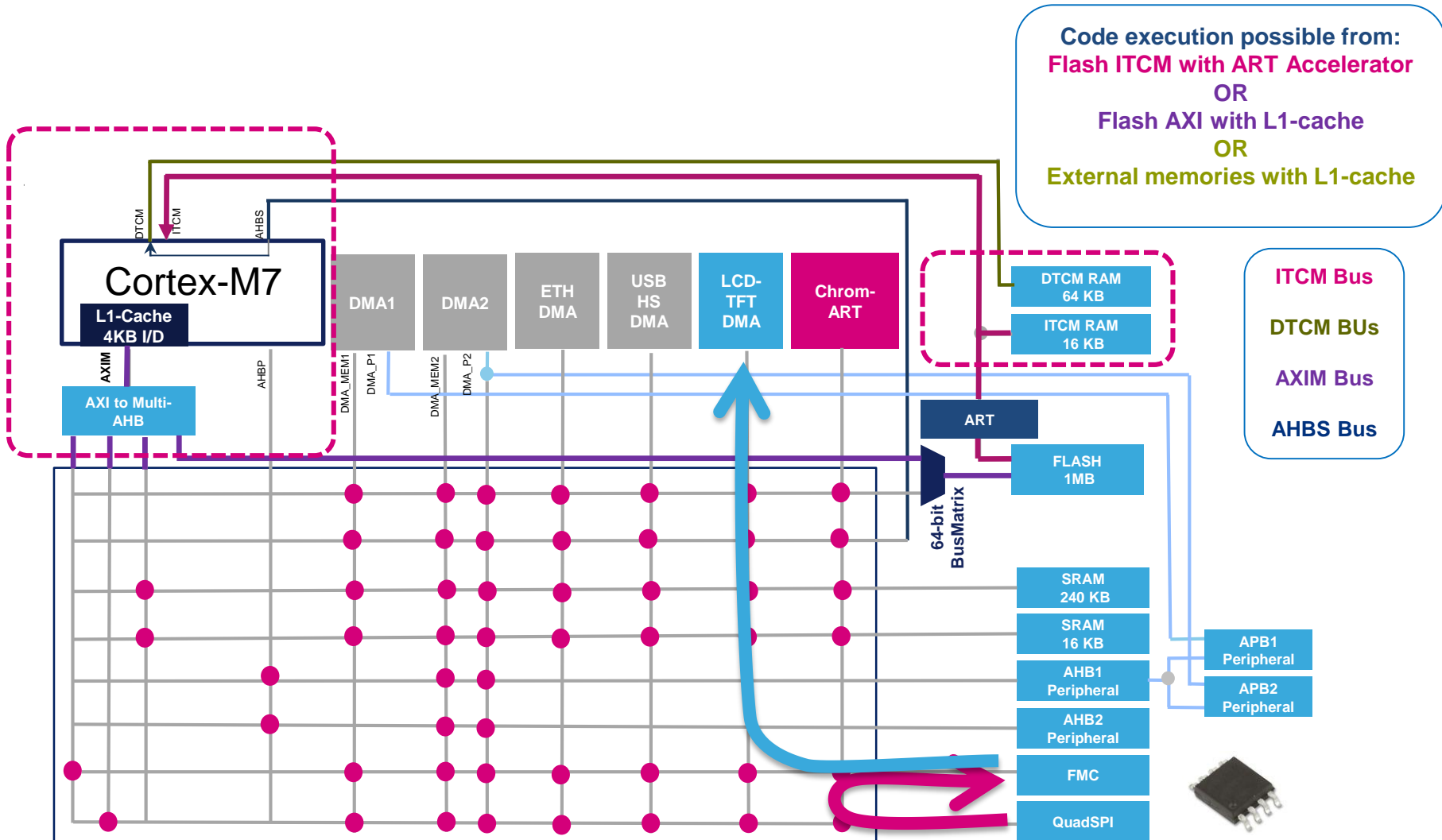


# Cortex-M7 Workshop

## Great platform for embedded graphics

# STM32F7x6 Smart Architecture

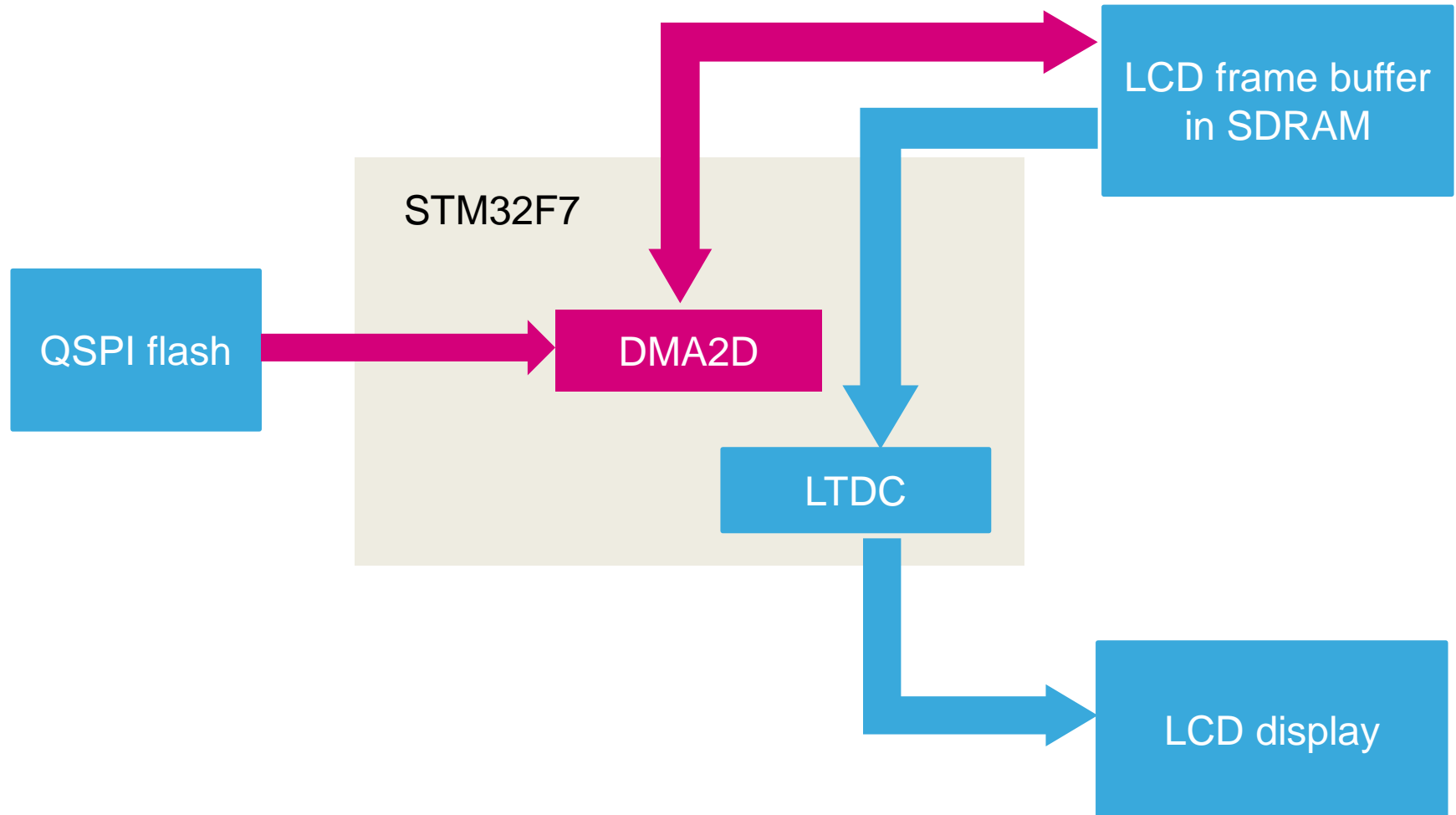
2



32-bit Bus Matrix

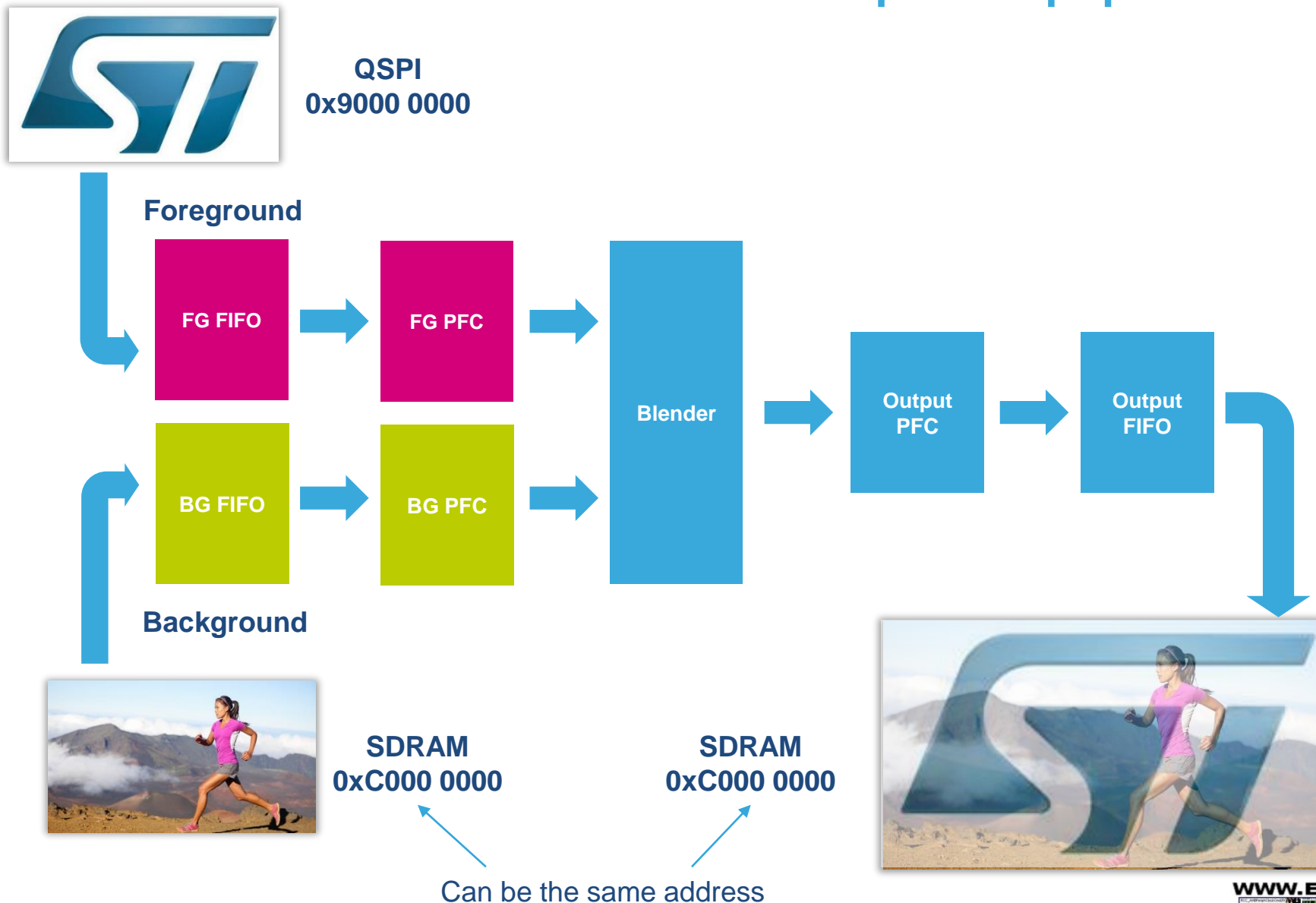
# QSPI graphical performance

3



# Chrom-ART pixel pipeline

4



