



Page EEPROM for IoT applications



IoT market





IoT application examples

Reliable and flexible storage with ultra-low power consumption is essential for IoT.

Smart homes



- Smart thermostats
- Smart locks
- Smart sensors

Asset tracking



- Fleet management trackers
- Asset monitoring tags
- Cold-chain trackers

Smart metering & industrial IoT



- Smart electricity meters
- Environmental sensors
- Industrial wireless sensors



How Page EEPROM enhances IoT devices

A white robotic vacuum cleaner is shown on a light-colored tiled floor. The vacuum is circular with a black stripe around its base. A dark object, possibly a piece of furniture, is visible on the left side of the frame.

Reliable low-power data storage

- Extended battery lifetime
- Enable rich data logging
- Accelerate FOTA updates

Enable smarter, longer-lasting IoT devices

About Page EEPROM



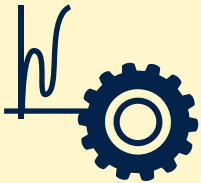


Application benefits



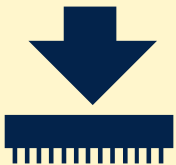
Maximize battery life

Conserve power for what matters most



Enable greater accuracy

Data monitoring made easy



Reduce FOTA* downtime

Fast firmware upload/download



*Firmware over-the-air

Page EEPROM introduction

A unique product

Get the best of both worlds:
Power efficiency and durability of an EEPROM
with capacity and speed of a Flash memory

