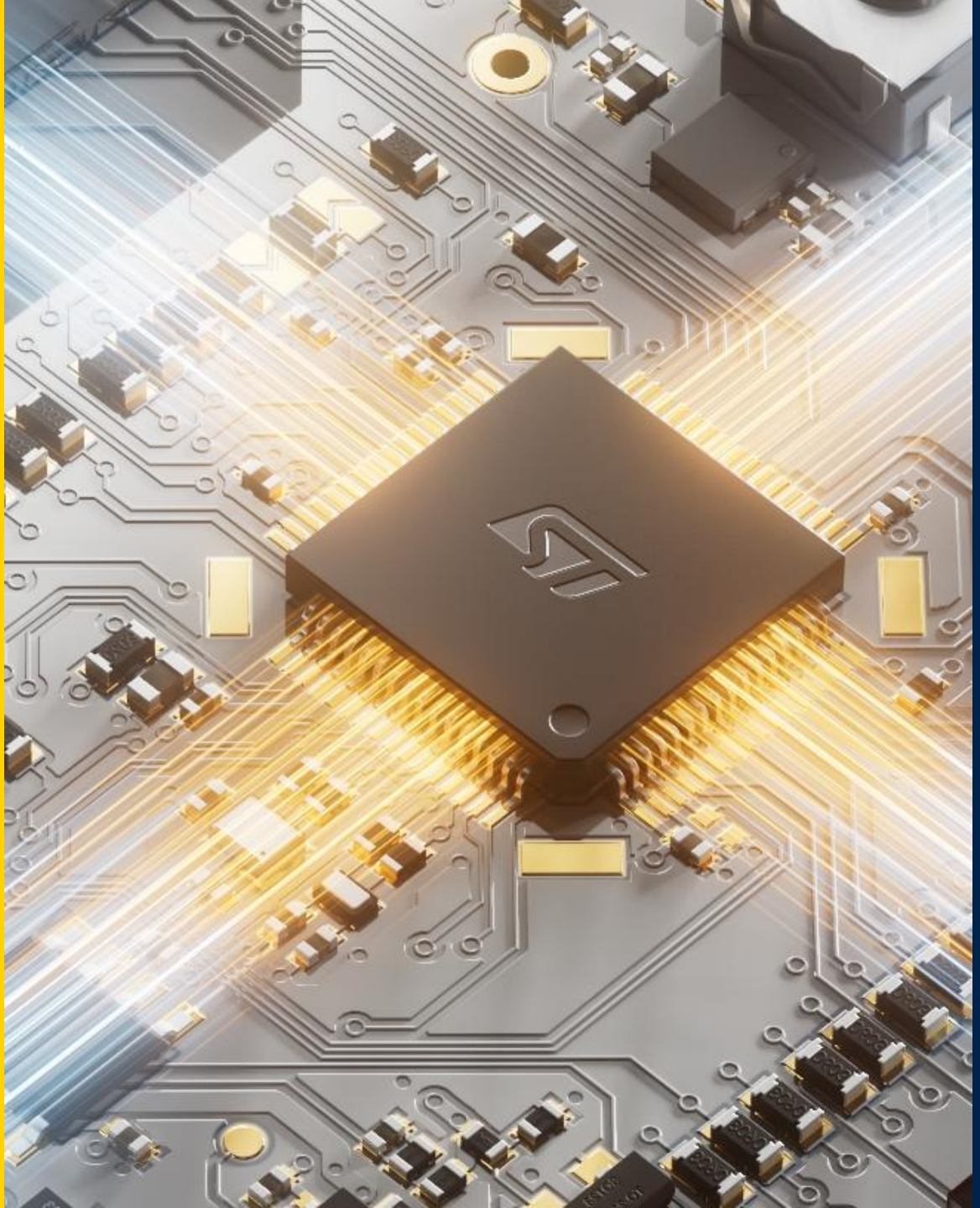


Enter the convergence era

A unified STM32 platform for software-defined systems and physical AI



Discover the unified STM32 MCU platform

Why it matters

Long-term scalability
Cross-domain reuse (IP, cores, software...)

