Introduction to the STM32MP1 Microprocessor Series

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Product Marketing

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Extending STM32 Success and Commitment with Microprocessors

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Continuing the STM32 Success Story

Leader in Arm Cortex-M 32-bit General Purpose MCU

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STM32 Rolling Longevity Commitment

Longevity commitment is renewed every year

starting January 1st 2019

➔ Until 2029

• **STM32F1**	(launched in **2007**)	**22 years** of commitment
• **STM32L1**	(launched in **2009**)	**20 years** of commitment
• **STM32F2**	(launched in **2010**)	**19 years** of commitment
• **STM32F4**	(launched in **2011**)	**18 years** of commitment
• **STM32F0**	(launched in **2012**)	**17 years** of commitment
• **STM32F3**	(launched in **2012**)	**17 years** of commitment
• **STM32L0**	(launched in **2013**)	**16 years** of commitment
• **STM32F7**	(launched in **2014**)	**15 years** of commitment
• **STM32L4**	(launched in **2015**)	**14 years** of commitment
• **STM32L4+**	(launched in **2016**)	**13 years** of commitment
• **STM32H7**	(launched in **2016**)	**13 years** of commitment
• **STM32WB**	(launched in **2018**)	**11 years** of commitment
• **STM32G0**	(launched in **2018**)	**11 years** of commitment

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STM32MP1: A General Purpose MPU

Suitable for all Developer Types and Multiple Applications

Developer profile

MCU users new to MPU — MCU → MPU

Mixed MCU and MPU users — MCU + MPU

Pure MPU users — MPU

STM32 MP1

Possible applications

Industrial

Consumer

Health & Wellness

Home

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Flexible architecture for a wide range of applications

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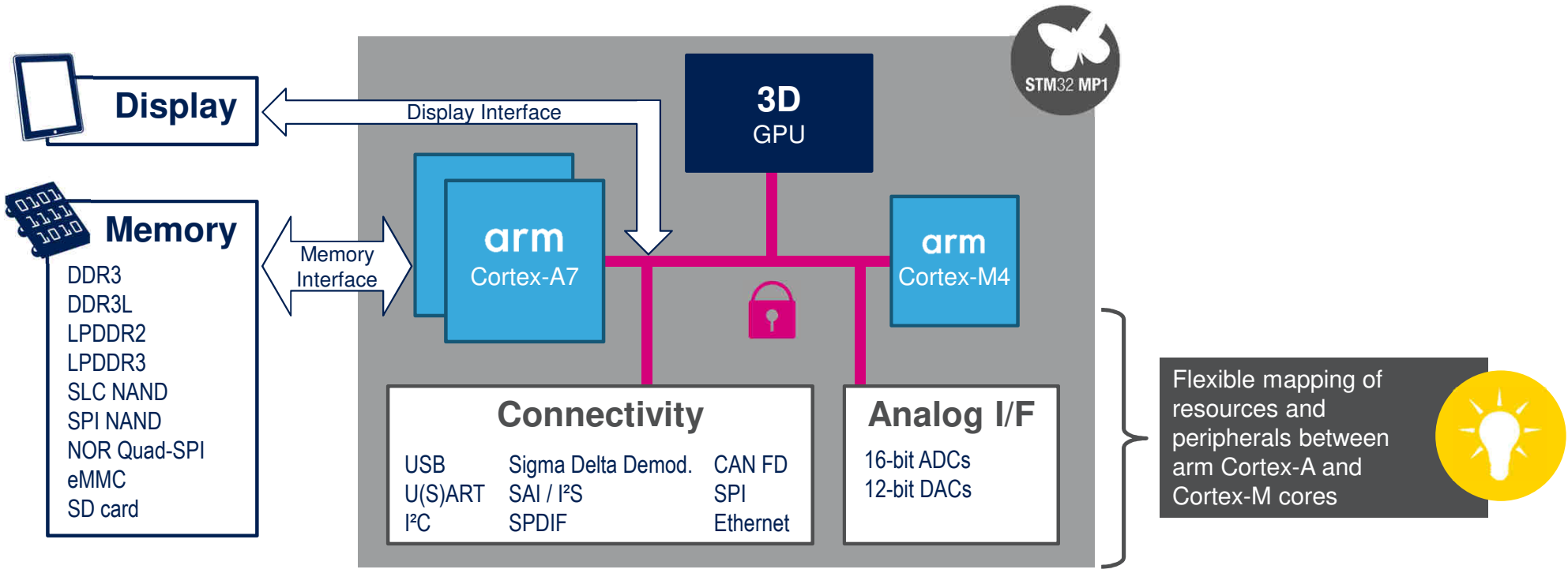
STM32MP1 Rich Feature Set

