- Development workflows vary by platform, requiring teams to stitch together multiple tools and environments
- Hardware platforms are often fixed, limiting performance flexibility over time

Zinnia Gateway

- Certified gateway with integrated hardware, software, remote updates and access capabilities
- Built on Toradex embedded hardware quality, with long-term platform availability and support expertise
- Maintained, production-ready Linux platform with update and secure LTS approach
- Security-by-design approach with a CRA-ready software foundation
- Streamlined development with VS Code workflows, multi-language support, ready-to-use frameworks
- Scalable performance through the Verdin ecosystem without redesigning the system

Built for Real-World Applications



Industrial Automation

- PLC, CNC, gateway, and motion control systems
- Modbus, CAN, and industrial protocol integration
- Predictive maintenance and real-time monitoring



Energy & Infrastructure

- Smart grids and renewable energy systems
- Water systems and distributed infrastructure
- Remote monitoring of distributed assets



Building & Urban Systems

- Building automation and control
- Monitoring and control of public infrastructure
- Gateways for smart city connectivity



Edge AI & Vision

- Camera-based inspection
- Object detection and monitoring
- Safety and quality applications at the edge

Zinnia Gateway Product Brief

Hardware and Features

Zinnia Gateway is a certified industrial gateway designed for reliable operation in demanding environments. With a rugged, compact, fanless enclosure and DIN-rail compatible mounting, it is built to be deployed directly into machines, control cabinets, and infrastructure systems.

Based on Toradex's embedded hardware expertise, Zinnia Gateway combines iMX8M Plus processing power, industrial connectivity, and hardware security in a compliant ready-to-use product.

Powered by verdin iMX8M Plus

Industrial edge compute powered by Toradex's proven Verdin System on Module platform.

A53

@1.8GHz

x4

M7

@800MHz

NPU

4GB RAM

32GB FLASH



Certified for industrial deployment

Designed as a certified end product, with CE, FCC, and RoHS readiness for industrial deployment.

CE

FCC

RoHS

Performance, Interfaces and Mechanical

CPU details		Connectivity		Multimedia	
CPU Name	NXP i.MX 8M Plus	USB 3.0	2x Host	Neural Processing Unit (NPU)	Yes (2 TOPS)
CPU Type	4x Arm Cortex™-A53	USB 2.0	1x OTG 1x Debug	Capacitive Touch Interface	Yes
Microcontroller	1x Arm Cortex™-M7	Ethernet	2x Gigabit		
CPU Clock	1600MHz (A53) 800MHz (M7)	Wi-Fi	2.4 / 5 GHz Dual Band 2x2 Wi-Fi 5, 802.11ac		
NEON	Yes	Bluetooth	Bluetooth 5.3		
L1 Instruction Cache	32KB (A53) 32KB (M7)	PCIe	1x Mini PCIe		
L1 Data Cache	32KB (A53) 32KB (M7)	SIM Card	1x Nano SIM card slot		
L2 Cache	512KB	UART	1x RS232 1x RS485		
		GPIO	3x isolated I/Os		
		Analog Inputs	2x Analog Input 0~25 mA		
		SDIO / SD / MMC	1x 4 Bit microSD		
		CAN	1x CAN		
Memory					
RAM	4GB LPDDR5 (32 Bit)				
Flash	32GB eMMC				
Operating System		Physical			
Pre-flashed OS	Torizon	LEDs	1x RGB: power on and status 2x RGB: user configurable		
		Weight	0.439kg		
		Size	98.4 x 133.5 x 36.2 mm		
		Thermal Solution	Built-in Heatsink		
		Temperature	-40°C to 85°C		
		Shock / Vibration	EN 60068-2-6/50g 20ms		
		Supply Voltage	9-36V		
		Power Dissipation	TBD		
		Intended Use	For End Products		
		Product Availability	2036+		

Integrating Past and Future

Zinnia Gateway connects to both standard-protocol and modern industrial systems, making it suitable for equipment monitoring, protocol integration, edge processing, and connectivity applications.