Faster time to market
Greater availability of new ST products
Software ecosystem reuse

Lower investment risk
Proven track record, maturity, validated technologies, and long-term reliability

Lower total cost of ownership
Reusing tools and knowledge across product variants



Discover the unified STM32 MCU platform

And why it matters now

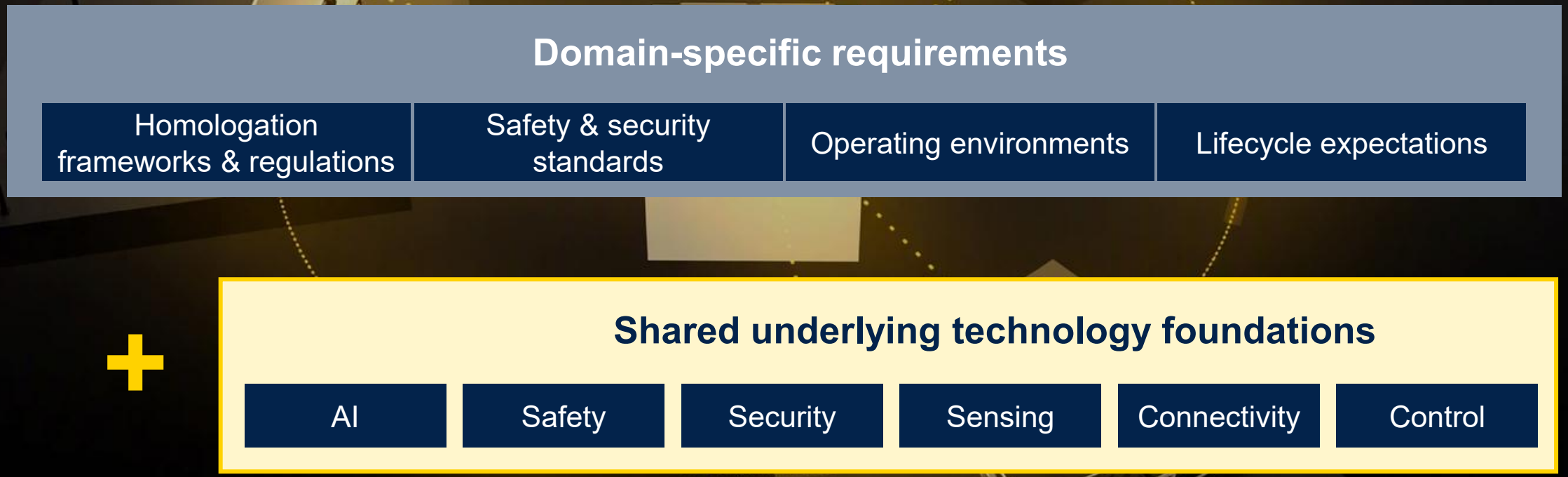
Technology convergence is happening

Industrial, automotive, and robotics are adopting shared technology foundations

They require a common MCU platform to accelerate time to market

Technology convergence is happening

The shift to software-defined systems and physical AI is aligning technology foundations



We see convergence across three levels

Technology level	Similar engineering foundations and control principles across domains	*The same control mathematics for a wheel, robot joint, or industrial drive*
Silicon & IP level	Common silicon (IP) building blocks across applications	*Reusable compute, AI, connectivity, and functional safety IP across domains*
Architecture level	The same system-level architectural patterns are emerging, replacing fragmented legacy designs	*Centralized compute with distributed intelligence connected by deterministic Ethernet*

Technology convergence opens the way to a new generation of physical AI systems



Physical AI systems **perceive, decide, and act** in the real world, spanning a wide spectrum of applications

Shared **technology foundations** (AI, safety, sensing, control…)

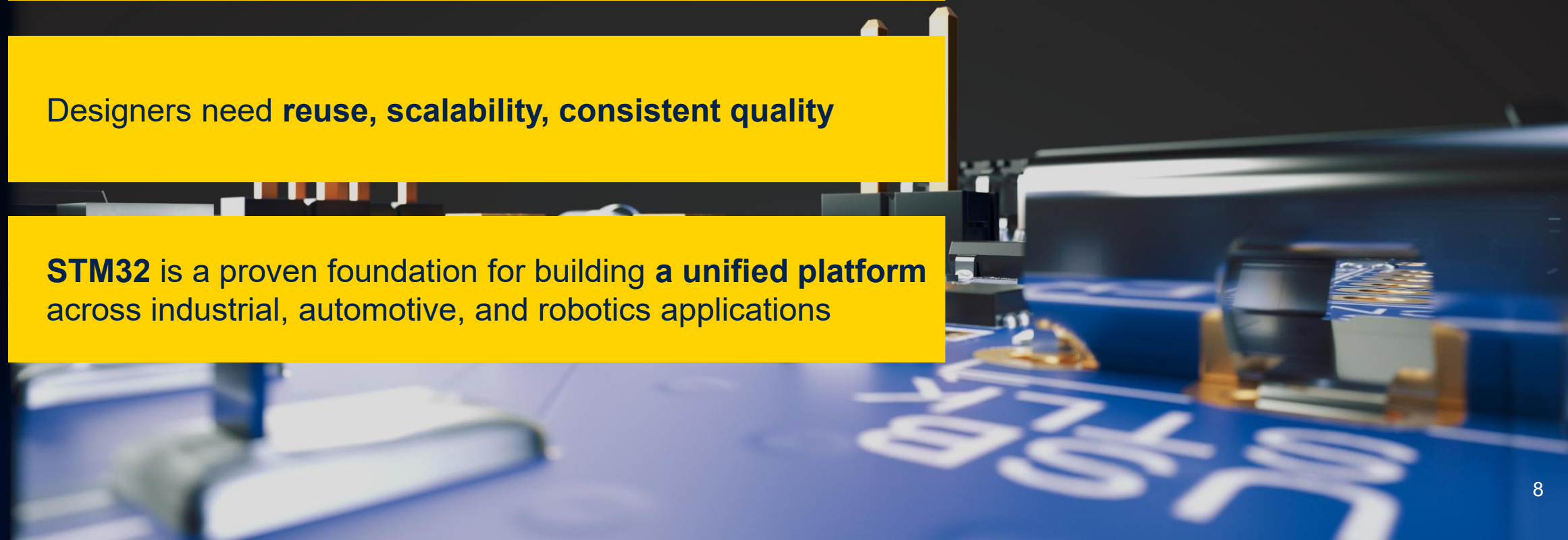
Convergence lowers the cost and complexity of scaling and deploying physical AI systems

