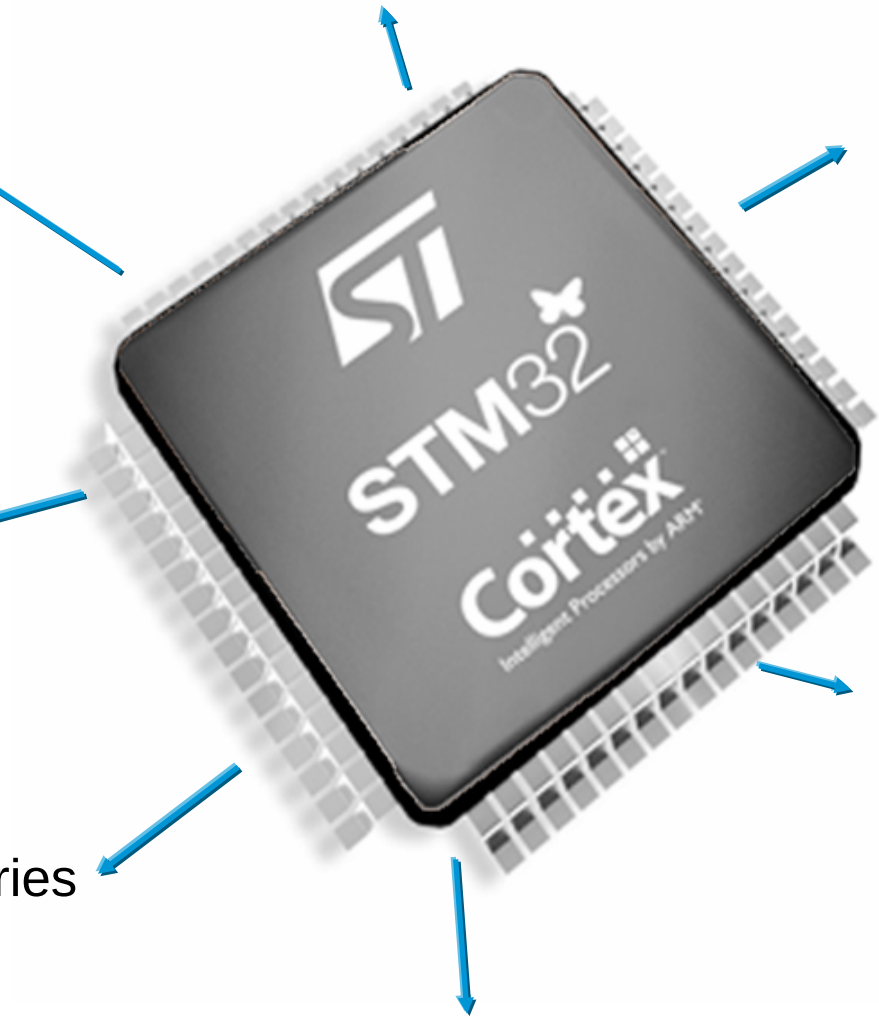
STM32 Releasing your creativity

STM32 - 32-bit ARM® Cortex™-M MCUs

What does a developer want in an MCU?



Leading edge core

Cost sensitive

Advanced peripherals

Low power

Scalable device portfolio

Software libraries

Rich choice of tools

STM32 product family key benefits

Real-time performance	Outstanding power efficiency	Superior and innovative peripherals	Maximum integration	Extensive tools and software
Leading-edge architecture Excellent real-time behavior	Sub µA RTC, low-voltage low-power modes	USB-OTG high speed, Ethernet, dual CAN, 12-bit ADC, advanced timers	Reset circuitry, clocks, oscillators, PLL regulator, RTC, watchdog	Various IDE, starter kits, libraries, RTOS and stacks
Future-proof design	**Environment friendly, suits low-power operation**	**Address all your needs and beyond**	**Cost and space saving**	**More time for innovation**