Advanced & Flexible Architecture with 3D GPU



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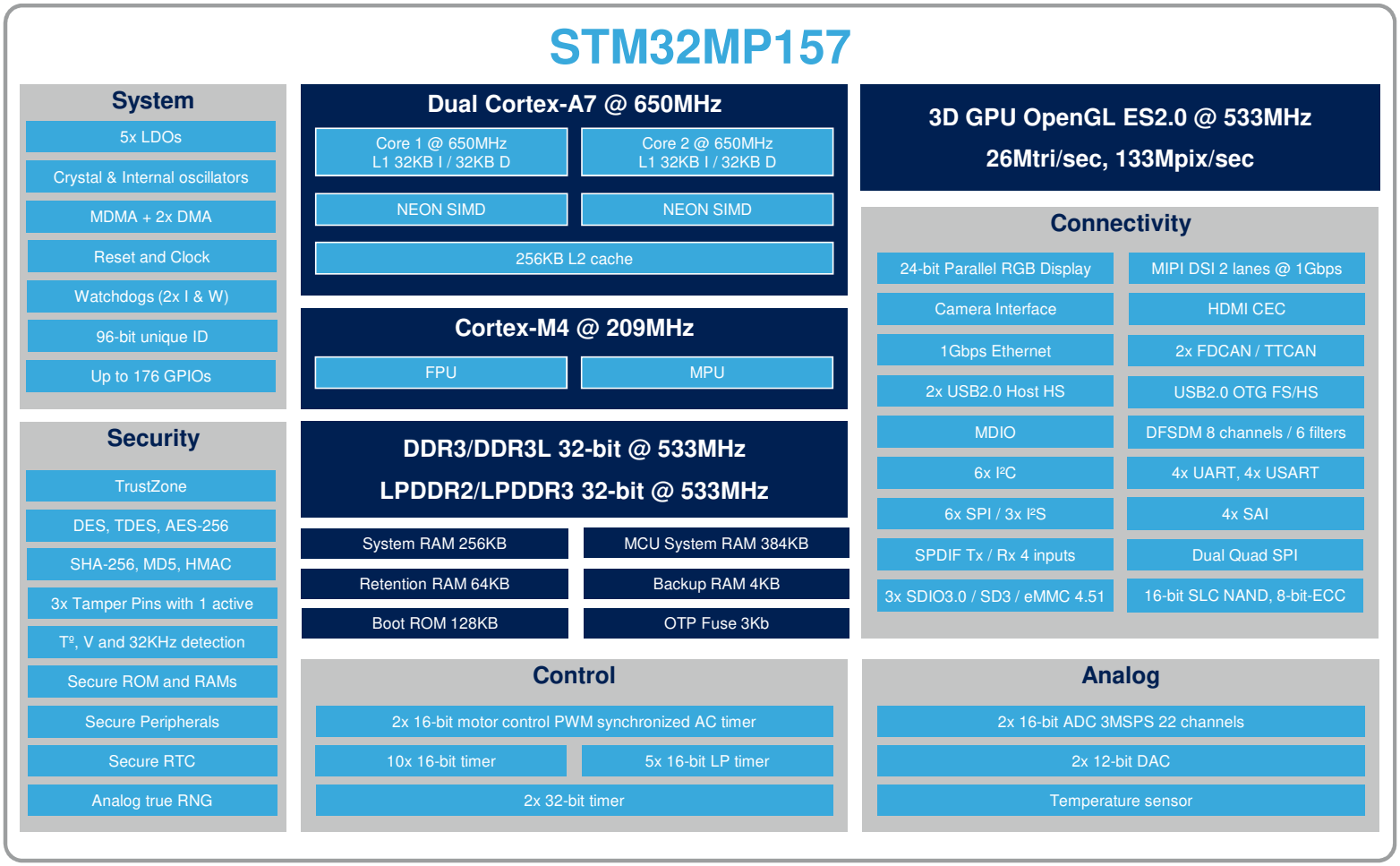
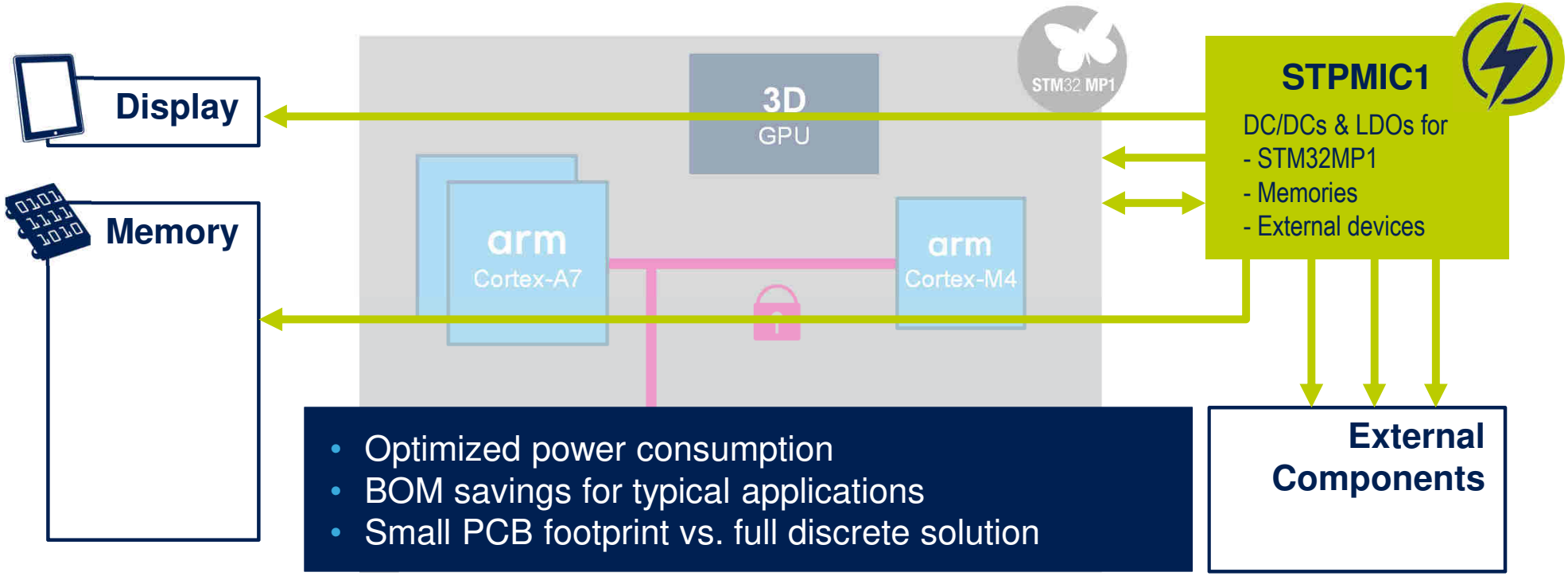
STM32MP1 Block Diagram



