

STM32MP1 Hands-on Workshop

Marketing Presentation

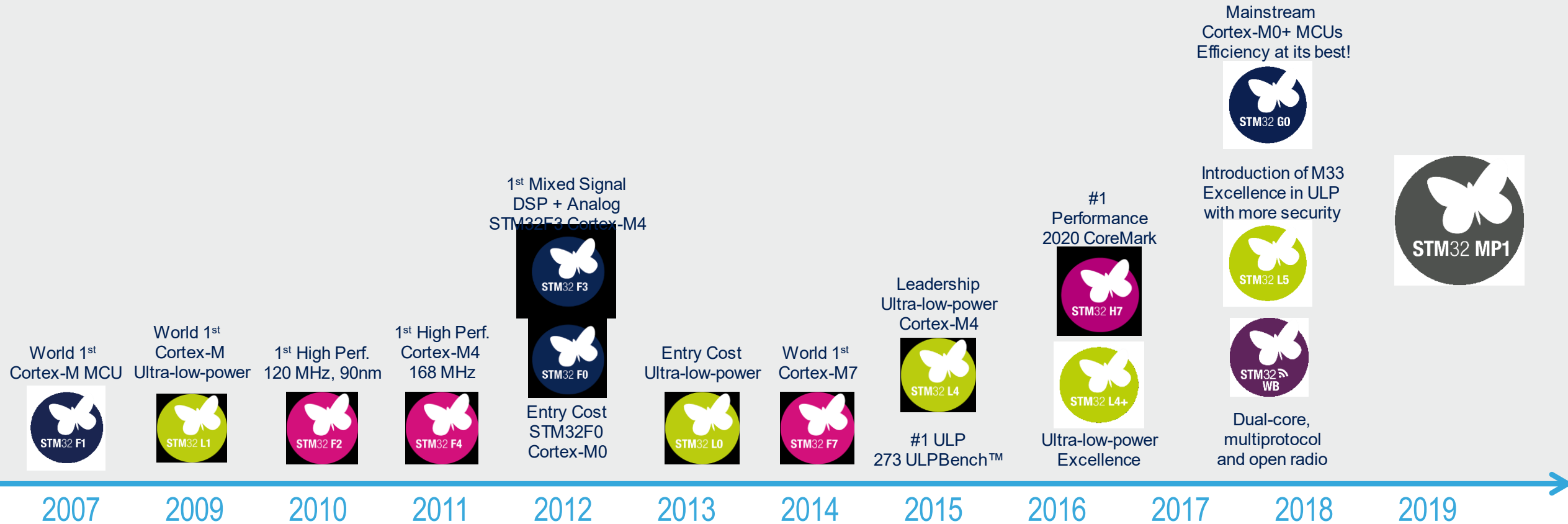




Continuing the STM32 Success Story

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





STM32 Rolling Longevity Commitment

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Longevity commitment is renewed every year



Starting January
1st 2019
→ Until at least 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



