



# MCX E Series

**Reliability and safety focused MCUs**

Launch: July 2025

**| Public |** NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. © 2024 NXP B.V.

# Secure connected edge microcontroller portfolio

## PERFORMANCE & INTEGRATION



### i.MX RT

Combines high performance and integration with ease of use and real-time functionality

## MAINSTREAM & WIRELESS



### MCX, LPC, KINETIS

Scalable general-purpose MCU platform enabling the IIoT edge with intelligence, wireless connectivity, security and ultra-low power

## APPLICATION FOCUSED



### KE

Robust, Reliable, 5V Supply

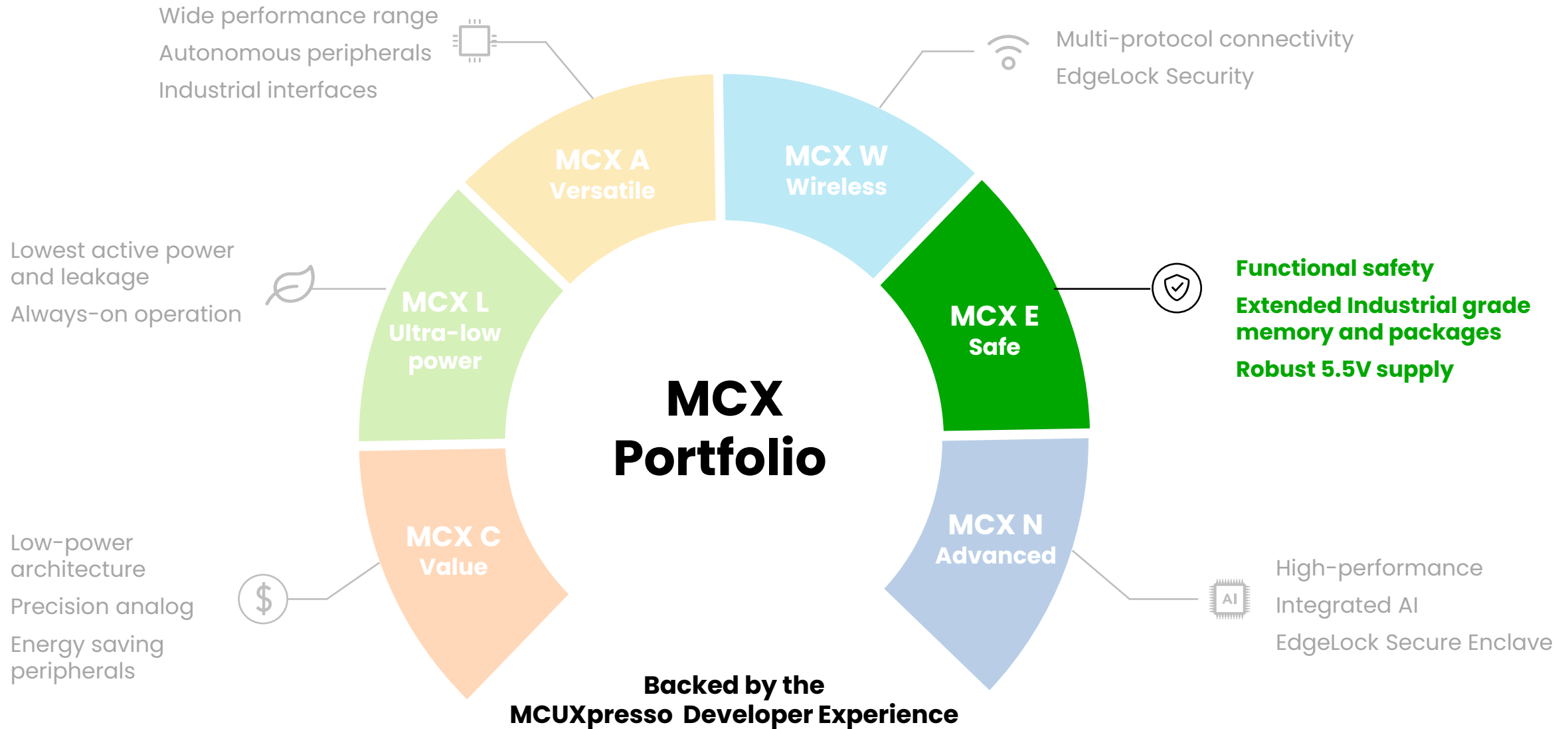
### KM

Metering and Metrology

### DSC

Digital Power and Motor Control

# MCX MCU portfolio





# MCX E series overview

## Availability

- H1 2025 : Engineering Samples
- H2 2025 : Mass Production

### Robust

- Up to 5.5V supply
- Extended temperature mission profile
- Various LQFP package options

### Reliable

- Large set of peripherals allows for high redundancy
- Up to 6x CAN FD and Ethernet with TSN

### Safe

- Program flow monitor
- Full data integrity
- Clock, power and temperature monitoring

