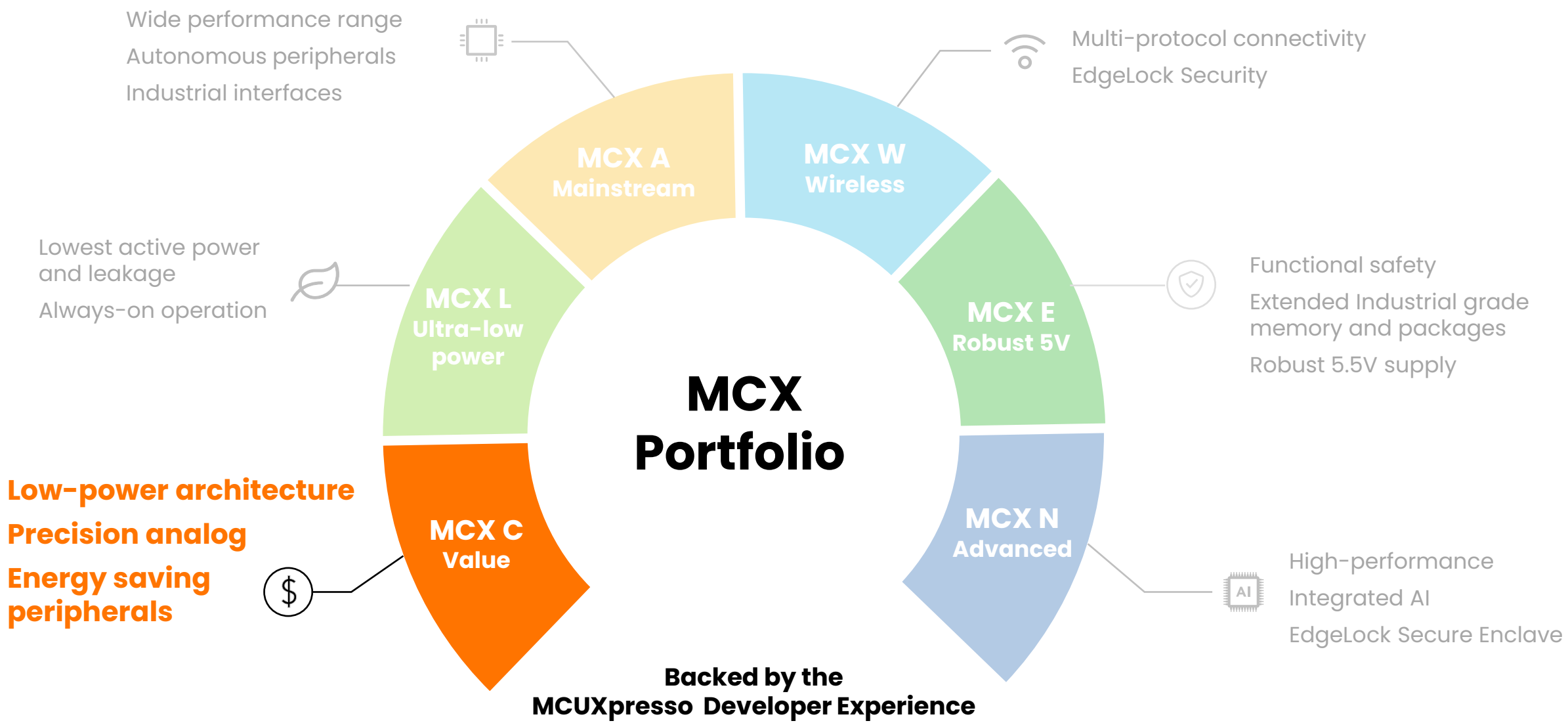
MCX C Series

Value-focused MCUs with low-power architecture and energy-saving peripherals

MCX MCU portfolio



MCX C Addresses Entry Level Industrial IoT Applications at a Lower Price point

Easy-to-use MCUs that address a wide range of applications with low cost and low power consumption

RELIABLE AND COST EFFECTIVE

Cost effective with focus on ease-of-use and reliability

- Entry-level MCUs with focus on ease of use
- Designed to fit the needs of a wide variety of low-end IIoT applications
- Offers BOM savings and high reliability while being cost-effective

LOW POWER AND HIGH-SPEED INTERFACES

Low-power energy saving peripherals and USB interfaces

- Energy saving peripherals take the load off the core for power-saving
- Full-Speed USB and SLCD Interface
- Low power modes to keep the peripherals running while the core is in sleep

UNIFIED SOFTWARE EXPERIENCE

MCUXpresso Developer Experience

- Power of choice for development environments & software
- Low-cost, scalable platforms for rapid prototyping
- Easy access to broad range of application examples

Key Applications and Enabling Technologies

INDUSTRIAL

Industrial/Consumer HMI
Low-Power
Medical Equipment

SMART HOME

Control & Surveillance
Smart Appliances
Health & Fitness

GENERAL EMBEDDED

Hand-held Devices
Power Tools
General Purpose Embedded Control

Interfaces

- I^2C, LPUART, UART and SPI
- Full-speed USB device
- Up to 16-bit ADC with 16 channels
- High-Speed analog comparator containing 6-bit DAC and programmable reference input

HMI

- SLCD Interface

Low Power

- Low-Power peripherals
- Low Power internal reference clock and timers
- Nine Low Power modes