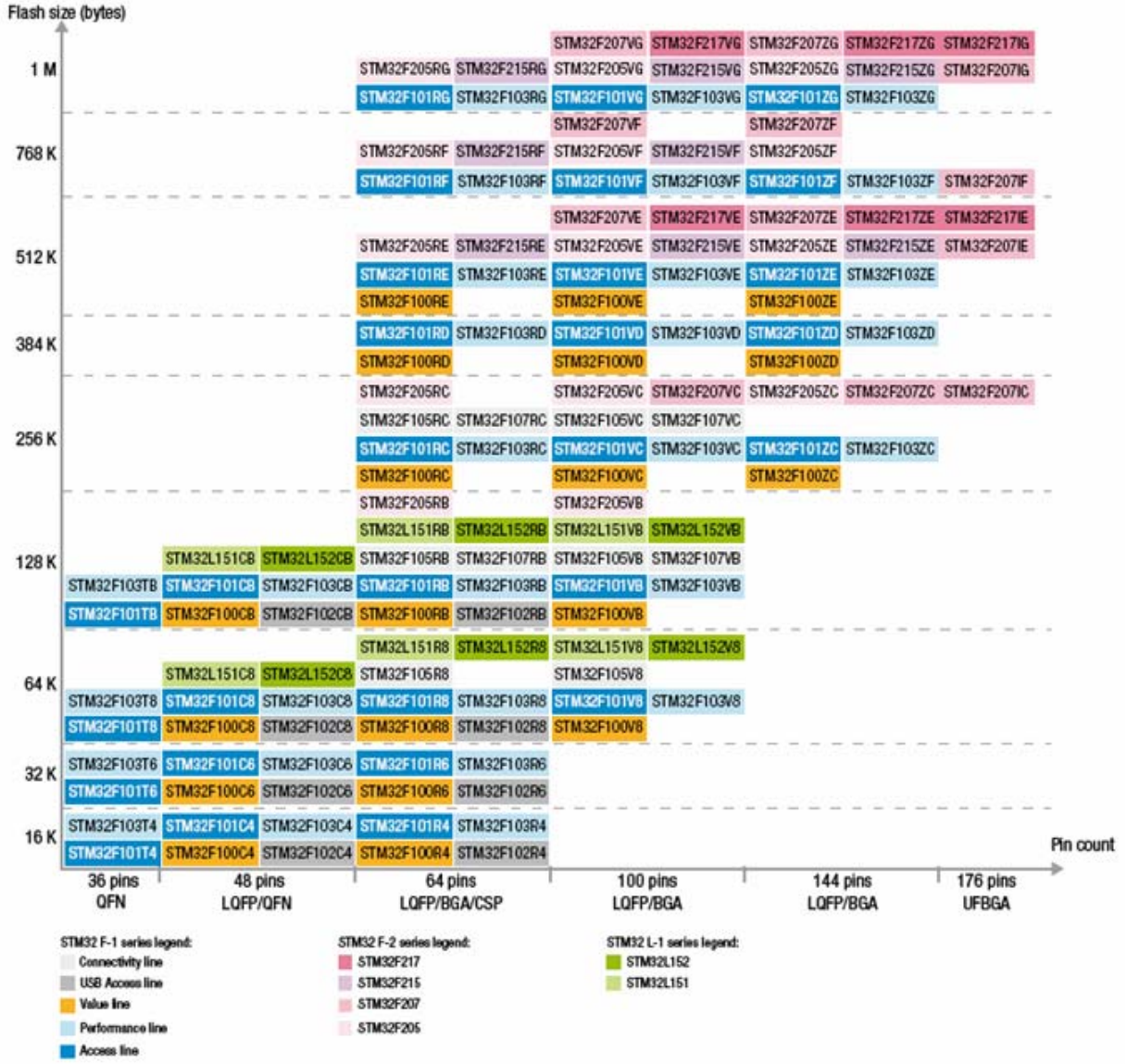
STM32

STM32 platform

More than 180 compatible devices

STM32 an extensive family

- Comprehensive portfolio
  - More than **180 devices**
  - 16-Kbyte to 1-Mbyte Flash
  - 36 to 176 pins
  - From low cost
  - To high performance
- **Full** compatibility
- Perfect platform choice
- **New Value line, STM32 L-1 and STM32 F-2 series**



STM32 product lines

Common core peripherals and architecture:

