The NXP Demo Experience

Go beyond the show floor and FRDM lab to continue exploring products and solutions from NXP and our partners.

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INDUSTRIAL & IOT

- MCX MCUs and FRDM Development Platform
- i.MX Scalable HMI
- EdgeLock® SE052F Secure Element
- Energy Management in Homes and Buildings

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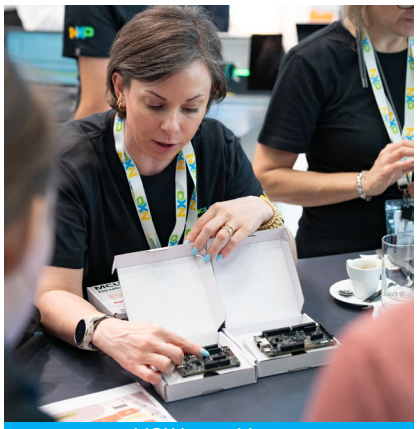
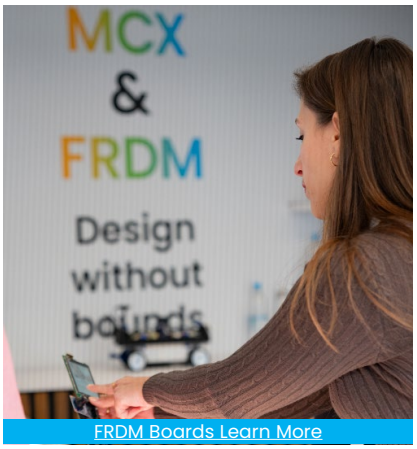
MCX MCUs and FRDM Development Platform

Our newest general-purpose MCU is here and empowers developers to **design without bounds**. Get started with MCX today using our enriched FRDM development platform. The MCX portfolio is a comprehensive selection of Arm® Cortex®-M based MCUs, offering expanded scalability with breakthrough product capabilities, simplified system design and a developer-focused experience.



MCX Learn More



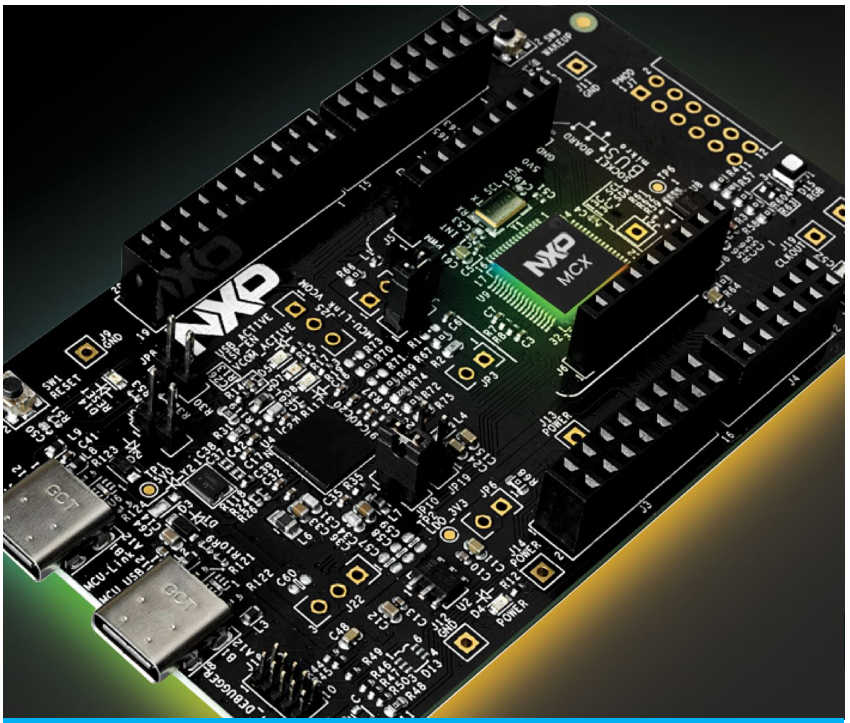
FRDM Boards Learn More

MCX W Series Livestream

MCX N Series powered by dual-core Arm® Cortex®-M33s, with on-chip co-processors and accelerators including an integrated eIQ Neutron NPU plus advanced security.

