



# STM32 32-bit MCU & MPU families

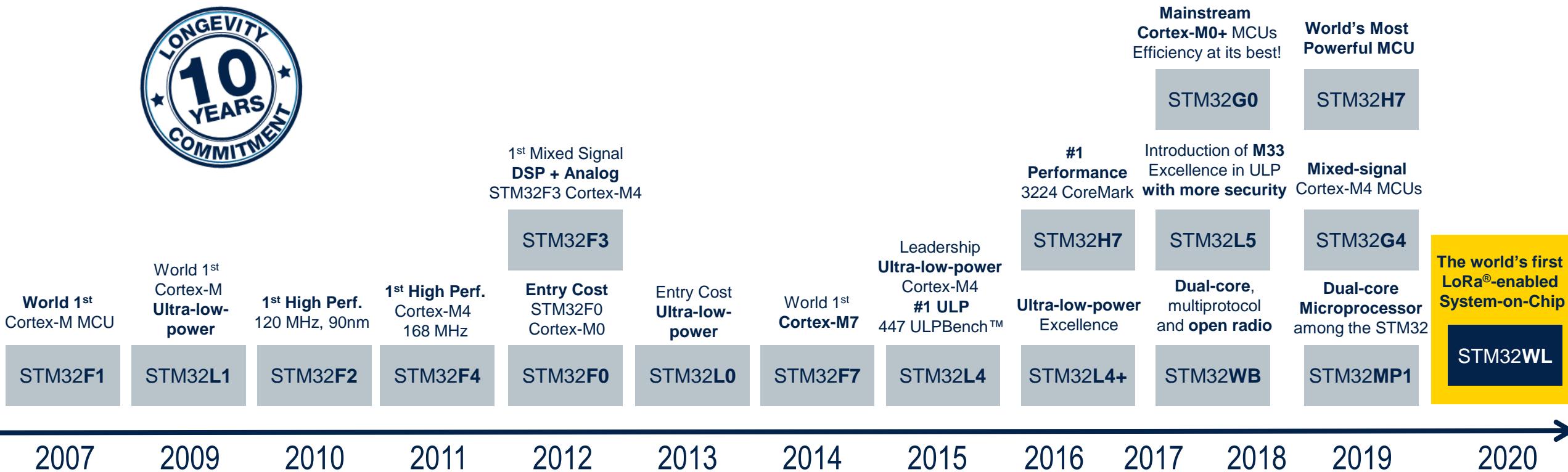
The latest STM32 announcements  
Q2 2020





# Continuing the STM32 success story

Leader in Arm® Cortex® 32-bit MCU & MPU



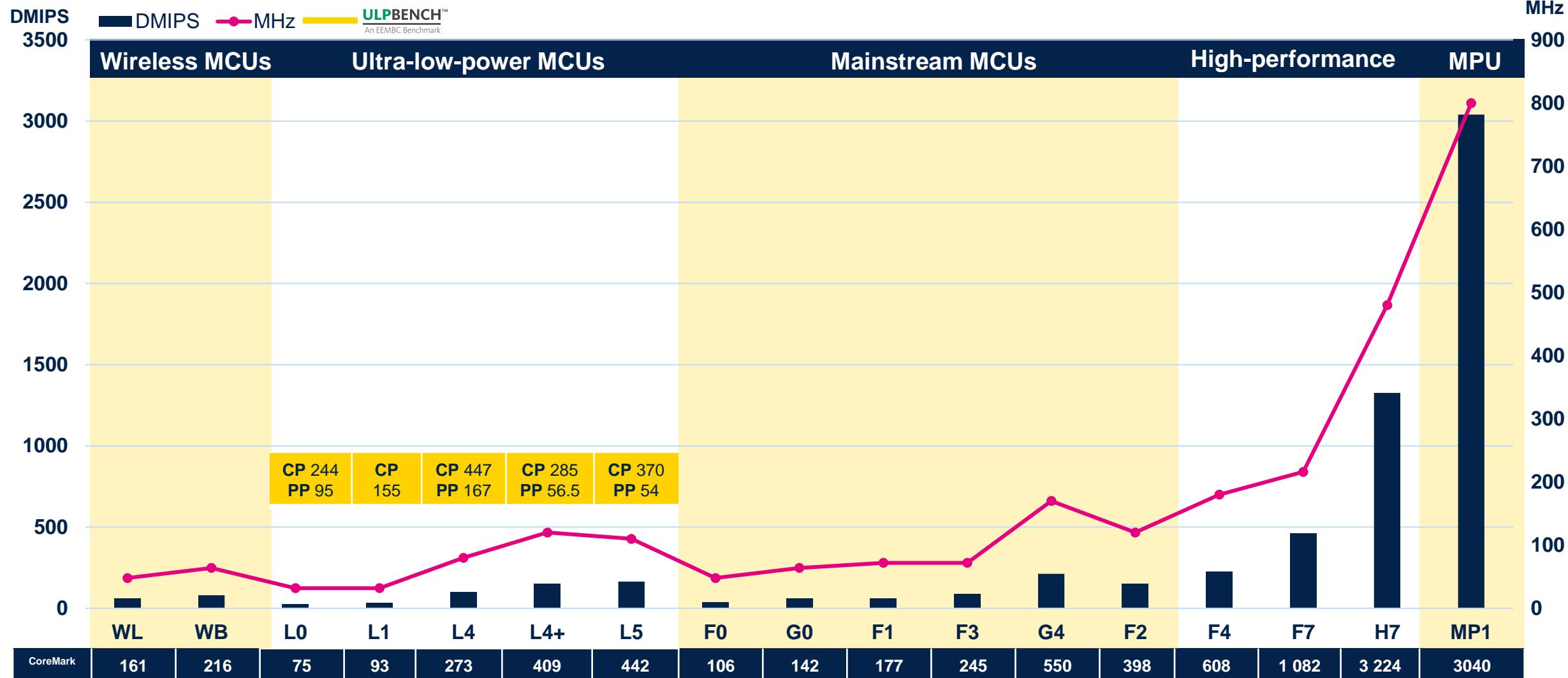


# STM32 MCUs and MPUs portfolio





# Best-in-class power consumption and performance





# 5 reasons to choose STM32

More than 1000 compatible devices

## Real-time performance

- Powerful Arm Cortex Core
- multi-core performance
- High memory size
- Outstanding technical support (local presence)