- Communication peripherals: USART, SPI, I²C
- Multiple general-purpose timers
- Integrated reset and brown-out warning
- Multiple DMA
- 2x watchdogs Real-time clock
- Integrated regulator PLL and clock circuit
- External memory interface (FSCMI)
- Dual 12-bit DAC
- Up to 3x 12-bit ADC (1 µs or 0.5 µs for F-2 series)
- Main oscillator and 32 kHz oscillator
- Low-speed and high-speed internal RC oscillators
- -40 to +85 °C and up to 105 °C operating temperature range
- Low voltage 2.0 to 3.6 V or 1.65 to 3.6 V (L-1 and F-2 series) 5.0 V tolerant I/Os
- Temperature sensor

F-2 series - STM32F207/217 and STM32F205/215

120 MHz Cortex-M3 CPU	Up to 128-Kbyte SRAM	Up to 1-Mbyte Flash	2x USB 2.0 OTG FS/HS	3-phase MC timer	2x CAN 2.0B	SDIO 2x I²S audio Camera IF	Ethernet IEEE 1588	Crypto/hash processor and RNG

F-1 series - Connectivity line STM32F105/STM32F107

72 MHz Cortex-M3 CPU	Up to 64-Kbyte SRAM	Up to 256-Kbyte Flash	USB 2.0 OTG FS	3-phase MC timer	2x CAN 2.0B	2x I²S audio	Ethernet IEEE 1588