MCX A Series designed to support more GPIO pins for additional external connections and address a wide range of applications.

MCX W Series enables wireless connectivity for multiple standards such as Matter, Thread, Zigbee and Bluetooth LE.



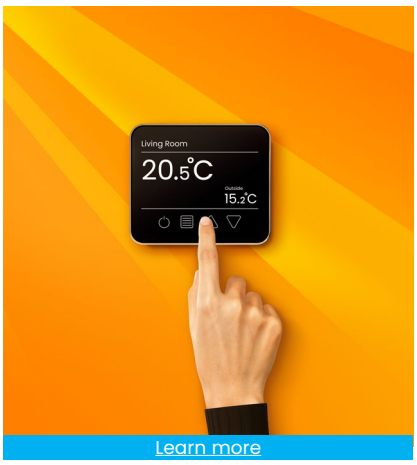
FRDM Development Platform Video

FRDM Development Boards enable rapid and flexible prototyping and come with standard form factor and headers, easy access to MCU I/Os, and an on-board MCU-Link debugger.

Smart and Scalable HMI using i.MX MPUs

Innovative HMI solutions require powerful processing capabilities, rich audio and graphics output, security and support for advanced vision applications. The i.MX Application Processor portfolio offers a variety of MPUs for modern HMI solutions.

Learn more



Learn more

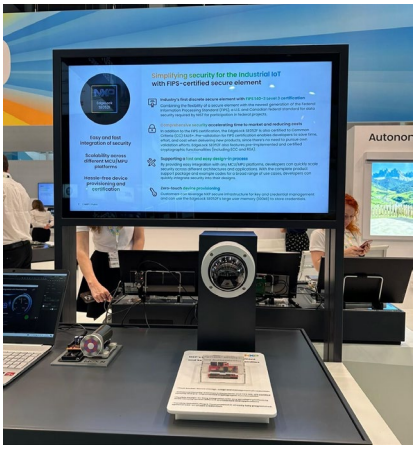
Learn more

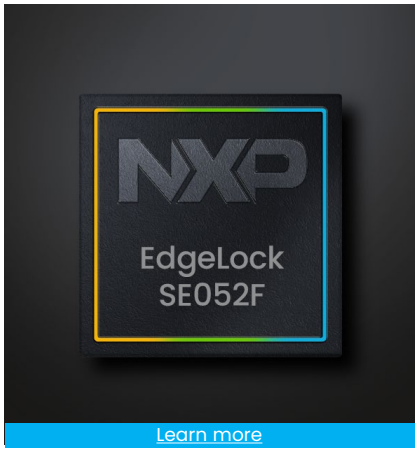
- **i.MX 93**: Energy-efficient ML acceleration with advanced security
- **i.MX 8ULP**: Optimal for power-efficient displays with rich graphics
- **i.MX 8M Mini**: General purpose MPU for Industrial and IoT applications
- **i.MX 8M Plus**: Machine Learning (ML), Vision, Multimedia for Autonomous Home and Industry 4.0 applications
- **i.MX 95** (pre-production): Immersive graphics for Industrial Visualization or eCockpit & In-Vehicle Infotainment

EdgeLock® SE052F Secure Element

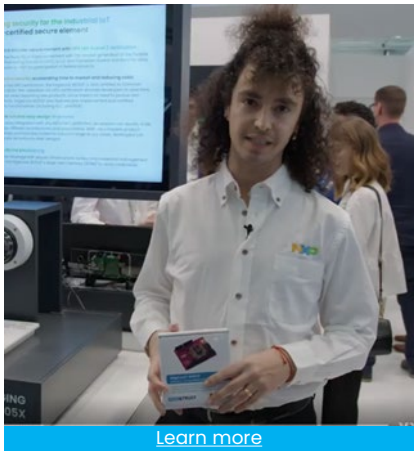
Simplifying security for the Industrial IoT with the industry's first discrete secure element with FIPS 140-3 Level 3 certification, offering:

- Easy and fast integration of security
- Scalability across different MCU/MPU platforms
- Hassle-free device provisioning and certification





Learn more


Learn more

With the new EdgeLock SE052F, NXP combines the flexibility of a secure element with the newest generation of the Federal Information Processing Standard (FIPS), a U.S. and Canadian federal standard for data security.