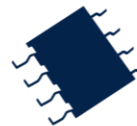
Memory densities

8-Mbit

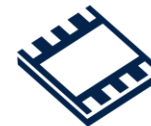
16-Mbit

32-Mbit

Package types



SO-8



DFN8



WLCSP

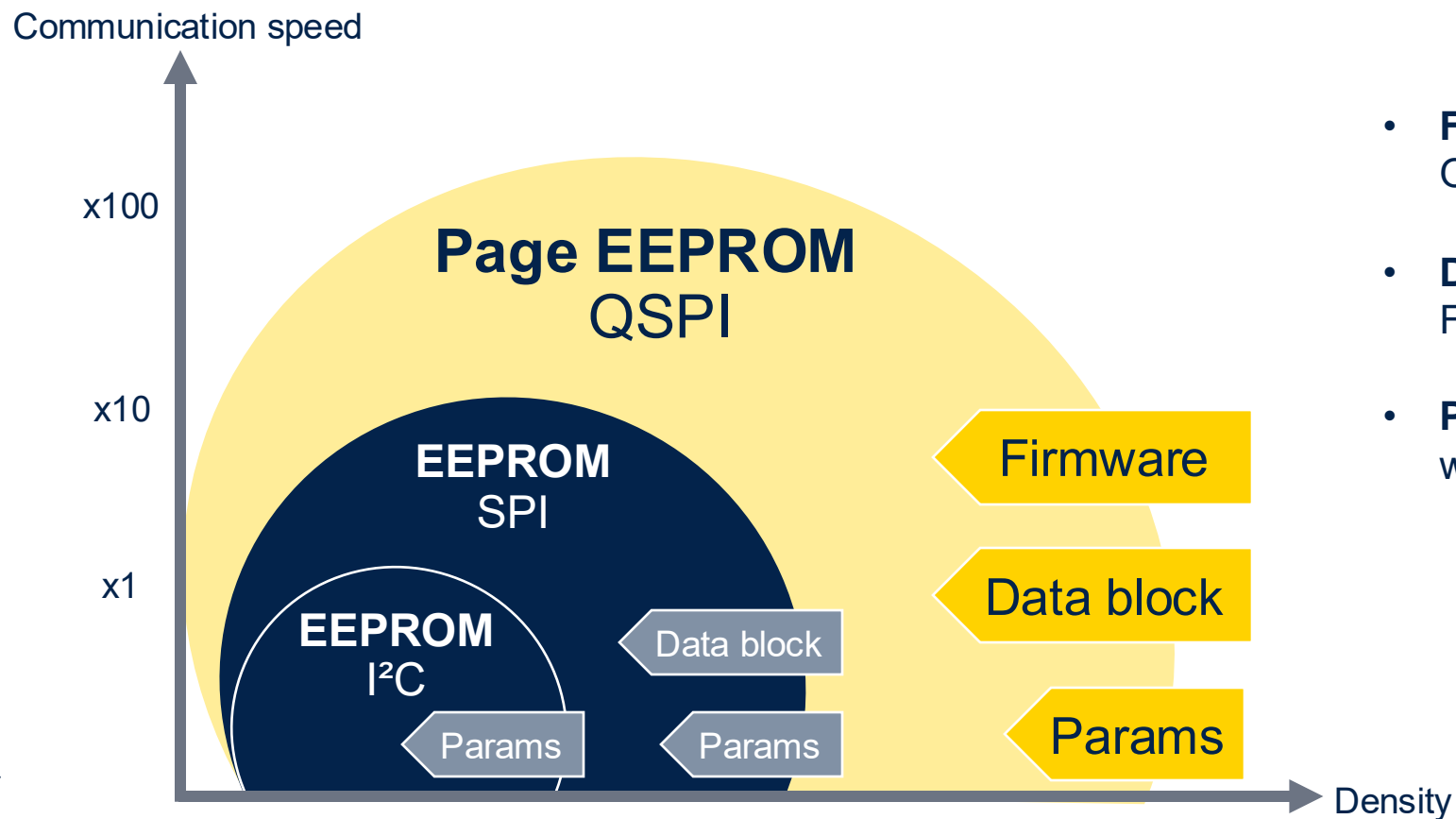


Bare die



Page EEPROM Functional perimeter

High density and performance for efficient management of high-volume, mixed data

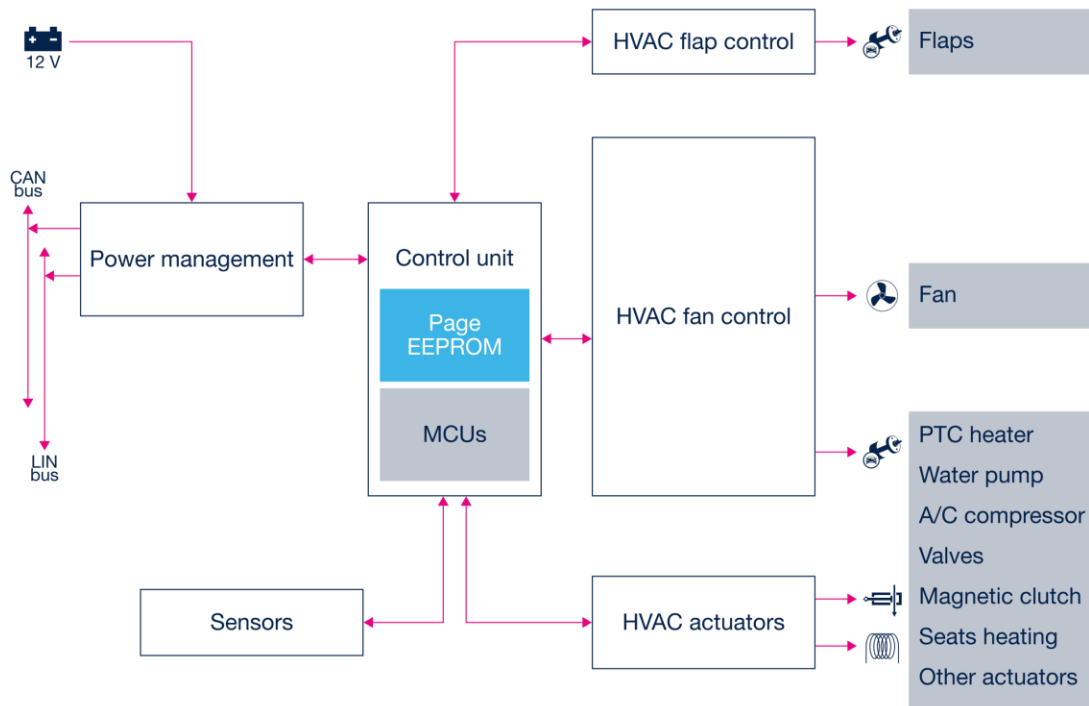


- **Firmware** upload/download for OTA* and application startup
- **Data blocks** and calibration tables
Fast access with quad read
- **Parameters** easy to manage
with byte flexibility



