

SUMMIT INDUSTRY 4.0: SECURE AND SAFE MICROCONTROLLER AT THE HEART OF INDUSTRIAL, IOT AND AUTOMOTIVE APPLICATIONS

WOLFGANG STEINBAUER, NXP SEMICONDUCTORS



SECURE CONNECTIONS
FOR A SMARTER WORLD

PUBLIC

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SECURE CONNECTIONS FOR A SMARTER WORLD

OUR DIGITALLY ENHANCED WORLD IS EVOLVING TO ANTICIPATE AND AUTOMATE

NXP Semiconductors N.V. (NASDAQ: NXPI) enables a smarter, safer and more sustainable world through innovation. As the world leader in secure connectivity solutions for embedded applications, NXP is pushing boundaries in the automotive, industrial & IoT, mobile, and communication infrastructure markets.





A POSITION OF STRENGTH TO BETTER SERVE OUR 26,000+ CUSTOMERS

We accelerate breakthroughs that advance the world through our semiconductor technology leadership

EMPLOYEES IN
30+ COUNTRIES

Headquartered in Eindhoven,
Netherlands

~31,000
EMPLOYEES

9,500
Patent Families

\$11.06B
Annual Revenue ¹

60+
Year History

~11,000
Engineers

¹ Posted revenue for 2021 – Please refer to the Financial Information page of the Investor Relations section of our website at www.nxp.com/investor for additional information



