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STMicroelectronics brings 32-bit kick to cost-sensitive 8-bit applications with STM32C0 series microcontrollers

Most affordable entry to STM32 family now in high-volume production and available for shipment, covered by ST's 10-year longevity program

Geneva, January 12, 2023 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, is again broadening access to its STM32 microcontroller (MCU) family by introducing the most affordable series yet: the [STM32C0](#).

STM32 MCUs are used in billions of smart industrial, medical, and consumer products worldwide. With thousands of existing STM32 part numbers, product designers can select the features and performance they need at a price to suit their market.

In assuring availability, ST targets the new STM32C0 series to equipment like [home appliances](#), [industrial pumps](#), [fans](#), [smoke detectors](#), typically served by simpler 8-bit and 16-bit MCUs. The modern, 32-bit design of the STM32C0 permits improvements such as faster response, extra functions, and network connection at similar overall cost and power consumption. At the same time, its entry-level simplicity and free and extensive support ecosystem with resources including tools, software packs, and the chance to connect with various developer communities ease entry to the 32-bit world for new users.

"*The next generations of smart appliances and industrial controllers must be easy to use, ultra-competitively priced, and with assured supply,*" said Daniel Colonna, STM32 Marketing Director at STMicroelectronics. "*By delivering on these requirements, our new STM32C0 general-purpose entry-level MCUs introduce exciting options to the 8-/16-bit applications space, with the added benefits that come with the broad and powerful STM32 ecosystem.*"

The STM32C0 series, now in high-volume production and available for shipment, is covered by ST's 10-year longevity program for industrial products, renewed every year. Nine package choices are available, offering various attributes such as easy handling, ultra-small form factor, and low profile.

Further technical information

ST has engineered the new STM32C0 series to let designers do more with less: the MCUs are housed in small and economical packages with only one pair of external

power connections, making more I/O pins available for the application while lowering bill-of-materials costs. Also, an on-board, high-accuracy (1%) clock saves external timing components.

As a part of the STM32 continuum, STM32C0 devices allow easy migration into the STM32G0 Series to tackle more demanding projects, sharing a consistent pinout.

The STM32C0 series integrates up to date peripherals, including a 1.7 MSPS analog-digital converter (ADC) with hardware for 16-bit over-sampling multiple timers including an advanced control timer for applications like motor control.

Leveraging the STM32 platform, the new MCUs provide DMA (direct memory access) channels that boost application performance and efficiency. They run at up to 48MHz and deliver 44 DMIPS instruction throughput with CoreMark performance/efficiency of 114, drawing just 80µA/MHz in run mode.

The STM32C0 series connects designers with the highly regarded STM32 development ecosystem. An STM32C0 Nucleo (NUCLEO-C031C6) low-cost development board and two STM32C0 Discovery Kits (STM32C0116-DK and STM32C0316-DK) are available. Software resources include STM32C0 support in the STM32CubeMX configuration tool, Microsoft Azure RTOS, and the STM32CubeC0 MCU package with Hardware Abstraction Layer (HAL) and low-layer libraries.

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At ST, we are 48,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and connectivity. ST is committed to becoming carbon neutral by 2027. Further information can be found at www.st.com.

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