As technology foundations converge, the platform matters even more than the individual device

Embedded systems **require AI, connectivity, security, safety.., while retaining domain-specific needs**

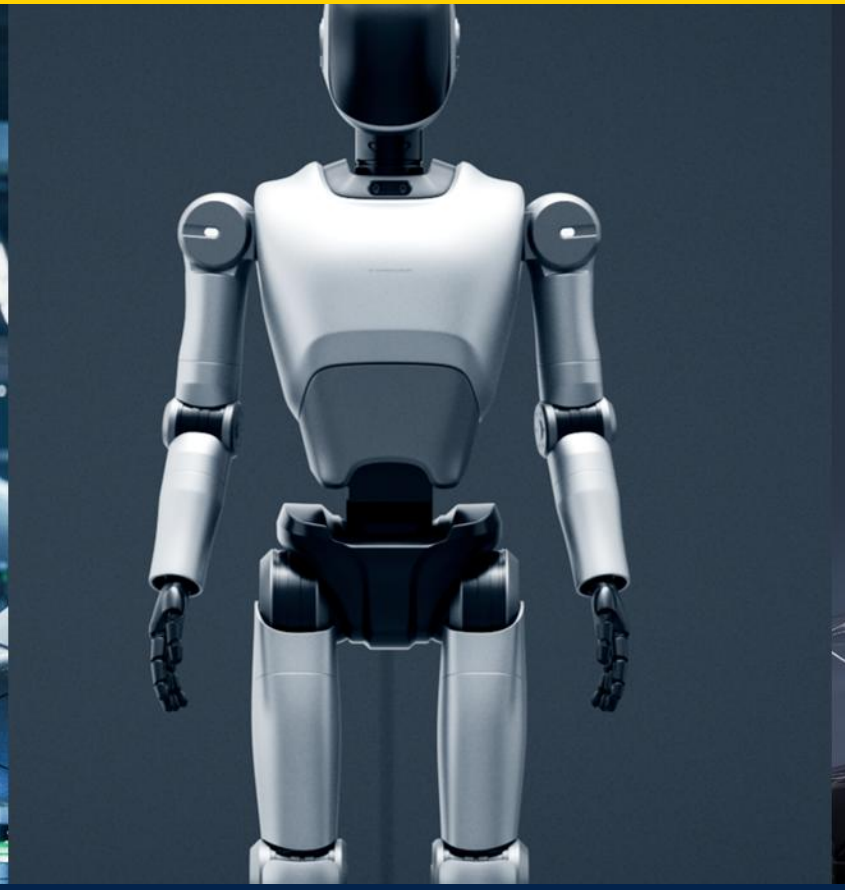
Designers need **reuse, scalability, consistent quality**

STM32 is a proven foundation for building **a unified platform** across industrial, automotive, and robotics applications



Bringing the benefits of the STM32 platform to automotive and high-safety applications