## Outstanding power efficiency

- Ultra-low dynamic power consumption
- Long life-time, small battery size
- Sustainable technology



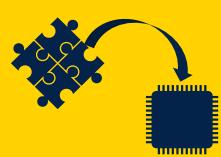
## Superior and innovative peripherals

- Enhanced graphic acceleration
- Digital & Analog smart peripherals
- Wireless
- USB Type-C
- AI and IoT



## Maximum integration

- Best fit versus the application requirements (package size, cost, performance)
- Safety & Security features



## Extensive ecosystem

- Comprehensive development tools to make it easy to turn ideas into products, wide range of partners, community support





# STM32 ecosystem overview

## Software



**STM32  
CubeMX**

**STM32  
CubeProgrammer**

**STM32  
CubeIDE**

**STM32  
CubeMonitor**



## Hardware



STM32  
Nucleo

Discovery  
kits

Evaluation  
boards

Flexible  
prototyping

Key feature  
prototyping

Full feature  
evaluation



## Customer support



FAE - Worldwide  
Customer Support



**MOOC**

[community.st.com](http://community.st.com)



[wiki.st.com/stm32mpu](http://wiki.st.com/stm32mpu)  
[wiki.st.com/stm32mcu](http://wiki.st.com/stm32mcu)

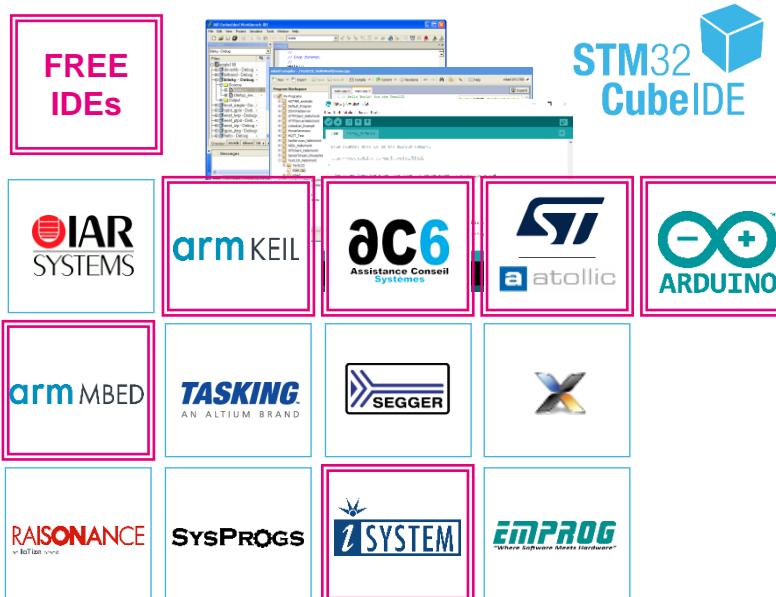
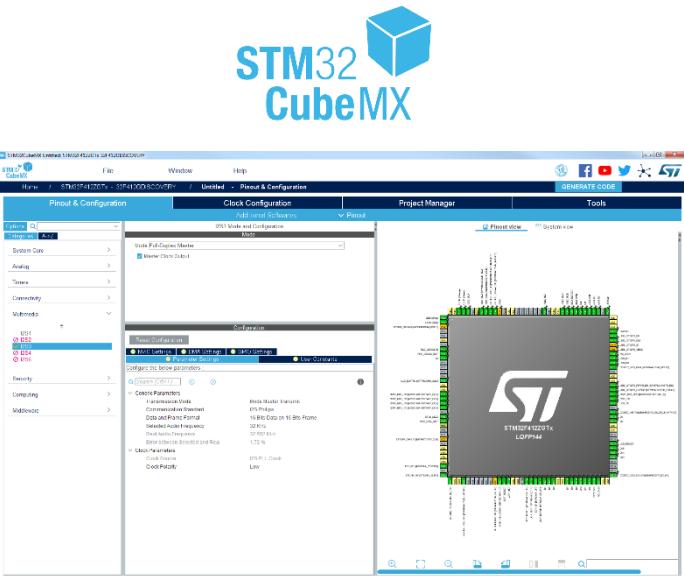


[github.com/STMicroelectronics](http://github.com/STMicroelectronics)



# STM32 software tools portfolio

A C/C++ flow in three steps



**STM32CubeMX, GUI Builders**  
Configure & Generate Code

**ST and Partner IDEs**  
Compile and Debug



**STM32CubeProg/Monitor**  
Monitor, Program & Utilities



**Several solutions  
mixing levels of  
portability and  
abstraction**



# STM32 Embedded Software

## ST Offer

### Customers Applications

**STM32Cube embedded software**

STM32Cube Expansion Packages from ST	STM32Cube Expansion Packages from Partners
Connect	Secure
Secure	Process
Power	Memory
Sense	Convert
Power-up	RF

**STM32Cube MCU Packages**

STM32Cube MCU Middleware	STM32Cube HAL & LL drivers
TCP/IP	RTOS
Bluetooth	USB
802.15.4	Zigbee

**STM32Cube HAL & LL drivers**



**Linux Distribution/Android™**

**Linux Framework**

**Board Support Package**

**Arm® Cortex®-M**

**Arm® Cortex®-A**

## Partners Offer

### Open-source and third-party embedded software































# Embedded software

STM32Cube embedded software	
STM32Cube Expansion Packages from ST	STM32Cube Expansion Packages from Partners
     	   
STM32Cube MCU Packages	
STM32Cube MCU Middleware	
      	
STM32Cube HAL & LL drivers	



# Information and sharing

Get connected to STM32 world !

