High density SPI Automotive EEPROM with 110 nm technology

ST EEPROM

“ If only

My high-density EEPROM had an optimized footprint, competitive pricing, and efficient power consumption

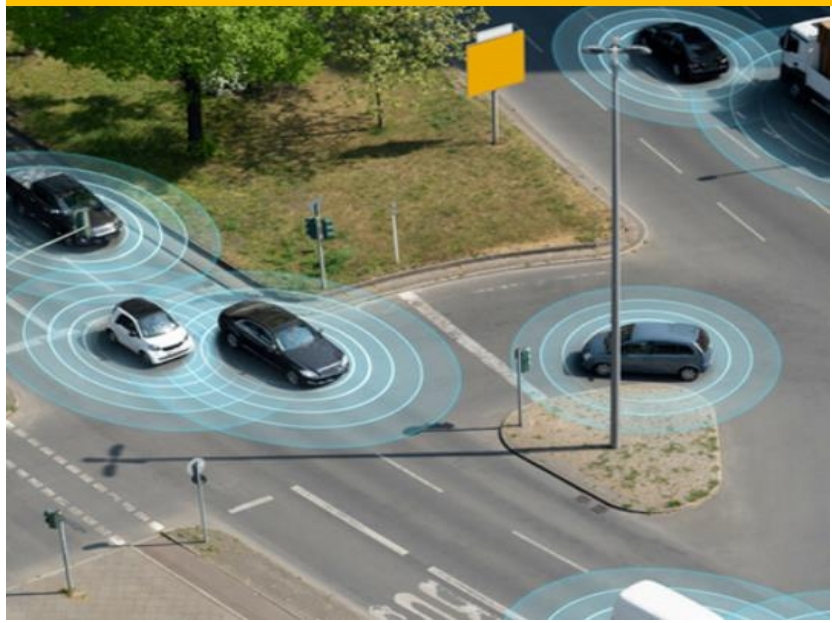
This is where we come in

Focus application domains

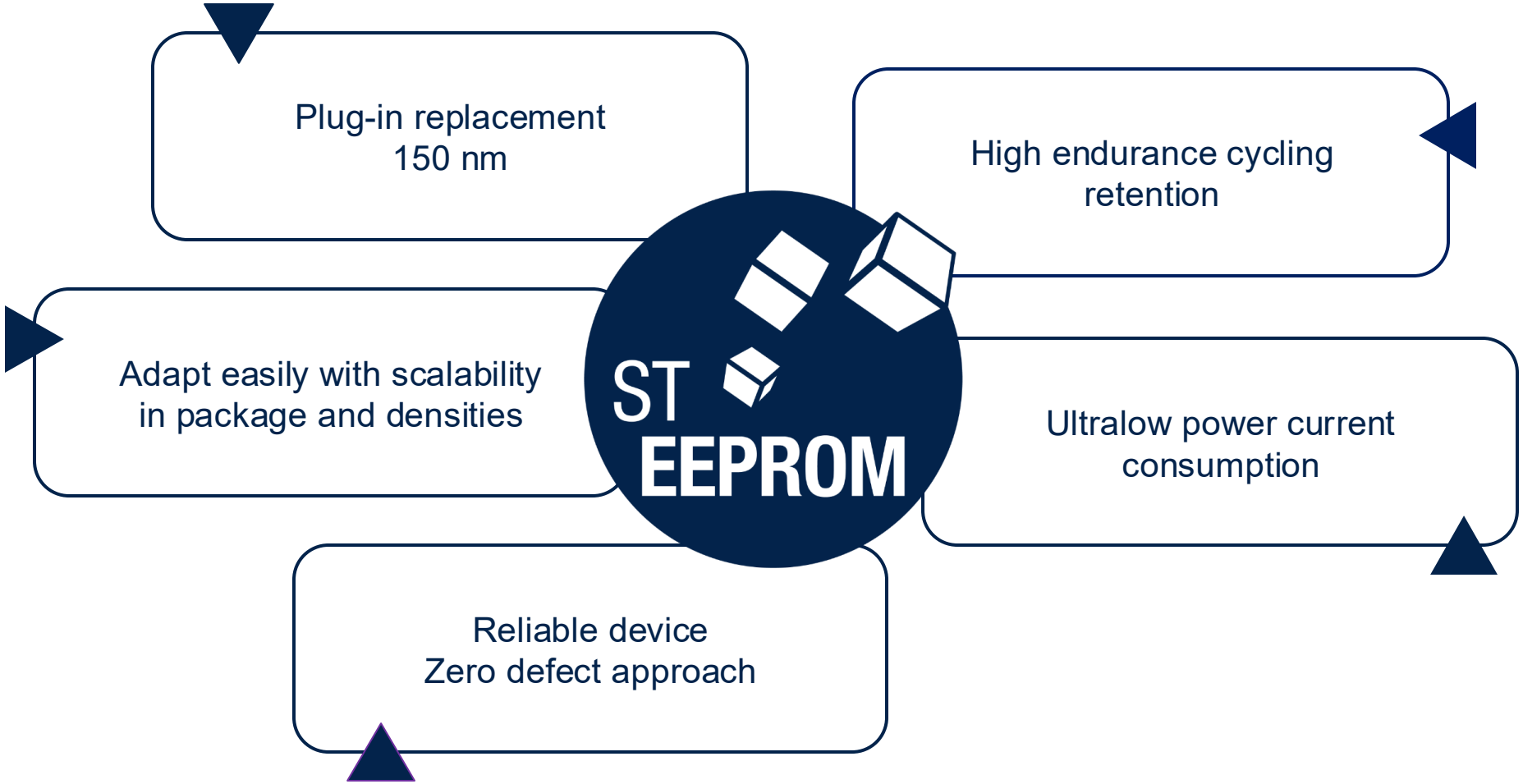
Safety

xEV powertrain

ADAS



EEPROMs make applications smarter



Safer data

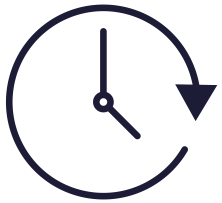
Protect your most sensitive data and make your application safer

Lockable page

Additional lockable page

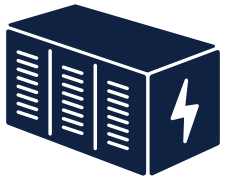
- Delivered with 3 ID bytes for software identification
- Access with specific instruction set
- Lockable in read only mode at any time

Flexible data management



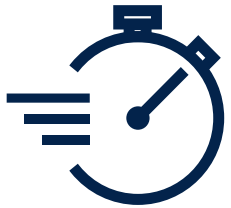
SPI 16MHz speed clock

- Sequential read of **256 Kbytes (2 Mbit) in less than 0.15 sec**



Fast 256-byte page write

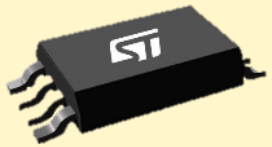
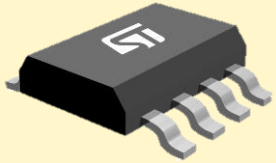
- Full memory write **256 Kbytes (2 Mbit) in less than 4 sec.**



