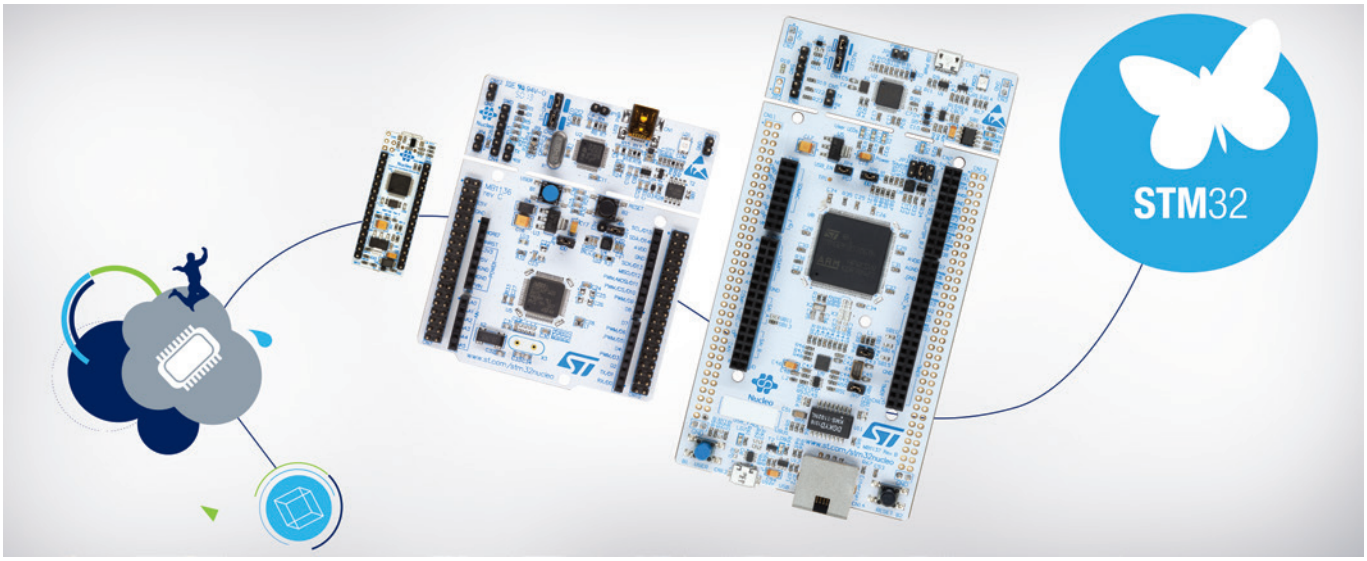
# STM32 for makers
# Releasing your creativity




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

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

STM32 F0 STM32 F1 STM32 F3

Mainstream

STM32 L0 STM32 L1 STM32 L4

Ultra-low-power

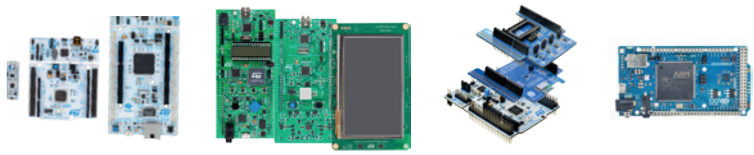
STM32 F2 STM32 F4 STM32 F7

High-performance

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 marks! Get set! Make!



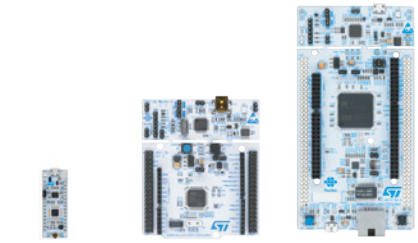
| | STM32 Nucleo | STM32 MCU Discovery kits | STM32 Nucleo expansion boards | Third-party boards |
|---|---|---|---|---|
| | Flexible prototyping | Key feature evaluation | Sense, connect, move, power, translate | STAR OTTO |
| **Connectors** | Arduino ST morpho | Arduino (*) ST | Arduino | Arduino |
| **mbed-enabled** | Yes | Yes(*) | Yes(*) | No |
| **Price (**)** | $10 to $23 | $8 to $50 | < $35 | $88 |
| **Website** | www.st.com/stm32nucleo | www.st.com/stm32discovery | www.st.com/x-nucleo | www.arduino.org |

(*) On selected boards

(**) Recommended

# Make with STM32

## STM32 NUCLEO DEVELOPMENT BOARDS



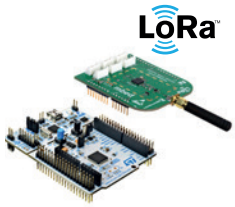
Nucleo-32 Nucleo-64 Nucleo-144

### Key features

- STM32 microcontroller in 32-pin, 64-pin 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
  - Access to a wider range of peripherals through Zio connectors on Nucleo-144
  - Access to all MCU pins through ST morpho connectors on Nucleo-64 and Nucleo-144
  - Arduino Nano connectors on Nucleo-32

## STM32 NUCLEO EXPANSION BOARDS

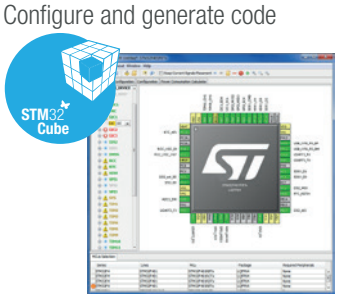
Few examples among a broad portfolio, available at www.st.com/x-nucleo

| Bluetooth low energy | LoRa™ networking | Motor control | Motion & Environmental Sensing | Proximity, gesture and ambient light | Wi-Fi networking |
|---|---|---|---|---|---|
| |  | | | | |
| X-NUCLEO-IDB05A1 | P-NUCLEO-LRWAN1 (Pack ST and Semtech) | X-NUCLEO-IHM01A1 | X-NUCLEO-IKS01A1 | X-NUCLEO-53L0A1 | I-NUCLEO-ISMART (by Inventek) |

## SOFTWARE TOOLS

### STM32CubeMX

Configure and generate code



### Free partner IDEs

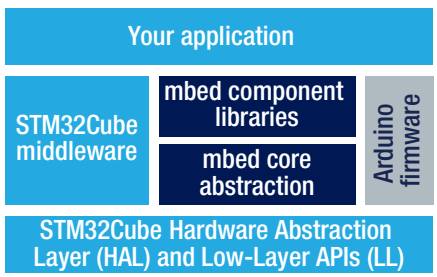
Code, compile and debug

| ARM® mbed™ | CoIDE | MDK-ARM (*) | System Workbench |
|---|---|---|---|
| Windows | Windows | Windows | Windows |
| OS X | | | OS X |

Note: (*) Free licenses for STM32F0 and STM32L0 series

## EMBEDDED SOFTWARE

Ready-to-use embedded software bricks

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