Target Applications

- Small to medium appliances
- Home Security and Surveillance
- Smart Lighting
- Smart Power socket
- DC Fan

MCX C Series Overview and Highlights

Entry level & Cost effective

- Best entry-level path to 32-bit from an 8/16-bit MCU
- Cost-effective and reliable
- Simple and easy to use

Communication and HMI

- Full-Speed USB & SLCD interface
- FlexIO for customized interfaces
- General UART/SPI/I2C/I2S

Scalable Packages

QFN16, QFN24, QFN32, QFN48, BGA64, LQFP64

Precision Analog

- 12/16-bit high-speed ADC
- 12-bit high-speed DAC
- ACMP

MCX C Series

Arm® Cortex®-M0+ 48MHz

Product Longevity

On-chip Accelerators

- Asynchronous DMA
- Bit Manipulation Engine
- Cross Bar Switch

Clock and Timing

- Internal (1KHz, 32KHz, 4MHz)
- Crystal Osc. (32KHz / 3-32 MHz)
- PLL/FLL for 48MHz operation
- Timer/PWM Module
- Low Power Timer
- Real Time Clock

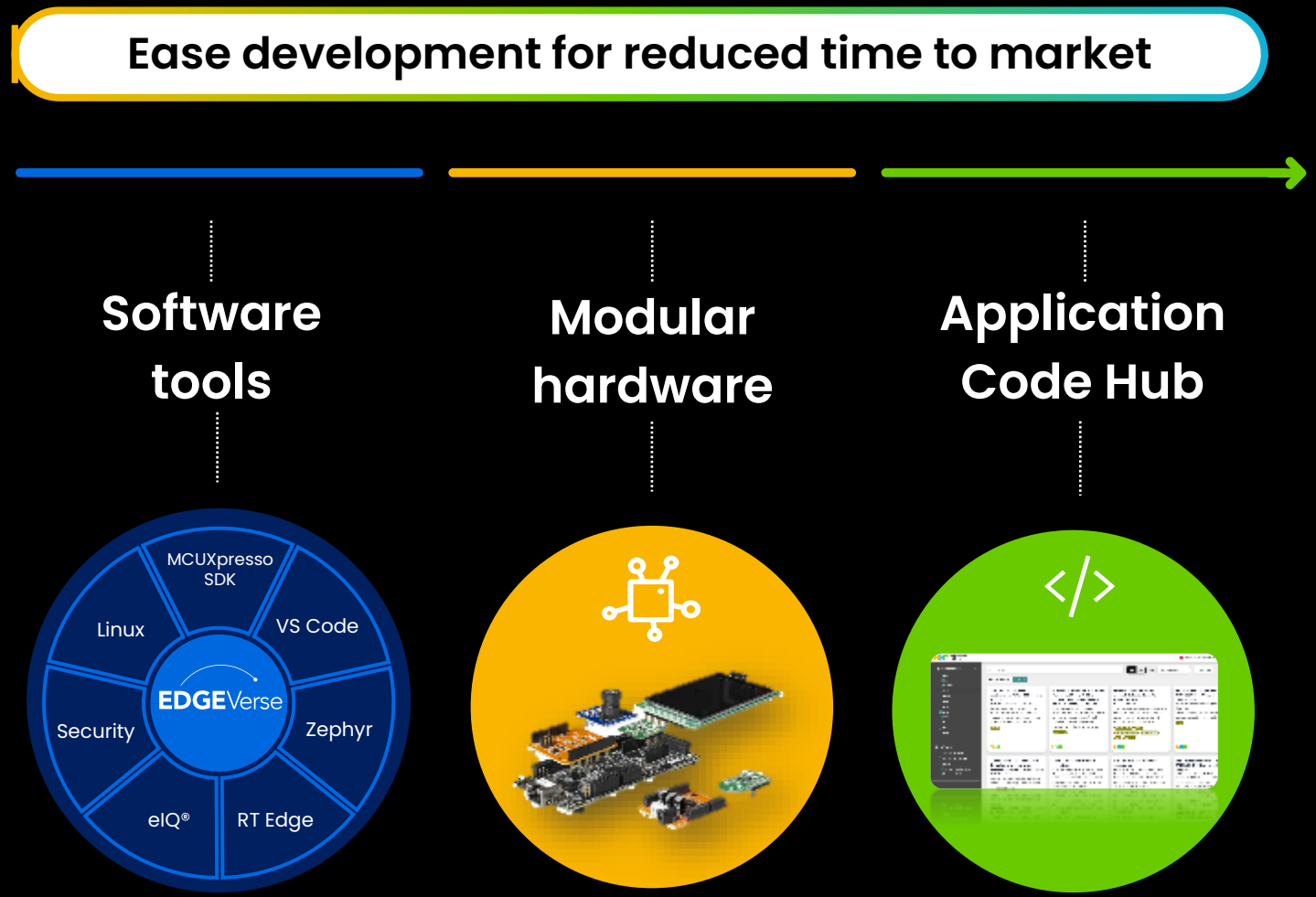
Low Power

- Multiple RUN/WAIT/STOP modes
- <50µA/MHz, 4us wake-up from deep sleep modes
- Clock & Power Gating, LVD
- 2uA Deep Sleep Idd with register retention

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



Summary

Reliable and Cost-effective

Low power and high-speed interfaces

Developer Experience

www.nxp.com/MCXC

www.nxp.com/MCUXpresso

www.nxp.com/FRDM