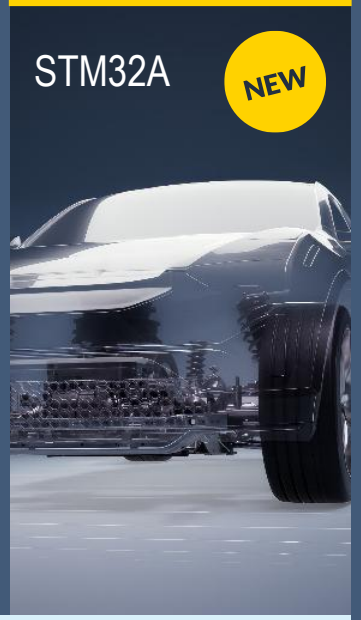




What this platform looks like

A continuum from STM32 to the high-safety and automotive markets

STM32 microcontrollers

High-performance MCU	Mainstream MCU	Mixed-signal MCU	Ultra-low-power MCU	Wireless MCU	High-safety and automotive MCU
					 STM32A NEW

Common ecosystem foundation

STM32A: bringing STM32 strengths to automotive & high-safety worlds

Leveraging synergies to accelerate product releases for our customers

Arm cores

Cortex®-M
M85, M55, M33

+

The ST advantage

- 20+ years of expertise in industrial and automotive
- A common ecosystem foundation
- Long-standing expertise in edge AI, security, safety
- Proven process technologies

