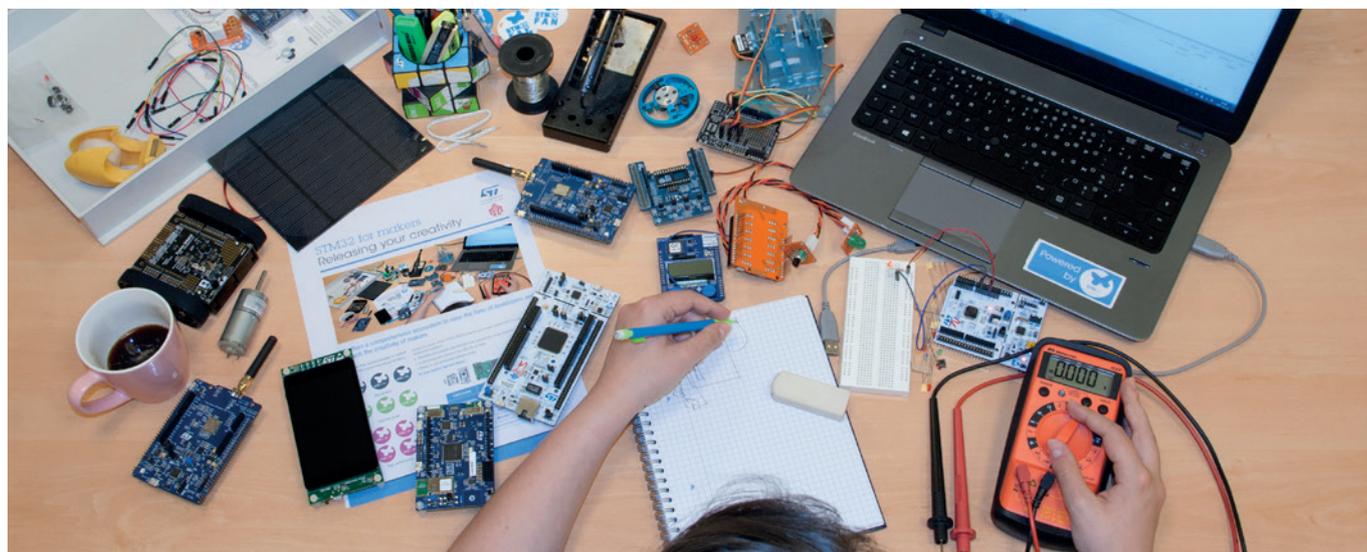# STM32 for makers
Releasing your creativity

ST offers a comprehensive ecosystem to ease the life of developers and unleash the creativity of makers

Choose the world leader in Arm® Cortex®-M core microcontrollers.

STM32 F2 STM32 F4 STM32 F7 STM32 H7

High-performance

STM32 F0 STM32 F1 STM32 F3

Mainstream

STM32 L0 STM32 L1 STM32 L4 STM32 L4+
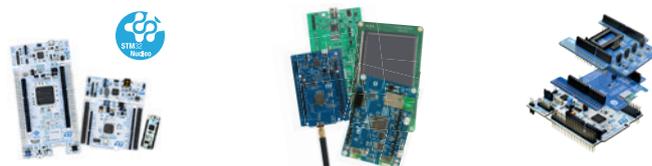
Ultra-low-power

STM32 WB

Wireless

Access the power of the STM32 MCU family for your maker project with ST's open development platform:

- Affordable and scalable development tools adapted to a large diversity of needs
- A comprehensive choice of free IDEs for all OSes
- Ready-to-use embedded software bricks

On your mark! Get set! Make!

	STM32 Nucleo	STM32 MCU Discovery kits	STM32 Nucleo expansion boards
	Flexible prototyping	**Key feature evaluation**	**Sense, connect, move, power, translate**
Connectors	Arduino ST morpho	Arduino (*) ST / STMod+ (*)	Arduino
mbed-enabled	Yes	Yes(*)	Yes(*)
Price (**)	$10 to $23	$8 to $100	< $35
Website	www.st.com/stm32nucleo	www.st.com/stm32discovery	www.st.com/x-nucleo

(*) On selected boards
(**) Recommended

Make with STM32

STM32 NUCLEO DEVELOPMENT BOARDS
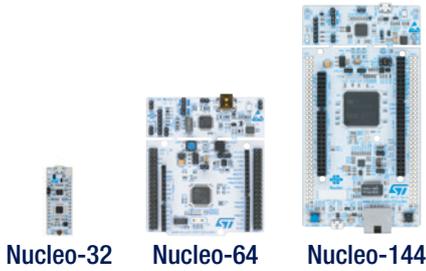
Nucleo-32   Nucleo-64   Nucleo-144

Key features

- STM32 microcontroller in 32-, 64-or 144-pin package
- On-board ST-LINK/V2-1 debugger/programmer:
  - Virtual com port
  - Mass storage
- Broad range of expansion possibilities with specialized shields:
  - Arduino Uno rev3 connectors on Nucleo-64 and Nucleo-144 boards
  - Access to a wider range of peripherals through Zio connectors on Nucleo-144 boards
  - Access to all MCU pins through ST morpho connectors on Nucleo-64 and Nucleo-144 boards
  - Arduino Nano connectors on Nucleo-32

STM32 NUCLEO EXPANSION BOARDS

Here are a few examples from among a broad portfolio available at www.st.com/x-nucleo

Bluetooth low energy	LoRa™ networking	Motor control	Motion & Environmental Sensing
X-NUCLEO-IDB05A1	I-NUCLEO-LRWAN1(by USI®)	X-NUCLEO-IHM03A1	X-NUCLEO-IKS01A2

STM32 DISCOVERY BOARDS

www.st.com/stm32l4-discovery

Cellular to Cloud

P-L496G-CELL01*   P-L496G-CELL02*

*Available in Q2-2018

SOFTWARE TOOLS

STM32CubeMX

Configure and generate code
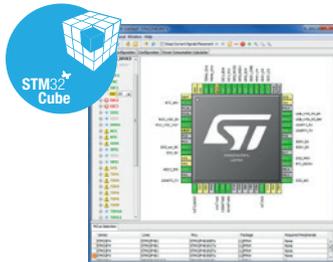
EMBEDDED SOFTWARE

Ready-to-use embedded software bricks

Your application		
STM32Cube middleware	mbed component libraries	Arduino firmware
	mbed core abstraction	
STM32Cube Hardware Abstraction Layer (HAL) and Low-Layer APIs (LL)		
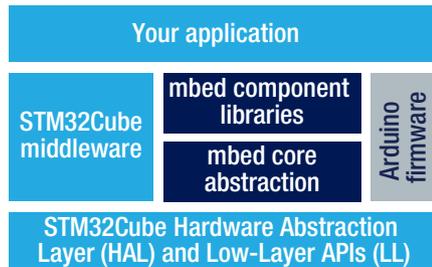
Free IDE solutions

Code, compile and debug

Arduino IDE[2]	Arm® mbed™	TrueSTUDIO®[3]	MDK-ARM[1]	System Workbench
Windows	Windows	Windows	Windows	Windows
macOS®	macOS®			macOS®

Notes:

1. Free licenses for STM32F0 and STM32L0 series
2. Add STM32 boards support to Arduino IDE from community.st.com/stm32
3. Atollic and TrueSTUDIO are STMicroelectronics brands