Designed for Field Installation

✓ Compact enclosure for infrastructure installations

✓ Fanless thermal design for reliable operation

✓ Built-in heatsink for passive cooling

✓ DIN-rail compatible mounting

✓ Hardware design suitable for harsh environments

Built for Industrial Connectivity

✓ Ethernet for industrial networking

✓ RS-232/485 for serial devices and equipment

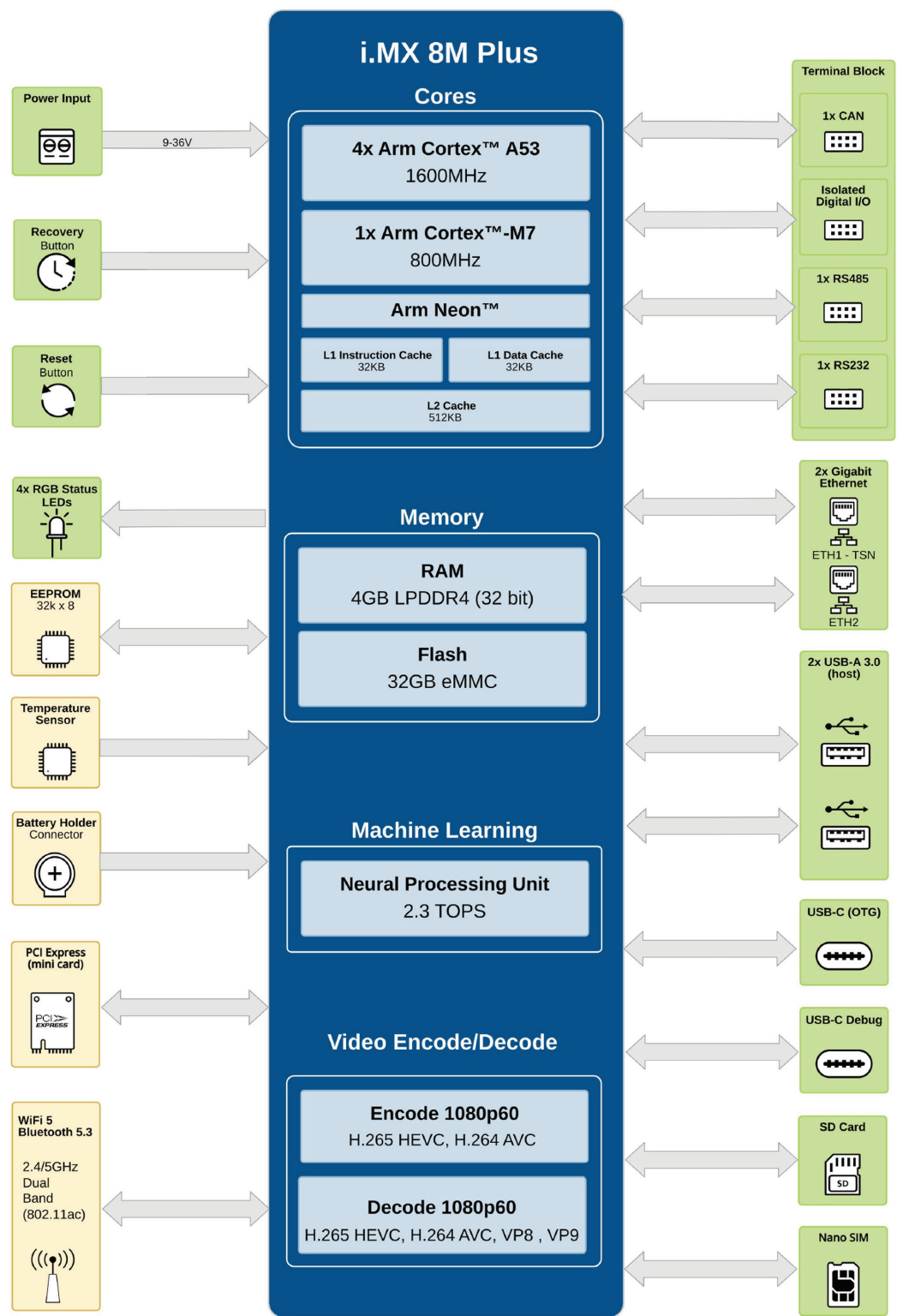
✓ CAN for industrial and machine communication