STPMIC1 Power Management IC

Simplify your design and optimize power consumption



- Optimized power consumption
- BOM savings for typical applications
- Small PCB footprint vs. full discrete solution

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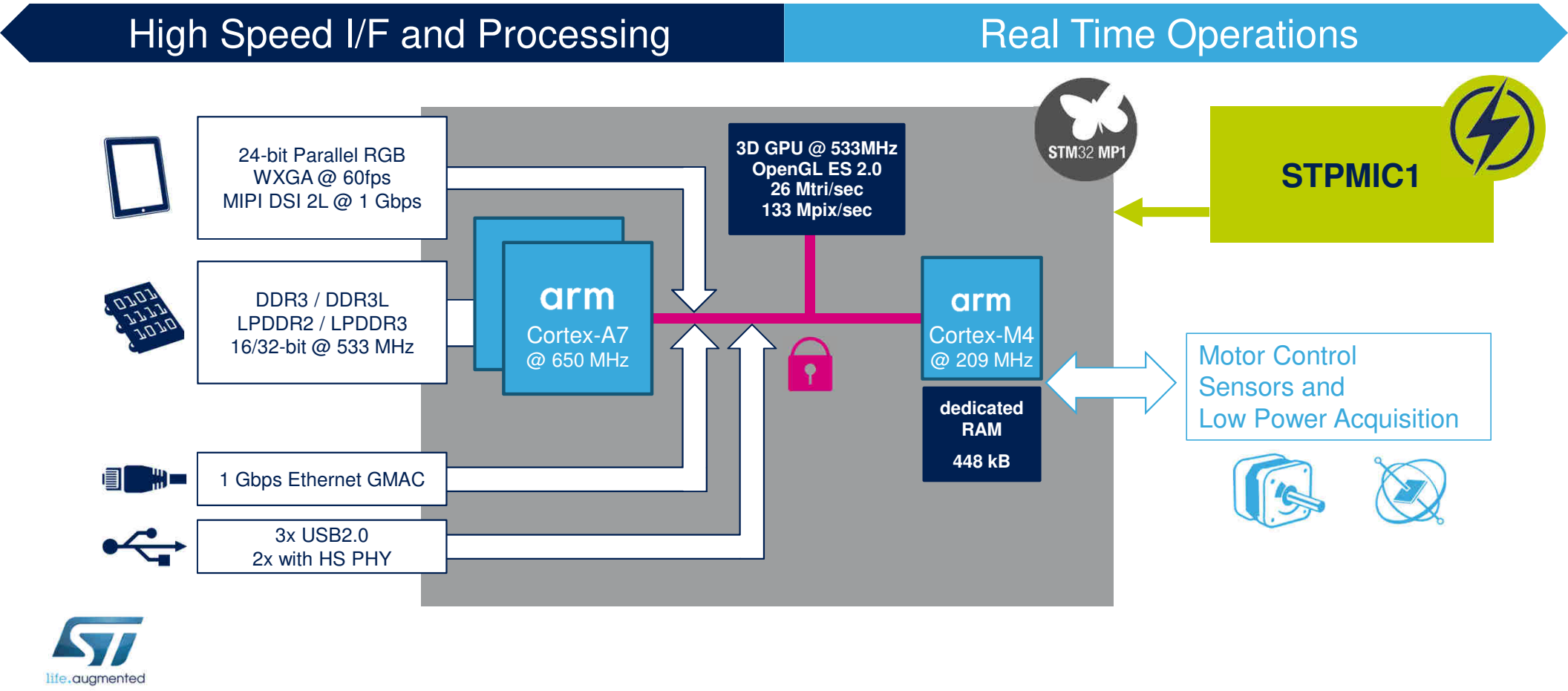
Arm Cortex-A + Cortex-M Architecture