STM32MP1 Product Positioning

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STM32MP1

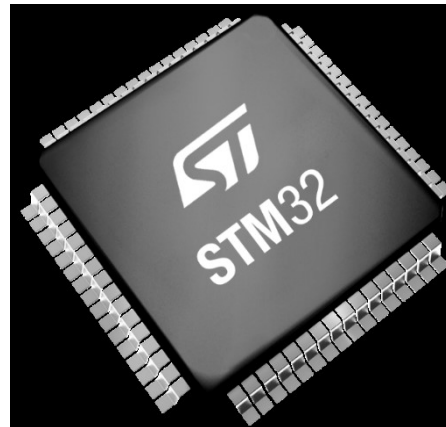
STM32 MCUs Reuse

Arm dual Cortex-A7

3D GPU

DRAM Interface

Linux Ecosystem



Arm Cortex-M4

STM32 IPs

STM32 Connectivity

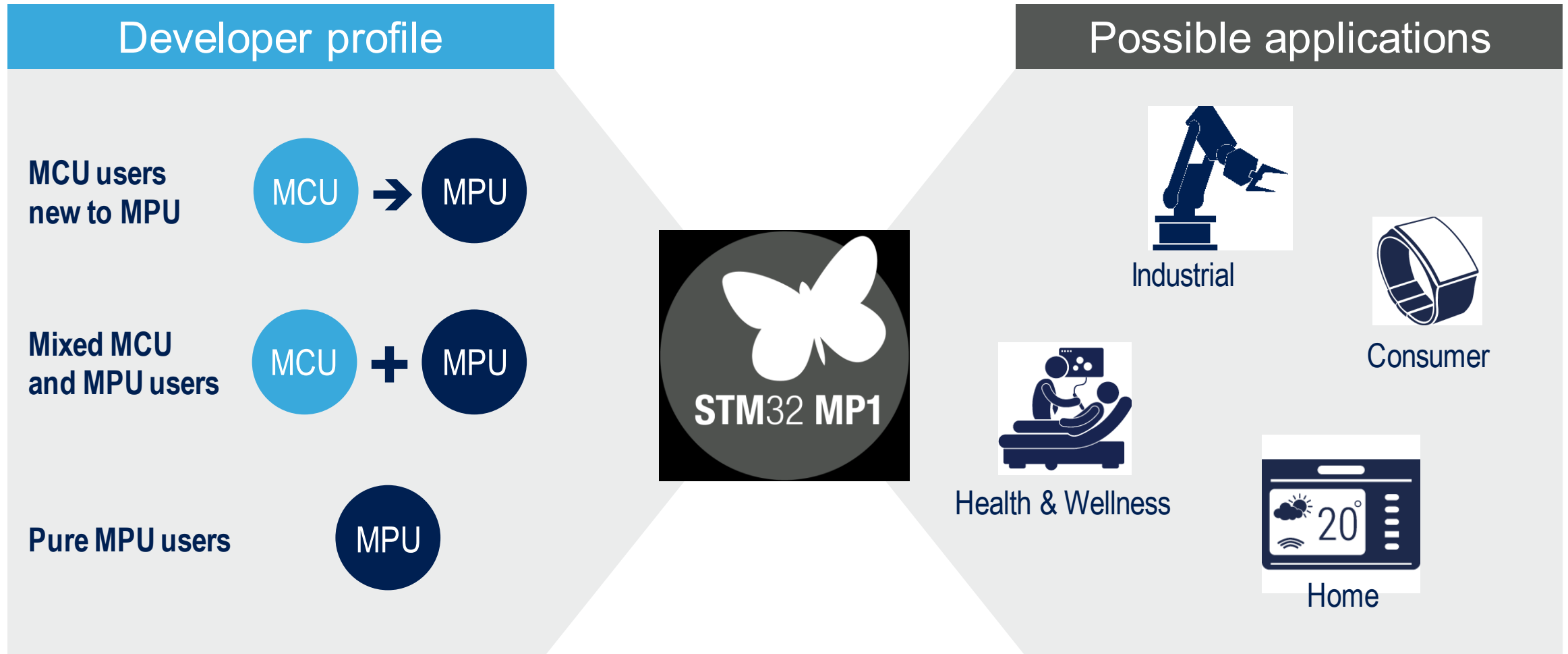
STM32 Ecosystem



STM32MP1: A General Purpose MPU

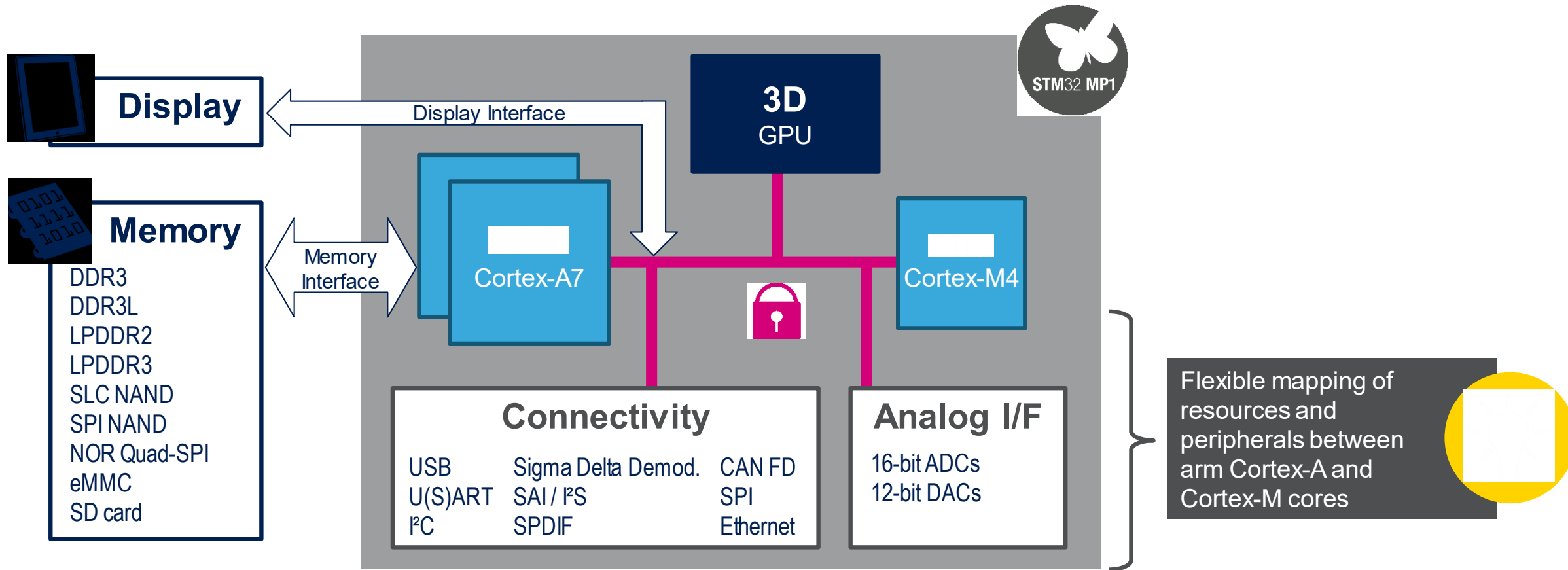
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Suitable for all Developer Types and Multiple Applications





Advanced & Flexible Architecture with 3D GPU





STPMIC1 Power Management IC

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Simplify your design and optimize power consumption



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

- 3D GPU - Vivante® GC-Nano