[st.com/stm32](http://st.com/stm32)



[ST MCU Finder](#)



[community.st.com](#)

[github.com/STMicroelectronics](#)



Information

Product Selector

Community/GitHub

Social Media

- ▶ STM32 Education is now available [here](#) (MOOC, OLT, Text books, Training Courses)
- ▶ MCD Marketing Divisions-Regions Communication SharePoint [here](#) new

[facebook.com/stm32](#)

[youtube.com/STonlineMedia](#)

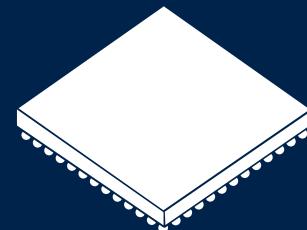
[twitter.com/@ST\\_World](#)

[linkedin.com/stmicroelectronics](#)

[21IC](#)

[YouKu](#)

# STM32 microprocessors



Most recent announcement



# STM32MP1 – flexible architecture for a wide range of applications



[www.st.com/STM32MP1](http://www.st.com/STM32MP1)

Constantly improving

- ▶ February 25<sup>th</sup> , 2020 - [PR](#)
- ▶ February 20<sup>th</sup> , 2019 - [PR](#)
- ▶ [Blog articles](#)
- ▶ [OLT](#)
- ▶ [Video](#)
- ▶ [Webinar](#)



# STM32 high-performance MCU



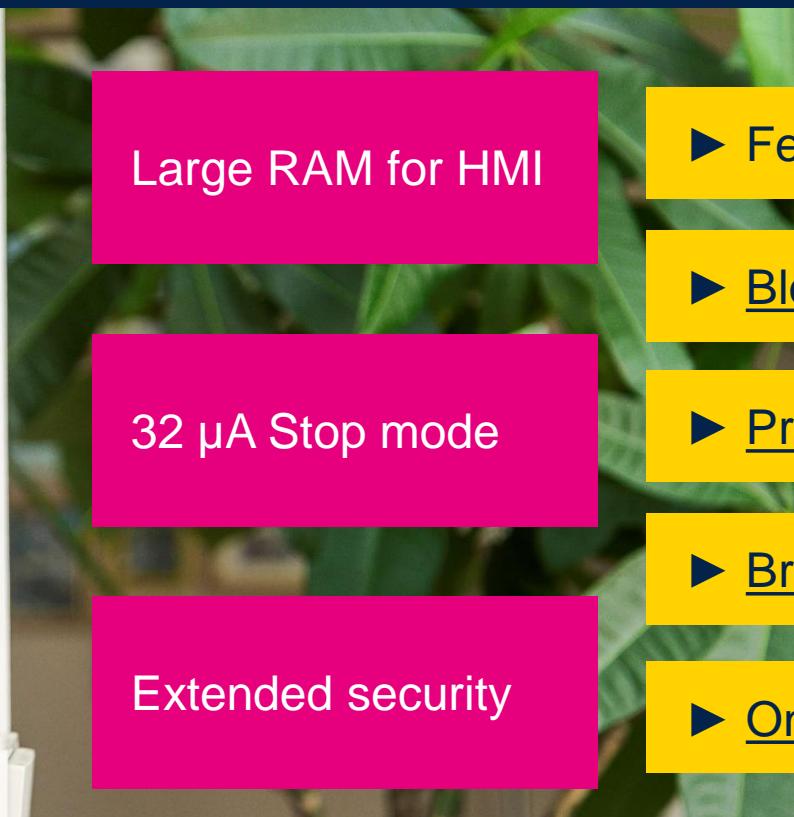
Most recent announcement



# New STM32H7A3/7B3 high-performance lines

## High performance, power saving

STMicroelectronics blends performance, integration and efficiency for smart devices in new STM32H7 product lines



Large RAM for HMI

32 µA Stop mode

Extended security

▶ February 4<sup>th</sup>, 2020 - [Newsbite](#)

▶ [Blog articles](#)

▶ [Product presentation](#)

▶ [Brochure](#)

▶ [Online Training \(OLT\)](#)



[www.st.com/stm32h7a3-7b3](http://www.st.com/stm32h7a3-7b3)

[www.st.com/stm32h7b0vl](http://www.st.com/stm32h7b0vl)