✓ Digital I/O for sensing, control, and status signals

✓ USB for peripherals and expansion

Zinnia Gateway Product Brief

Block Diagram



Legend

- Connector** Connector, button, led
- Built-in** Available internally
- System** SoC and memory blocks

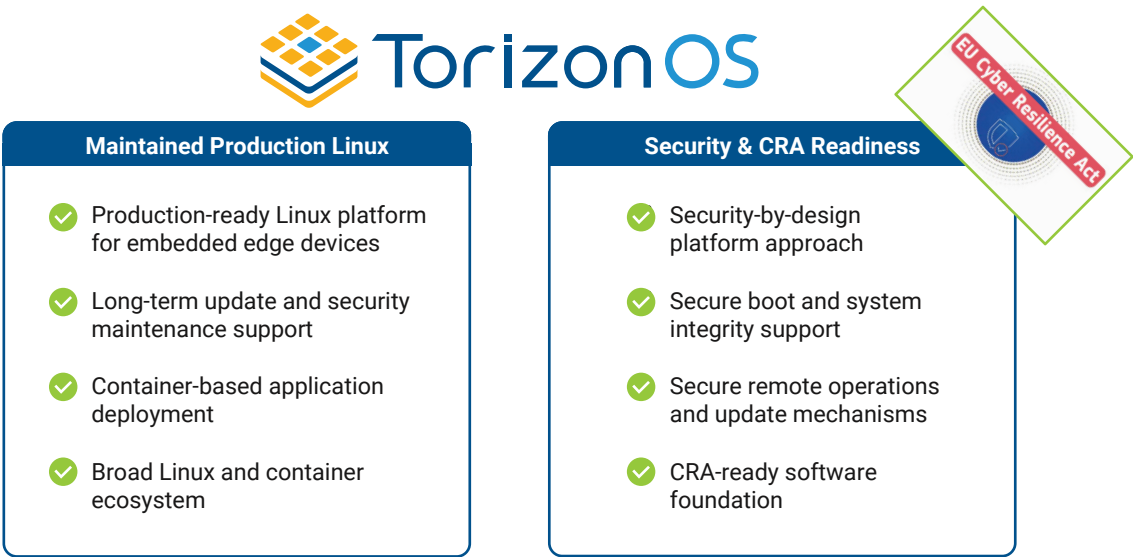
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Software Lifecycle

Zinnia Gateway is powered by Torizon, a maintained, production-ready Linux platform designed for industrial devices that need secure updates, long-term software upkeep, and reliable operation in the field.