MAJOR TECHNOLOGY VECTORS FOR ANY SMART DEVICE

SENSE



THINK



CONNECT



ACT



SECURE CONNECTIONS FOR A SMARTER WORLD...HAS EVOLVED



AUTOMOTIVE



INDUSTRIAL



MOBILE



COMMUNICATION
INFRASTRUCTURE

Focus Verticals

CLOUD INFRASTRUCTURE

Machine Learning

Authentication



Services

Data Analytics

ENABLING TECHNOLOGIES

Sense

Think



Act

Connect

EDGE TO EDGE



Home Gateway



Auto Gateway



Smart City



Industrial Controller



Smart Home



Smart Health



Smart Retail



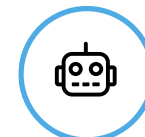
Wearables



Smart Buildings



Voice Assistant



Robotics



Media Streaming



INDUSTRIAL & IOT

INNOVATING EDGE TO CLOUD

VALUE PROPOSITION

Broad, scalable portfolio

Ultra-low-power and high-performance processors

High-performance crossover processors

Low-power secure and connected MCUs

Leader in connectivity - UWB, Wi-Fi, NFC, RFID and Bluetooth

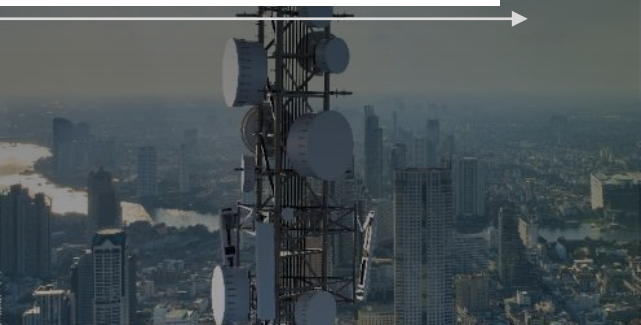
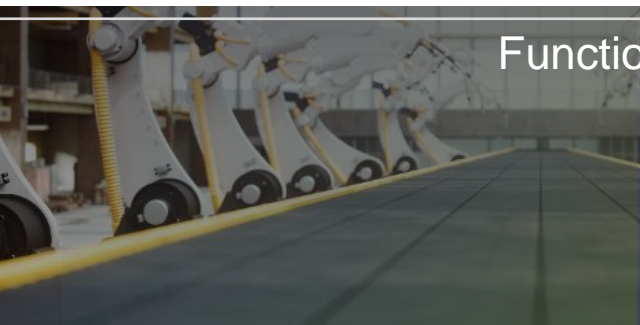
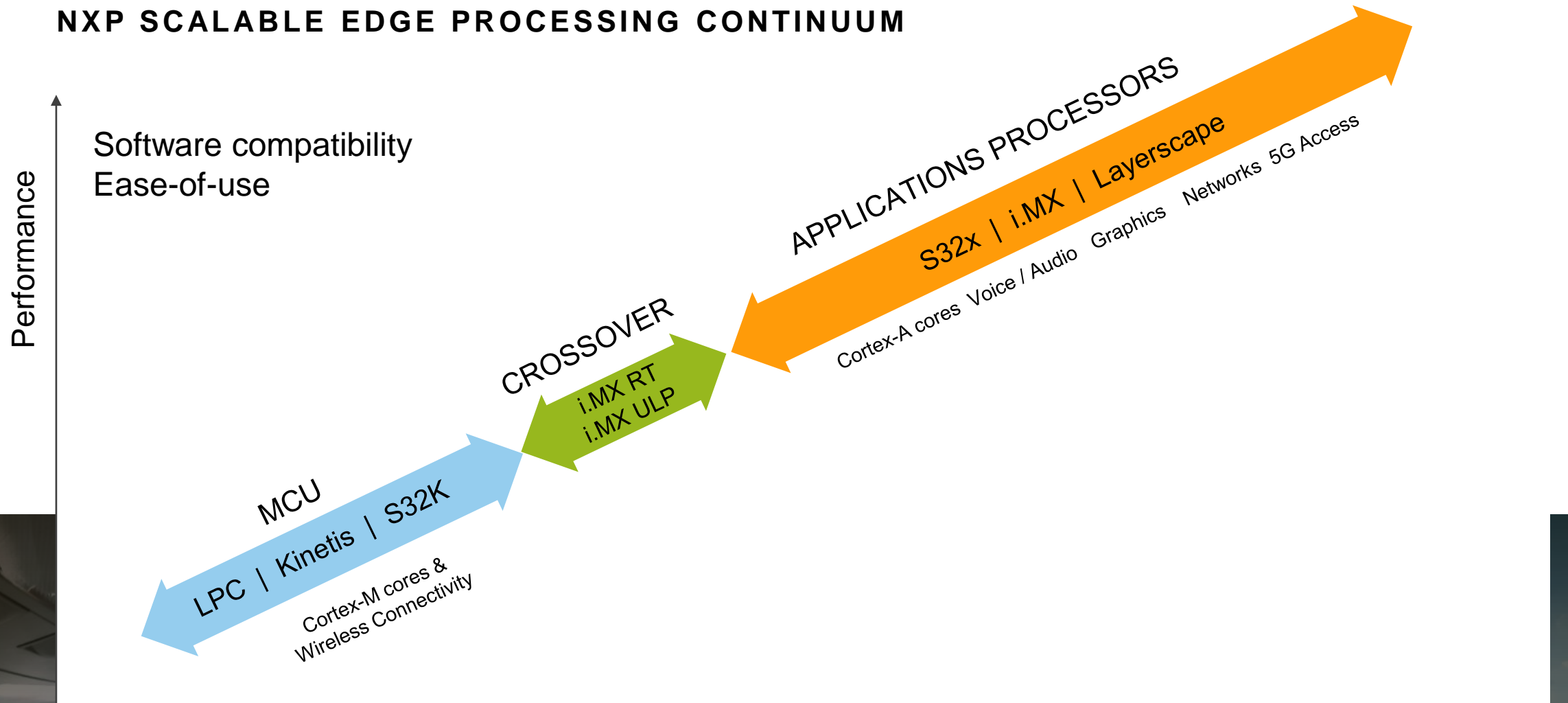
Common software