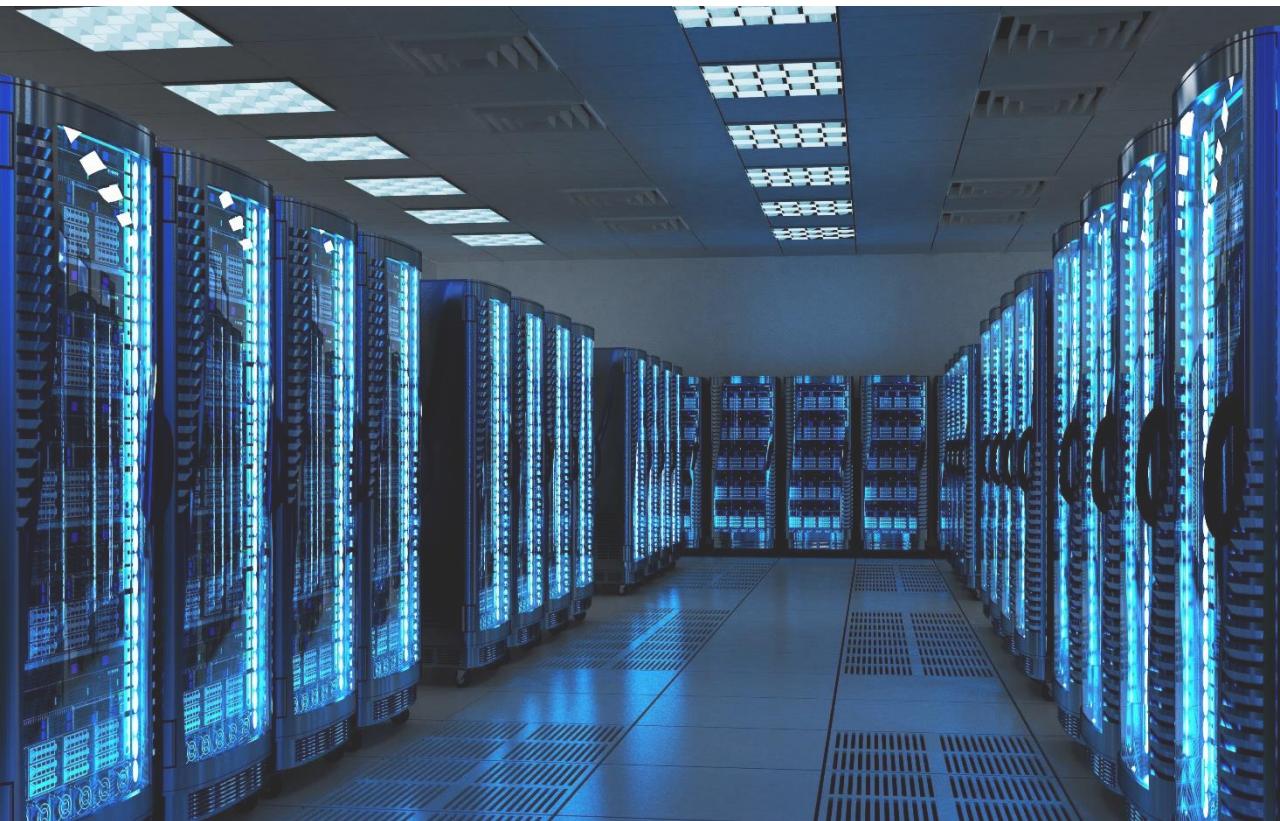
# STM32 mainstream MCU ➤

Most recent announcements



# STM32G4 series Mixed-signal MCU

Ideal for applications requiring an MCU that offers advanced and rich analog peripherals (digital power, motor control, instrumentation...)



- ▶ September 11<sup>th</sup> , 2019 - [Newsbite](#)
- ▶ May 28<sup>th</sup> , 2019 - [Press release](#)
- ▶ [Blog articles](#)
- ▶ [Product presentation](#)
- ▶ [Video](#)
- ▶ OnLine Training  
[\(OLT\)](#)





STM32G0  
First 8-pin STM32 MCUs series



[www.st.com/STM32G0](http://www.st.com/STM32G0)

Brings 32-bit MCU possibilities  
to simple applications  
**Compact, flexible, Simple**

- ▶ September 19<sup>th</sup>, 2019 - NB
- ▶ December 4<sup>th</sup> , 2018 - PR
- ▶ Product presentation
- ▶ Blog articles
- ▶ Getting started video
- ▶ OnLine Training (OLT)

[here](#)

[here](#)

[here](#)

[here](#)

[here](#)

[here](#)

# STM32 ultra-low-power MCU



Most recent announcements



# STM32L5 MCUs with Arm® Cortex®-M33

Ultra-low power and security for IOT come first on STM32L5  
microcontrollers from STMicroelectronics



- ▶ February 13<sup>th</sup>, 2020 - [Press Release](#)
- ▶ October 16<sup>th</sup>, 2018 – [Press Release](#)
- ▶ [Blog articles](#)
- ▶ [Product presentation](#)
- ▶ [Video](#)
- ▶ [OLT](#)





# STM32L4+ MCU series

## Excellence in ULP with more performance



[www.st.com/STM32L4+](http://www.st.com/STM32L4+)

Longer battery life and superior user experience

**120 MHz, down to 512 KB Flash,  
320 KB RAM, down to 48 pins**

- ▶ March 12<sup>th</sup>, 2020 - NB [here](#)
- ▶ November 14<sup>th</sup> , 2017 - NB [here](#)
- ▶ Product presentation [here](#)
- ▶ Blog article [here](#)
- ▶ OnLine Training (OLT) [here](#)



# STM32 wireless MCU

Most recent announcements



# STM32WL wireless series

## The world's first LoRa®-enabled System-on-Chip

The STM32 pioneer in Sub-1 GHz wireless connectivity  
Easy-to-use, reliable and tailored for a wide range of RF applications



- ▶ January 7<sup>th</sup> , 2020 - [Press Release](#)
- ▶ [Blog articles](#)
- ▶ [Product presentation](#)
- ▶ [Flyer](#)
- ▶ [Video](#)
- ▶ [New STM32 System on Chip - Video](#)



# STM32WB MCU series with built-in Bluetooth® 5.0 and IEEE 802.15.4



STM32WB delivered in a new  
affordable Value line

**Cost-effective,  
Featured-optimized**

- ▶ November 26<sup>th</sup>, 2019 - NB
- ▶ February 25<sup>th</sup> , 2019 - NB
- ▶ Product presentation
- ▶ Blog articles
- ▶ OnLine Training (OLT)

[here](#)

[here](#)

[here](#)

[here](#)

[here](#)

