



STM32 Development Tools

January 2015

From ideas to products



How to make creation more fluid ?

Development Tools adapted to your needs..

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mbd
Enabled

STM32
Nucleo

Flexible
prototyping

www.st.com/stm32nucleo



Discovery
kits

Key feature
prototyping

www.st.com/stm32discovery



Evaluation
boards

Full feature
evaluation



3rd parties

From full evaluation to
open hardware

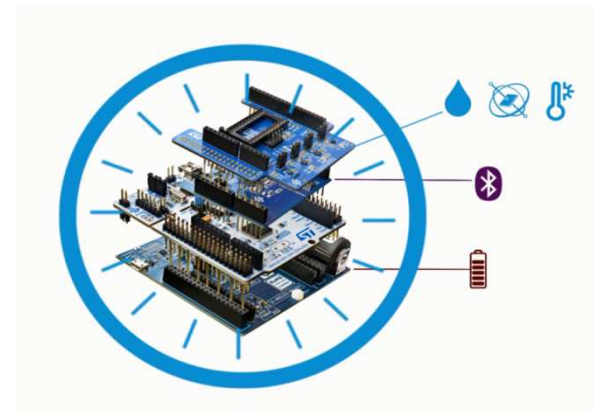
STM32 Nucleo expansion boards

Specialized
functionality
add-on

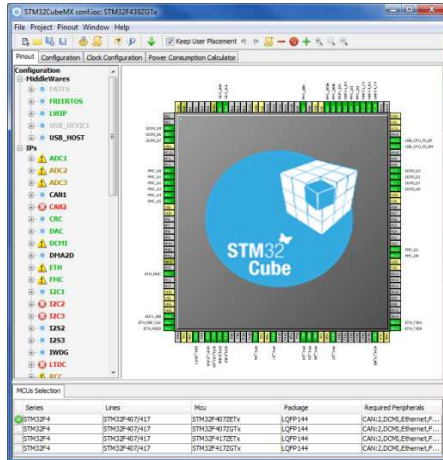


Connectivity, Sensors...