Page EEPROM HVAC and climate control

Collect more, respond faster, for a more comfort user experience



Features

100 years of retention

Fast and reliable
operations

Ultralow power operations

What this means for end users

Settings and scenarios
preserved for years

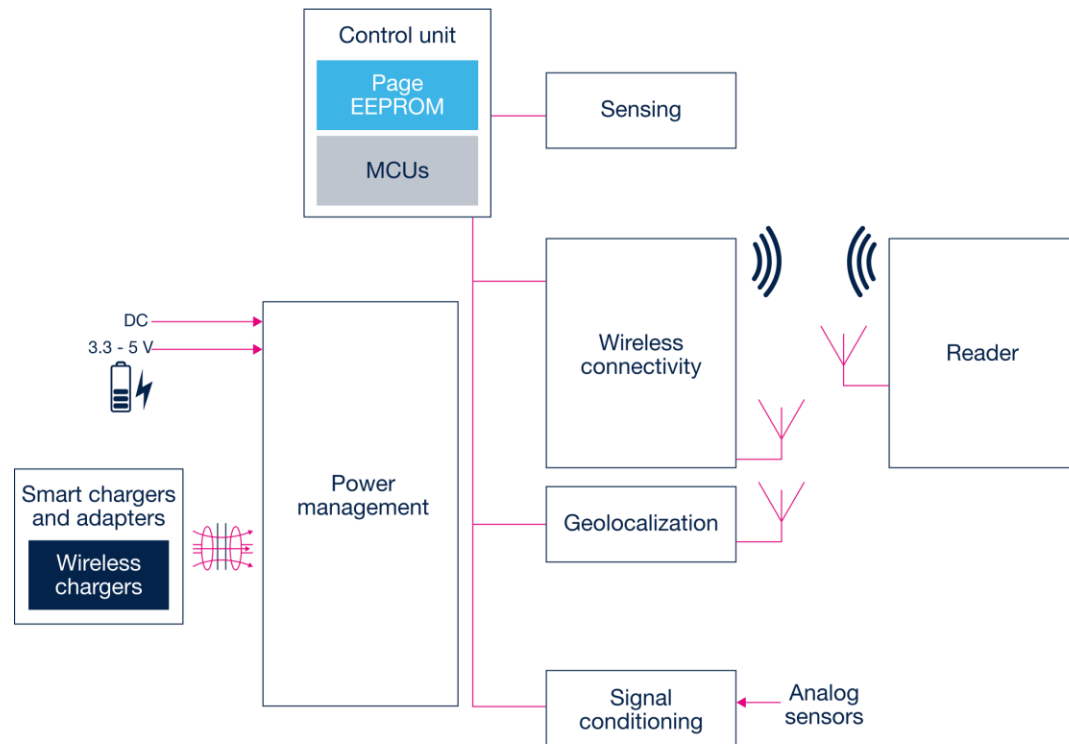
Improved responsiveness

Always-on application



Page EEPROM IoT tags and tracking devices

Flexible and robust, accurate even in harsh environments



Features

High-speed 80 MHz QSPI

High cycling endurance

Current peak control
below 3 mA

What this means for end users

Accelerate boot and
firmware access

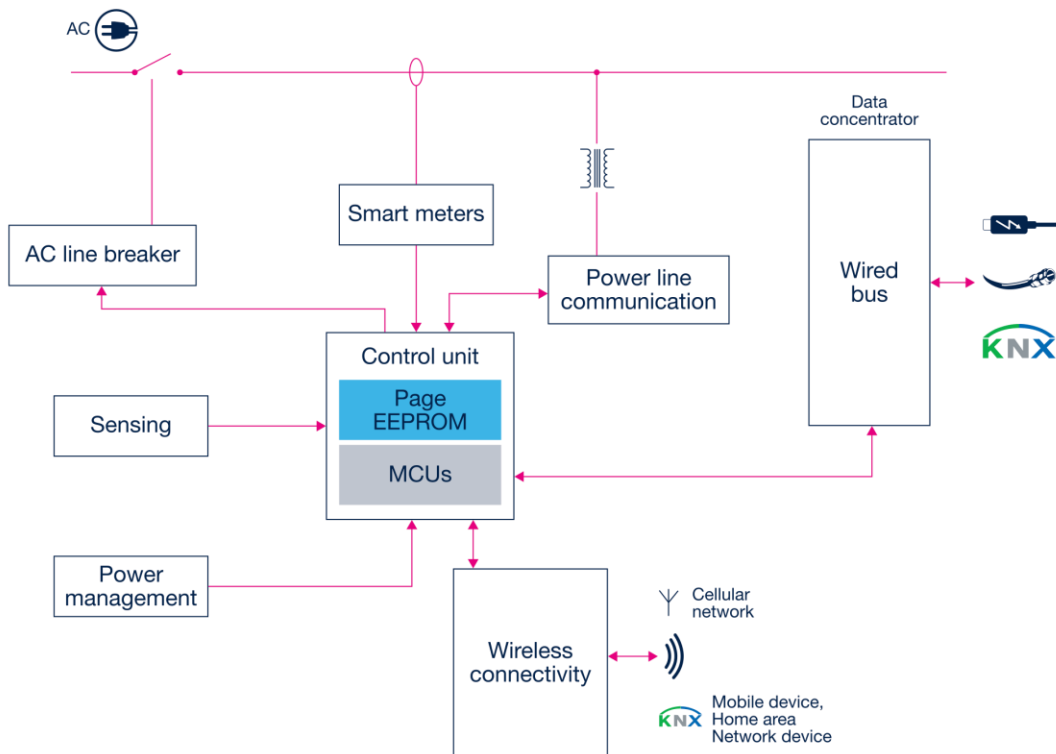