F-1 series - Performance line STM32F103

72 MHz Cortex-M3 CPU	Up to 96-Kbyte SRAM	Up to 1-Mbyte Flash	USB FS device	3-phase MC timer	CAN 2.0B	SDIO 2x I²S

F-1 series - USB Access line STM32F102

48 MHz Cortex-M3 CPU	Up to 16-Kbyte SRAM	Up to 128-Kbyte Flash	USB FS device	

F-1 series - Access line STM32F101

36 MHz Cortex-M3 CPU	Up to 80-Kbyte SRAM	Up to 1-Mbyte Flash		

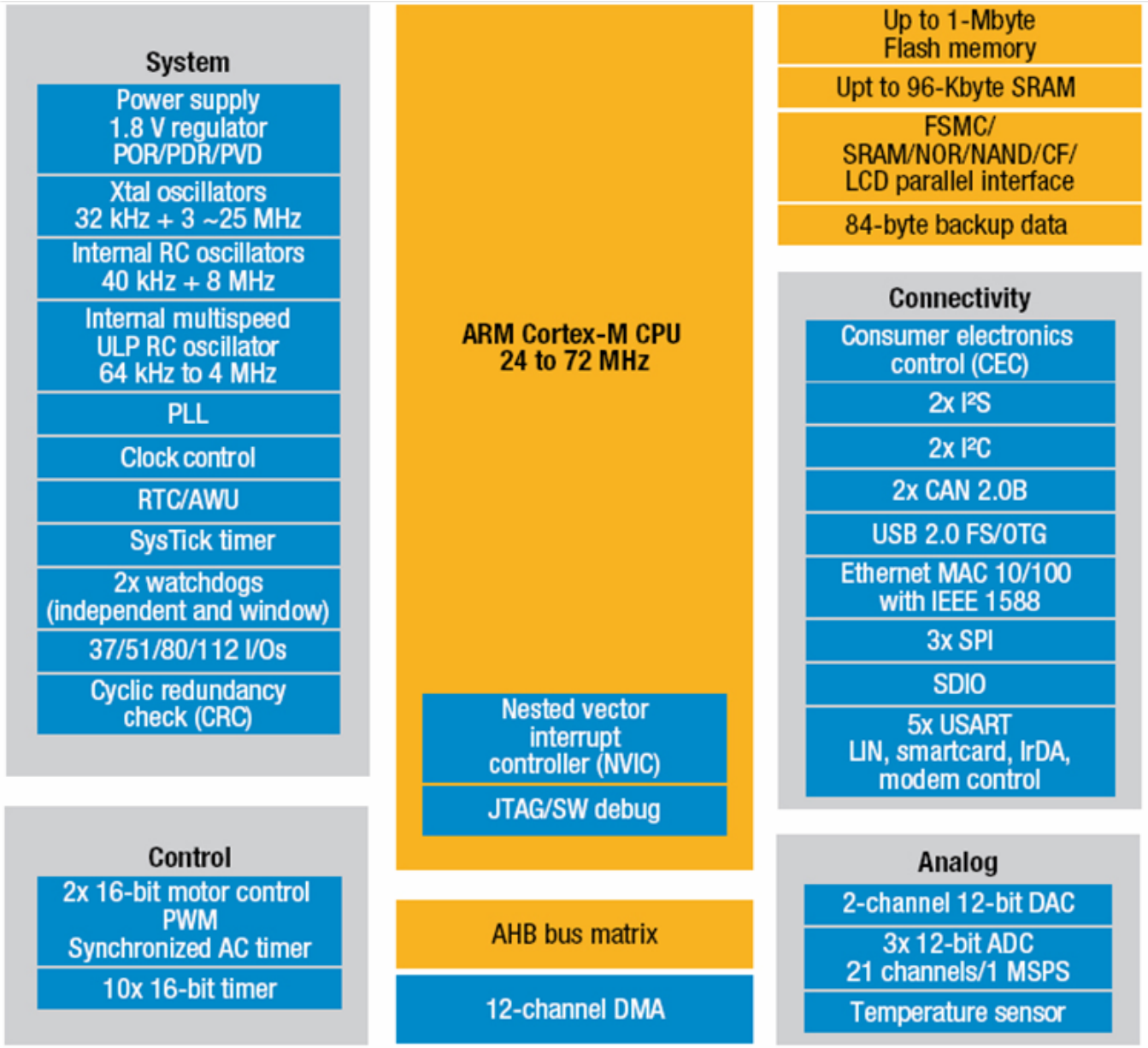
F-1 series - Value line STM32F100

24 MHz Cortex-M3 CPU	Up to 32-Kbyte SRAM	Up to 512-Kbyte Flash	3-phase MC timer	CEC

L-1 series - STM32L151/2

32 MHz Cortex-M3 CPU	Up to 16-Kbyte SRAM	Up to 128-Kbyte Flash	USB FS device	Data EEPROM 4 Kbytes	LCD 8x40	Comparator	BOR MSI VScal

STM32 F-1 series block diagram



STM32 applications

Industrial

- PLC
- Inverters
- Printers, scanners
- Industrial networking
- Solar inverters

Electricity meters

Appliances

- 3-phase motor drive
- Application control
- User interfaces
- Induction cooking

motor control

Building and security

- Alarm systems
- Access control
- HVAC
- Power meters

Consumer

- Home audio
- Gaming
- PC peripherals
- Digital cameras, GPS

Gaming

Medical

- Glucose meters
- Portable medical care
- VPAP, CPAP
- Patient monitoring

STM32 tools

4 starter kits
Numerous boards



STM32 promotion kits


EvoPrimer


STM32-ComStick


STM32VLDISCOVERY

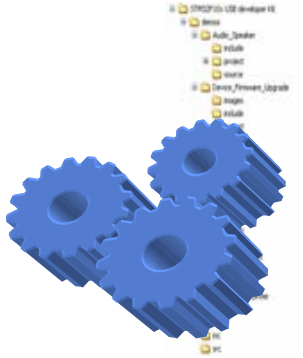
13 different RTOS and stack solution providers

IAR SYSTEMS
hitex DEVELOPMENT TOOLS
Micro Digital
Green Hills SOFTWARE, INC.
Micrium
SEGGER
RAISONANCE
Quadros
interniche technologies, inc.
KEIL An ARM Company
freeRTOS
expresslogic
CMX SYSTEMS

More than **15** different development IDE solutions

mbest
IAR SYSTEMS
SIGNUM SYSTEMS
LAUTERBACH
RAISONANCE
TASKING
aiji SYSTEM
KEIL An ARM Company
hitex DEVELOPMENT TOOLS
Green Hills SOFTWARE, INC.
RA
Altium
atollic
1 SYSTEM
GNU

