Hello, and welcome to the presentation of the STM32H747I Discovery kit. It covers the main features of this Discovery board dedicated to the STM32H7 dual core series.
The STM32H747I Discovery kit offers everything required for users to get started quickly and develop applications easily. This board enables a wide diversity of applications taking benefit from audio, multisensory support, graphics, security, video and high-speed connectivity features. The STM32H747I-DISCO board comes with the STM32 comprehensive software HAL library together with various packaged software examples. It also embeds a debugger that helps you develop your own applications from the existing examples.
This is the STM32H747I-DISCO board dedicated to the STM32H7 dual core series. This board offers a wide range of connectors for power, audio, video, memory card and other USB peripherals. The Arduino connectivity support provides unlimited expansion capabilities with a large choice of specialized add-on boards. This board will help us to demonstrate STM32H7 performance and versatility thanks to its large peripheral set.
This is the STM32H747I-DISCO board insert card (front and back sides).
Key features

- STM32H747 microcontroller in TFBGA240 + 25 package
  - ARM® Cortex® -M7 core @ 400 MHz / 856 DMIPS
  - ARM® Cortex® -M4 core @ 200MHz / 240 DMIPS
  - 2 Mbytes of Flash memory + 1 Mbyte of RAM
- Board features
  - 2x 512-Mbit Quad-SPI Nor Flash memory device + 256-Mbit SDRAM device
  - 2 High-Speed (HS) and Full-Speed (FS) USB OTG interfaces
  - 8-bit camera interface and ST MEMS microphone
  - Connectors for microSD™ card and Ethernet
  - MPI® DSI interface to connect an LCD panel
  - Audio jack for external speakers + Stereo headset jack including analog microphone input
  - Embedded ST-LINK/V3E debugger/programmer
  - Joystick, reset and wakeup pushbuttons

The STM32H747I microcontroller features a dual core architecture with an ARM® Cortex®-M7 core running at up to 400 MHz and an ARM® Cortex®-M4 core running at up to 200 MHz, 2 Mbytes of Flash memory + 1 Mbyte of RAM.

The boards also includes a rich set of peripherals including:
- 2x 512-Mbit Quad-SPI Flash memory to store large data arrays or program code
- A high-speed USB On-The-Go interface allowing a direct connection with other USB devices without the need for a host computer
- A MPI® DSI interface to connect an LCD panel
- Connectors for microSD™ card and Ethernet
- An audio jack for external speakers and a MEMS-based digital microphone
- An embedded ST-LINK/V3E debugger/programmer for connecting your favorite development tools.
The STM32H747I discovery kit is designed to be powered from 5V DC power source. There are 5 possible power supply sources using one of the following configurations:

- Via the CN2 connector either in ST LINK/V3E mode or USB charger mode.
- Via the CN1 connector in USB HS mode
- Via the CN14 connector in USB FS mode
- Externally via the ARDUINO connector on pin 8

Up to 500mA can be supplied to the board via the USB connectors.
STM32H747I Discovery kit runs a dual-core demo at start-up, with a video demo running on the Cortex® -M7 core and a fractal demo running on the Cortex® -M4 core. The demonstration software requires the board to be extended with a 4-inch WVGA color LCD panel connected via the MPI® DSI interface to navigate through the menus. This demonstration software is preloaded in the STM32 Flash memory for easy demonstration of the device peripherals in standalone mode. The latest versions of the demonstration source code and associated documentation are available on the www.st.com web site.
Note that additional boards are available for different uses depending on the targeted applications. STM32 Nucleo boards enable quick and flexible prototyping. Discovery kits target more creative demos thanks to a large LCD display. The STM32H747I-DISCO board can also be extended with a LCD display plugged on the front side of the board to develop more high-end graphical applications. Evaluation boards are intended for a complete development platform for full featured application.
For more information on the high-performance STM32H747I Discovery kit, go to www.st.com. You can also watch our videos on our YouTube channel.

Thank you.