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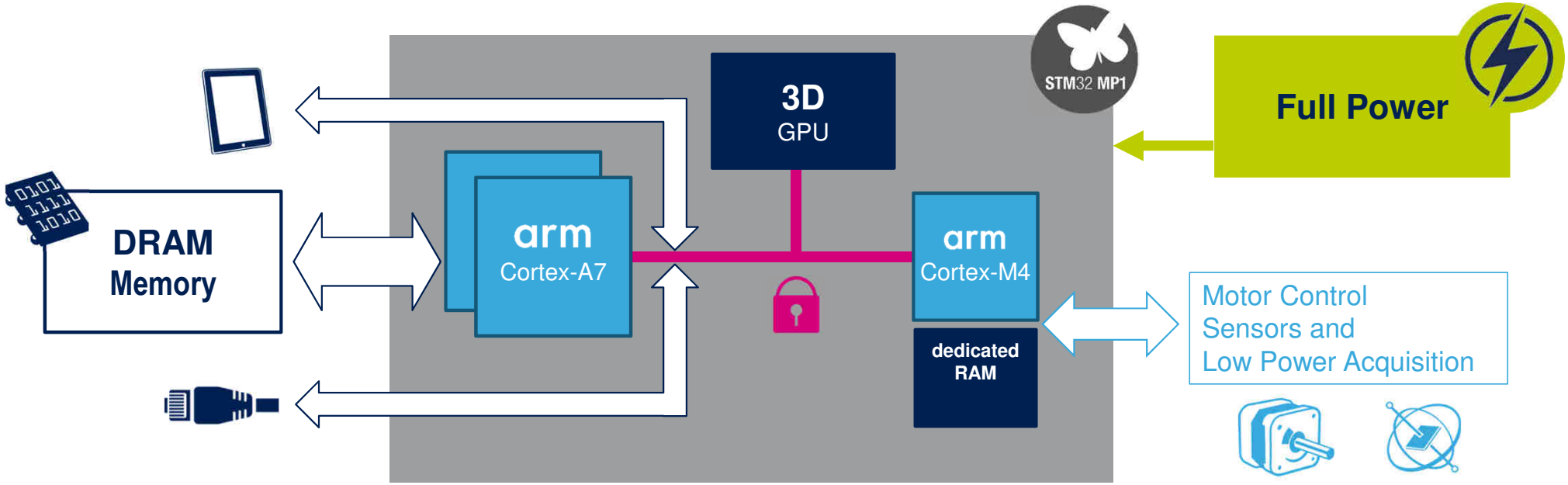
Flexible Architecture for Power Efficiency