Free software solutions from ST

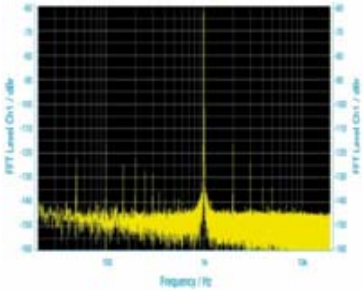


Standard peripheral library

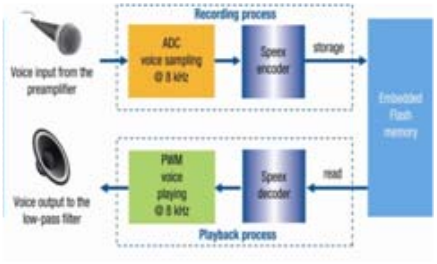
USB device library

Motor control library

Self-test routines for EN/IEC 60335-1 Class B



DSP library



SPEEX codec

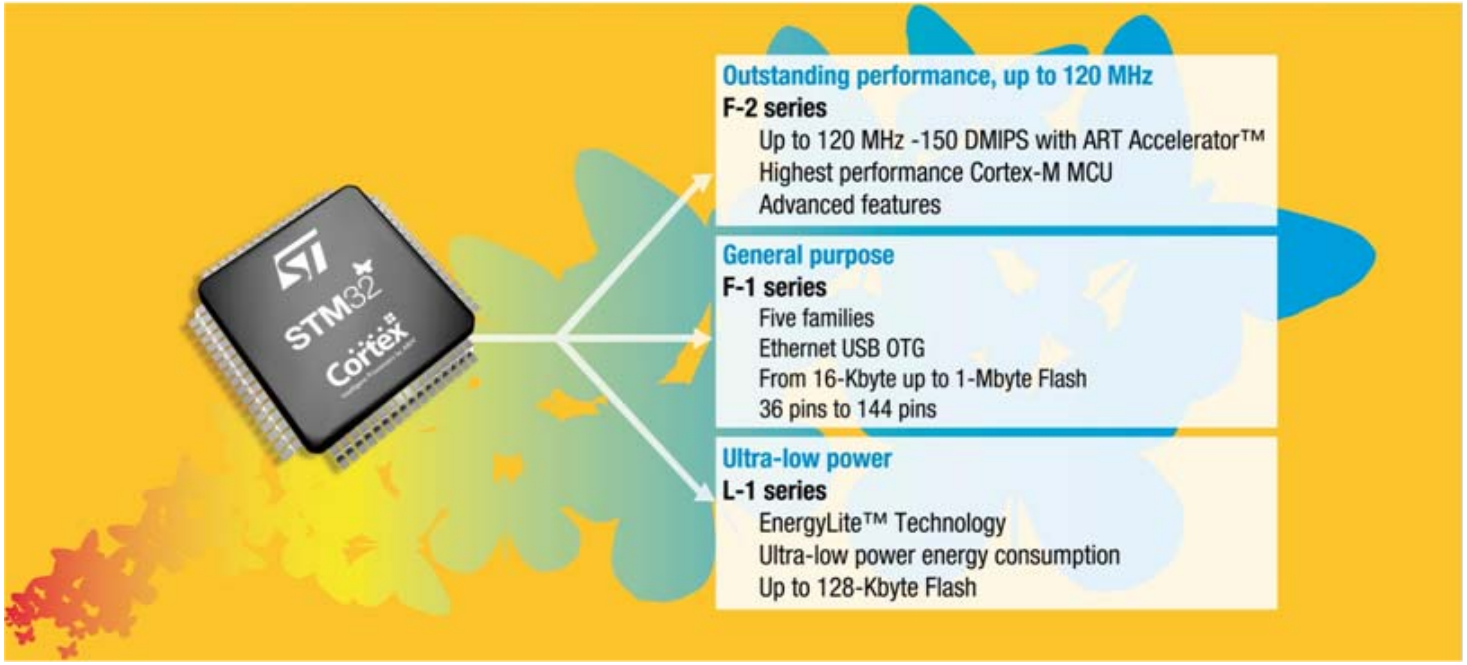
Encryption library

STM32 audio engine

CMSIS COMPLIANT
ARM® Cortex™ Microcontroller Software Interface Standard

A solid foundation for growth

- Higher performance and connectivity
- Ultra-low-power EnergyLite™ technology
- Family extensions
- First Cortex-M in 90 nm eFlash technology
- Ultra-low-power 0.13 µm eFlash technology



Thank you

Please visit our website at:

www.st.com/stm32