# STM32 verticals

Most recent announcements



# STM32 digital power ecosystem for beginners up to experts



Accelerate the development of  
digital power applications

- ▶ June 18<sup>th</sup>, 2020 - PR
- ▶ Blog article
- ▶ Flyer
- ▶ Biricha Partner Program

[here](#)  
[here](#)  
[here](#)  
[here](#)



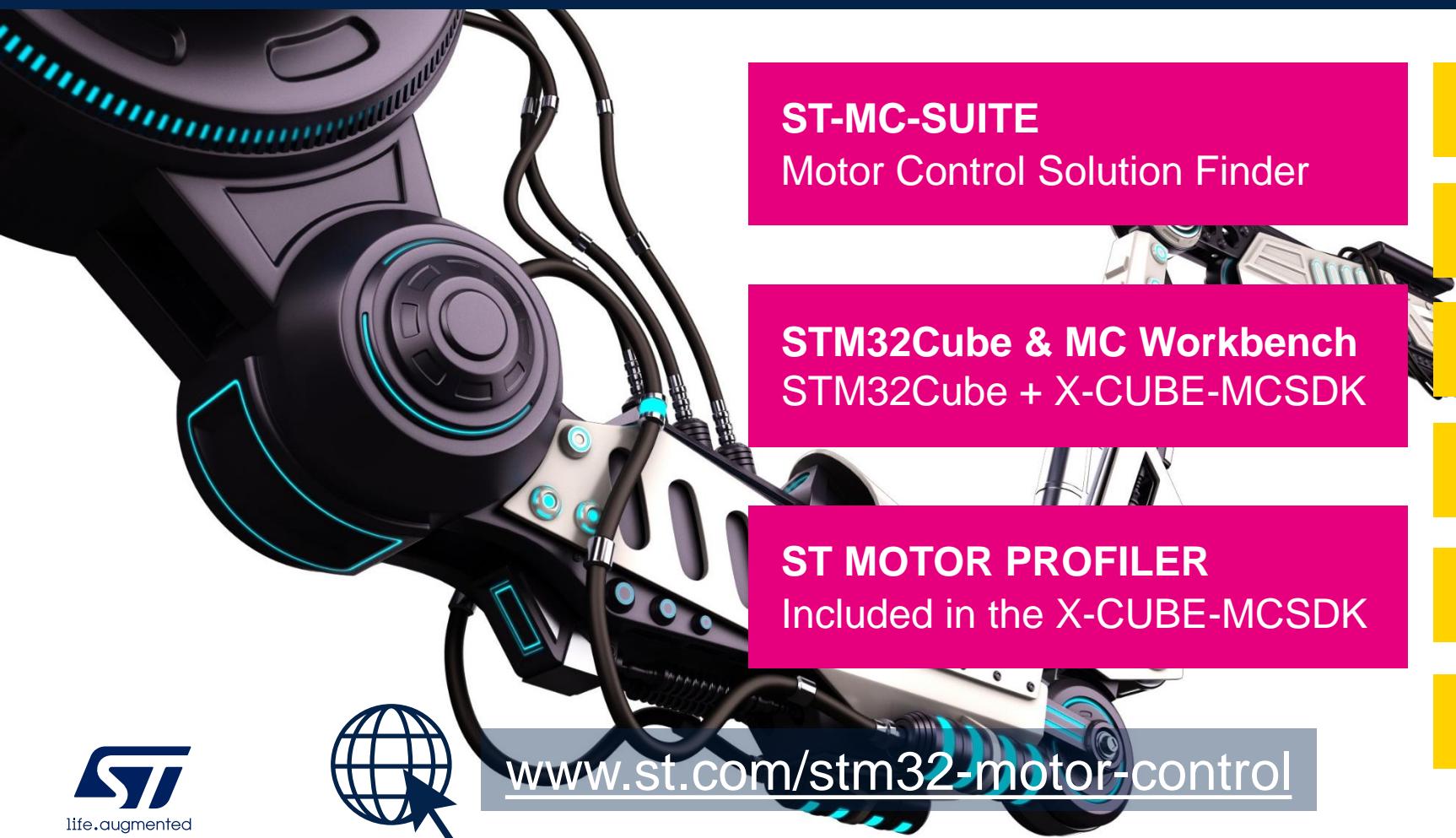
[www.st.com/STM32-digital-power](http://www.st.com/STM32-digital-power)



# ST-MC-SUITE: your complete motor control toolbox

## All-in-one online tool

An integrated development environment to ease and support the design of motor control solutions



► February 19<sup>th</sup>, 2019 - [NB](#)

► [Motor Control Suite](#)

► [Blog article](#)

► [Product presentation](#)

► [Video](#)

► [MOOC](#)

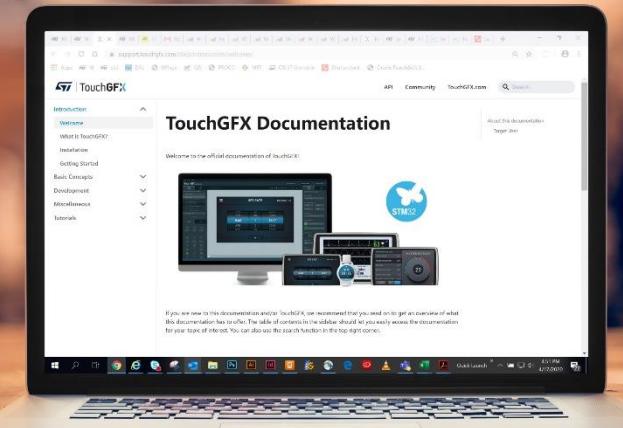


# STM32 & TouchGFX

## Revolutionizing the HMI of Things

Enhance STM32-based UIs with less MCU power

# TouchGFX



- ▶ April 7<sup>th</sup>, 2020 – [New documentation website](#)
- ▶ January 14<sup>th</sup> , 2020 – [Newsbite](#)
- ▶ [Blog articles](#)
- ▶ [Webinars](#)
- ▶ [Flyer](#)
- ▶ [Getting started video](#)
- ▶ [MOOC](#)