Large partner ecosystem

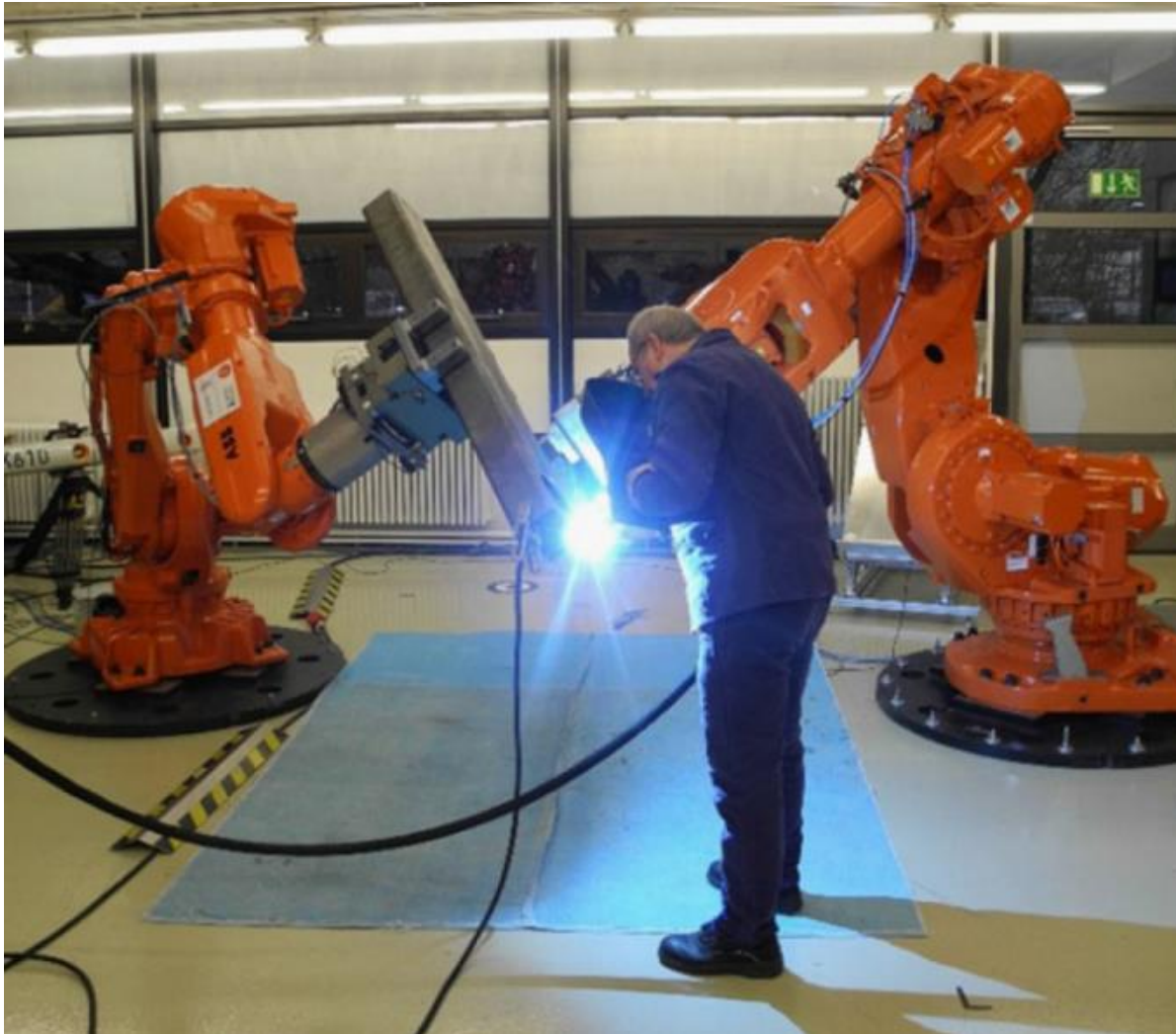
Deep applications insights

From working with and supporting 26,000+ customers across thousands of applications