Store 256 bytes in 1 single instruction

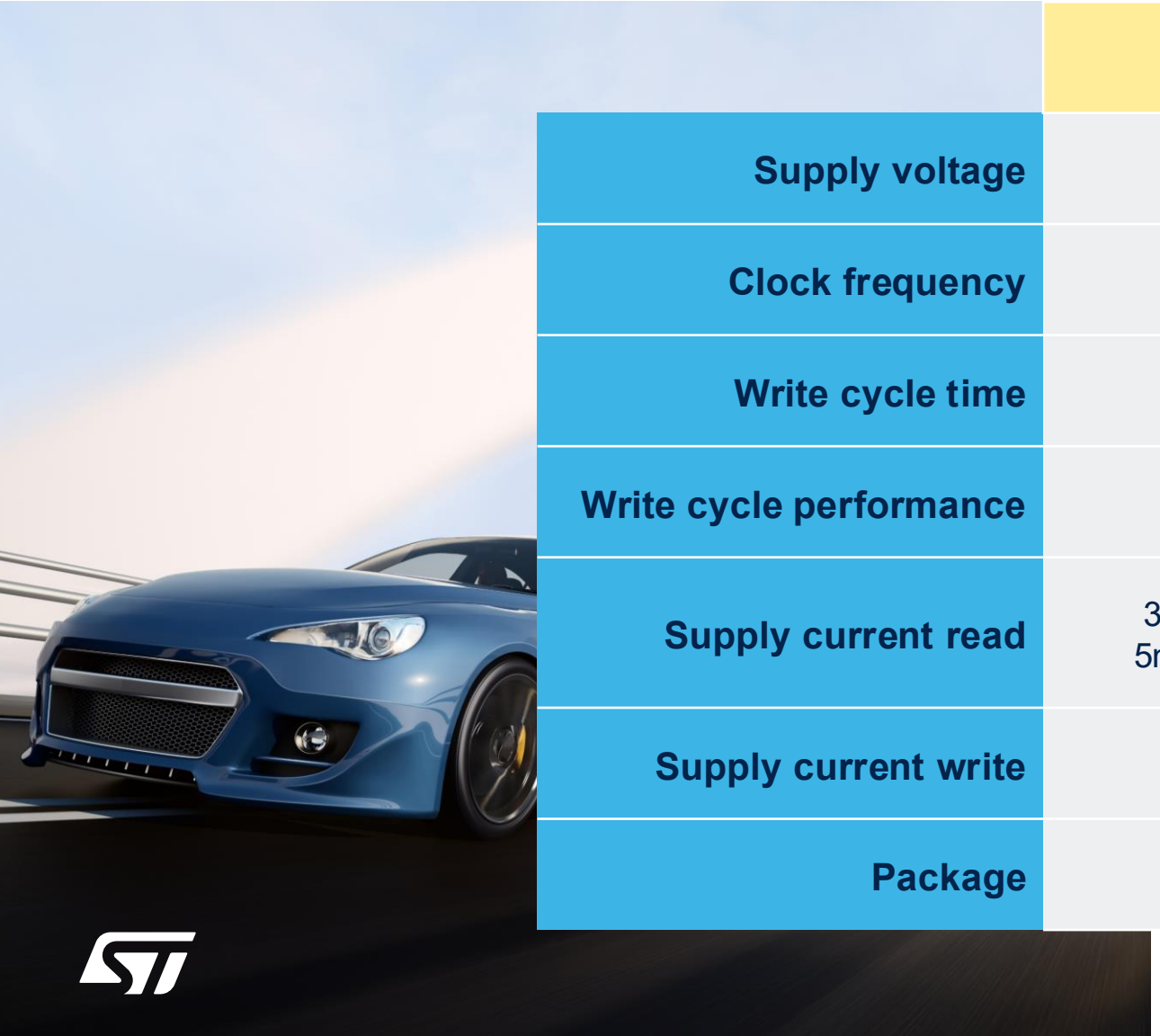
- Fast event recording of **256 bytes within 3.5 ms**

110 nm process
SPI Automotive EEPROM portfolio

MEMORY DENSITY	PACKAGE		
	DFN8 3 mm x 2 mm 0.8 mm Thick 	**TSSOP8** 6.4 mm x 3 mm 1.2 mm Thick 	**SO8N** 6 mm x 5 mm 1.75 mm Thick 
1 Mbit		M95M01-A125 (ASIL Ready) M95M01-A150 (ASIL Ready)	
2 Mbit		M95M02-A125 (ASIL Ready) M95M02-A150 (ASIL Ready)	
4 Mbit		M95M04-A125 M95M04-A145	

Legend: Also available up to 150°C ASIL Ready ASIL B ready

Specification comparison **M95M02-A125** 150 nm vs. 110 nm

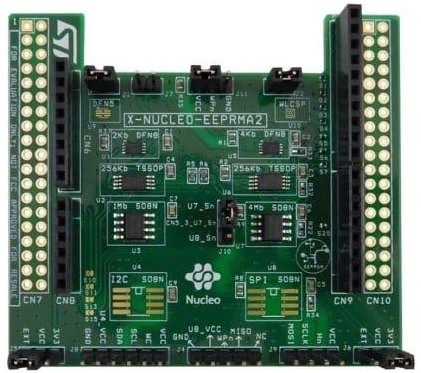


	150 nm	110 nm
Supply voltage	2.5 V to 5.5 V	1.7 V to 5.5 V
Clock frequency	Up to 10 MHz	Up to 16 MHz
Write cycle time	5 ms	3.5 ms
Write cycle performance	4 million at 25°C	4 million at 25°C
Supply current read	3mA @2.5 V, 5 MHz 125°C 5mA @5.5 V, 10 MHz 105°C	1 mA @1.7 V, 5 MHz 125°C 2 mA @2.5 V, 10 MHz 125°C 4 mA @5.5 V, 16 MHz 125°C
Supply current write	2 mA	2 mA
Package	SO8N, TSSOP	SO8N, TSSOP, DFN8

