

# STM32H7 Series

## High-performance MCUs



### High-performance MCUs with Arm® Cortex®-M7 core

The STM32H7 series offer the performance of the Cortex-M7 core running up to 400 MHz. Combined with a smart architecture based on a multi-power domain, developers can always use the best configuration to optimize data transfers and CPU load while staying gentle on the power budget when needed.

The embedded hardware accelerators and the extensive digital and analog peripheral set make the STM32H7 very well suited for industrial applications where fast reaction time is key or HMI applications where the graphic and audio support will allow an unprecedented user experience with an embedded microcontroller.

#### CORE, MEMORIES AND ACCELERATION

- Cortex-M7 core @ 400 MHz
- 16KB+16KB I/D L1 Cache
- Double-precision FPU
- 4 x DMA controllers
- From 128kB up to 2MB dual bank Flash / 1MB RAM

#### CONNECTIVITY

- 2 x USB2.0 OTG FS/HS
- USART, UART, SPI, and I<sup>2</sup>C
- 2 x CAN (1 x FD and 1 x TT/FD)
- Ethernet MAC
- FMC and QuadSPI
- 2 x SDMMC

#### AUDIO

- 3 x I<sup>2</sup>S + audio PLL
- 4 x SAI
- 2 x 12-bit DAC
- SPDIF-RX

#### GRAPHICS

- LCD TFT controller
- JPEG Codec
- Chrom-ART Accelerator™

#### OTHER

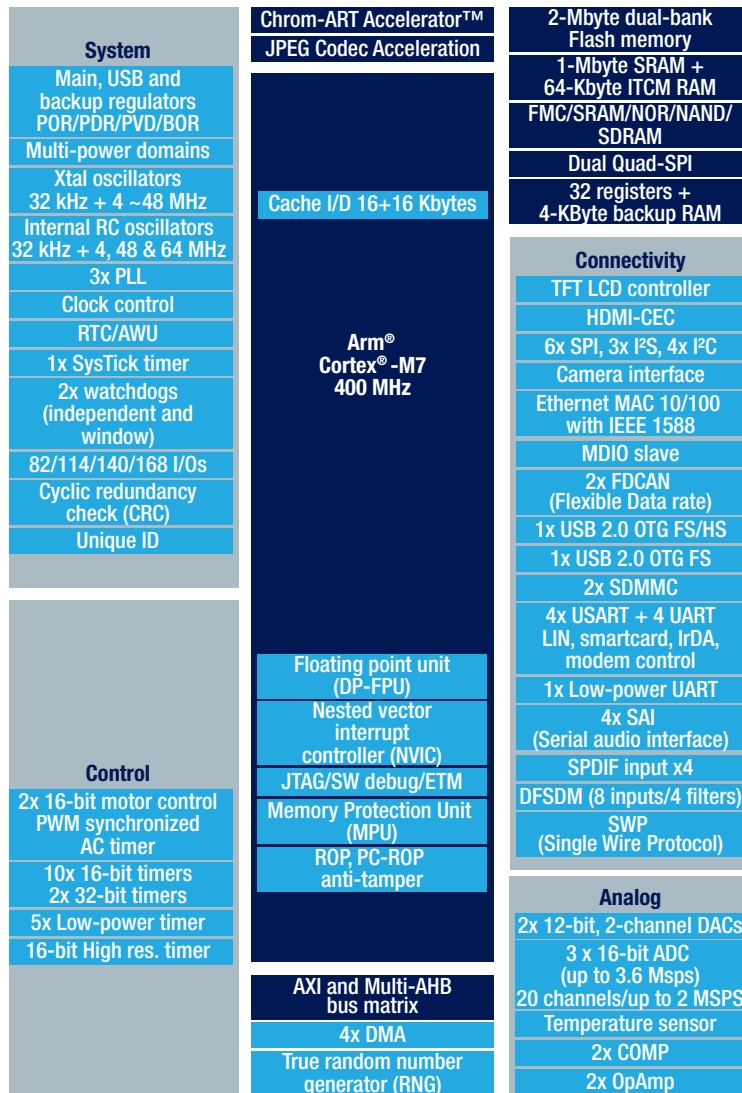
- Optional crypto
- DFSDM
- 16- and 32-bit timers
- 3x ADCs with 16-bit max. resolution (up to 3.6 MSPS)
- Analog (comp, AOP)
- Power supply 1.7V to 3.6V. down to 1.62V in regulator bypass mode
- Up to 125°C supported as maximum junction temperature

#### X-CUBE-SBSFU



A efficient solution for secure firmware install and upgrade of embedded applications, built on top of STM32Cube software technology.

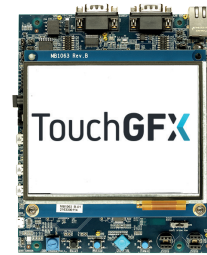
## STM32H753xl BLOCK DIAGRAM



## HARDWARE TOOLS

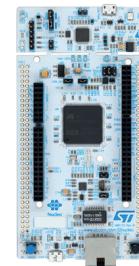
A full set of evaluation boards enables flexible prototyping as well as full STM32H7 evaluation.

### Evaluation boards



STM32H743I-EVAL and STM32H753I-EVAL

### Nucleo boards



NUCLEO-H743ZI (144-pin Nucleo)

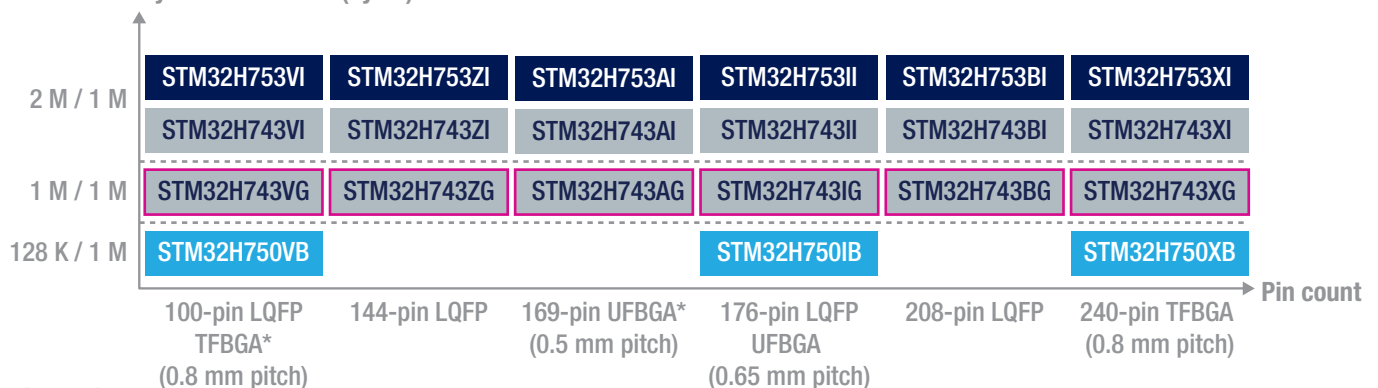
## SOFTWARE TOOLS

STM32CubeMX enables fast development thanks to its MCU clock configurator, power consumption calculator and code generation tools.



## STM32H7 PORTFOLIO

Flash memory size / RAM size (bytes)



Legend:

- Value line
- without HW crypto/hash
- with HW crypto/hash
- available in Q1-2019

Note (\*): Planned - contact your sales office