www.st.com/x-nucleo

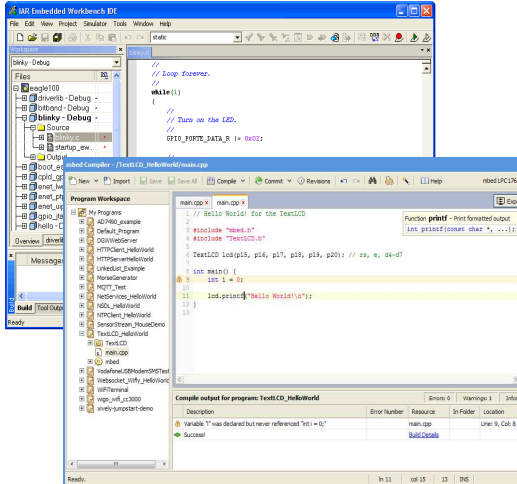


... with comprehensive choice of free IDEs



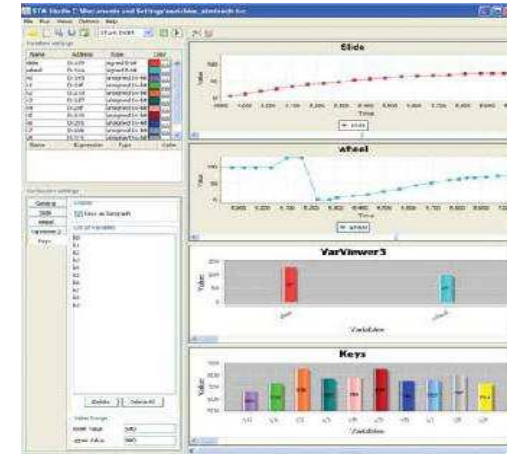
STM32
CubeMX

Generate Code



Partners IDEs

Compile & Debug



STMStudio

Monitor



Free
IDE

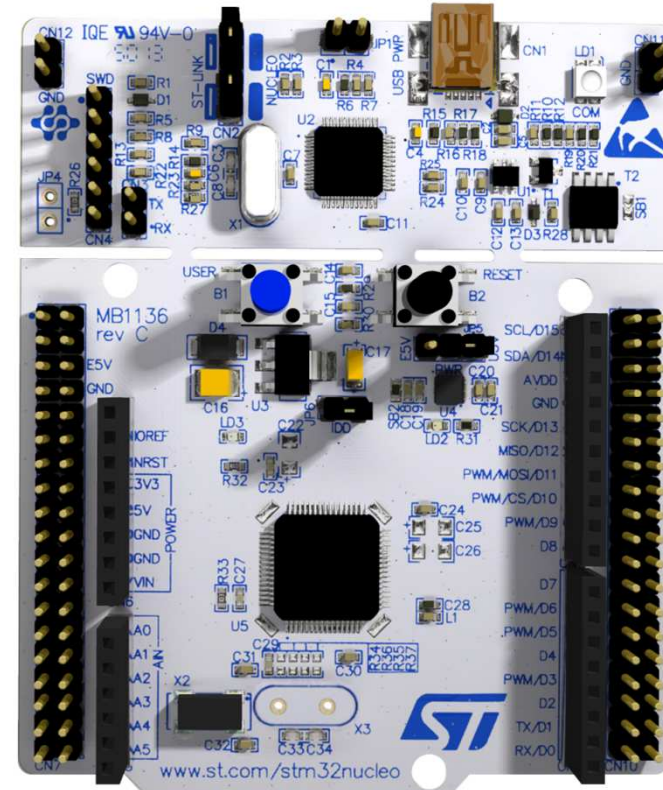




STM32 Nucleo key assets

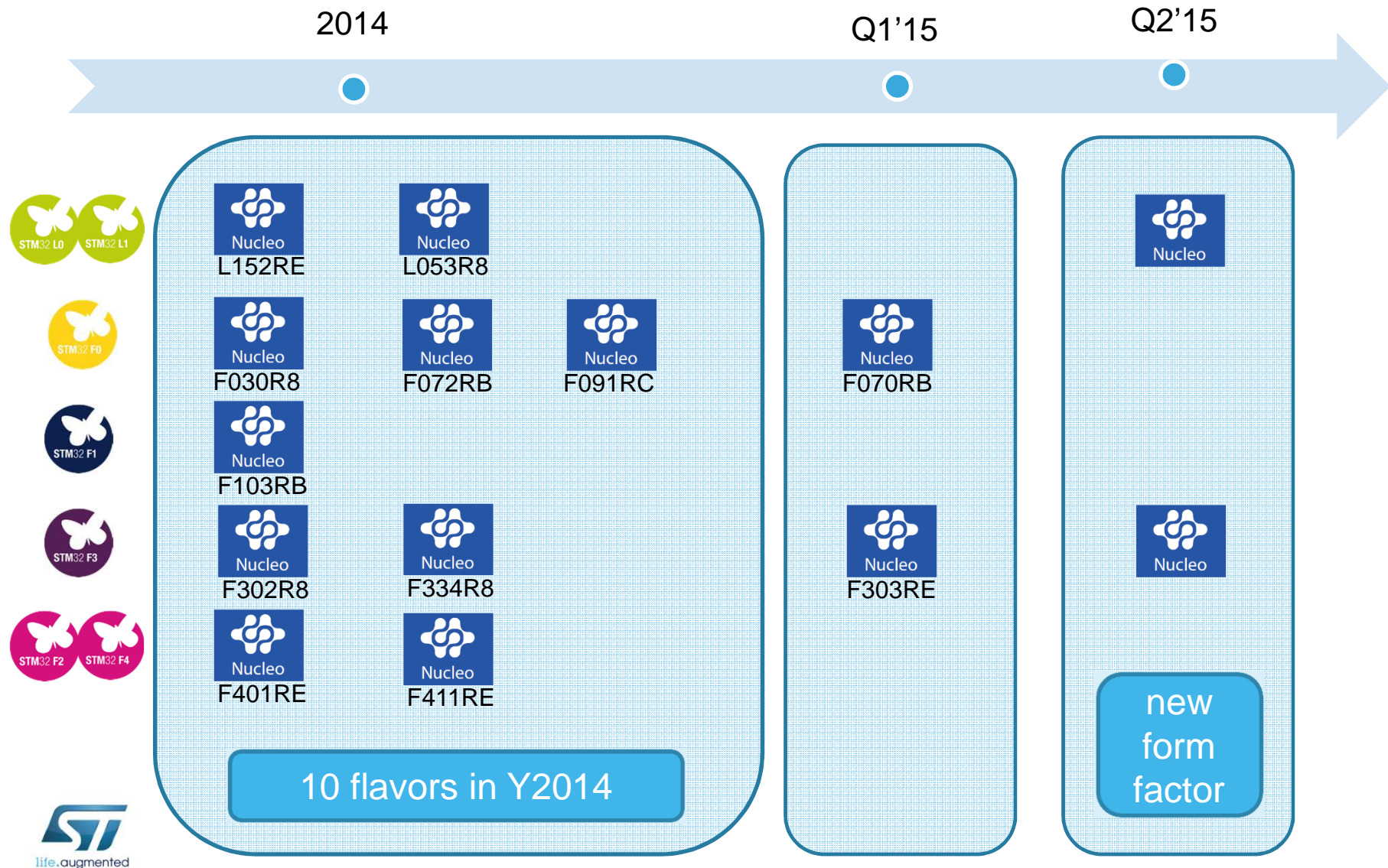
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- Flexible prototyping.
 - Affordable STM32 boards sharing the same association scheme.
 - Reduction of financial risks through easy HW/SW tuning.
- Unlimited expansion capability
 - Benefit from Open Hardware initiatives (Arduino).
- Simply expose the entire STM32 portfolio to dvt communities.
 - Expansion shields are compatible with all STM32 Nucleo at once.
 - Free access to mbed online IDE at mbed.org



