

Getting Started with **AURIX™ Development Studio**

Installation and first steps

AURIX™ Development Studio Training
V1.10.24



Scope of work

This tutorial provides a guide for the user to:

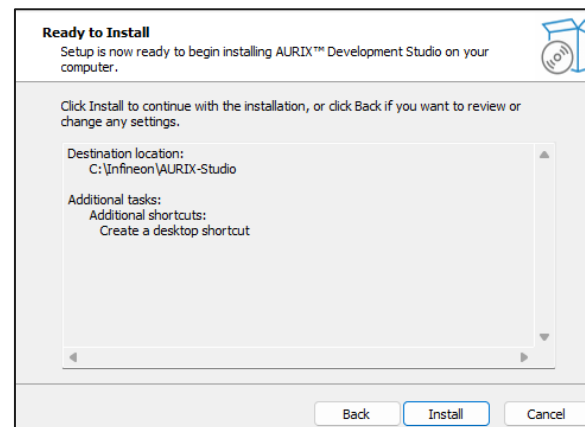
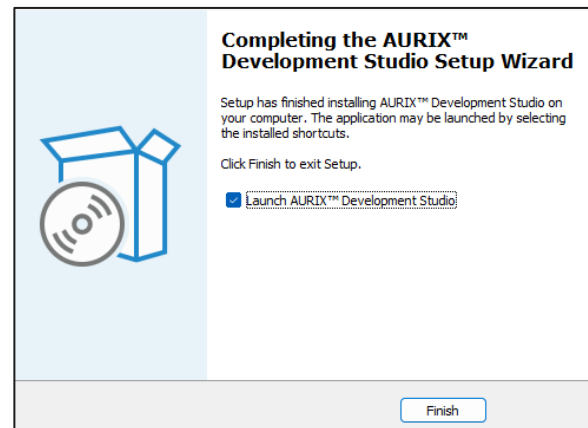
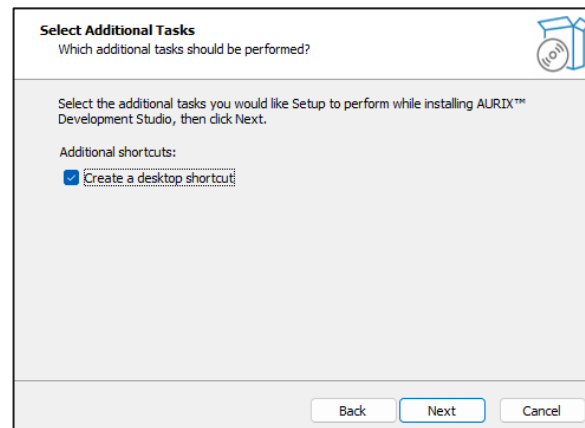
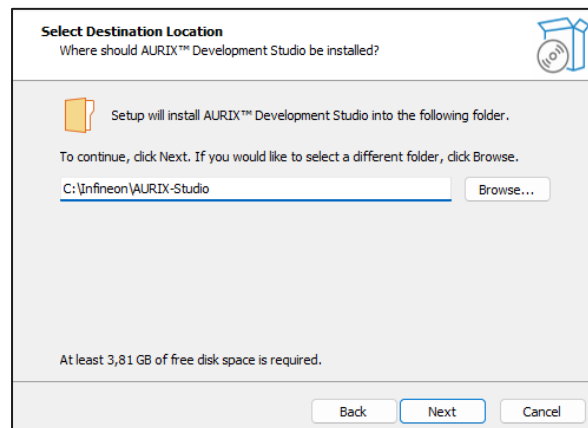
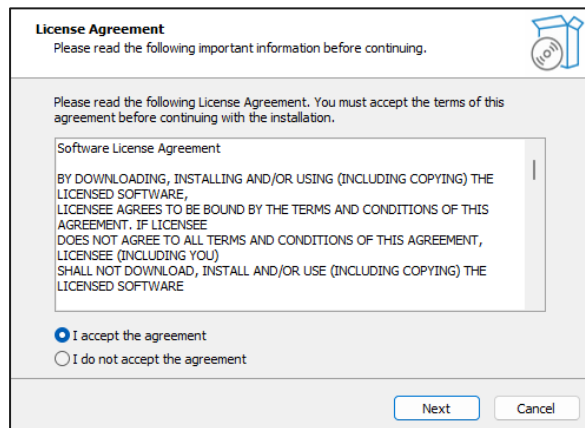
- Install AURIX™ Development Studio V1.10.24
- Create new project
- Import project (Infineon Code Examples Repository)
- Build project
- Debug project
- Additional material

Download

- The installation package of AURIX™ Development Studio can be found here:
<https://www.infineon.com/aurixdevelopmentstudio>