# Connect to USB Type-C™ with STM32 MCUs

The world's first conventional MCU with built-in USB-C and PD interfaces



**Entry level Solutions** Harness to the innovative features

**Certified UCPD STM32**  
Get more “power” and support new use-cases

**Port Manager with X-CUBE-PD**  
Create differentiation features

► November 5<sup>th</sup> , 2019 - [NB](#)

► February 22<sup>nd</sup>, 2019 - [NB](#)

► [Blog articles](#)

► [Product presentation](#)

► [Getting started Video](#)



<http://www.st.com/stm32-usb-c>

# STM32 ecosystem



Most recent announcements



# STM32 discovery kit and expansion software

**STM32L4+ board is featured to meet the performance demands and energy constraints typically placed on IoT nodes**



qualified  
device  
internet of things

STM32 IoT Discovery Kit aids creation  
of smart connected low-power devices



► July 13<sup>th</sup>, 2020 - [Newsbite](#)

► B-L4S5I-IOT01A - [Product Page](#)

► X-CUBE-AWS 2.0 - [Software page](#)





# Zigbee stack for STM32WB MCUs

Fully certified Zigbee PRO – Flexible dual-core MCU solution



► July 8<sup>nd</sup> , 2020 – [Newsbite](#) new

► STM32WB [Presentation](#)

► [DAL](#)

► Zigbee [Partner web page](#)

► [Zigbee 3.0 Video](#)

► [STM32WB webpage](#)

► [STM32WB Online Training](#)



# Wireless M-BUS stacks for STM32WL MCUs

**W-MBUS stack for electricity, gas and water metering  
tailored to STM32WL**

## **W-MBUS Stack for STM32WL**

**Smart meters getting smarter**



**STACKFORCE**  
embedded.connectivity.solutions

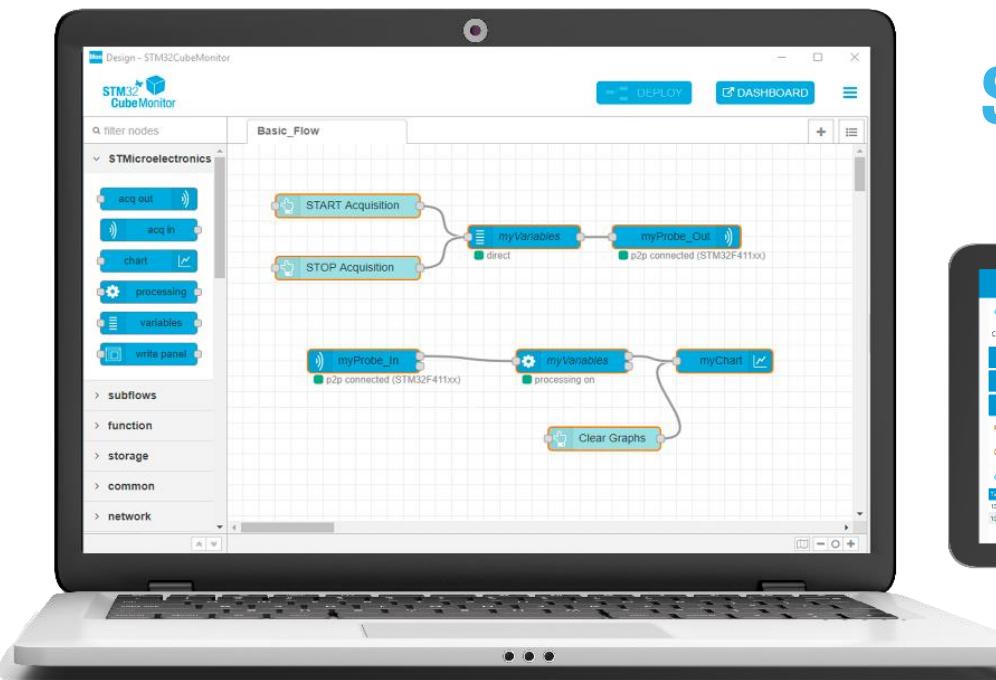
- ▶ July 2<sup>nd</sup> , 2020 – [Press Release](#) new
- ▶ STM32WL [Presentation](#)
- ▶ Stackforce [Partner web page](#)
- ▶ [STM32 Wireless webpage](#)
- ▶ [DAL](#)





# STM32CubeMonitor real-time graphical monitoring

Fine-tune and diagnose STM32 applications at run-time by reading and visualizing their variables in real-time



**STM32  
CubeMonitor**



► March 3<sup>rd</sup>, 2020 - [Newsite](#)

► Application monitoring - [Video](#)

► May 26<sup>th</sup> , 2020 - [Blog article](#)

new



[www.st.com/STM32CubeMonitor](http://www.st.com/STM32CubeMonitor)



# Functional safety packages for STM32 MCUs

Free safety packages for STM32 and an ecosystem of ST Authorized Partners



- ▶ May 5<sup>th</sup> , 2020 - [Newsbite](#)
- ▶ [Flyer](#)
- ▶ [Presentation](#)
- ▶ [Find a partner - #FuSa](#)
- ▶ On-line Training
  - [STM32H7](#)
  - [STM32G4](#)



[www.st.com/functionalSafety](http://www.st.com/functionalSafety)



# STM32Cube embedded software Now available in GitHub

Come and be part of the adventure as we continually improve STM32Cube!



The most popular code sharing service.