Processing for HMI and Communication + Motor Control and Sensing



Graphic and Communication processing
2470 DMIPS on dual Cortex-A7 + 3D GPU

Motor Control, Sensors and Low Power Acquisition
260 DMIPS on Cortex-M4

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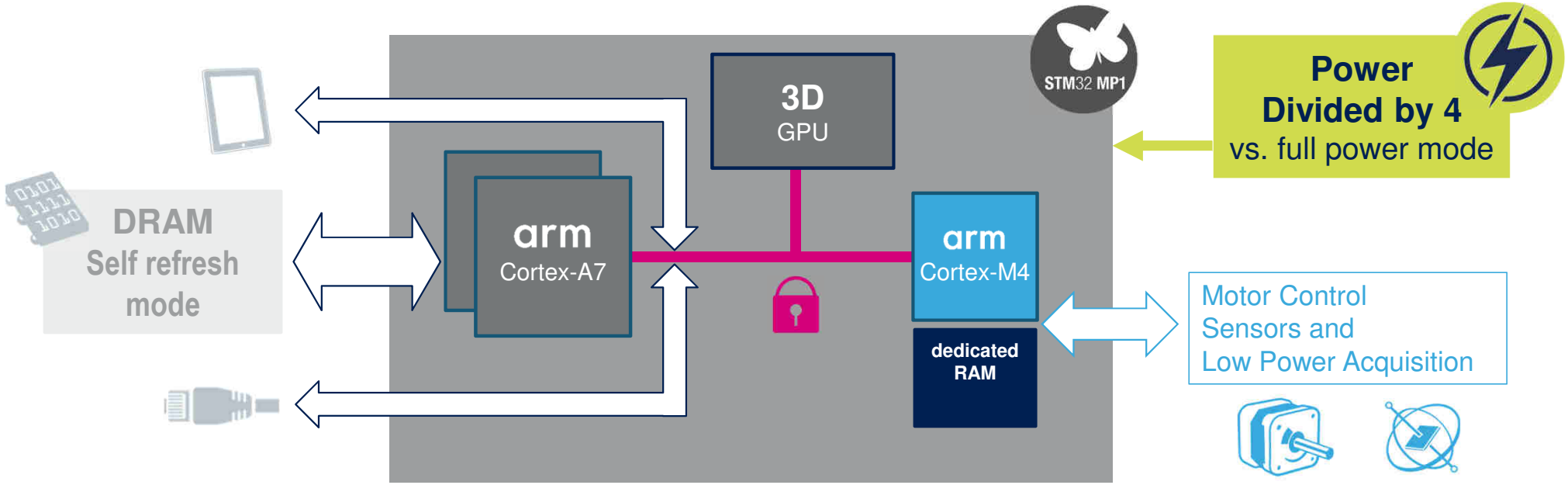
Flexible Architecture for Power Efficiency

Motor Control and Sensing



Graphic and Communication processing
STOP MODE

Motor Control, Sensors and Low Power Acquisition
260 DMIPS on Cortex-M4

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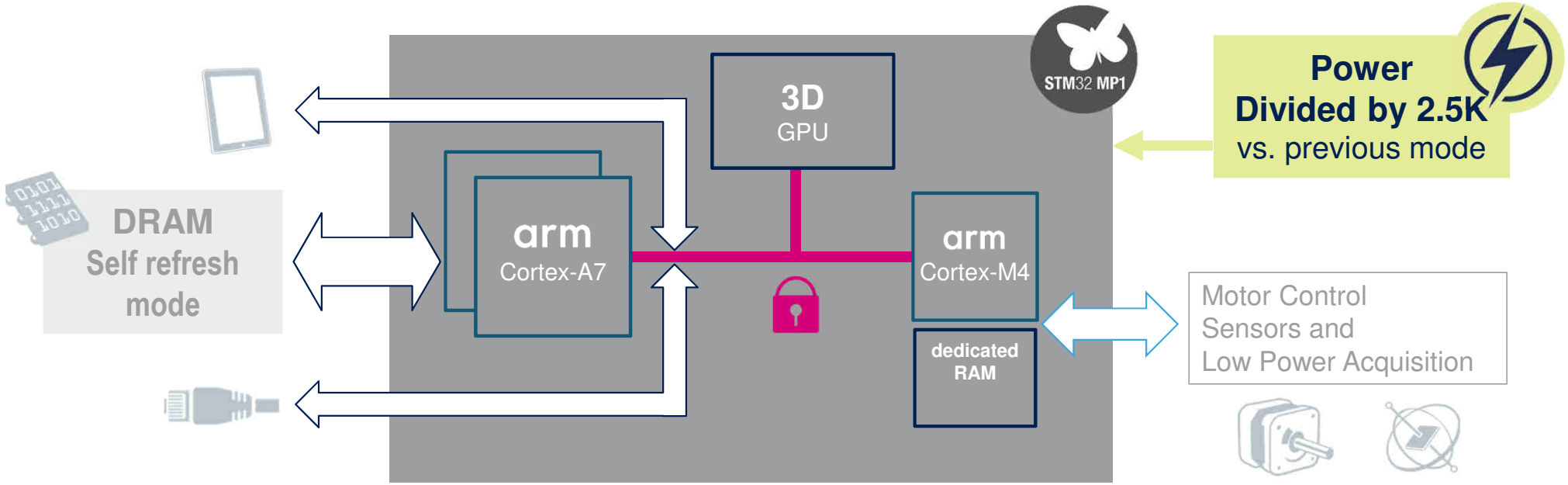
Flexible Architecture for Power Efficiency