 - OpenGL ES 2.0 / OpenVG 1.1
 - Native support in Linux
 - HMI UI composition with 3D effects
 - Alpha Blending
- Display controller
 - Up to WXGA (1366x768) @ 60fps 24-bits RGB888
 - 2 display layers with programmable colour LUT
 - Support for RAM less display
 - MIPI DSI Tx 2 lanes @ 1Gbps



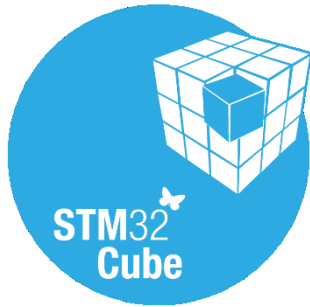


Supported by the STM32 Ecosystem

All the Tools for Successful MPU Development

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Software



Hardware



Discovery boards



Evaluation boards

Customer support



FAE - Worldwide
Customer Support



community.st.com

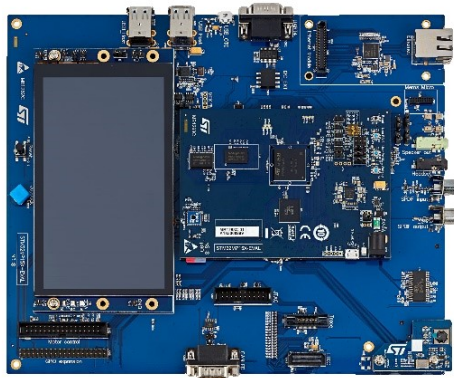




STM32MP1 Hardware Solutions

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Speed-up evaluation, prototyping and design