Better accuracy of the
application

Fit tiny battery-operated
systems



Page EEPROM Smart meters

Enable accurate measurement and invoicing



Features

Byte write granularity and high endurance

Long term storage with ECC

Mix Flash and EEPROM benefits

What this means for end users

High monitoring rate

Data integrity

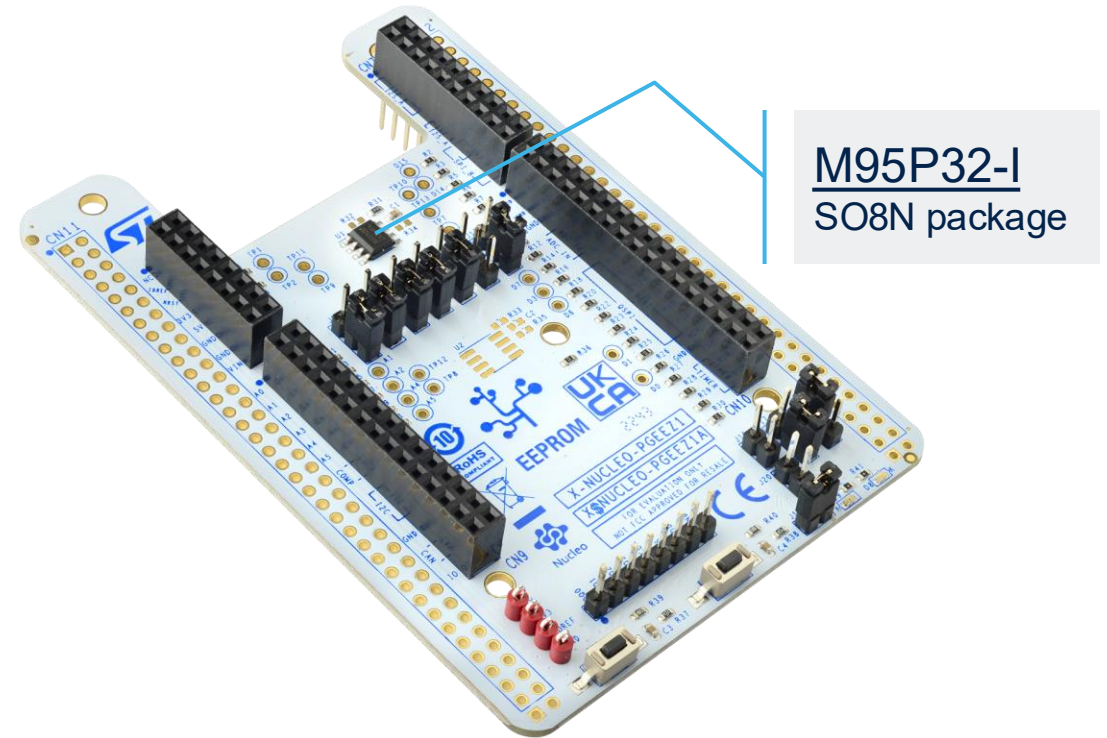
BOM cost reduction

Page EEPROM development tool

STM32 Nucleo expansion board X-NUCLEO-PGEEZ1

- Based on M95P32-I in SO-8 package
- Compatible with 64-or 144-pin Nucleo board
- Possibility to add a second memory
- Documentation & drivers available

[Read more](#)



