

# NXP SEMICONDUCTORS WORLDWIDE

Together with our valued customers, we're not just advancing technology, we're advancing society.

**60 years** of combined experience and expertise  
Operations in more than **30 countries** worldwide

Approximately **29,000 employees**

Headquarters in The Netherlands – **Eindhoven**



## AUTOMOTIVE

Enabling carmakers to develop smarter solutions for complex autonomy, connectivity, and electrification challenges

Accelerating the shift to greater mobility



## INDUSTRIAL

Reducing wasted time, money, and effort by helping business run more efficiently.

Enabling more efficient data processing



## MOBILE

Giving wearable and mobile devices easier access to the services that make modern life more convenient without compromising security and safety.

Transforming how people and devices connect



## SMART HOME

Solutions that listen, learn, and adapt into the places we call home for more comfort, affordability, safety, and convenience.

Powering the intelligence behind the technologies



## SMART CITY

Simplifying how people access and interact with local services to achieve new standards of sustainability, efficiency, mobility, and economic growth.

Anticipating the demands of tomorrow



## COMMUNICATION INFRASTRUCTURE

Powering insights and inspiring performance with hardware solutions for handling 5G connectivity across the emerging communications spectrum.

Delivering real-time responsiveness at the speed of 5G



EXTERNAL



# I.MX VALUE PROPOSITION

## Trust – over 400 Million i.MX processors shipped

- Longevity: minimum of 10-15 years in all markets
- Security and Reliability: Zero-defect methodology
- Qualifications: Automotive, Consumer & Industrial

Industrial  
Longest operating life

10-year life, 100% always on  
Typically: -40C to +105C Tj

## Scalability for Maximum Platform Reuse

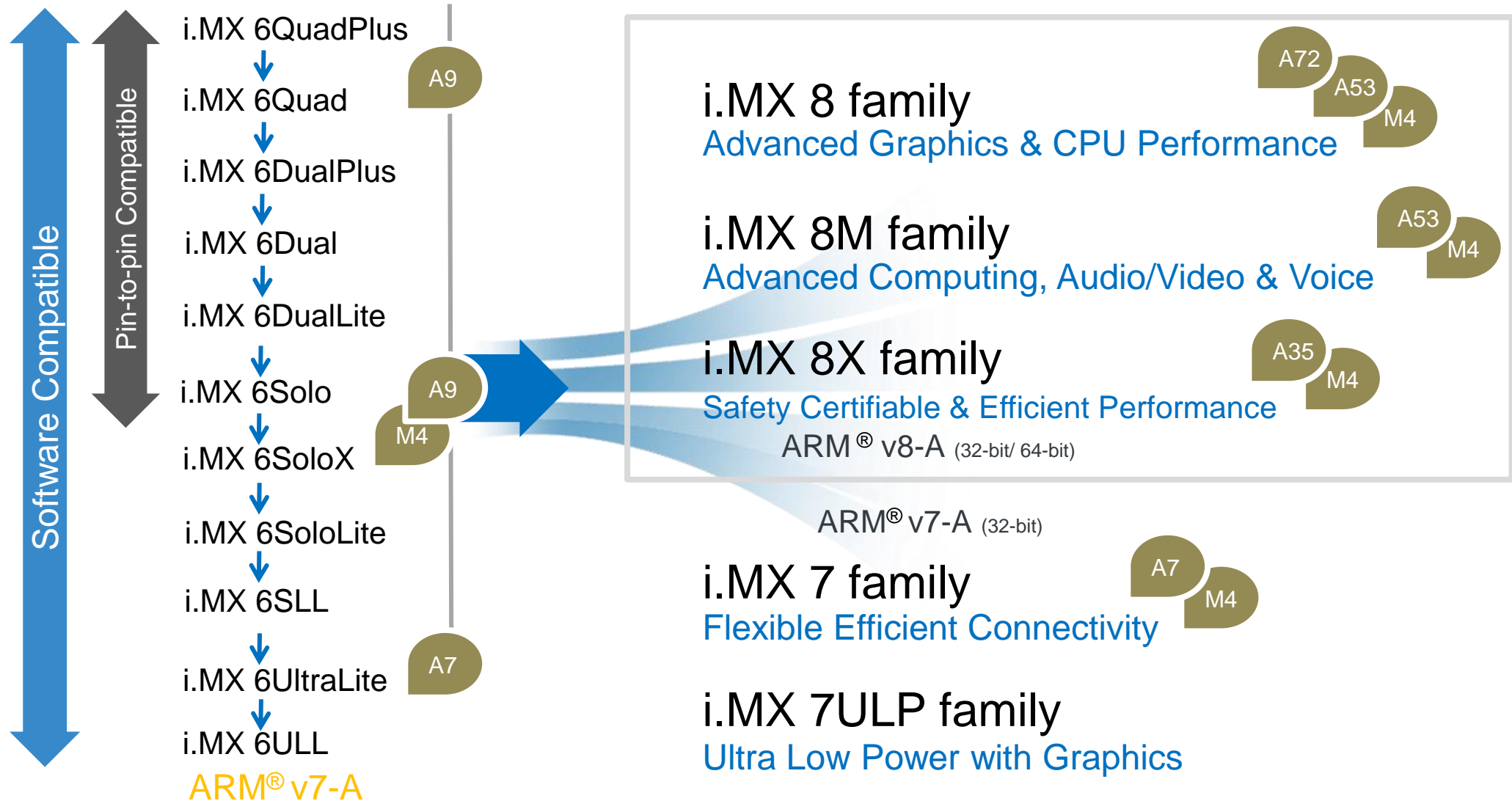
- Portfolio of products
- Software: Same BSP across portfolio Linux, Android, Free RTOS