at
\$99



available at
\$99

available at
\$69



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



STM32MP157C-DK2 Special Offer

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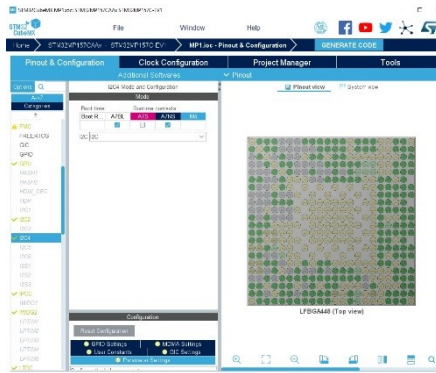
- Discounted offer for workshop attendees
- Purchase via Avnet online shop
- Part Number [STM32MP157C-DK2W SHOP](#)



STM32MP1 Software Tools

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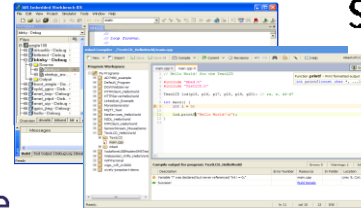
Complete support of Arm Cortex-A + Cortex-M architecture



arm KEIL

ac6

eclipse



IAR
SYSTEMS

All-in-one STM32 programming tool
Multi-mode, user-friendly



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



A Fully Integrated Design Suite

Leveraging the STM32Cube Environment

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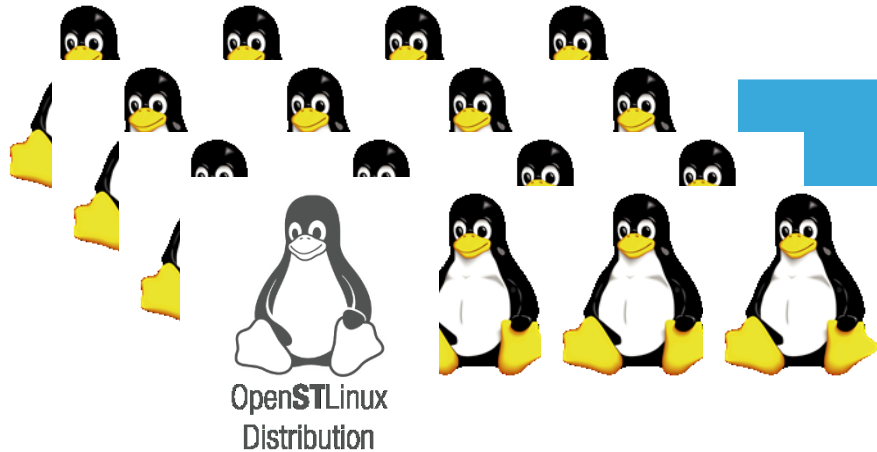
STM32MP1 Embedded Software Distribution



Simplify your Linux Development

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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



Pre-integrated
Secure OS



OP-TEE
.org



Benefit from Field-Proven RTOS Tools

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Full re-use of STM32 MCU Cube 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