STM32 Nucleo keeps growing fast...

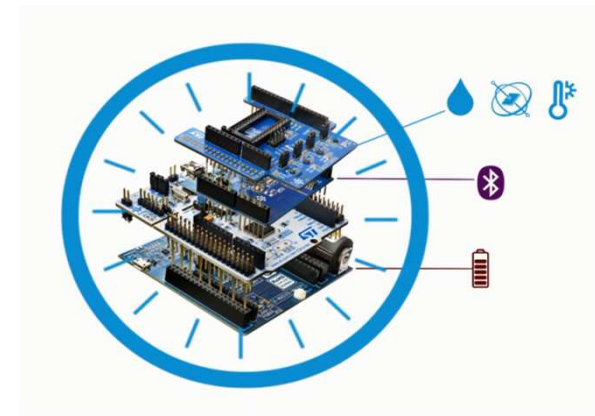
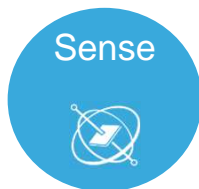
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...with more expansion boards

- Global approach for a diversity of applications
 - Primary focus on sensors and connectivity.
- Pre-configured application SW library for smooth integration
 - Specialized functionality can seamlessly be added to STM32Nucleo.
 - SW components compatible with STM32Cube firmware.
- Software examples work with several IDEs.
 - Users can work within a familiar environment.