## Enablement for Ease of Use

- Design collateral, communities, wide distribution
- Industry-leading ecosystem and support

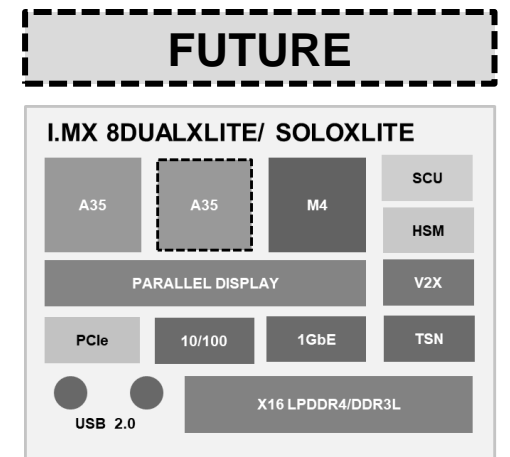
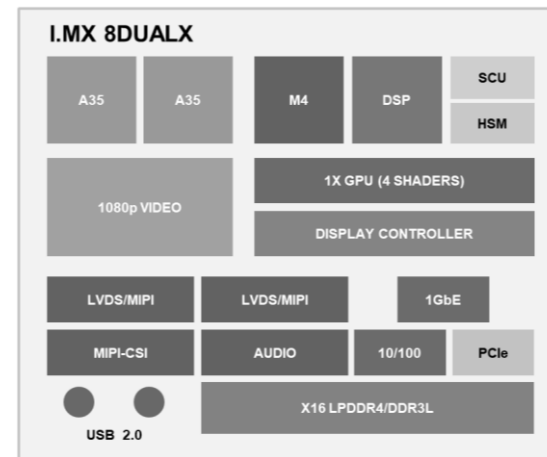
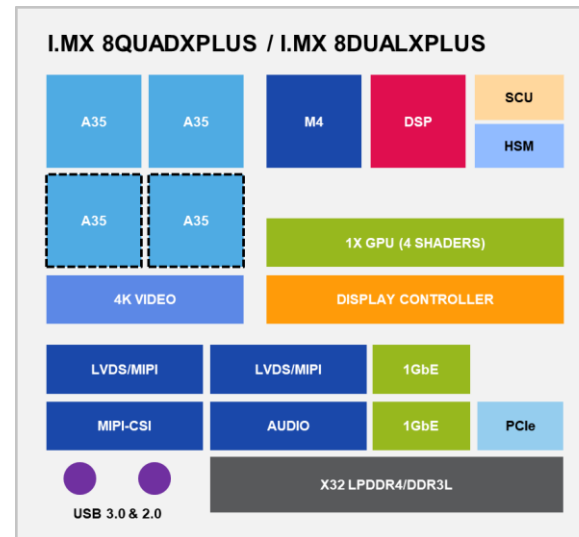
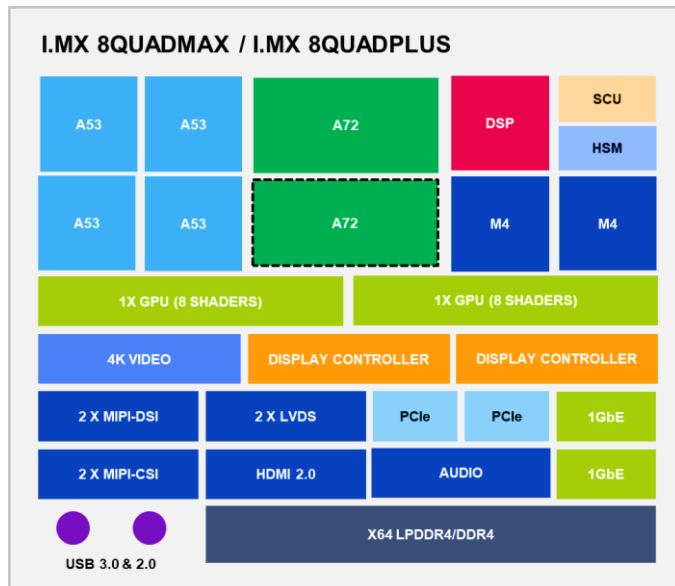