STM32 general-purpose portfolio

5,000+ part numbers
100,000+ customers
20b units shipped



+

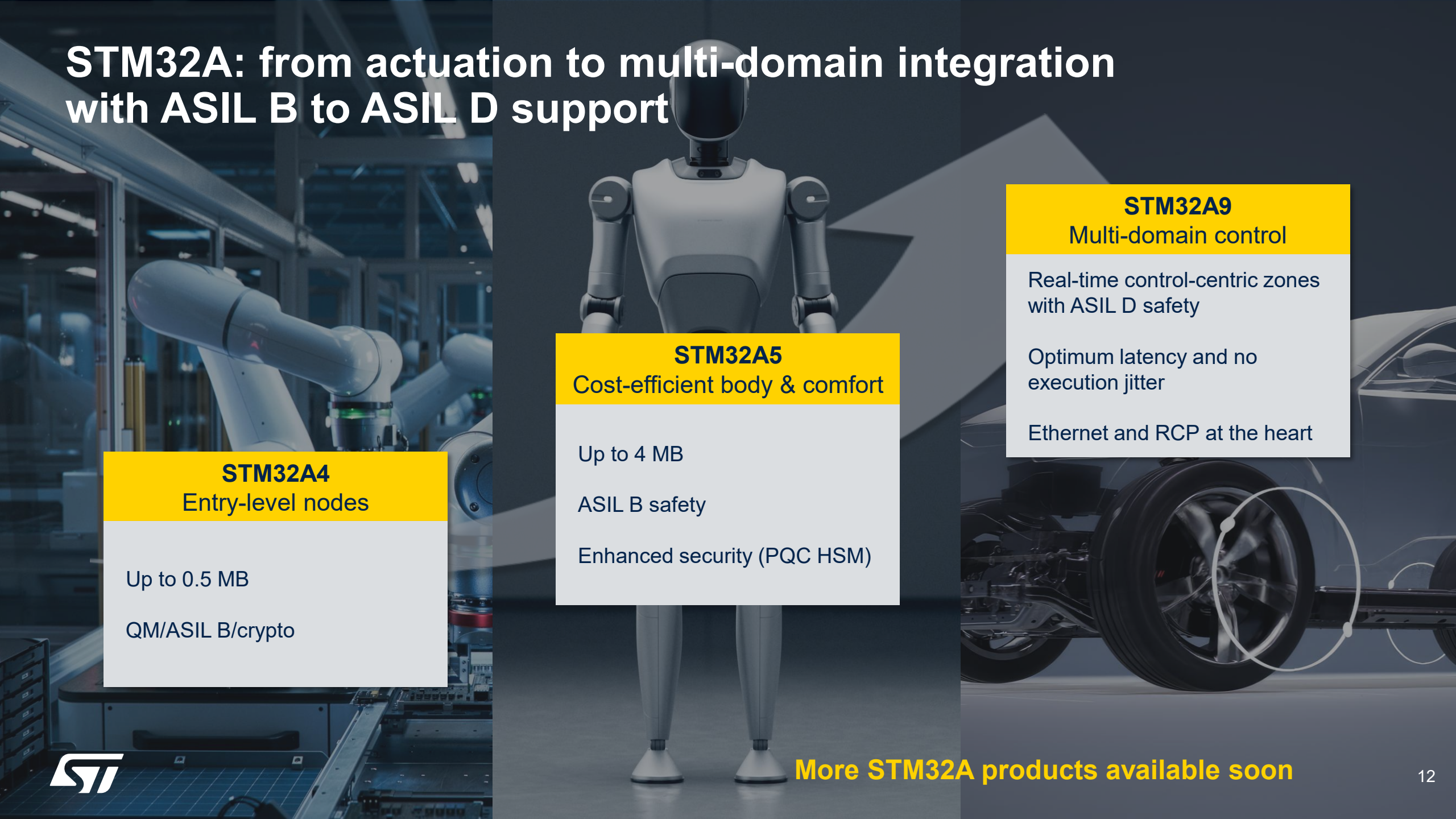
NEW

STM32A portfolio

Scalable offering
from low-end
to advanced safety MCU



STM32A: from actuation to multi-domain integration with ASIL B to ASIL D support



STM32A4
Entry-level nodes

Up to 0.5 MB

QM/ASIL B/crypto

STM32A5
Cost-efficient body & comfort

Up to 4 MB

ASIL B safety

Enhanced security (PQC HSM)

STM32A9
Multi-domain control

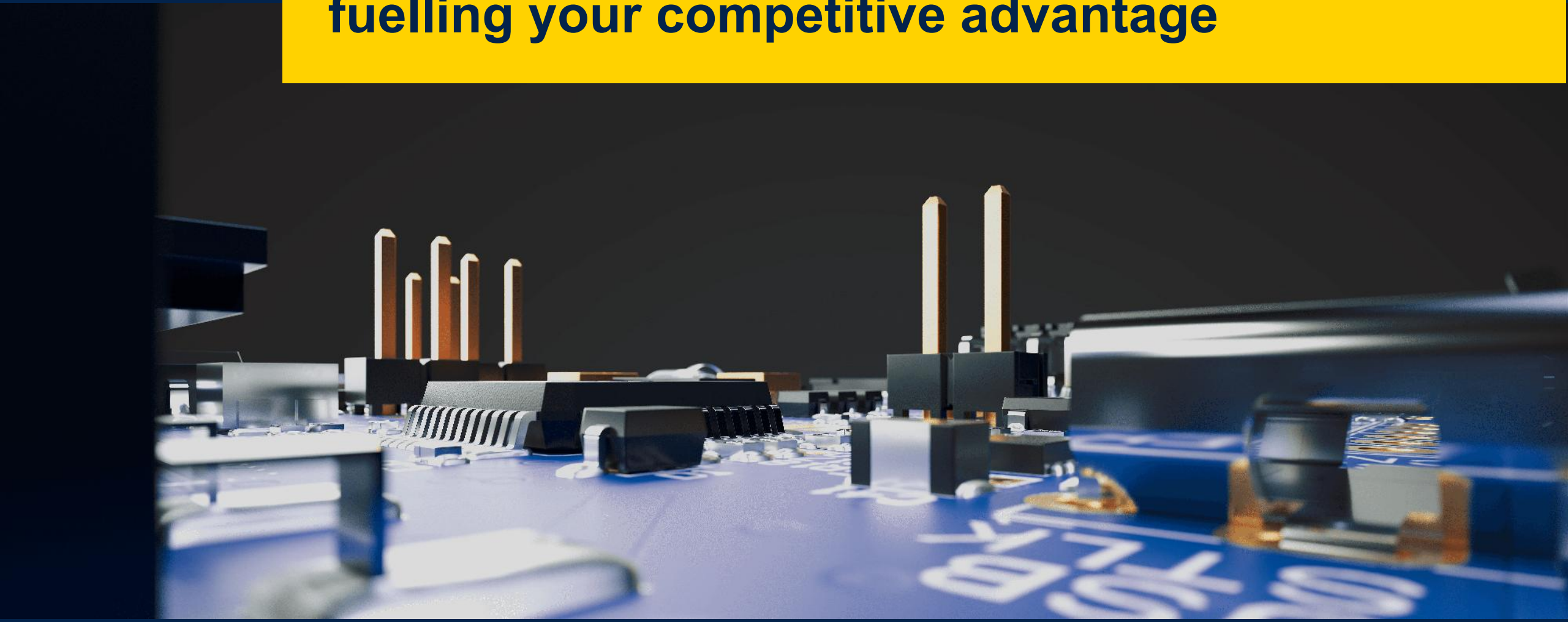
Real-time control-centric zones with ASIL D safety

Optimum latency and no execution jitter

Ethernet and RCP at the heart

More STM32A products available soon

The pillars of the unified STM32 MCU platform fuelling your competitive advantage



One unified STM32 MCU platform

Three pillars for scalability and faster time to market

1. Portfolio consistency and continuity

2. A common ecosystem foundation

3. Shared process technologies across domains

One unified STM32 MCU platform

Three pillars for scalability and faster time to market

1. Portfolio consistency and continuity

Arm Cortex-M cores
(M33, M55, M85 …)