STM32MP1 Product Lines

24 Sales Type in Production Now

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STM32MP157

Dual Arm Cortex-A7 + Cortex-M4
3D GPU – DSI – CAN FD



TFBGA257 10x10mm p0.5
4 layers PTH PCB

smallest
package for
dual Cortex-A
GP MPU

STM32MP153

Dual Arm Cortex-A7 + Cortex-M4
CAN FD



TFBGA361 12x12mm p0.5
4 layers PTH + Laser via PCB



LFBGA354 16x16mm p0.8
4 layers PTH PCB

STM32MP151

Arm Cortex-A7 + Cortex-M4



LFBGA448 18x18mm p0.8
6 layers PTH PCB

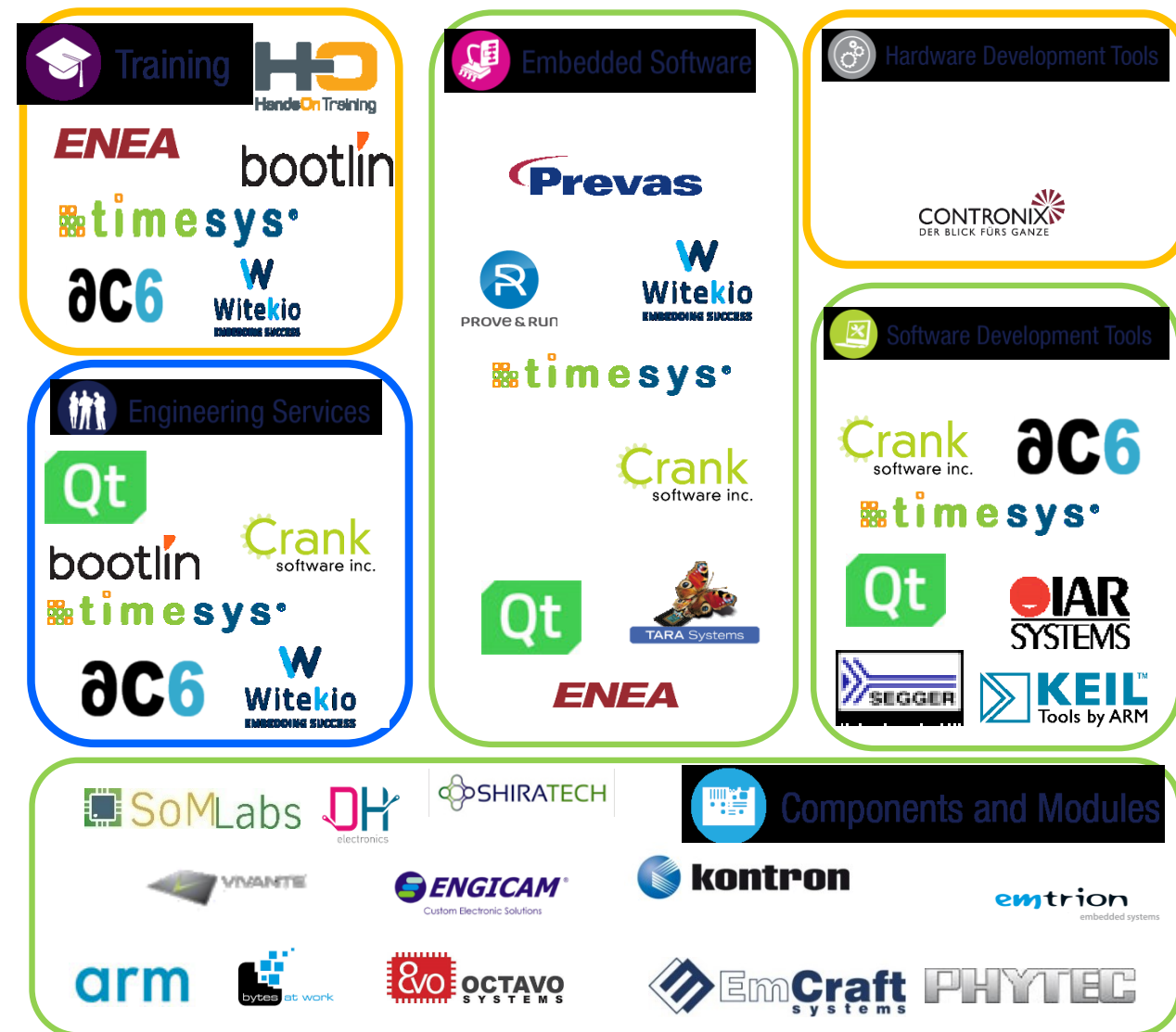
3 Product Lines ——— Optional Security ——— 4 Packages



STM32MP1 Series Partners List

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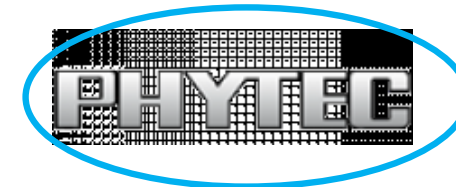
- STM32MP1 Partners List evangelizing the STM32MP1 Series Solution
- Highly skilled recognized leaders in their specific domain to help customers
- Early access of the technology to benefit customers program in order to make success
- On-going ST Partner Program to enrich STM32MP1 Series Ecosystem