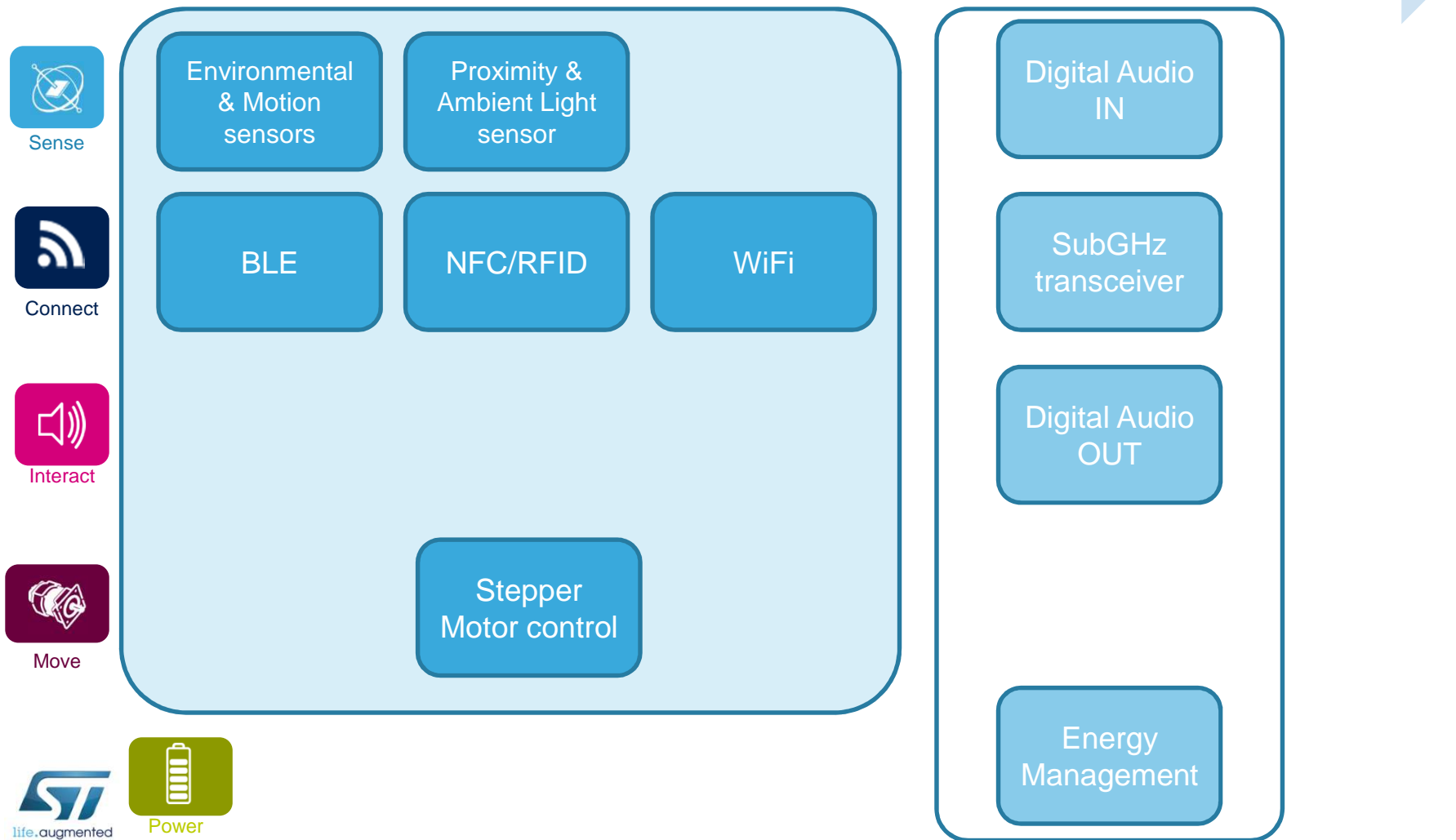


...& more specialized functionalities

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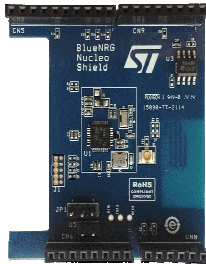
2014

Q1'15





STM32 Nucleo expansion boards



BLE 4.0
processor
(BlueNRG)

X-NUCLEO-IDB04A1



NFC/RFID
tag
(M24SR)

X-NUCLEO-NFC01A1



Stepper
motor driver
(L6474)

X-NUCLEO-IHM01A1



Proximity
Ambient
Light sensor
(VL6180X)

X-NUCLEO-6180XA1



WiFi b/g/n
processor

AMW006-A02

(by Ackme Networks)

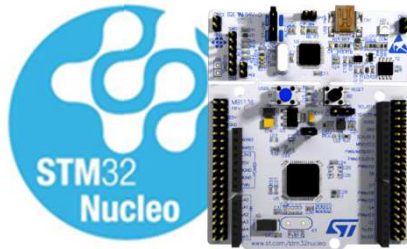


Environmental & Motion sensors
(LSM6DS0 accelerometer & gyroscope,
LIS3MDL magnetometer, LPS25H pressure,
HTS221 humidity & temperature)

X-NUCLEO-IKS01A1

STM32Nucleo open development platform

HW



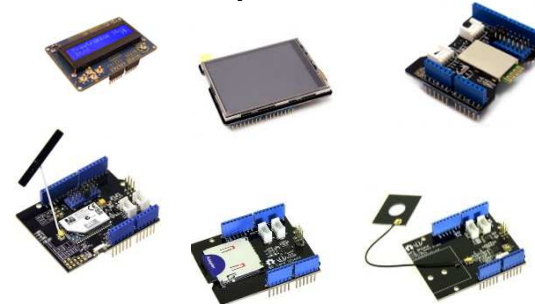
STM32
Nucleo
development
boards

SW



STM32
Cube
SW library

Expansion



STM32 Nucleo expansion boards
(Nucleo shields)