# Supported pixel color formats

5

## 8 programmable Input color format

bpp

	31:24	23:16	15:8	7:0	
ARBG8888	Ax[7:0]	Rx[7:0]	Gx[7:0]	Bx[7:0]	32
RGB888	Bx+1[7:0]	Rx[7:0]	Gx[7:0]	Bx[7:0]	24
RGB565	Rx+1[4:0] Gx+1[5:3] Gx+1[2:0]	Bx+1[4:0]	Rx[4:0] Gx[5:3] Gx[2:0]	Bn[4:0]	16
ARGB1555	Ax+1[0] Rx+1[4:0] Gx+1[4:3] Gx+1[2:0]	Bx+1[4:0]	Ax[0] Rx[4:0] Gx[4:3] Gx[2:0]	Bx[4:0]	16
ARGB4444	Ax+1[3:0] Rx+1[3:0] Gx+1[3:0]	Bx+1[3:0]	Ax[3:0] Rx[3:0] Gx[3:0]	Bx[3:0]	16
L8	Lx+3[7:0]	Lx+2[7:0]	Lx+1[7:0]	Lx[7:0]	8
AL88	Ax+1[7:0]	Lx+1[7:0]	Ax[7:0]	Lx[7:0]	16
AL44	Ax+3[3:0] Lx+3[3:0]	Ax+2[3:0] Lx+2[3:0]	Ax+1[3:0] Lx+1[3:0]	Ax[3:0] Lx[3:0]	8