### Secure

- EdgeLock® Security essential and advanced
- Security certification up to SESIP level 3



#### Security certification

- SESIP level 3
- IEC 62443 compliant



#### Functional Safety certification target

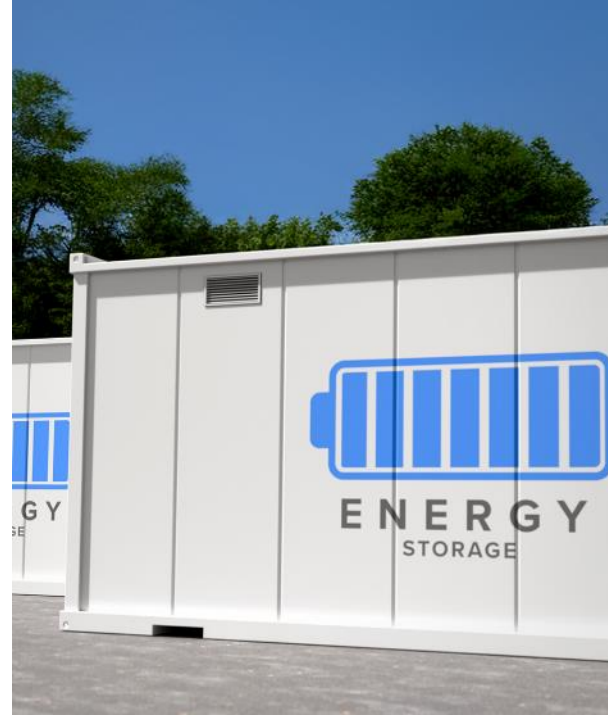
- IEC 60730 Class B
- IEC 61508 SIL 3 systematic capability

## Industrial and Appliances

# MCX E series target applications

### Safe Appliances

- HVAC
- Heat pumps
- Boilers
- Heaters
- Power tools

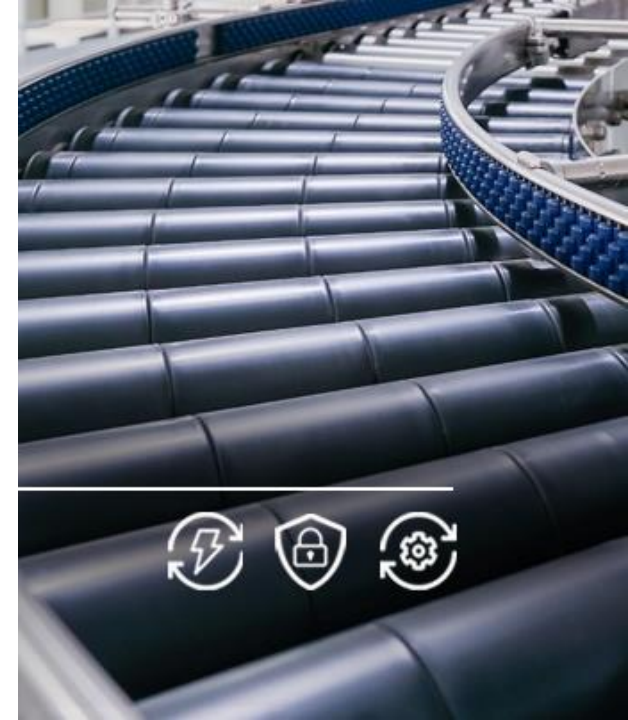


### Motor control

- Factory conveyor diverter
- Industrial automation
- Robots / drones
- Electric bike powertrains
- Unmanned vehicles
- Hydraulic system control unit

### Energy Storage

- Home energy storage
- Industrial power storage
- Mobile energy storage
- Distributed battery systems



# MCX E24 series highlights



## Functional safety



- Program flow monitoring
- Storage interference protection
- Clock and power monitoring
- Data integrity on flash, SRAM, registers
- Error reporting
- IEC 60730-B

## Security



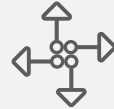
- Security subsystem for secure boot and secure key storage
- Cryptographic acceleration

## Scalable



- Up to 112MHz Arm® Cortex®-M4
- From 512kB to 2MB Flash
- From 64 kB to 256kB SRAM
- External memory with QSPI

## Networking interface



- Up to 3x CAN FD
- IEEE1588 100 Mbps ETH

## MCX E24 Series

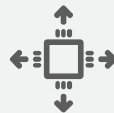
112 MHz  
Arm® Cortex®-M4F

## Robust operation



- 2.7–5.5V voltage operation
- Standard Industrial mission profile

## Mixed signals & Analog



- High speed 12 bit ADC, ACMP
- Sound SAI
- Low power I²C, UART, SPI
- FlexPWM, low power timers

## Packages



- From LQFP 48 (7x7) to LQFP 144 (20x20)