STM32 Cube expansion SW

Multi-IDE support



Simply scalable : No limit to possibilities

Comprehensive choice of STM32 free IDEs



System
Workbench



Q2'2015



Q2'2015

**Free licenses for all STM32
microcontrollers**



CoIDE



Microcontroller Tools

MDK-ARM



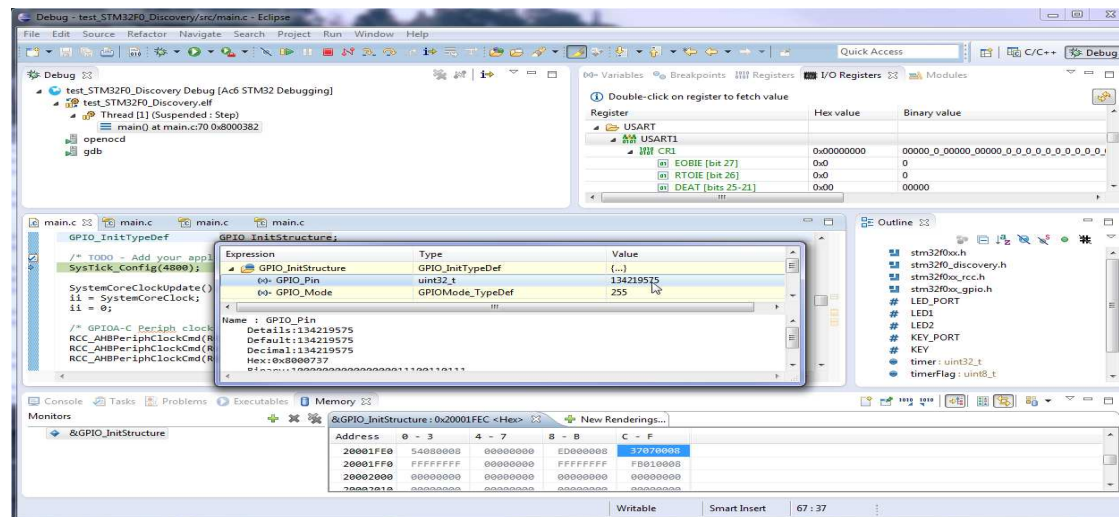
**Free licenses for
STM32F0
& STM32L0**



**Free access to
all STM32Nucleo
users**

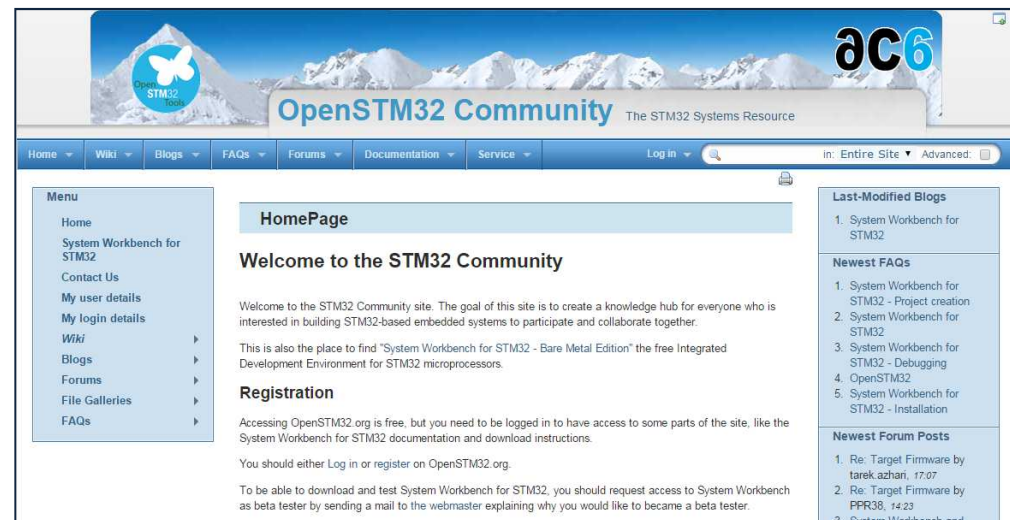
System Workbench for STM32

- Free Eclipse-based flexible software development environment :
 - Covers the full range of STM32 mcus and associated boards (Nucleo, Discovery, Eval).
 - Comprehensive support for STM32 firmware (Standard Peripheral library or Cube HAL).
 - Customisation enabled through Eclipse plug-ins (SVN, EGit...).
- Key features :
 - GCC C/C++ compiler.
 - GDB-based debugger.
 - ST-Link support.
 - Multi-OS support : Windows, Linux & OSX (Q2'2015).
 - No code size limit.
 - SW4STM32 project format will be supported by CubeMX.