Standby Mode



Graphic and Communication processing
STANDBY MODE

Motor Control, Sensors and Low Power Acquisition
STANDBY MODE

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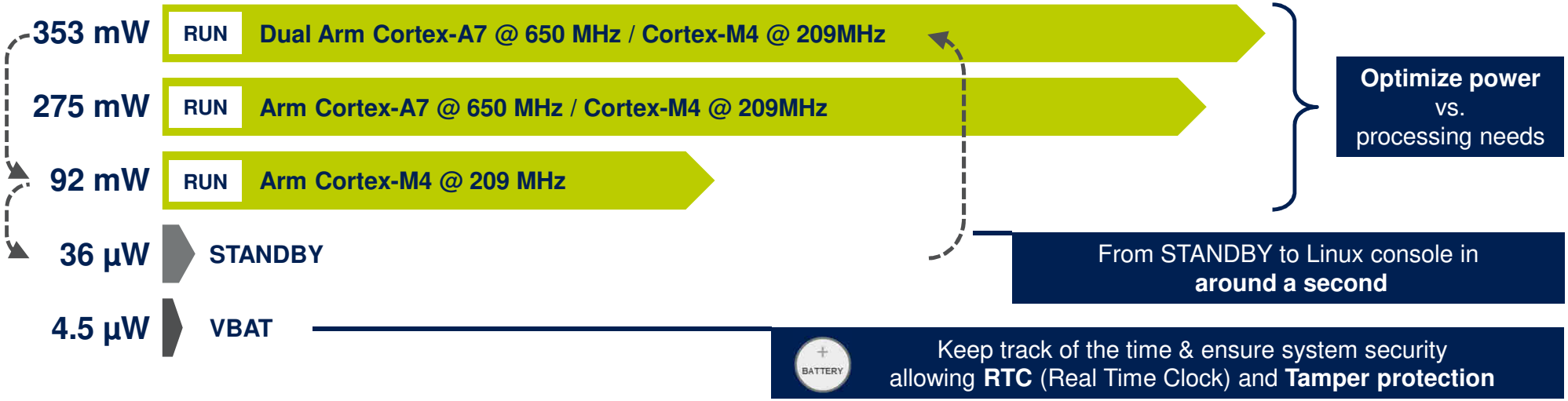
Flexible Architecture for Power Efficiency

Power Figures



Typ @ VDDCORE = 1.2V, VDD = 3.3V @ 25 °C, Peripherals OFF

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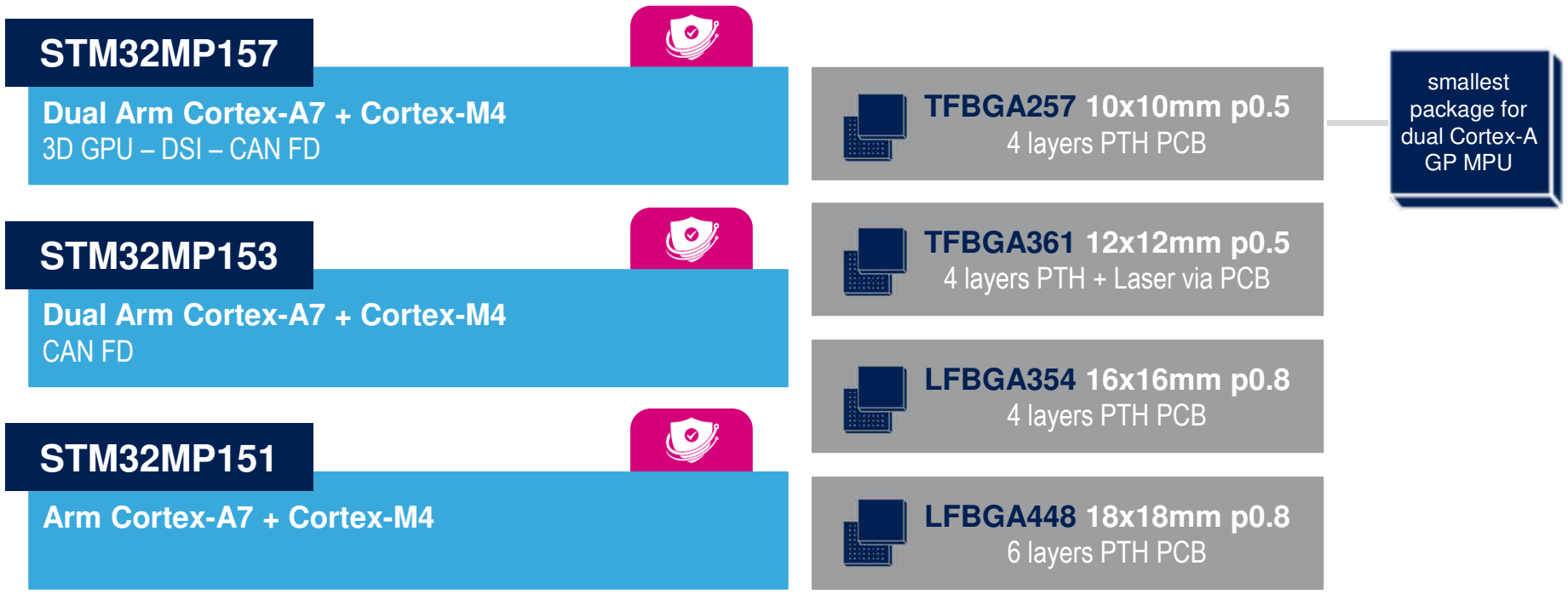
STM32MP1 Tailored for Multiple Applications