NXP SCALABLE EDGE PROCESSING CONTINUUM

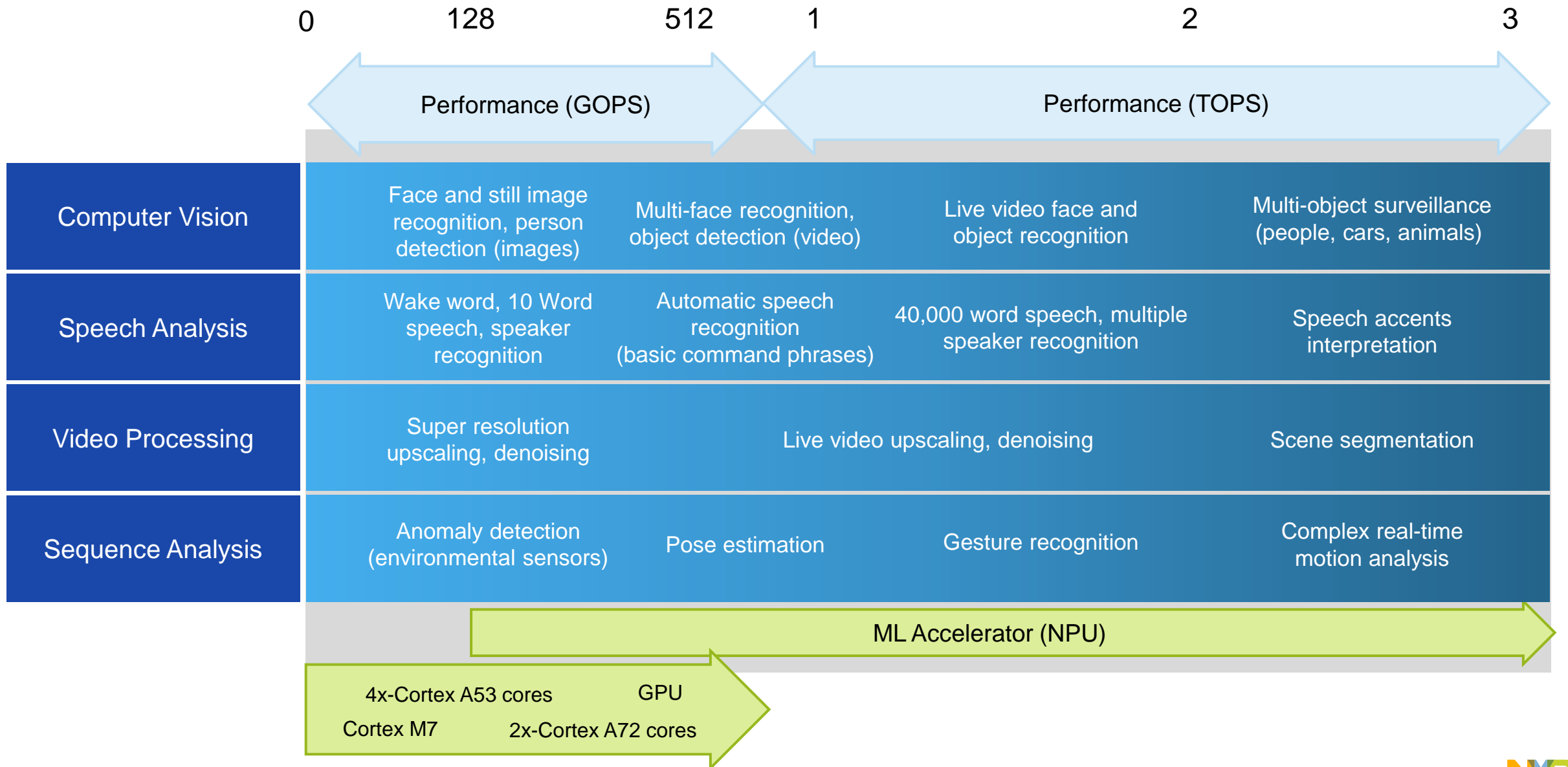


INDUSTRIAL CONTROL SYSTEMS – MICROCONTROLLER IN SAFETY CRITICAL USE CASES



Safety Integrity Level	Failure per h
SIL 4	$\geq 10^{-9} - < 10^{-8}$
SIL 3	$\geq 10^{-8} - < 10^{-7}$
SIL 2	$\geq 10^{-7} - < 10^{-6}$
SIL 1	$\geq 10^{-6} - < 10^{-5}$

MACHINE LEARNING USE CASES



COMPREHENSIVE SOFTWARE AND ENABLEMENT

Industrial Edge | IoT Edge | Network Edge

Focus Markets

CLOUD PLATFORM EXAMPLES

Integrated Supported Cloud Platforms

NXP eIQ™ Machine Learning	Audio Solutions	Key injection EdgeLock-2-Go	Turnkey solutions & SW services	Partners
Edge Intelligence		Security & Provisioning		Device Management