System Workbench for STM32

- How to download SW4STM32 ?
 - Go to associated collaborative site at www.openstm32.org
 - Register to this site.
 - Get installation instructions at the Documentation > System Workbench page.
 - Proceed with immediate download of the toolchain.
- Technical support :
 - Handled through the associated Openstm32 website.
 - Documentation, forum, blog, trainings are available to provide assistance to users.

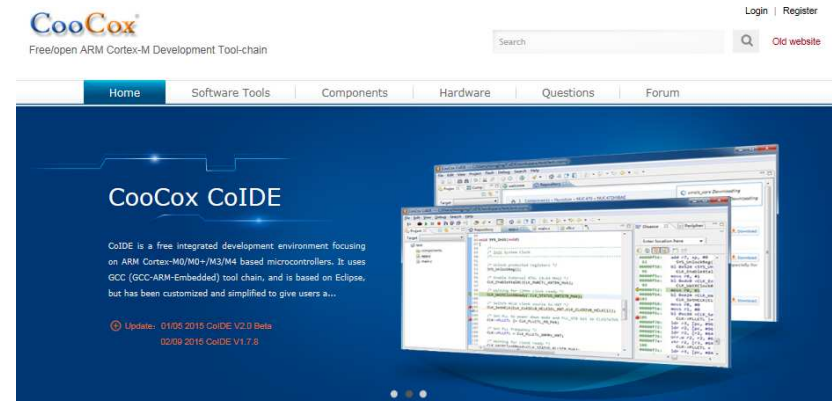




CoIDE

- Free Eclipse-based simplified software development environment:
 - Supports all STM32 mcus and Nucleo boards.
 - Supports STM32Cube firmware (HAL).
 - Download and Technical support available through collaborative site at www.coocox.org

- Key features :
 - GCC C/C++ compiler.
 - GDB-based debugger.
 - No code size limit.
 - ST-Link support.
 - English and Chinese languages are supported.

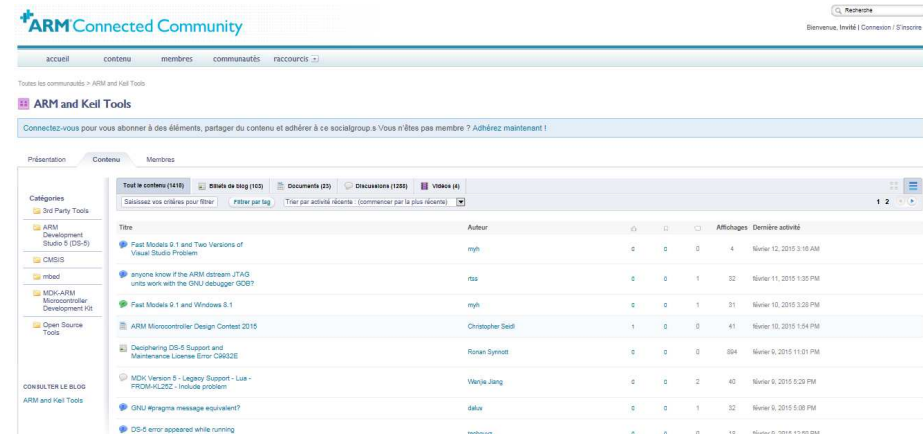


Why you'll love CooCox

CooCox is devoted to providing developers with a free/open and easy-to-use ARM Cortex-M0/M0+/M3/M4 development tool-chain, including CoLinkEx, a low-cost and hardware open debug adapter, CoIDE, an integrated development environment for developing based on code components like stacking up building blocks; and CoSmart, a graphical code generation tool. Meanwhile, CooCox encourages users to share open source code components in CooCox community. By providing a series of open source software such as CoX, a unified standard peripheral library for ARM Cortex-M based microcontrollers, CoOS, a lightweight real-time operating system; and a number of drivers based on CoX, CooCox is committed to building an open-source and sharing community, and promoting the component-oriented development method.