3 Product Lines — Optional Security — **4** Packages

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Accelerated development leveraging the STM32 Ecosystem

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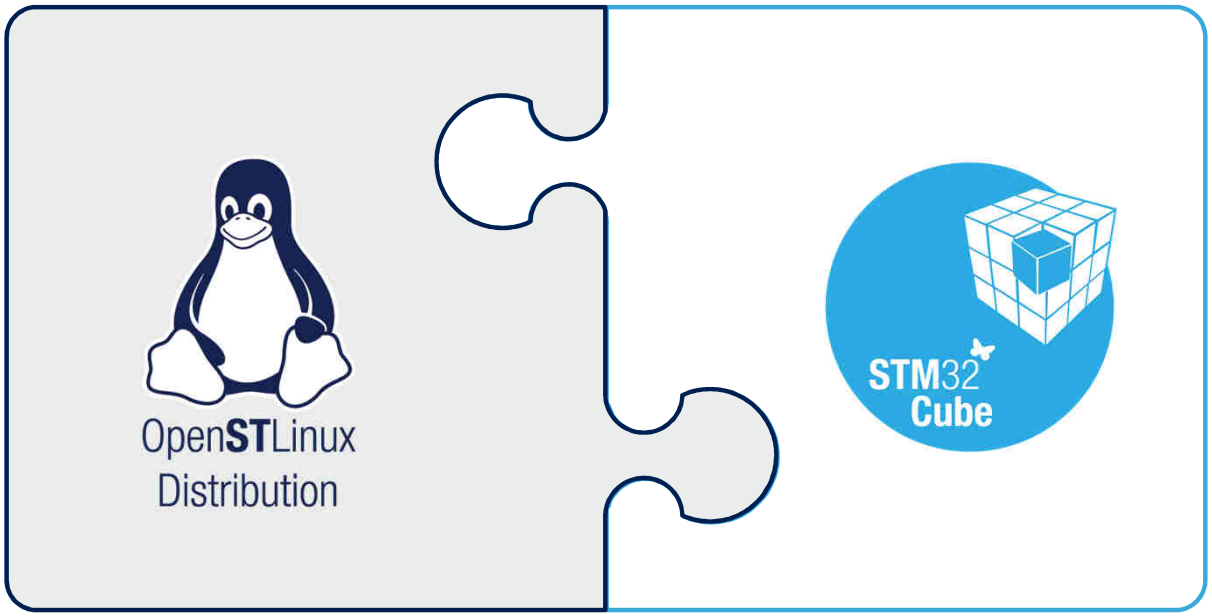
A Fully Integrated Design Suite

Leveraging the STM32Cube Environment

arm
Cortex-A7



arm
Cortex-M4

STM32MP1 Embedded Software Distribution

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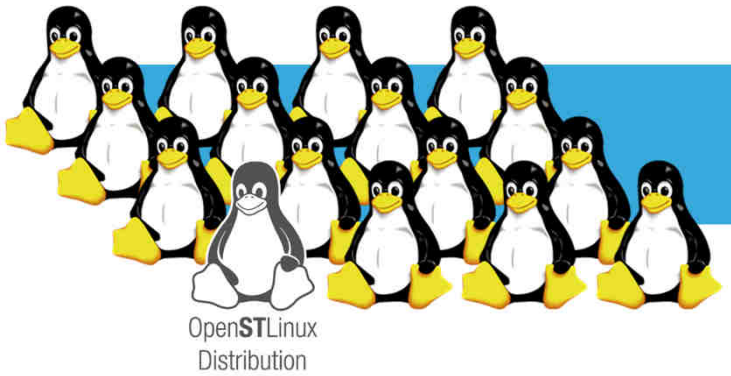
Simplify your Linux Development