Software Enablement & Services

SECURITY CONNECTIVITY GRAPHICS AUDIO / VIDEO NETWORKING

Android	Common Linux Platform ubuntu yocto PROJECT CentOS Open Industrial Linux	Zephyr	MCUXpresso FreeRTOS	Azure RTOS
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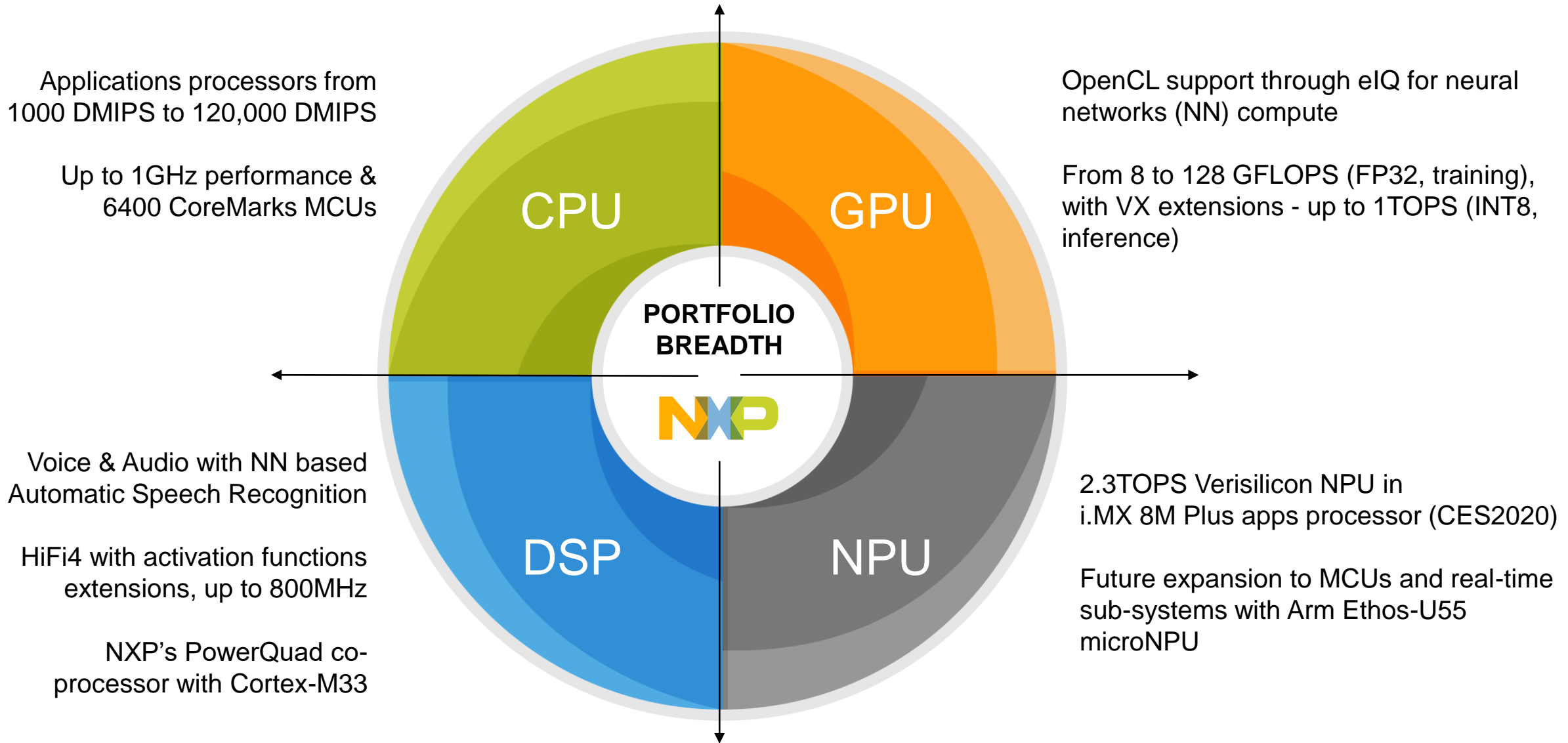
Middleware & Application code examples