# Demo

# TouchGFX graphical framework

7

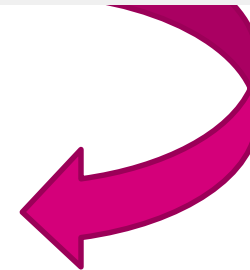
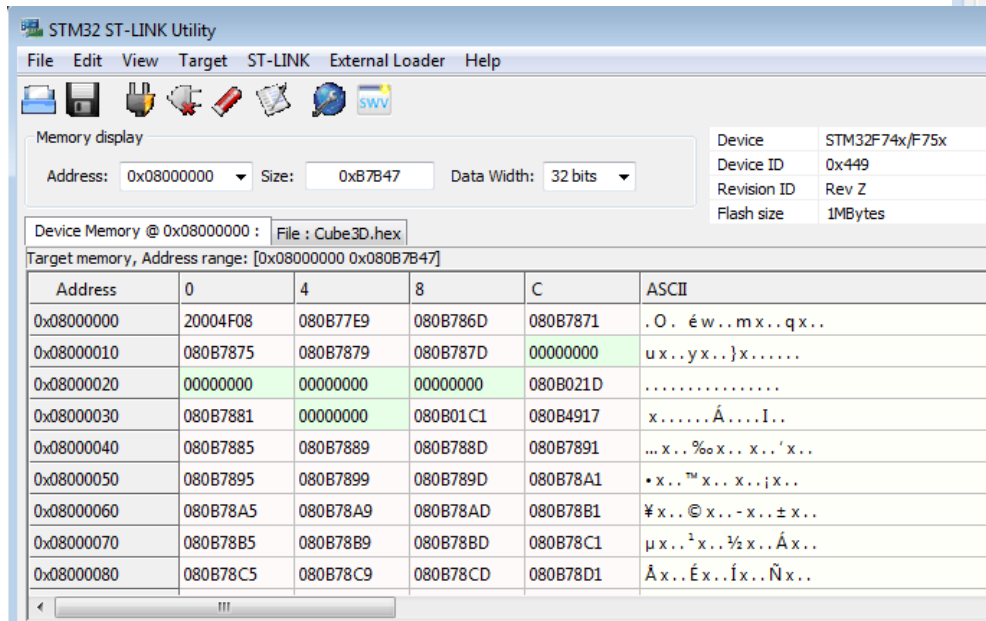
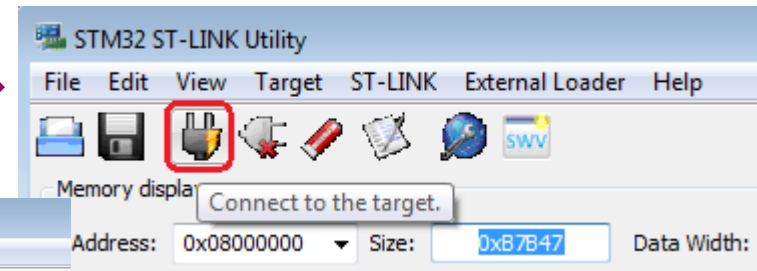
- Run the **ST-LINK-Utility**