## Extend battery life



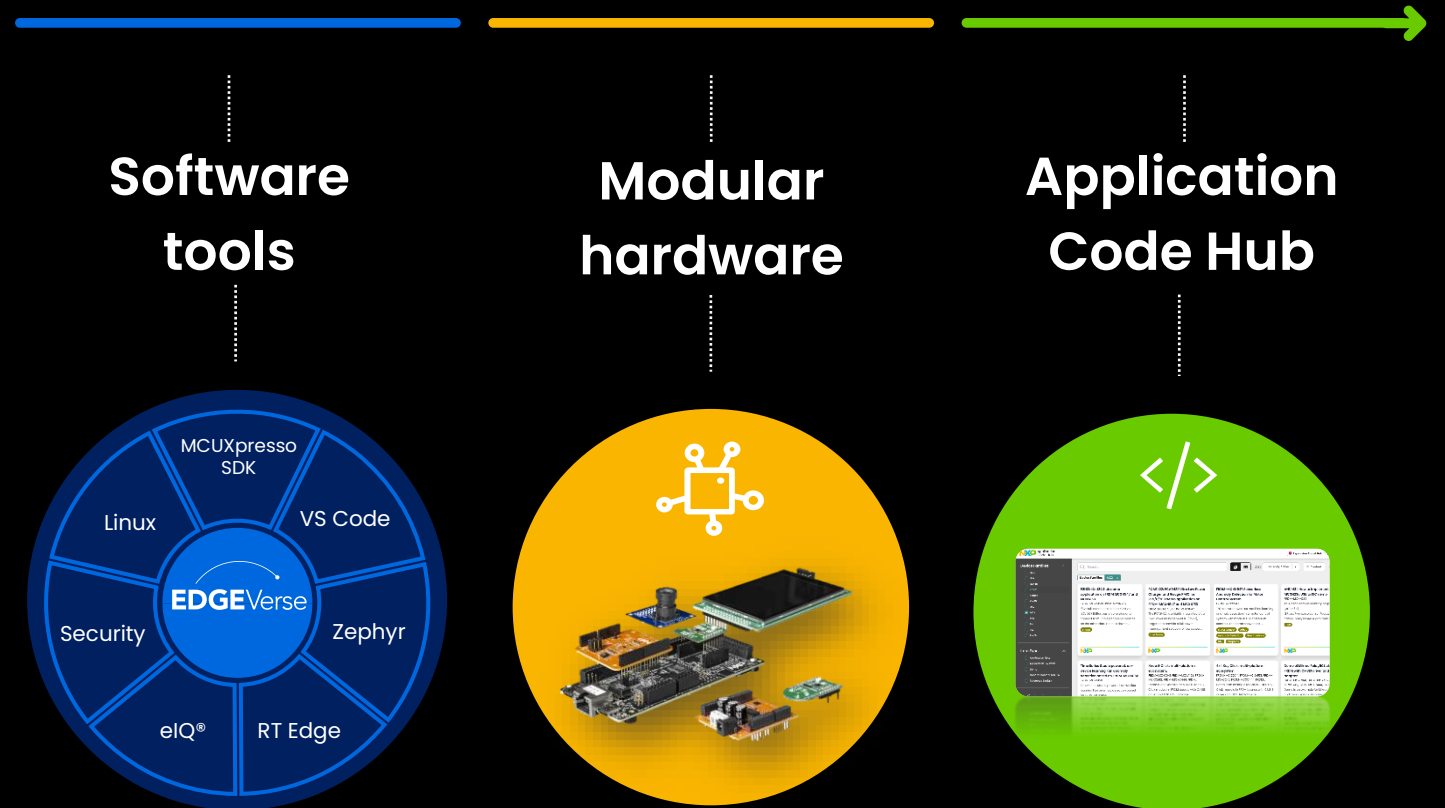
- Multiple power modes
- Adaptive low power

# FRDM to innovate

Open-source developer ecosystem

- Comprehensive software and tools for rapid development
- Modular, [quick-start FRDM](#) & [expansion boards](#) with open design files and schematics
- Access 140+ code snippets and tutorials through our [Application Code Hub](#)

Ease development for reduced time to market





# Summary



**Certified for industrial  
IEC 61508**



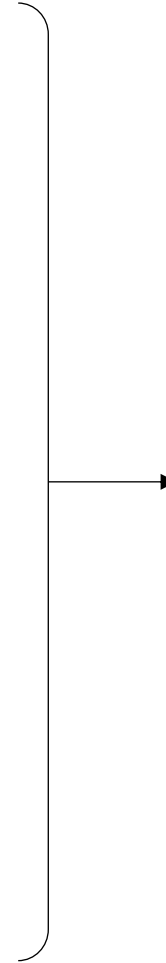
**Industrial reliability**



**Advanced Security**



**Supported by the FRDM  
ecosystem**



[www.nxp.com/MCUXpresso](http://www.nxp.com/MCUXpresso)

[www.nxp.com/FRDM](http://www.nxp.com/FRDM)