Scheduled face-to-face training sessions details

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STM32F4+STM32F7

Standard Training – 3 days

This training is dedicated to the top class members of the wide STM32 microcontroller family, STM32F4 and STM32F7 lines. The training starts with the ARM® Cortex®-M4 and ARM® Cortex®-M7 cores and introduction to the new bus architecture. Main part of the training focuses on the rich set of peripherals, such as GPIOs, RTC, ADC, DAC, FMC, SPI/I2S, USB FS and HS, Crypto, Camera interface, Ethernet and new peripherals such as TFT/LCD controller and SDRAM interface. Numerous hands-on examples are designed to practice most of the peripherals and device features. The graphics will be demonstrated on STemWin or TouchGFX library with practical hands-on, too.

STM32F469I-DISCO

STM32F746G-DISCO

What are the benefits for you?

- You will learn the features of ARM® Cortex®-M4 and ARM® Cortex®-M7 cores and architectures
- You will discover the new peripherals and system blocks of STM32F4 and STM32F7 series
- You will practice the device functionality and performance in several hands-on examples

Agenda:

- **STM32F4 andSTM32F7 overview**
- **Cortex-M4 and Cortex-M7 presentation**
- **STM32F4 and STM32F7 system architecture, system IP's and performance**
- **STM32F4 and STM32F7 flash, DMA, DCMI**
- **Standard peripherals** (GPIO, RTC, watchdogs)
- **Connectivity peripherals** (USB FS/HS, Ethernet, SPI, I2C, USART)
- **Dedicated peripherals** (Camera interface, Quad-SPI, TFT)
- **Hands-on exercises** (Practical examples – selected peripherals, device performance, STemWin)

Available Sessions:

Week	Start	End	Level	Language	Location
W45	6th of November	8th of November	Intermediate	English	ST Prague

Prerequisites: technical English, MCU programming in C language, own PC (notebook) with Windows, USB and administrator rights.
Information about the toolchain and additional software to be installed will be provided in the confirmation email in 1 month before the session.

More about those STM32 series: www.st.com/stm32f4 www.st.com/stm32f7

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STM32L0+STM32L4

Standard Training – 3 days

This training introduces two ultra-low-power STM32 microcontroller families. It starts with the presentation of ARM® Cortex®-M cores and architecture, which those STM32s are based on. It follows with the memory organization, reset block, interrupts, low power modes and all peripherals, such as IO ports, ADC, timers, RTC, SPI, USART, I2C, DAC and all low-power peripherals for both families. Most of the theoretical presentations are combined with practical hands-on examples. Part of the training focuses on the software and hardware development tools.

STM32L0538-DISCO

STM32L476G-DISCO

What are the benefits for you?

- You will familiarize yourself with ARM® Cortex®-M0+ core, STM32L0 peripherals and development tools
- You will familiarize yourself with ARM® Cortex®-M4 core, STM32L4 peripherals and development tools
- You will be able to start-up a new project and use the development tools
- You will be able to present the STM32 family with all its technical features (for FAE's mainly)

Agenda:

- **STM32 family overview**
- **ARM® Cortex®-M0+ and ARM® Cortex®-M4 cores architectures**
- **STM32L0 system architecture** (Embedded Flash, DMA, Power control, Backup domain, Reset block, Clock)
- **STM32L0 peripherals** (IO, Timers, RTC, ADC, SPI, UART, I2C, DAC, LPTIM, firewall)
- **STM32L4 system architecture** (Embedded Flash, DMA, Power control, Backup domain, Reset block, Clock)
- **STM32L4 peripherals** (IO, Timers, RTC, ADC, SPI, UART, I2C, DAC, LPTIM, firewall)
- **Hardware tools** (SWD, eval boards, kits)
- **Hands-on exercises** (Practical examples)

Available Sessions:

Week	Start	End	Level	Language	Location
W43	23th of October	25th of October	Intermediate	English	ST Munich

Prerequisites: technical English, MCU programming in C language, own PC (notebook) with Windows, USB and administrator rights.
Information about the toolchain and additional software to be installed will be provided in the confirmation email in 1 month before the session.

More about this STM32 series: www.st.com/stm32l0 www.st.com/stm32l4

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USB Training – 2 days

Intention of this training is to improve your knowledge of USB interface in terms of hardware and software on the basis of STM32F4 implementation (USB OTG). There will be information about Device and Host classes in the practical use, demonstrated on various hands on sessions.