Start → All Programs

STMicroelectronics → STM32 Stlink Utility



- Press: **Connect to target**

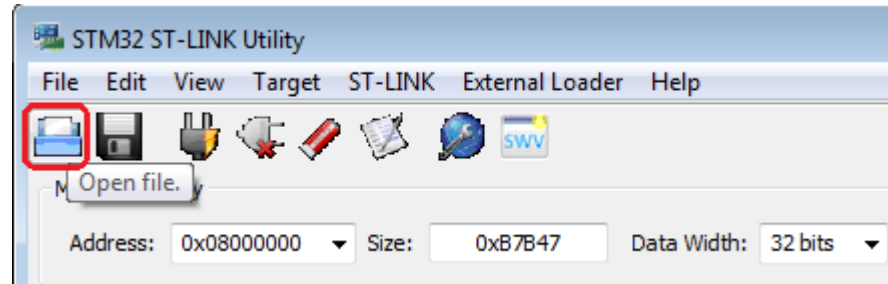


18:37:14 : ST-LINK SN : 0668FF515448787067163720  
18:37:14 : ST-LINK Firmware version : V2J24M11  
18:37:14 : Connected via SWD.  
18:37:14 : SWD Frequency = 1,8 MHz.  
18:37:14 : Connection mode : Connect Under Reset.  
18:37:14 : Debug in Low Power mode enabled.  
18:37:14 : Device ID:0x449  
18:37:14 : Device family :STM32F74x/F75x

# TouchGFX graphical framework

8

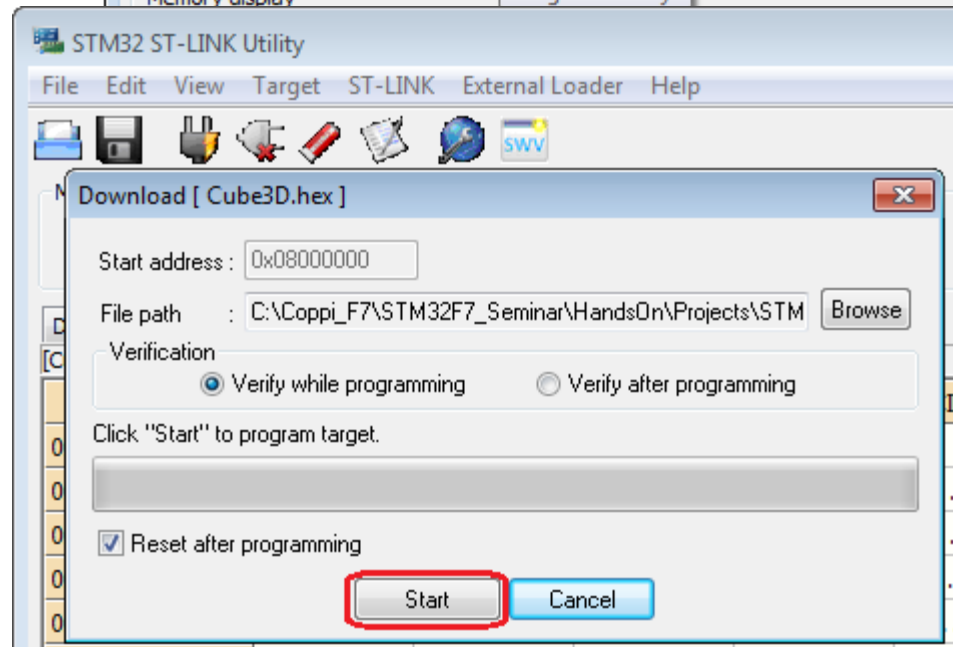
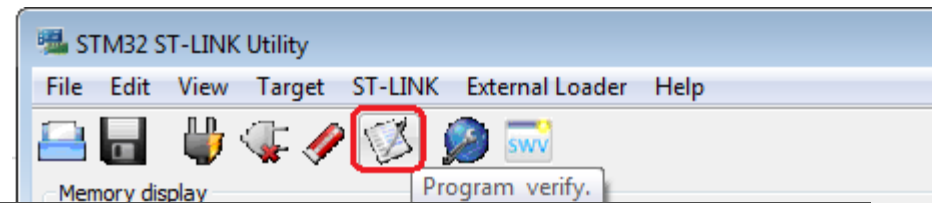
- Press: **Open file** and load the file: **Cube3D.hex**



The Cube3D.hex is in this directory:

**C:\...\SILICA-STday2015\_M7\_PoliTO\HandOn\GraficaDemo-TouchGFX**

- Press: **Program verify** next **Start** and see the result





# Need more info ?

9

For more info contact:

**[enrico.marinoni@avnet.eu](mailto:enrico.marinoni@avnet.eu)**

(Digital FAE for STM - MCU, WireLess (IoT), MEMS, PLM, etc)

**[roberto.rossetti@avnet.eu](mailto:roberto.rossetti@avnet.eu)**

(B.D.M.)





# Thank you

[www.st.com/stm32](http://www.st.com/stm32)