STM32 IP: edge AI,
connectivity, safety, security

ST is a lead partner in defining the future of Arm Cortex-M core

Benefiting the entire Arm ecosystem for decades to come

One unified STM32 MCU platform

Three pillars for scalability and faster time to market

1. Portfolio consistency and continuity

Arm Cortex-M cores
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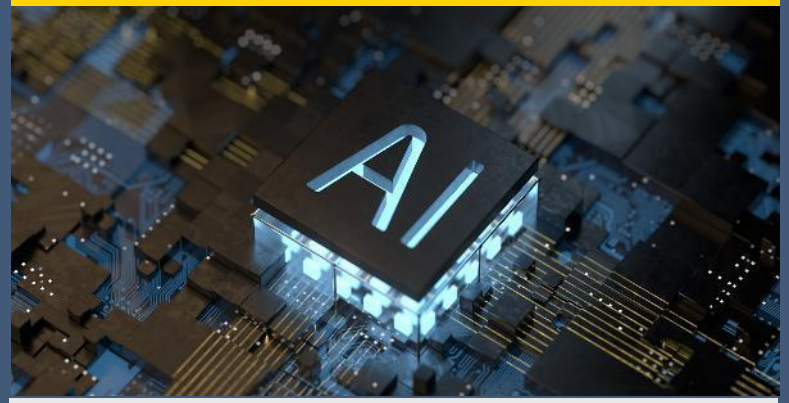
Built-in technology enablers

Capabilities that are embedded into the platform and reused across domains

1. Portfolio consistency and continuity: technology enablers

Edge AI

AI-ready architecture



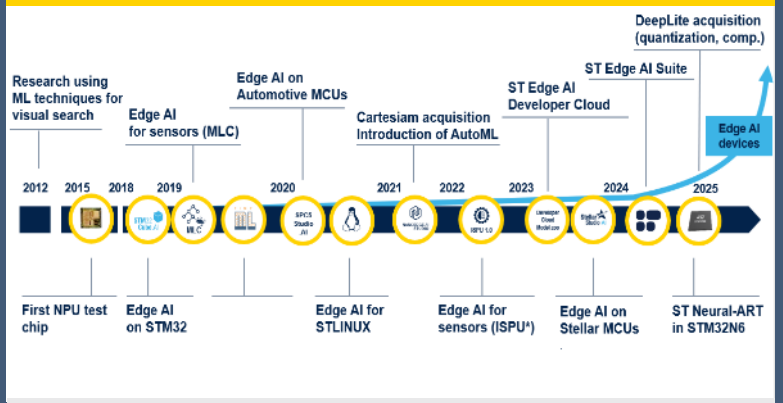
- Powerful pairing of **Arm CPUs** (with extensions) and the **Neural-ART NPU** providing the optimal system for **efficient and ultralow latency** AI model execution

Low-latency edge AI



- Leveraging a data-flow architecture: **ST Neural-ART Accelerator** achieves microsecond (µs) latency for **low-power and fast responses**

10+ years MCU AI experience



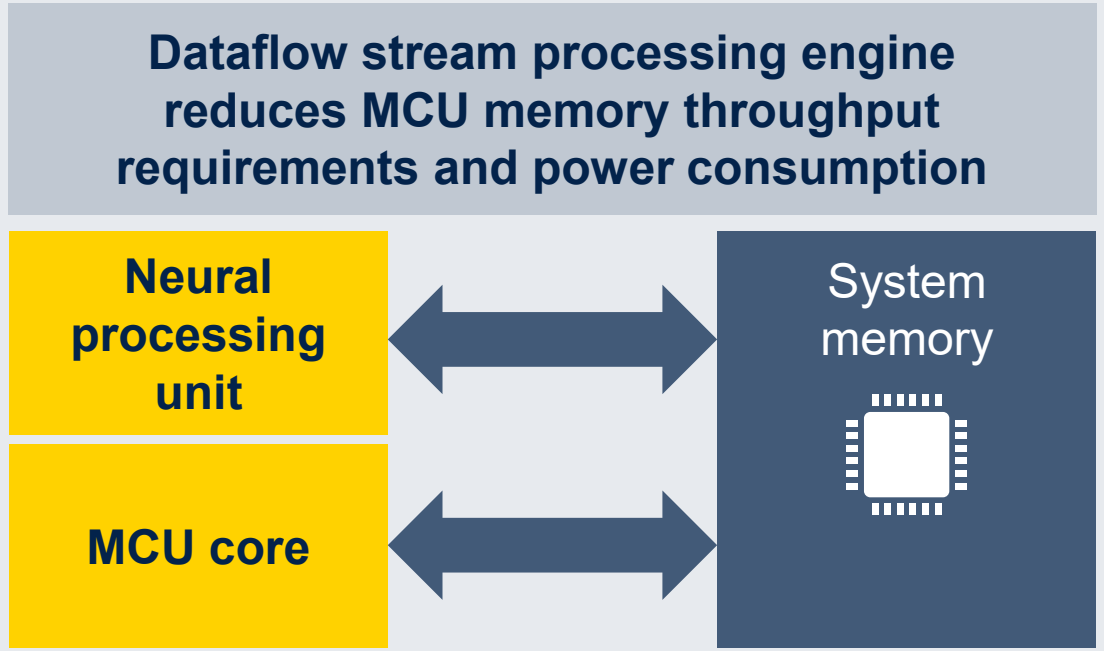
- ST proven ecosystem with **10+ years** of development for AI on MCUs, MPUs, and sensors (hardware, software, and support)
- Exhaustive and optimized set of tools to rapidly develop, test, and deploy AI models: **ST Edge AI Suite**