What are the benefits for you?

- You will improve your knowledge of USB standards
- You will improve your knowledge of types of transfers
- You will improve your knowledge of USB electrical specifications and requirements
- You will improve your knowledge of ST libraries for STM32 USB peripheral (Device and Host)

NUCLEO-F446ZE

Agenda:

- **General USB theory**
- **USB on STM32**
- **USB classes and drivers**
- **Cube HAL library for USB device**
- **USB device hands-on**
- **Cube HAL library for USB host**
- **USB host hands-on**

Available Sessions:

Week	Start	End	Level	Language	Location
W47	20th of November	21st of November	Intermediate	English	ST Munich

Prerequisites: technical English, basics of C programming, own PC (notebook) with Windows, USB and administrator rights.
Information about the toolchain and additional software to be installed will be provided in the confirmation email in 1 month before the session.

2x USB A/B micro cable, USB flash stick and USB micro to USB A female adapter.

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STM32 Motor Control Solutions – 3 days

The training first covers the general basics of BLDC/PMSM motors and their drive using Field Oriented Control (FOC). The training is covering the FOC control method and its implementation on STM32, including the different current sensing methods, sensors and sensor less topologies and other dedicated functions which are part of the STM32 motor control library. All theoretical presentations are combined with practical hands-on examples using the Motor Control Starter Kits, GUI, motor control libraries and real motors.

What are the benefits for you?

- You will learn about the common BLDC/PMSM motor types.
- You will first familiarize yourself with the Field Oriented Control basics and its implementation on STM32.
- You will practice the tools and motor control libraries of ST solutions.
- You will be able to present the STM32 main technical features and demonstrate it using the Starter Kit (for FAE's mainly).

Agenda:

- **BLDC/PMSM motors basics**
- **FOC drive theory**
- **STM32 general overview**
- **STM32 FOC implementation**
- **STM32 FOC library**
- **Motor Profiler, HFI, OTF**
- **Tools, Starter kit, GUI**
- **Hands-on sessions**

Available Sessions:

Week	Start	End	Level	Language	Location
W40	2nd of October	4th of October	Intermediate	English	ST Prague

Prerequisites: technical English, MCU programming in C language, own PC (notebook) with Windows, USB and administrator rights.
Information about the toolchain and additional software to be installed will be provided in the confirmation email in 1 month before the session.

More about STM32 Motor Control SDK: http://www.st.com/en/embedded-software/stsw-stm32100.html

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Logistics and ST office location details

We can recommend one of the six hotels near the ST Office in Prague:

- **Hilton Hotel** (next to the ST office - IBC building) http://www.hilton.com/en/hi/hotels/index.jhtml?ctyhocn=PRGHITW
- **Jurys Inn** (3 minute walk) – 92EUR/night, breakfast and internet included http://praguehotels.jurysinns.com/
- **B&B Hotel** (next to the ST office) - 49EUR/night, breakfast – 7,5EUR, internet included http://www.hotelbb.cz/en/portal/index.html
- **Ibis Hotel Old Town** (10 minute walk or 2 tram stops or 1 metro stop) http://www.ibishotel.com/ibis/fichehotel/gb/ibi/5477/fiche_hotel.shtml
- **Grandior Hotel Prague** (5-10 minute walk across main street) http://www.hotel-grandior.cz/en/
- **Design Hotel Elephant** (5-10 minute walk across main street) http://www.hotel-elephant.cz/?lang=EN

Hotels information in other ST locations will be provided to you in the training confirmation email.
Only few parking lots are available after prior reservation! Use hotel parking where available!

ST Office Location Details					
STMicroelectronics Prague IBC Building, Pobrezni 3 186 00 Prague 8 Czech Republic	STMicroelectronics Munich Bahnhofstrasse 18 85609 Aschheim-Dornach Germany	STMicroelectronics Marlow Atlas House, Third Avenue Globe Business Park SL7 1EY Marlow, UK	STMicroelectronics Castelletto Via Tolomeo, 1 20010 Cornaredo, Italy	STMicroelectronics Kista Kista Science Tower, Färögatan, 33 164 51 Kista Sweden	STMicroelectronics Paris 29 bd Romain Rolland75669 PARIS CEDEX 14 France
					

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Thank you

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