# I.MX APPLICATIONS PROCESSOR SCALABILITY



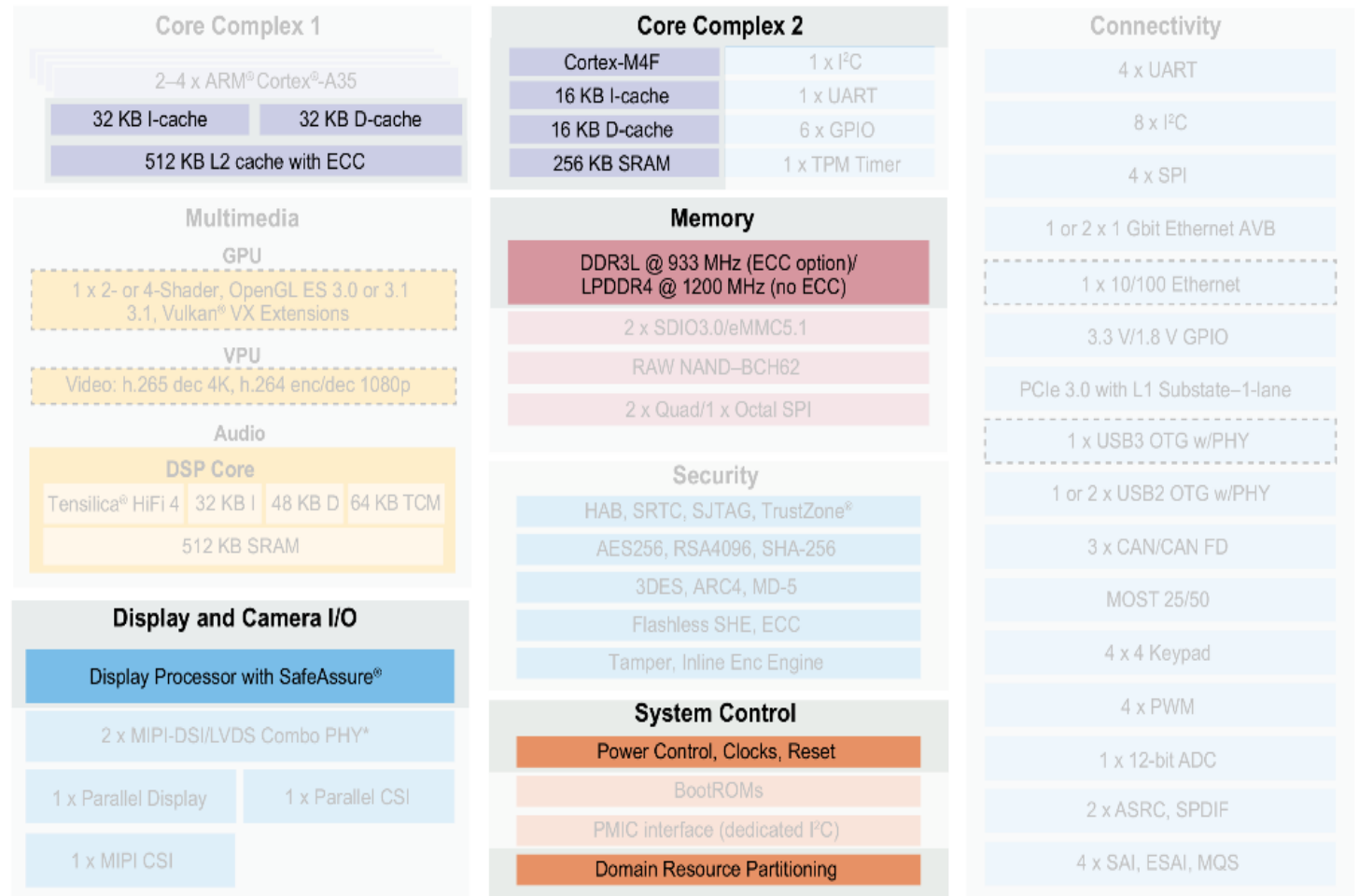
# i.MX 8/8X SUBSYSTEM REUSE

## SCALABILITY OF EMBEDDED PROCESSING



# I.MX8X BLOCK DIAGRAM – HARDWARE SAFETY-RELATED COMPONENTS

- Power, Clock & Temp Monitoring
- Watchdogs
- CPU register protection
- Display Domain Partitioning
- ECC in Flash & RAM



Available on certain product families Note: Accessing muxable controller's full capabilities is dependent upon board component choices.



## I.MX 8/8X SAFETY AND RELIABILITY FEATURES

Safety Feature	8QuadXplus, 8DualXPlus, 8DualX	8QuadMax, 8QuadPlus
Ultra Low Alpha (ULA) package	✓	✓
Manufacturing Process	28nm FD-SOI	28nm FD-SOI
Memory Protection (ECC, parity)		
ARM Cortex-A L1 cache	Parity	Parity
ARM Cortex-A L2 cache	ECC	ECC
ARM Cortex-M4 tightly coupled memory	ECC	ECC
DDR memory interface	ECC on DDR3L	-
Failover Displays and Cameras	✓	✓
Targeted Industrial Safety Certifiable *	SIL3	SIL2



# NXP LEVERAGES CORE COMPETENCE IN END-TO-END SYSTEM SECURITY