1. Portfolio consistency and continuity: technology enablers

Edge AI: ST proprietary AI acceleration IP across STM32 roadmap

ST proprietary Neural-ART Accelerator deployed across STM32 MCUs

- **STM32N6** high-performance MCUs (available)
- **STM32H7P** high-performance MCUs (available H1 2027)
- **STM32A9** high-safety & automotive MCUs (sampling Q4 26)



1. Portfolio consistency and continuity: technology enablers

Connectivity for distributed intelligence

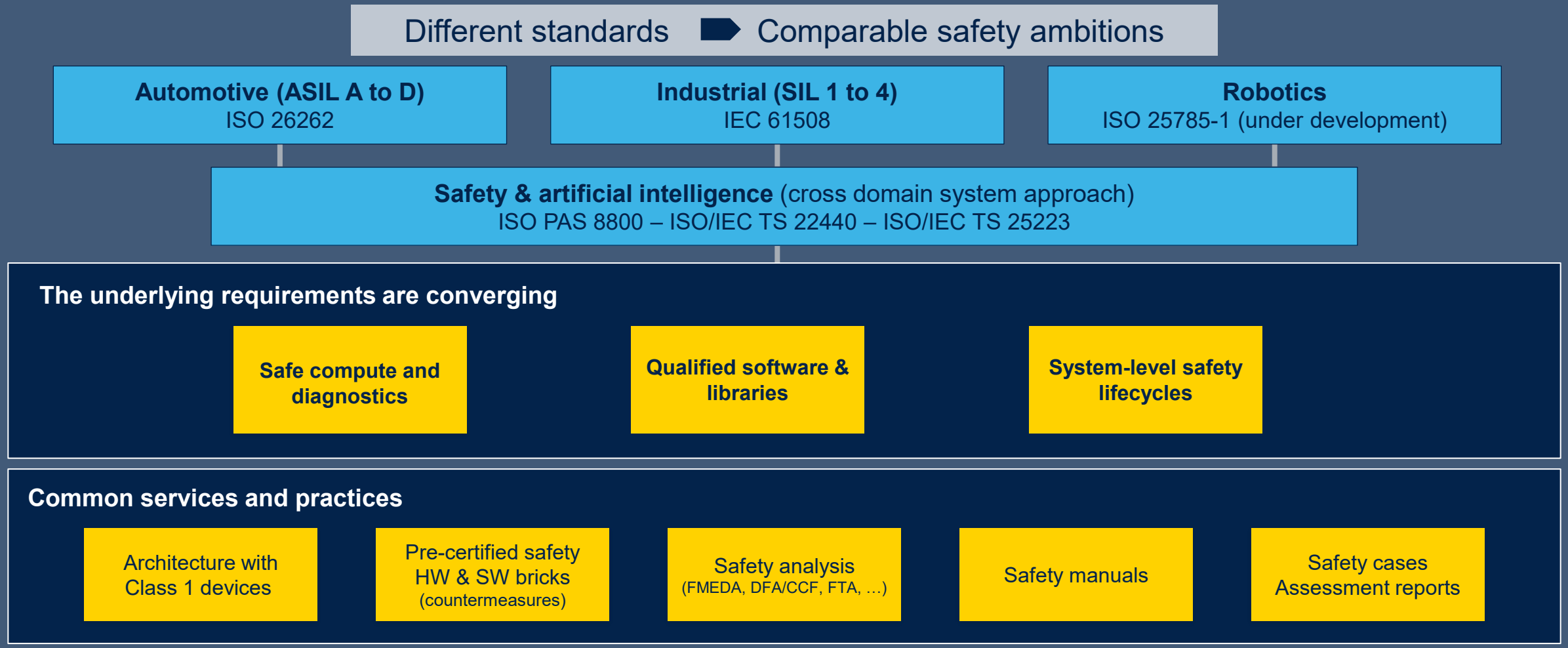
Automotive *Extreme reliability, harsh environments, tight spaces, low wiring weight*	**Industrial automation** *Hard determinism, synchronization, easy bridging to industrial protocols*
CAN / LIN: deterministic, low bandwidth control Automotive Ethernet with TSN (time sensitive network) and T1S (single-pair, “last-meter” Ethernet)	Industrial field bus like CAN or EtherCAT Ethernet with TSN and T1S for next-gen low latency and deterministic IP based communication