Development tools for 110 nm EEPROM technology

Try the new generation of EEPROM for your next design

STM32 Nucleo expansion board



Discover the
X-NUCLEO-EEPRMA2
18.62$

STM32Cube expansion package

STM32 CubeExpansion

Start prototyping with
X-CUBE-EEPRMA1
FREE

Standard I²C/SPI EEPROM memory expansion board

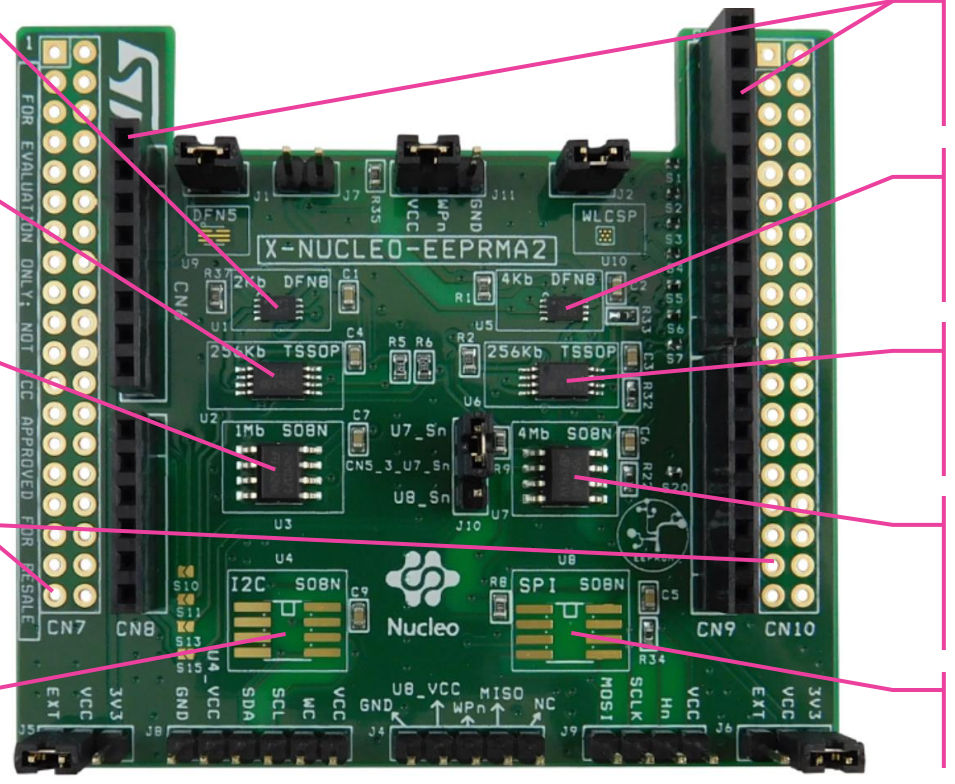
M24C02-FMC6TG
Standard I²C EEPROM

M24256-DFDW6TP
Standard I²C EEPROM

M24M01-DFMN6TP
Standard I²C EEPROM

ST morpho extension pins:
Direct access to all MCU I/Os

External I²C S08N EEPROM



Arduino® Uno & ST Zio connectors:
Easy access to add-ons

M95040-RMC6TG
Standard SPI EEPROM

M95256-DFDW6TP
Standard SPI EEPROM

M95M04-DRMN6TP
Standard SPI EEPROM

External SPI SO8N EEPROM

Can be plugged on top of an STM32 NUCLEO-F401RE, NUCLEO-L053R8 development board

Legacy products
From 1 Mbit to 4 Mbit

- **High endurance** (4 million write cycles)
- **Low supply** (1.7 V)

- **Footprint compliant with legacy EEPROM**
- **Long-term price competitiveness**

Densities	NRND Legacy CPNs	New RPNs	Packages	New CPNs
1 Mbit	M95M01-DWMN3TP/K M95M01-DWDW3TP/K M95M01-DWDW4TP/K	M95M01-A125 M95M01-A150	**SO8N** **TSSOP** **DFN8**	M95M01-DRMN3TP/V M95M01-DRDW3TP/V M95M01-DRMF3TG/V M95M01-DWDW4TP/V
2 Mbit	M95M02-DWDMN3TP/K	M95M02-A125 M95M02-A150	**SO8N** **TSSOP** **DFN8**	M95M02-DRMN3TP/V M95M02-DRDW3TP/V M95M02-DRMF3TG/V M95M02-DWDW4TP/V
4 Mbit		M95M04-A125 M95M04-A145	**SO8N** **TSSOP**	M95M04-DWMN3TP/V M95M04-DWDW3TP/V M95M04-DWDW4TP/V

New 110 nm process
Main features

ASIL B ready	Software identification	**2 Mbit in DFN8**	Lockage page
1.7 V to 5.5 V	SPI 16 MHz	4 million write cycles	**Write cycle time 3.5 ms**
Error correction code	**TSSOP8 150°C**	AEC-Q100 Grade 0	Up to 4 Mbit

Legend: New features

Our technology starts with You

Find out more at st.com/eeprom