Operating Systems

i.MX	MPUs	Crossover	MCUs
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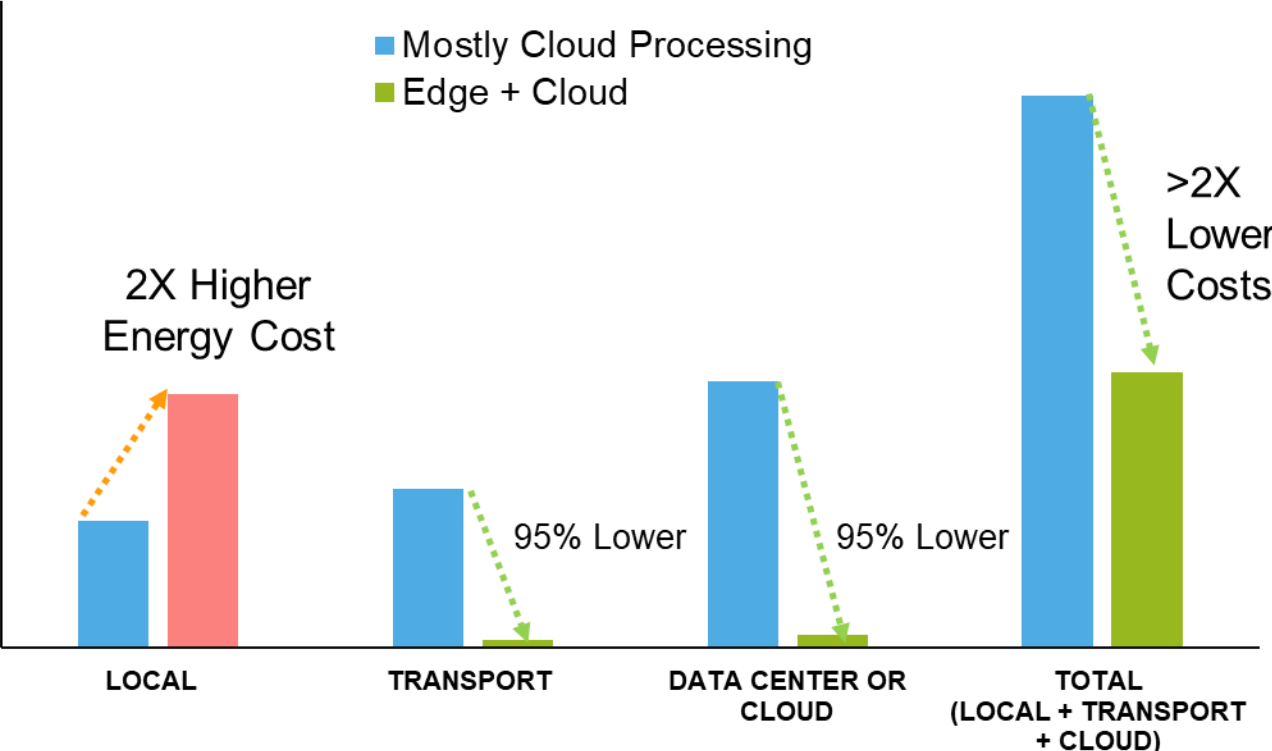
SoC