- **Comprehensive security accelerating time to market and reducing costs**
  In addition to the FIPS certification, the EdgeLock SE052F is also certified to Common Criteria (CC) EAL6+. It also features pre-implemented and certified cryptographic functionalities (including ECC and RSA).
- **Supporting a fast and easy design-in process**
  By providing easy integration with any MCU/MPU platforms, developers can quickly scale security across different architectures and applications. In addition, a complete product support package and example codes are available.
- **Zero-touch device provisioning**
  Customers can leverage NXP secure infrastructure for key and credential management and can use the EdgeLock SE052F's large user memory (100kB) to store credentials.

Learn more:

www.nxp.com/SE052F

www.nxp.com/OM-SE052F

Energy Management in Homes and Buildings

Bi-directional Charging

NXP's bi-directional charging solution leverages the ISO 15118 standard to establish secure communication for charge control between an EV and EVSE

Plug & Charge
EV identifies itself with the charger upon connection to automatically authenticate the user and select the payment method

Vehicle-to-Grid (V2G)
An EV can discharge back to a home or grid, create virtual power plants to help stabilize the grid, and provide a buffer for local renewable energy

Standardized for all EV types
ISO 15118 is part of the Combined Charging System (CCS) and North American Charging Standard (NACS), which supports AC and DC chargers for applications ranging from motorcycles and cars to trucks and buses

Recommend products:
- S32G2/G3 GoldBox 2/3
- i.MX RT1064 EVK
- PLC Module: EVSE-SIG-BRD1X
- SAE J-Plug: SAE J1772
- EVSE Signal Board with LPC55S36 MCU
- Lumissil CG5317 HomePlug Green PHY for power line communication

Learn more: nxp.com/electrification

Energy Storage Systems

Efficient and Reliable Control

- Scalable processing platforms to manage a reliable, secure, distributed energy supply
- Time-series machine learning to autonomously optimize energy flow, sustainable sourcing and operating costs
- Protect against onsite system faults, and safely coordinate with public grid (PCC)

Secure and Reliable Connectivity

- Robust, pre-integrated Wi-Fi, Bluetooth LE, Thread, Zigbee, UWB and sub-GHz radio/software integration
- Best-in-class security with proven cloud authentication for over-the-air (OTA) updates
- Leadership in the Matter standard for universal communications between IP-connected devices

On the Move

- S32 CoreRide Platform for SDV Development
- NXP Cloud Studio: Shift Left, Stretch Right
- i.MX 95 for Safe eCockpits
- Digital Cluster for Two-Wheelers

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S32 CoreRide Platform

Featuring S32N55 for Central Compute Solutions

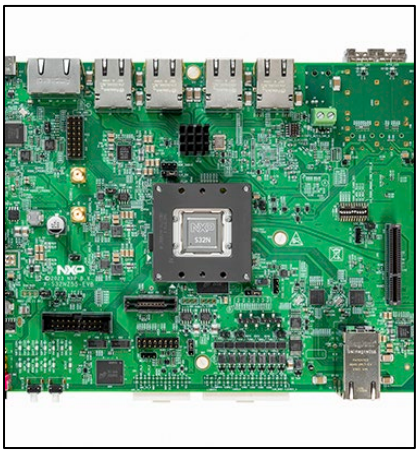
Industry-first SDV platform to combine processing, vehicle networking and system power management with integrated software from leading partner ecosystem for new levels of streamlined development, scalability and cost-efficiency

- Cross-vehicle personalization
- Safe vehicle function integration
- Vehicle data intelligence
- Real-time updates

Super-integration for central compute: Our first platform solution was demonstrated, featuring the new S32N55 processor for central compute, providing “super-integration” of essential real-time vehicle functions

Zonal control: Provided by four S32K344 MCUs and edge nodes were based on the S32K146 and S32M244 microcontrollers

Learn more



Learn more

Recommended products:

Processor: S32N55, S32K344, S32K146, S32M244

Ethernet: SJA1110, TJA1120

CAN / LIN: TJA1463 / TJA1021T

FlexRay: TJA1081G

PMIC: FS04, PF53

Learn more:

www.nxp.com/S32CoreRide

NXP Cloud Studio

Virtual Development Environment for SDVs

Shift left: A head start on development
Before silicon is even available, streamline R&D and slash time to market

Stretch right: Innovation continues
Maintain a steady drum beat of software deployments well beyond the vehicle's road debut

NXP Cloud Studio provides a premier virtual development environment for software-defined vehicle development, from pre-silicon through a lifetime of software deployments

- Parity between cloud-based SoC virtual models and hardware deployment
- 360-degree visualizations for cloud development, silicon and user interactions
- Integration of partner software to streamline development
- Features S32 compute including S32N55 for real-time control and S32G3 for applications

Learn more

Learn more

Recommended products:

Processors: S32G3, S32N55, i.MX95

OrangeBox

i.MX 95 Brings Safety and New Conversations to eCockpits

Designed for cost-effective, safety-compliant eCockpits, i.MX 95 features multi-core high performance compute, immersive 3D graphics and NXP eIQ® Neutron Neural Processing Unit (NPU)

Hypervisor-less: Free up system complexity for higher performance without sacrificing safety

Natural, conversational AI: Enable systems that minimize driver distraction to increase road safety

Functional safety domain: Meet high reliability standards for safety-critical warnings

Recommended products:

- Processor: i.MX 95
- PMIC: PF09, PF53

Learn more

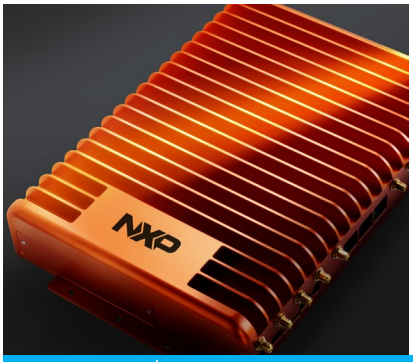
OrangeBox Unified Connectivity Domain Controller

Single, safe and secure interface: Centralized wireless connectivity between the car network and the outside world

Supports a wide range of connectivity technologies: 5G, V2X, UWB, BLE, software-defined radio, BT, and Wi-Fi

Recommended products:

- OrangeBox



Learn more

Digital Connected Cluster with i.MX RT1170 for Two-Wheelers

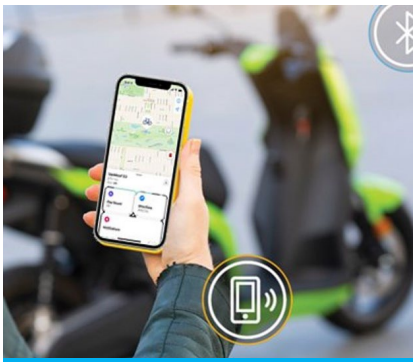
Scalable platform that reduces costs: Five NXP SoCs on a single platform, accelerating and simplifying customer HW and SW development

Connected digital displays and advanced audio: Essential to the safe operation of electric 2-wheelers, safety-critical information is shown clearly on the rider's screen

Secure, wireless access and location: Leveraging wireless connectivity with hands-free calling, Bluetooth audio, and location access and tracking

Recommended products:

- MCU: i.MX RT1170
- Processor: S32K118
- PMIC: PF5040
- Wi-Fi/BT: AW611
- BLE: KW45



Learn more

Together we innovate

At NXP, you'll discover an extensive and comprehensive ecosystem ready to work with you in making the world a smarter, more connected place.

At EW24, you were able to experience our ecosystem in action, speak with NXP experts and visit our partners featuring NXP products throughout the exhibition.

We encourage you to continue the experience beyond the show floor. **Click on a Partner** to learn more about their products and services.

Adlink	Advantech	Arcturus	Arduino
Au-Zone	Avnet Embedded	Crank	Digi
Eta Compute	Forlinx	Green Hills	iRider
iWave	Laird	LVGL	MicroSys
Murata	NovTech	Panasonic	Phytec
Qt	Segger	TARA	TechNexion
Tessolve	Toradex	TQ	TrueSense
u-blox	Variscite		

NXP Partner Marketplace

nxp.com/embeddedworld