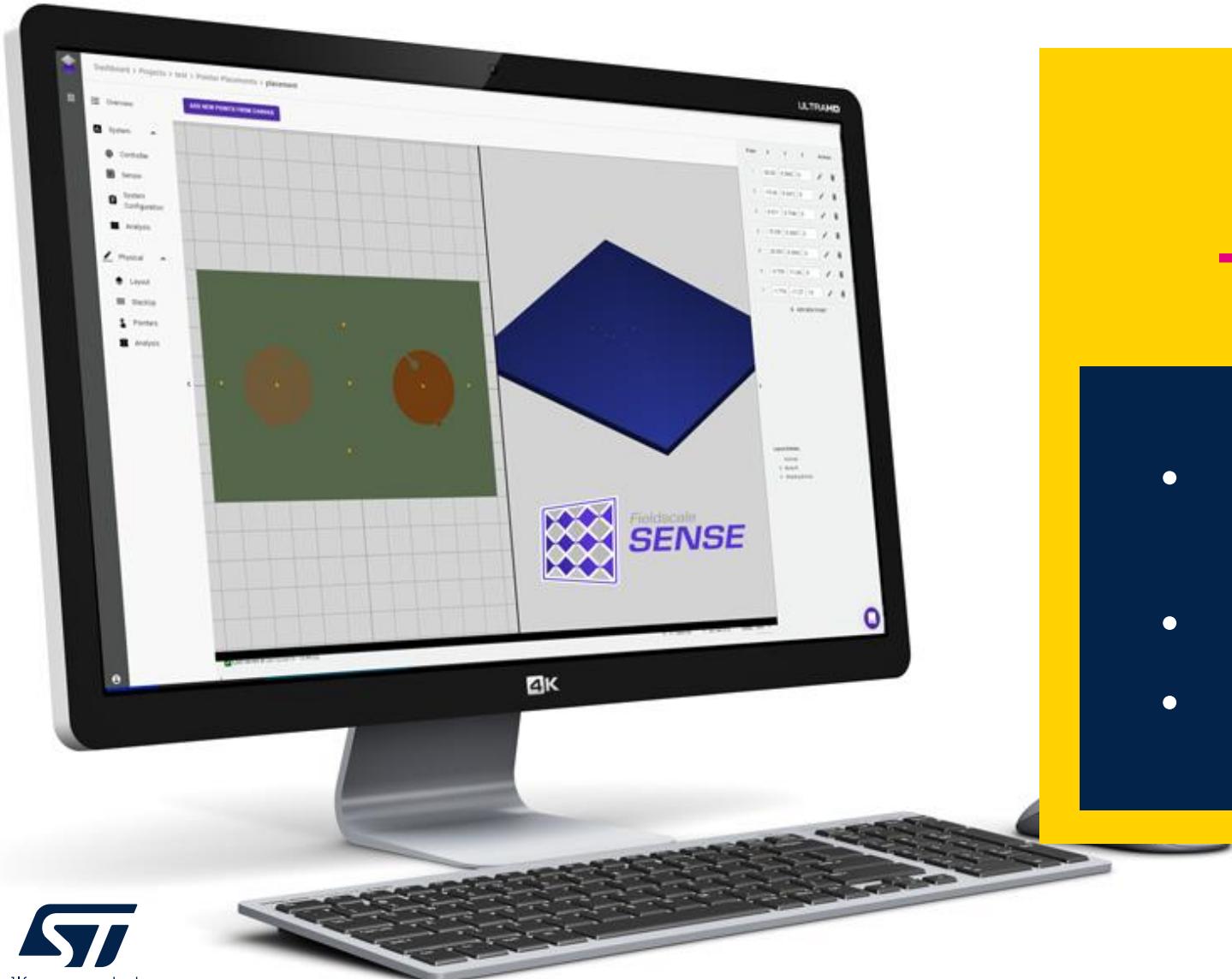
► April 30<sup>th</sup> , 2020 - [Newsbite](#)

► GitHub [link](#)





# Fieldscale SENSE for STM32 MCUs



Capacitive-touch  
development platform  
**The first end-to-end**

- January 27<sup>th</sup> , 2020  
PR
- Web page
- Blog article

[here](#)

[here](#)

[here](#)



# STM32 LoRaWAN® SW expansion now supports FUOTA

STMicroelectronics adds support for LoRaWAN®  
Firmware Update Over The Air in the STM32Cube ecosystem



- ▶ December 20<sup>th</sup> , 2019 - [PR](#)
- ▶ November 6<sup>th</sup> , 2019 - [NB](#)
- ▶ [Blog articles](#)
- ▶ [MOOC](#)
- ▶ [Video](#)
- ▶ [Community](#)



[www.st.com/i-cube-Irwan](http://www.st.com/i-cube-Irwan)



# STM32Trust: A complete toolset

## An ecosystem for embedded family

STM32Trust ecosystem from STMicroelectronics consolidates  
cyber-protection resources for IoT designers

STM32  
Trust



[www.st.com/STM32Trust](http://www.st.com/STM32Trust)

12 security functions

- ▶ July 30<sup>th</sup> , 2019 - [PR](#)
- ▶ [Blog article](#)
- ▶ [Product presentation](#)
- ▶ [Flyer](#)



# STM32 quality label strengthens MCU ecosystem

STMicroelectronics strengthens STM32 microcontroller ecosystem with MadeForSTM32™ quality label



- ▶ July 11<sup>th</sup> 7<sup>th</sup>, 2019 - [Press Release](#)
- ▶ [Blog article](#)
- ▶ [Video](#)
- ▶ [Presentation](#)
- ▶ [Flyer](#)