INFERENCE PROCESSING AT THE EDGE – NXP’S COMPUTE ENABLERS

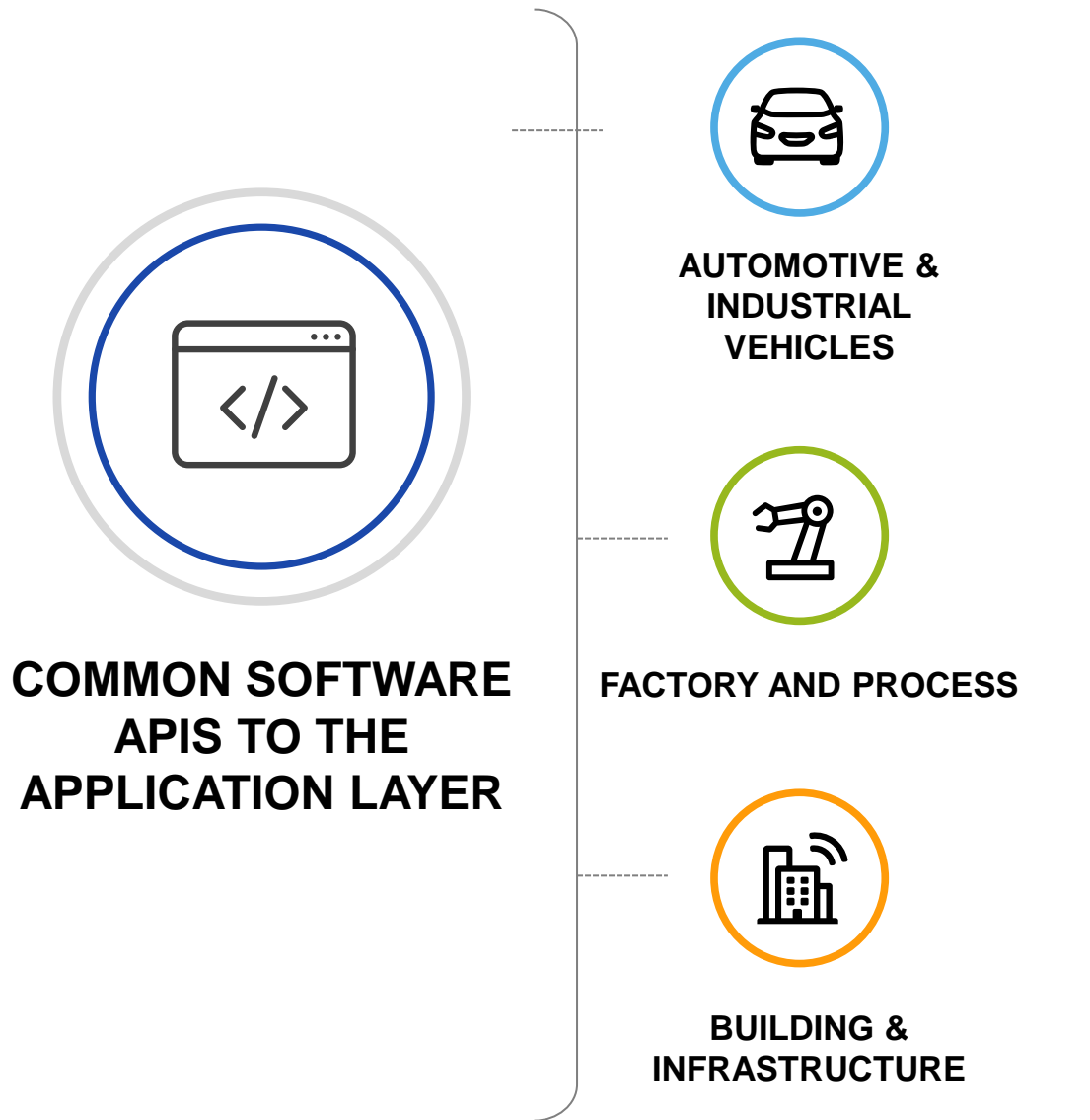


Energy Cost in Control SYSTEMS



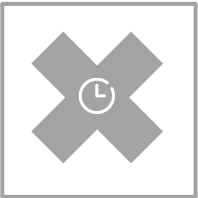



SOURCE OF ENERGY COSTS



INTEGRATED TIME SENSITIVE NETWORKING (TSN) & ENABLEMENT



SCALE FROM LOW-COST MCUS TO FEATURE-RICH MPUS

 TSN MAC	i.MX RT1170 Crossover MCU for drive control and cost-effective HMI performance
 TSN MAC	i.MX 8M Plus applications processor for rich HMI and machine learning
 TSN MAC  TSN MAC  TSN MAC  TSN MAC	LS1028 processor for switched, daisy-chained control performance

NXP in Austria



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WORKING AT A PLACE WHERE WE DRIVE INNOVATION FOR THE FUTURE

FACTS & FIGURES

Founded in 1987 as Mikron

Location: Gratkorn

CEO: Markus Stäblein

CTO: Wolfgang Steinbauer

650+ Employees from over 45 Nations



NEW BUILDING UPDATE



- Construction start in June 2022
- Finished end 2023
- Office capacity: ~250
- Lab capacity: 400 m² / 40 lab places



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