

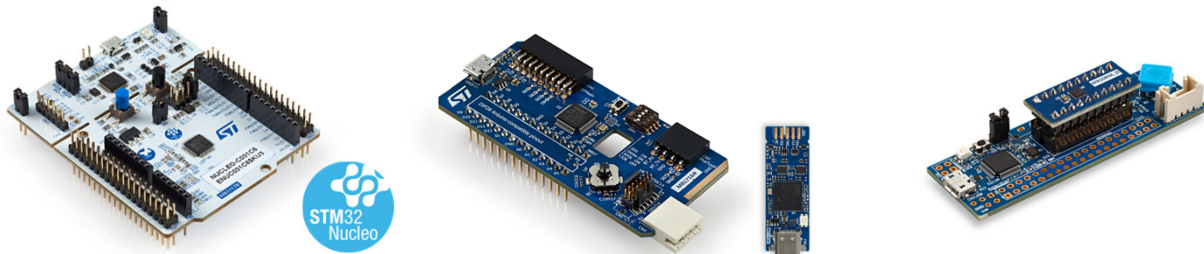


Hello, and welcome to the presentation of the STM32C0 large ecosystem, that contributes to simplify the implementation of these microcontrollers.



Development tools for STM32C0 series

Speed-up evaluation, prototyping and design



STM32 Nucleo with C031

Prototyping QFP48
NUCLEO-C031C6

Discovery kit for C031

Mini evaluation board
Full voltage range 2.0 ~ 3.6 V
Standalone fast STLinkV3-Mini
STM32C0316-DK

Discovery kit for C011

Ready to use wired sample
Daughter board QFN20/DIP20
STM32C0116-DK



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The STM32 eval boards have been designed as a complete demonstrator and development platform for the STM32 MCUs and MPUs.

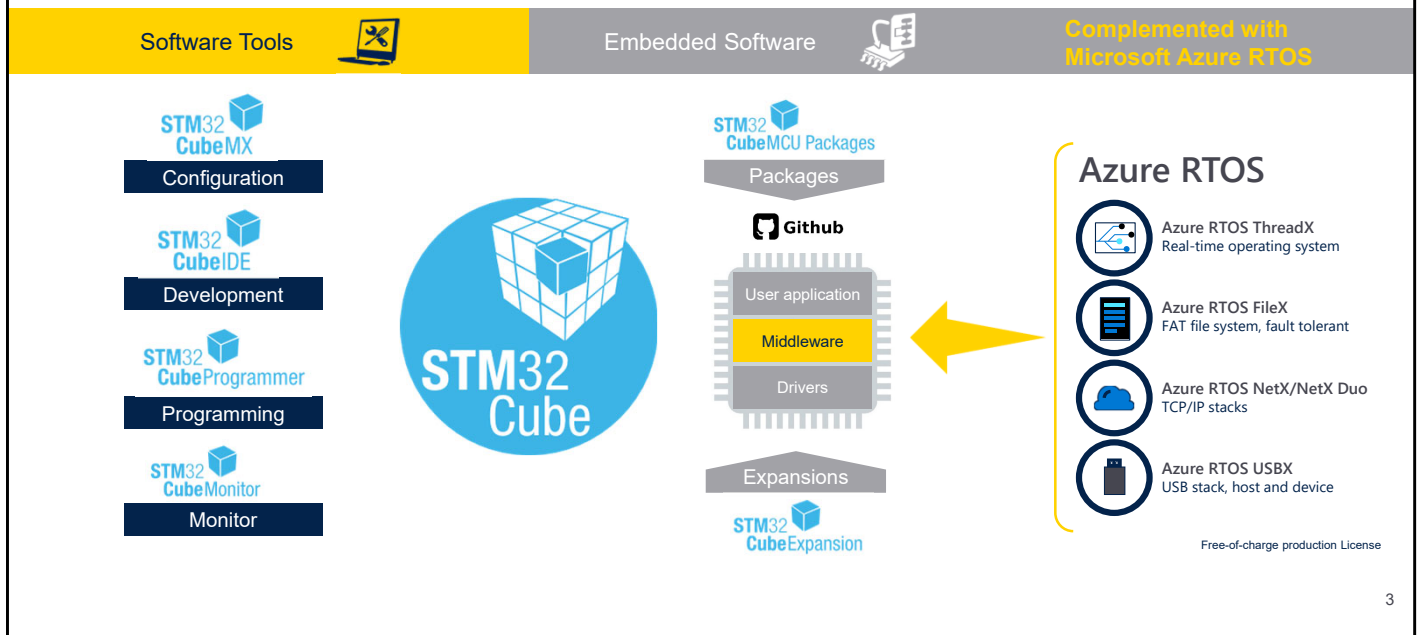
The evaluation boards can be considered as a reference design for application development.

Two types of STM32C0 boards are available for different uses depending on the targeted applications:

- STM32C0 Nucleo boards enable quick and flexible prototyping
- STM32C0 Discovery kits target more creative demos.

STM32 Nucleo boards can easily be extended with a large number of specialized application hardware add-ons thanks to Arduino Uno Rev3 and ST morpho connectors.