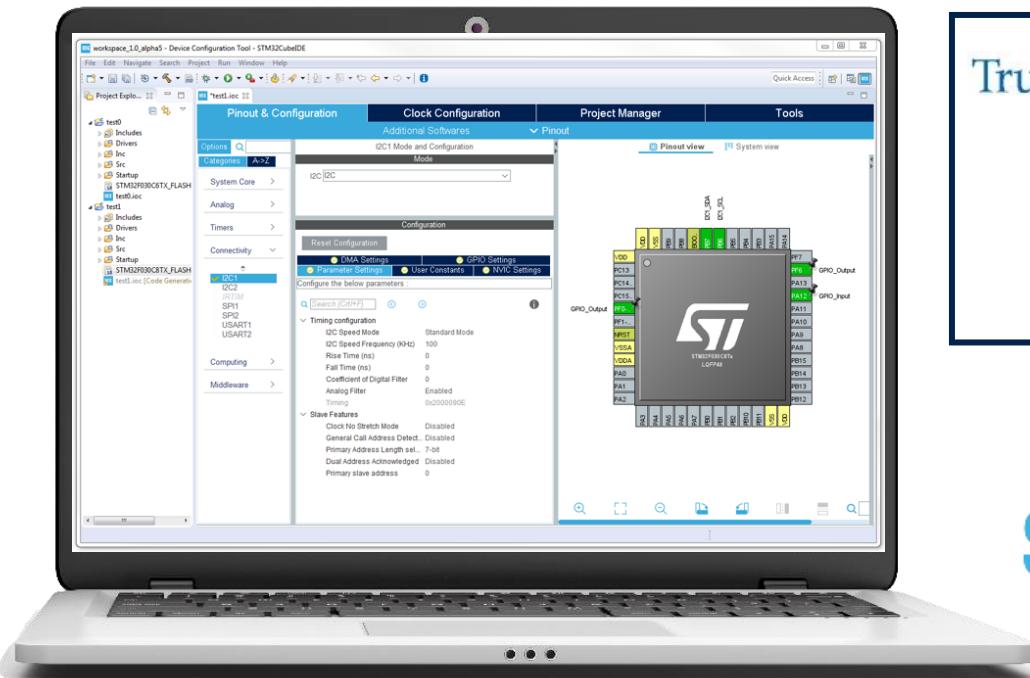




# STM32CubeIDE 1.3.0

## All-in-one development tool

STM32CubeIDE is an advanced C/C++ development platform with IP configuration, code generation, code compilation, and debug features



► April 25<sup>th</sup>, 2019 - [Newsbite](#)

► How to use STM32CubeIDE - [Video](#)

► [Blog articles](#)

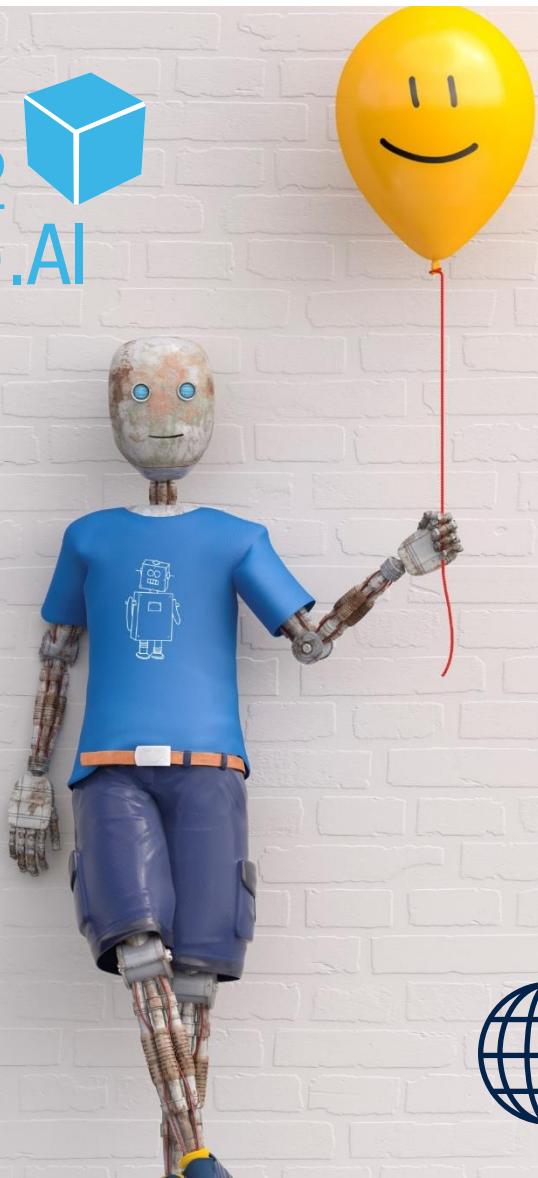
► [MOOC](#)



[www.st.com/STM32CubeIDE](http://www.st.com/STM32CubeIDE)



STM32  
Cube.AI



# STM32Cube.AI

## Solution for artificial intelligence

Neural-Network on STM32  
**Simple, fast, optimized**

- January 3<sup>rd</sup> , 2019 - PR
- Webinar replay
- Blog article
- Videos
- Community

[here](#)

[here](#)

[here](#)

[here](#)

[here](#)



[www.st.com/STM32CubeAI](http://www.st.com/STM32CubeAI)



# Releasing your creativity

► Famous video [here](#)



[/STM32](#)



[@ST\\_World](#)

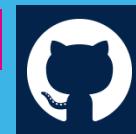


[community.st.com](#)



[www.st.com/stm32](#)

new



[github.com/STMicroelectronics](#)

new



[wiki.st.com/stm32mpu](#)  
[wiki.st.com/stm32mcu](#)



- MCD Promo Plan Q4/2020 included  
(Q1 should be shared mid-Q4)

Internal use only

# Thank you

PR

Press release

NB

Newsbite

OLT

OnLine Training

ULP

Ultra-Low Power