Physical AI systems
High speed/low latency Ethernet
Combination of automotive & industrial protocols

Integrated TSN switching	Optimized CAN-FD	Ethernet MAC to interface standards incl. 10BASE-T1S, 100BASE-T1, 1000BASE-T1	Comprehensive software ecosystem	Connectivity offloaded from CPU

1. Portfolio consistency and continuity: technology enablers

Functional safety ambitions aligning



1. Portfolio consistency and continuity: technology enablers

Security for every physical AI domain

Automotive
ISO/SAE 21434 / UN R155

Industrial
IEC 62443 / SESIP

Robotics
IEC 62443

Security services

- **Identification & authentication**
- **Access control & isolation**
- **Data confidentiality**
- **Integrity & firmware authenticity**
- **Audit & event logging**
- **Attack resistance**

Common embedded security technologies & practices

STM32Trust architectures
Full SW, hybrid HW-SW (TrustZone®), or full HW (secure enclaves) — by assurance level needed

Security & cryptographic portfolio
Complete services offer, including post-quantum cryptography and secure MCU companion chips

DevSecOps
Secure software development built into the engineering process

Secure lifecycle management
Provisioning, key rotation, and end-of-life handled by design

PSIRT vulnerability management
Disclosure, triage, and patching across the product lifetime

One unified STM32 MCU platform

Three pillars for scalability and faster time to market

1. Portfolio consistency and continuity	2. A common ecosystem foundation	3. Shared process technologies across domains
Arm Cortex-M cores (M33, M55, M85 …) STM32 IP: edge AI connectivity, safety, security	STM32Cube SW ecosystem, incl. ST Edge AI Suite An industry reference that continues to expand	40 nm embedded memory 18 nm FD-SOI with ePCM TSMC eNVM technologies

2. A common ecosystem foundation: powering scalability



Embedded projects typically require:

Software assets
Domain expertise
Validation effort
AI models
Security know-how

A common ecosystem foundation enables faster time-to-market

Leverage existing code
Reuse engineering skills
Shorten validation cycles
Accelerate product evolution



A common ecosystem foundation reduces complexity

STM32 ecosystem

STM32Cube: proven industrial-grade environment
Validated across close to 2M developers
STM32 is the most familiar MCU family (*)

One team built on experience and synergies
Bringing together ~20 years of industrial and automotive experience

Automotive rigor
Ready for automotive software qualification

Cross-domain tools

ST Edge AI Suite tools

Virtual platform for ShiftLeft and ShiftRight tools (STM32A98 and STM32V8)

- Motor control
- TSN

(*) Source: 2025 Aspencore Survey

STM32 & STM32A: two paths, one ecosystem foundation

STM32 and STM32A

Industrial projects
Non-AUTOSAR automotive projects

STM32Cube

Free development tools and embedded software components, backed by documentation, resources, and support

Fast start, scalable development

STM32A

AUTOSAR automotive

Qualified ST software components for higher safety needs

Integration into AUTOSAR frameworks with partner tools

Fast track to automotive qualification

3. Shared process technologies for STM32 and STM32A roadmaps to boost innovation

40 nm Flash, 18 nm FD-SOI with PCM, TSMC eNVM technologies

Greater availability of new ST products

Shared R&D investments accelerate new product introductions

Lower investment risk thanks to proven quality & technology leadership

Maturity, validation coverage, long-term reliability

FD-SOI with PCM enables higher performance, density, power efficiency and larger memories, relevant for industrial and automotive

Takeaways

ST enables industry transformation with a unified MCU platform
built on STM32 heritage, enabling long-term scalability and faster time to market

1. Automotive, industrial, robotics increasingly rely on shared technology foundations	2. ST offers a unified STM32 MCU platform, now extending into high-safety and automotive markets
The shift toward software-defined systems and physical AI fosters the adoption of shared technology foundations and architectural patterns.	By extending STM32 with STM32A, we offer our customers a platform for a broad range of applications, including high-safety and automotive and emerging physical AI systems.

Our technology starts with You

Find out more online

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