Page EEPROM development tool – Software package

STM32 software expansion X-CUBE-EEPRMA1

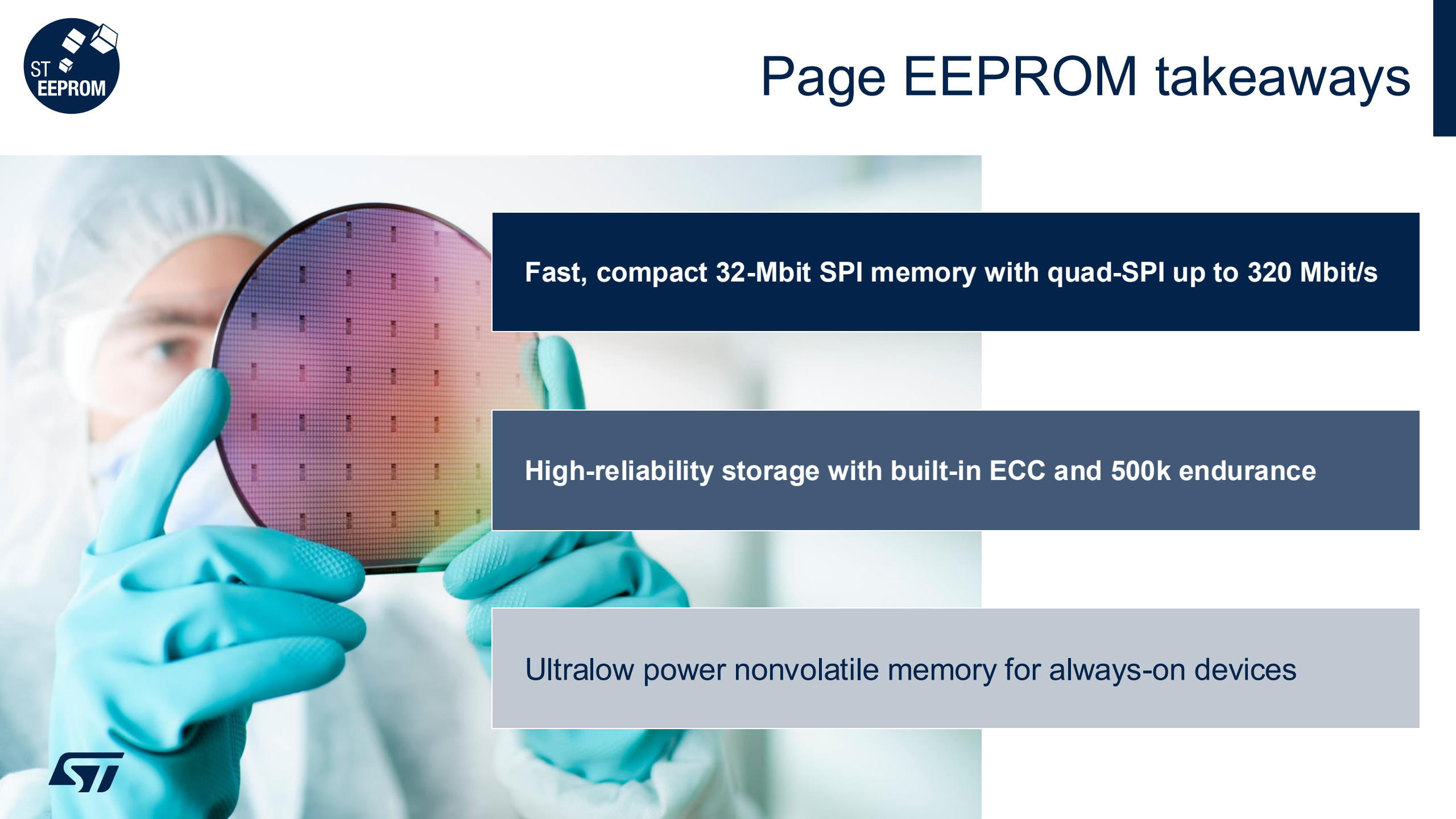
- STM32 drivers and high-level APIs for M95P32 Page EEPROM (SPI)
- Ready-to-run example projects with X-NUCLEO-PGEEZ1 on STM32 Nucleo
- Includes STM32CubeMX / STM32CubeIDE projects and documentation

[Read more](#)

Application	Examples
Hardware Abstraction	STM32Cube Hardware Abstraction Layer (HAL)
Hardware	STM32 Nucleo expansion boards X-NUCLEO-EEPRMA2/ X-NUCLEO-PGEEZ1/ X-NUCLEO-EEICA1 STM32 Nucleo development board



Page EEPROM takeaways

A person wearing a white cleanroom suit, hairnet, and mask, holding a large, circular silicon wafer with a grid of small, square dies. The wafer has a rainbow-like iridescent sheen.

Fast, compact 32-Mbit SPI memory with quad-SPI up to 320 Mbit/s

High-reliability storage with built-in ECC and 500k endurance

Ultralow power nonvolatile memory for always-on devices

Our technology starts with You



Find out more at www.st.com/Page-EEPROM

© STMicroelectronics - All rights reserved.

ST logo is a trademark or a registered trademark of STMicroelectronics International NV or its affiliates in the EU and/or other countries.

For additional information about ST trademarks, please refer to www.st.com/trademarks.

All other product or service names are the property of their respective owners.