- Comprehensive software development environment for Cortex-M devices :
 - Free version for ST supports all STM32F0 and STM32L0 mcus and associated boards (Nucleo, Discovery, Eval).
 - Comprehensive support for STM32 firmware (Std Peripheral library or Cube HAL).
 - Technical support available through the ARM Connected Community site at community.arm.com

- Key features :
 - ARM C/C++ compiler.
 - uVision IDE, debugger and simulation environment.
 - CMSIS-compliant.
 - ST-Link support.
 - English, Chinese, Japanese, Korean languages are supported.
 - The setup of peripherals configured by CubeMX is directly exported to MDK.



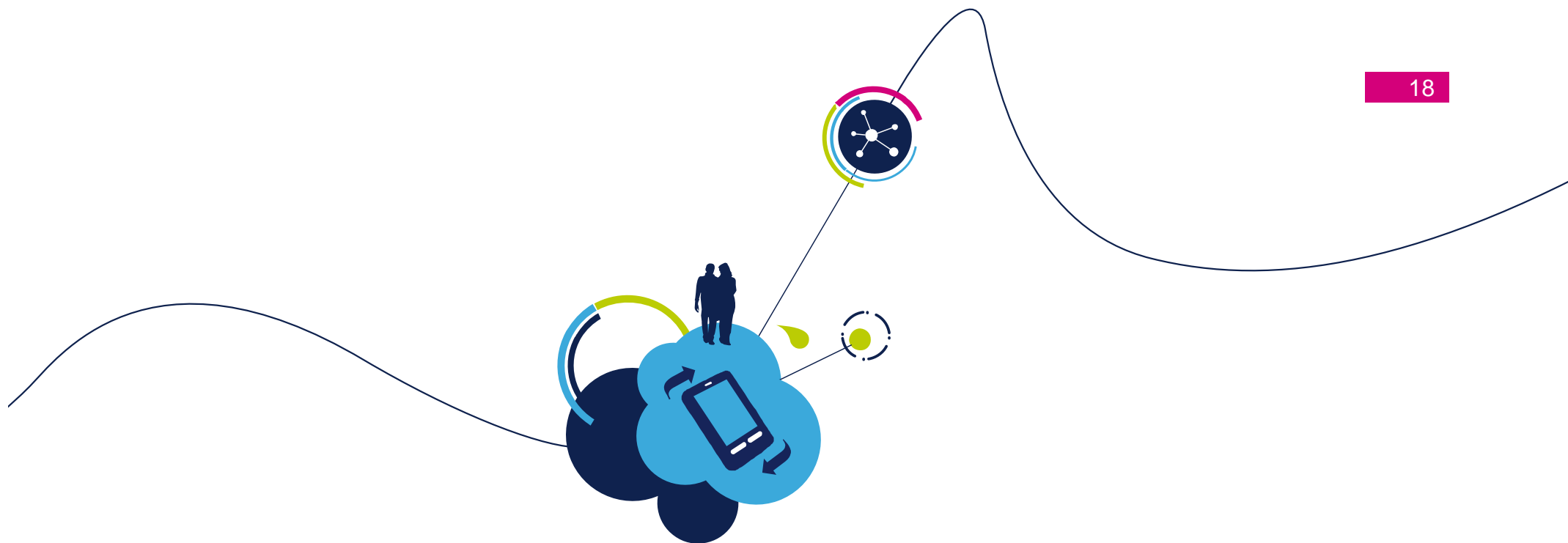
Free MDK-ARM for ST

- Free licenses for STM32 devices based on Cortex-M0/M0+ cores :
 - Applicable immediately to all STM32F0 and STM32L0 mcus.
 - PC-locked multi-year licenses.
 - No code size limit.
 - Multiple language support.
 - Technical support included.
- Direct download from Keil website :
 - No limit of number of downloads by customer.
 - Direct access to configuration files for STM32 and associated boards.
 - Free access to MDK-ARM periodic updates.
- How to get free MDK-ARM licenses for STM32F0 and STM32L0 ?
 - Go to Keil website at : www.keil.com/mdk-st
 - Download MDK-ARM toolchain.
 - Activate the free license using this Product Serial Number (PSN) :
U1E21-CM9GY-L3G4L

Highlights

- STM32 scalable development tools adapted to a large diversity of needs.
- A comprehensive choice of 3 free IDEs gives extra freedom to STM32 users to find a comfortable design environment.





Thank you !