SOM Makers suppliers - Overview

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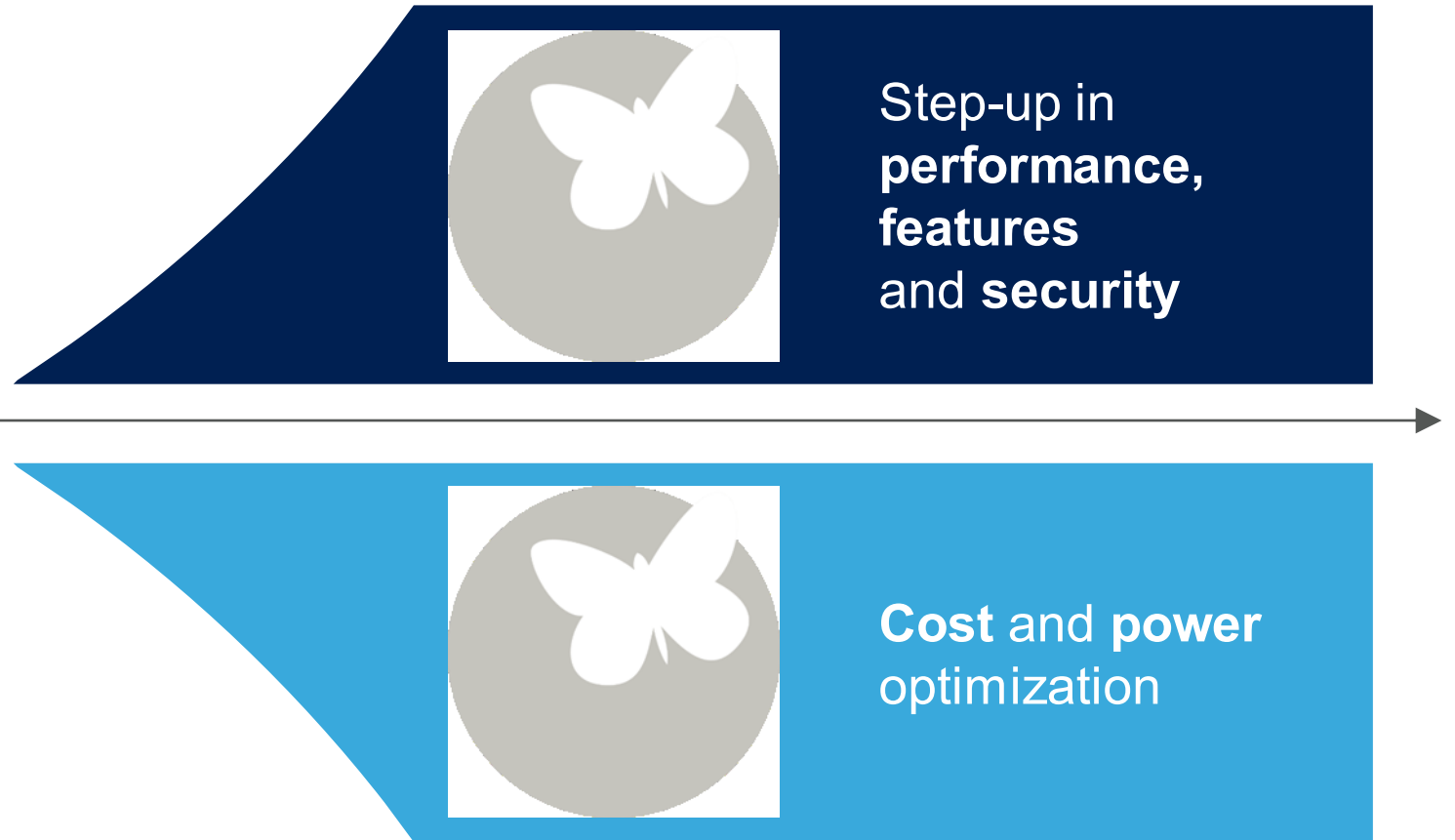




Building the Future

STM32 MPU Portfolio Expansion

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Releasing Your Creativity

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www.st.com/STM32MP1