Fully mainlined open source Linux distribution for Arm Cortex-A7



STM32MP1 SoC drivers
already adopted by the Linux community

STM32MP1 supported in Linux 4.19 LTS

Fully compliant with open-source standards

THE LINUX FOUNDATION

yocto PROJECT

Linaro

Pre-integrated Secure OS

OP-TEE .org

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Benefit from Field-Proven RTOS Tools

Full re-use of STM32Cube Firmware on Arm Cortex-M

- Several APIs to access peripherals
- Collection of Middleware components for Cortex-M
- Hundreds of Examples
- Production-ready Quality
- Business-friendly license terms

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Supported by the STM32 Ecosystem

All the Tools for Successful MPU Development

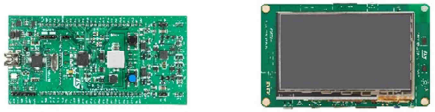
Software

STM32 Cube

STM32 CubeMX

STM32 CubeProgrammer

Hardware



Discovery boards

Evaluation boards

Customer support

FAE - Worldwide Customer Support

community.st.com

Partner Program

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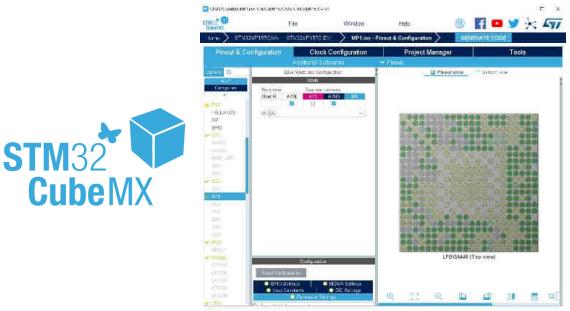
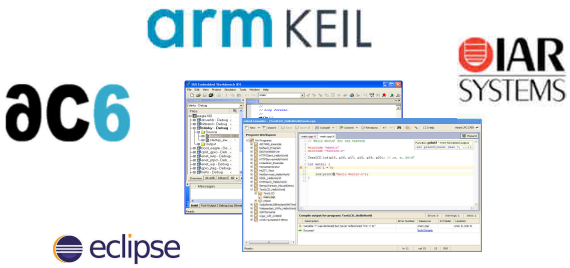
STM32MP1 Software Tools

Complete support of Arm Cortex-A + Cortex-M architecture





STM32CubeMX

STM32CubeMX enhanced for MPU

- Configure and generate code
- DRAM interface tuning tool
- Device Tree generation

IDEs
Compile and Debug

Multi-Core Solutions

- Partners IDE
- Free IDE based on Eclipse
- Multi-core debugging

STM32 Programming Tool

STM32CubeProgrammer

- Flash, DRAM and/or system memory
- OTP programming
- Signing tool & Keys generation

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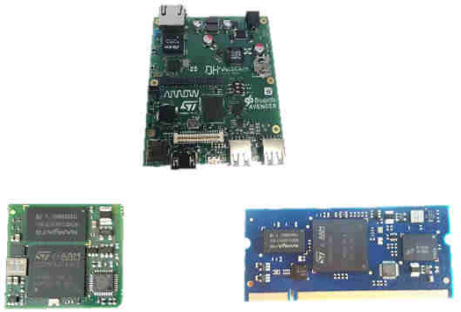
STM32MP1 Hardware Solutions

Speed-up evaluation, prototyping and design



Evaluation Board

Full feature STM32MP1 evaluation

- STM32MP157A-EV1
- STM32MP157C-EV1

Discovery Board

Flexible prototyping & demo

- STM32MP157A-DK1
- STM32MP157C-DK2
  + MIPI DSI WVGA display
  + Wi-Fi/BT combo module

Boards & SoM*s

3rd Parties Boards for prototyping and production

- Board Specification from Linaro (96boards.org)
- Commercial SoM w/ different forms

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*System on Module

Software, Training and Services

a Broad Ecosystem to Support Development

STM32 MPU wiki by

ST's wiki user guide
for beginners and experts
https://wiki.st.com/

Large selection of partners already engaged for:

- Graphics UI
- Security
- Training and services

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STM32MP1 - Your New Companion
for Advanced Applications

STM32 MP1

Extending STM32 success and commitment
with **Microprocessors**

Flexible architecture
for a wide range of applications

Accelerated development
leveraging the **STM32 Ecosystem**

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Releasing Your Creativity

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