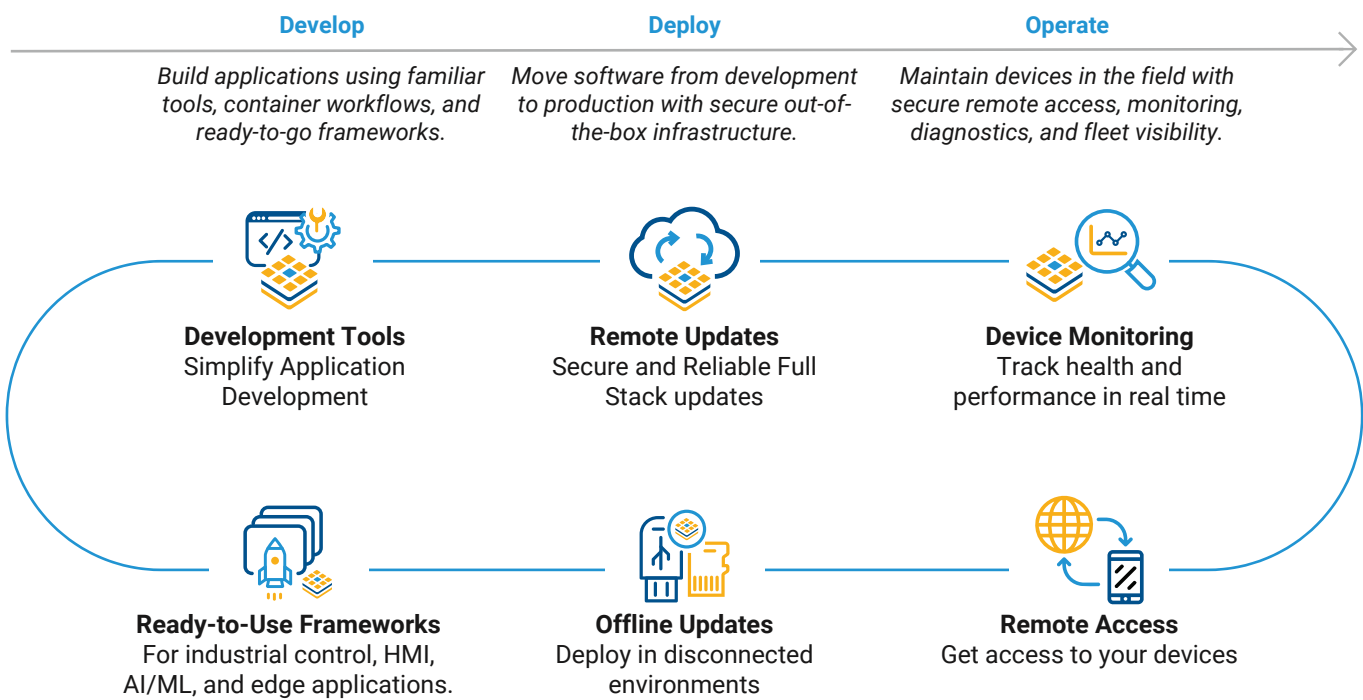
CRA-ready software with long-term maintenance

With a security-by-design approach and CRA-ready software foundation, Zinnia helps reduce the effort required to build, deploy, and maintain compliant edge systems across their lifecycle.



Manage the entire device lifecycle

Maintain, update, and secure devices over time. Torizon supports the entire device lifecycle, helping development and operations teams build, deploy, and manage devices.



Zinnia Gateway Product Brief

Performance Scalability

Zinnia Gateway provides a ready-to-use product today and a scalable platform path for future product variants, performance upgrades, and custom gateway designs.

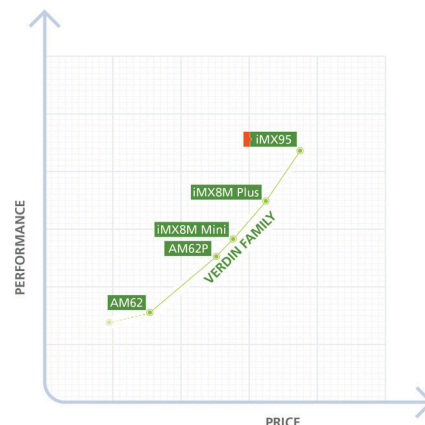
Verdin ecosystem advantage

As your application evolves, the Verdin System on Module ecosystem helps you adapt compute performance while preserving interfaces, system architecture, and development investment.



Scale Performance Without Redesign

- ✓ Match compute performance to different application requirements
- ✓ Preserve interfaces, enclosure strategy, and system architecture
- ✓ Use pin-compatible Verdin modules across performance levels
- ✓ Reduce redesign and requalification effort across product variants



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