Leveraging STM32Cube software suite



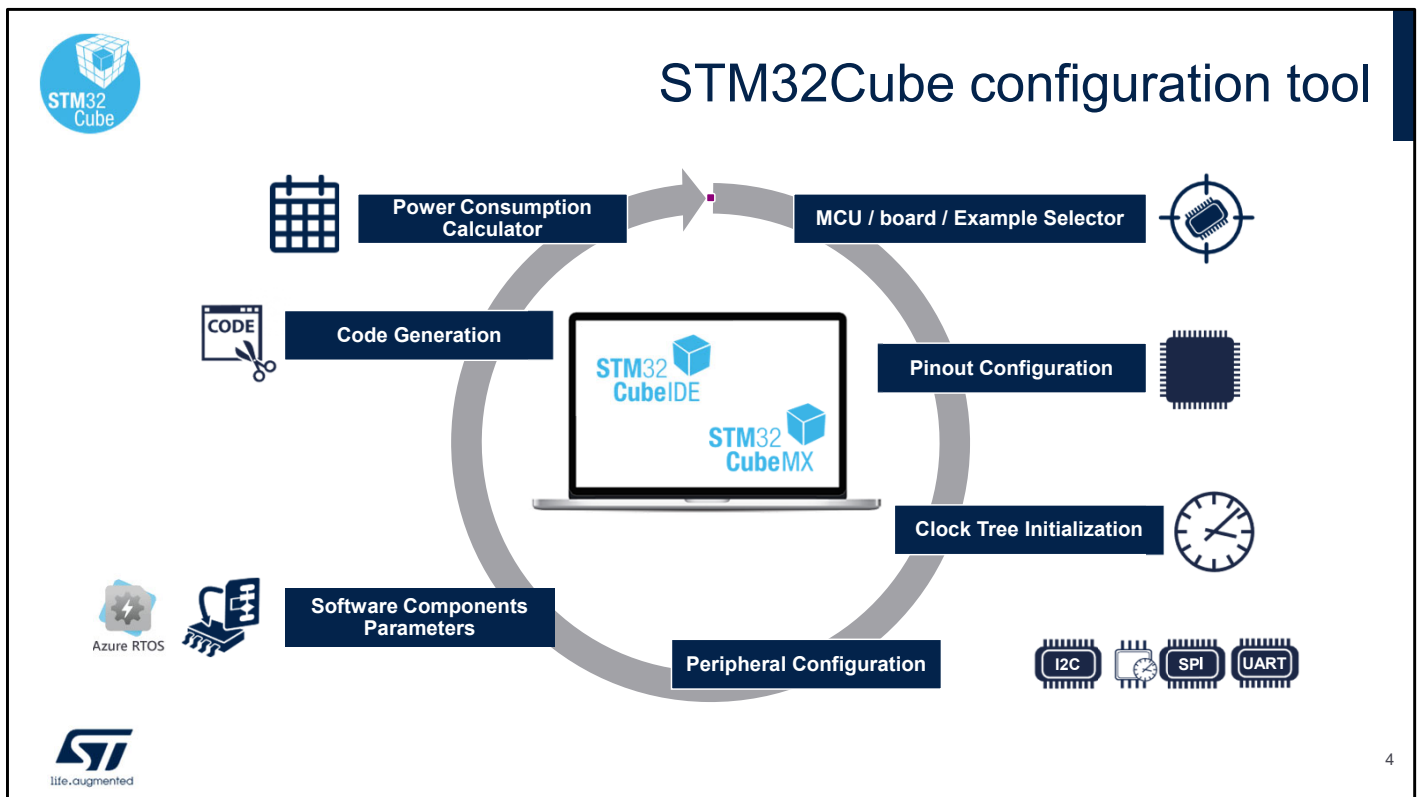
The STM32Cube ecosystem is a software solution for STM32 microcontrollers and microprocessors, created for designers interested in a free comprehensive development environment, and for users looking to integrate STM32 software in their existing IDE, such as Keil or IAR IDEs. All these tools have been tuned to support the new STM32C0 series features.

The Azure RTOS suite has been added to STM32Cube to complement the existing offer and to deliver the highest quality of service and quick time to design, with a free-of-charge production license for STM32 users.

It includes:

- The ThreadX RTOS,
- The FileX file system with wear leveling and fault-tolerant modules, to support NAND/NOR flash memories

- The industrial grade netX TCP/IP stack optimized for performance and coming with many IoT protocols, including security support
- And the optimized USBX device and host USB stack coming with many classes.



STM32CubeMX is a graphical tool that allows a very easy configuration of STM32 microcontrollers, as well as the generation of the corresponding initialization C code for the Arm[®] Cortex[®]-M0+ core, through a step-by-step process.

Through an intuitive user interface, the user first selects the MCU or the board and then configures the pinout, the clock tree, the peripherals and the software components. STM32CubeIDE is an all-in-one multi-OS development tool, which is part of the STM32Cube software ecosystem. STM32CubeIDE is an advanced C/C++ development platform with peripheral configuration, code generation, code compilation, and debug features for STM32 microcontrollers.

It is based on the Eclipse[®]/CDT[™] framework and GCC toolchain for the development, and GDB for the

debugging.

It allows the integration of the hundreds of existing plugins that complete the features of the Eclipse® IDE.



Software tools for STM32C0

Complete support of Arm Cortex-M0+ architecture



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This slide summarizes the tools involved in the various development steps:

- Configuring the MCU through STM32CubeMX and generating the project for the following IDEs: STM32CubeIDE, IAR or Keil
- Developing and debugging the application software through STM32CubeIDE, IAR or Keil
- Programming the STM32 internal memories thanks to STM32CubeProgrammer
- Monitoring the execution by using STM32CubeMonitor, which helps to fine-tune and diagnose STM32 applications at run-time by reading and visualizing their variables in real-time.

Thank you

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Thank you for attending this presentation!