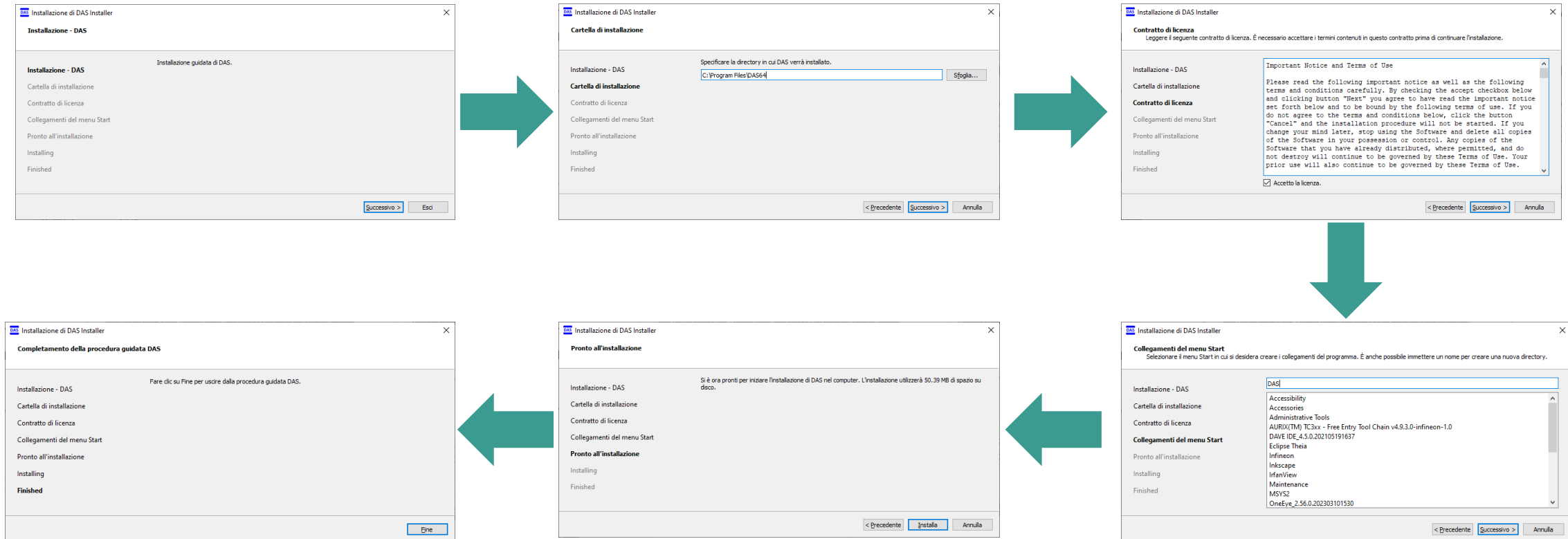
Install AURIX™ Development Studio - 1

- To install AURIX™ Development Studio, launch the installation package and follow the steps:



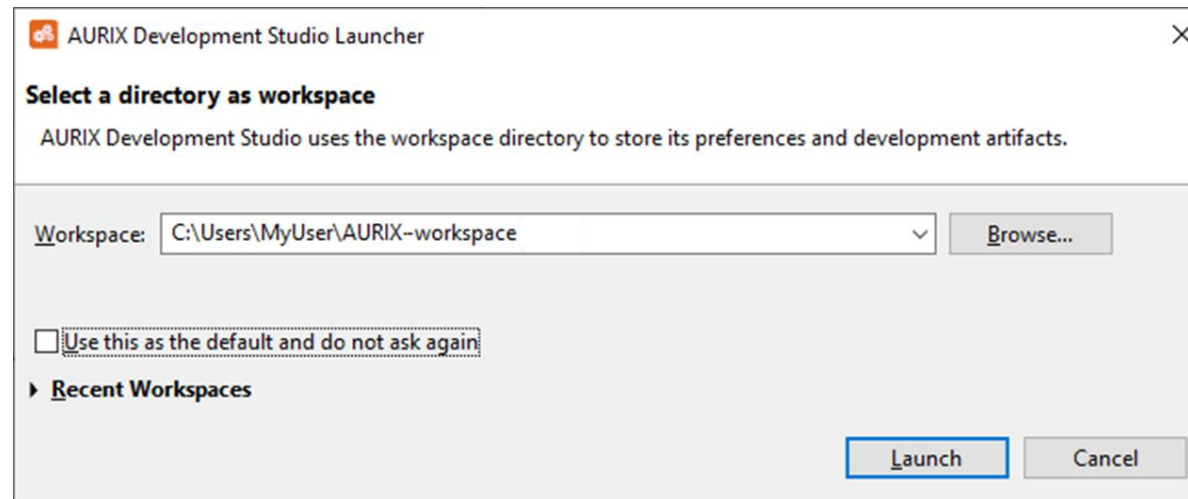
Install AURIX™ Development Studio - 2

- If DAS64 is not installed or outdated, it will be installed automatically during the AURIX™ Development Studio installation:



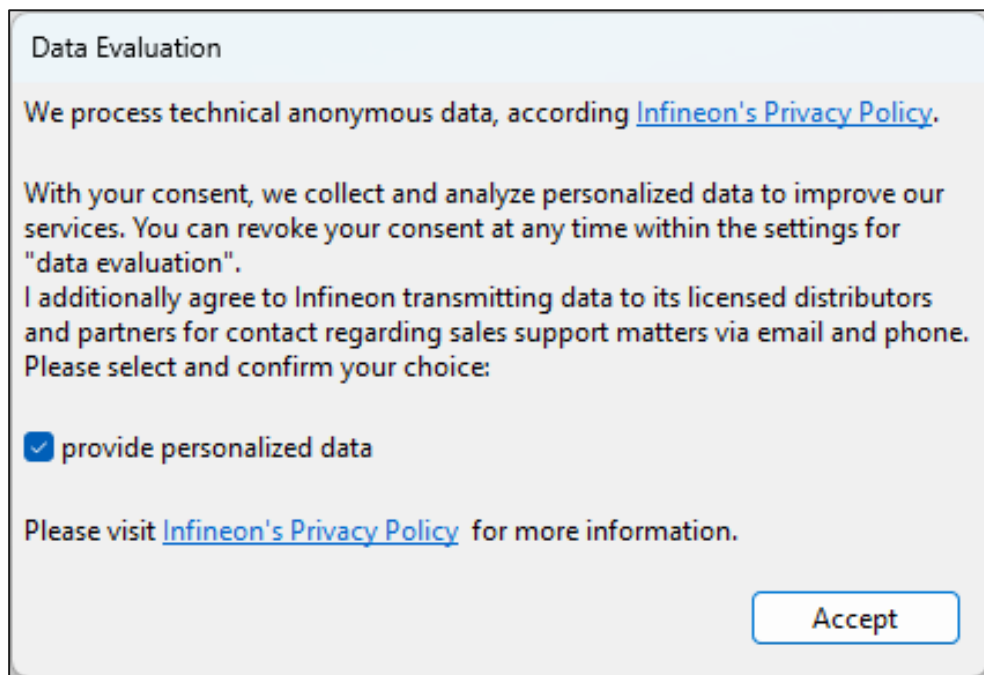
Workspace definition

- After launching the AURIX™ Development Studio, it is necessary to select a workspace

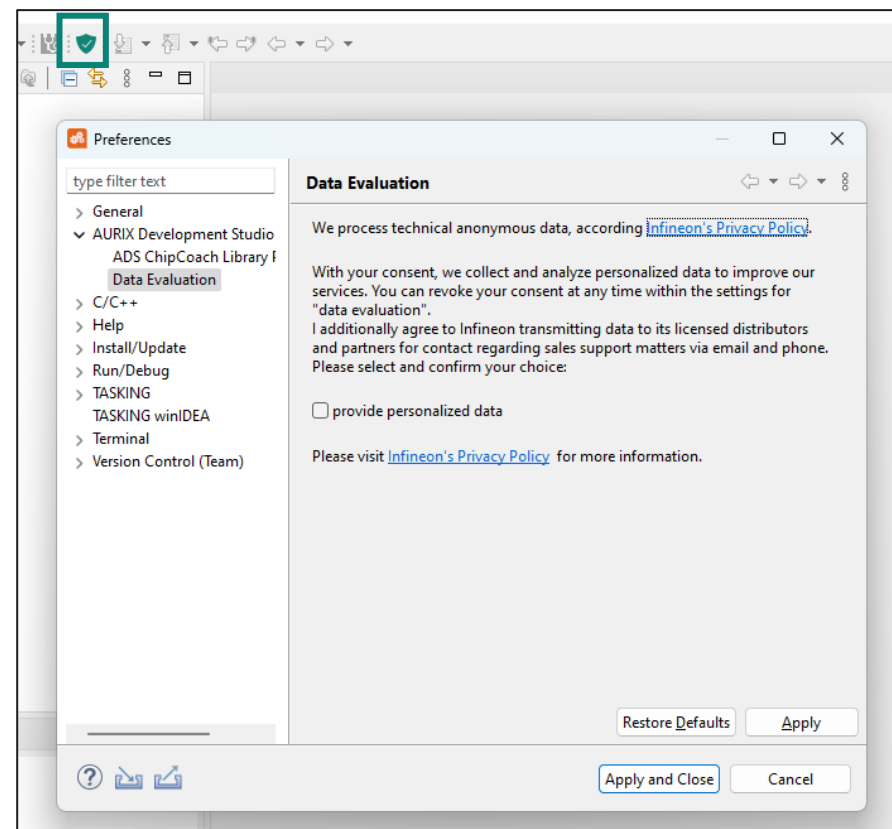


Data evaluation consent

- On the first start you are asked for the consent to send data to Infineon for evaluation purposes.
- You can choose which data to send.

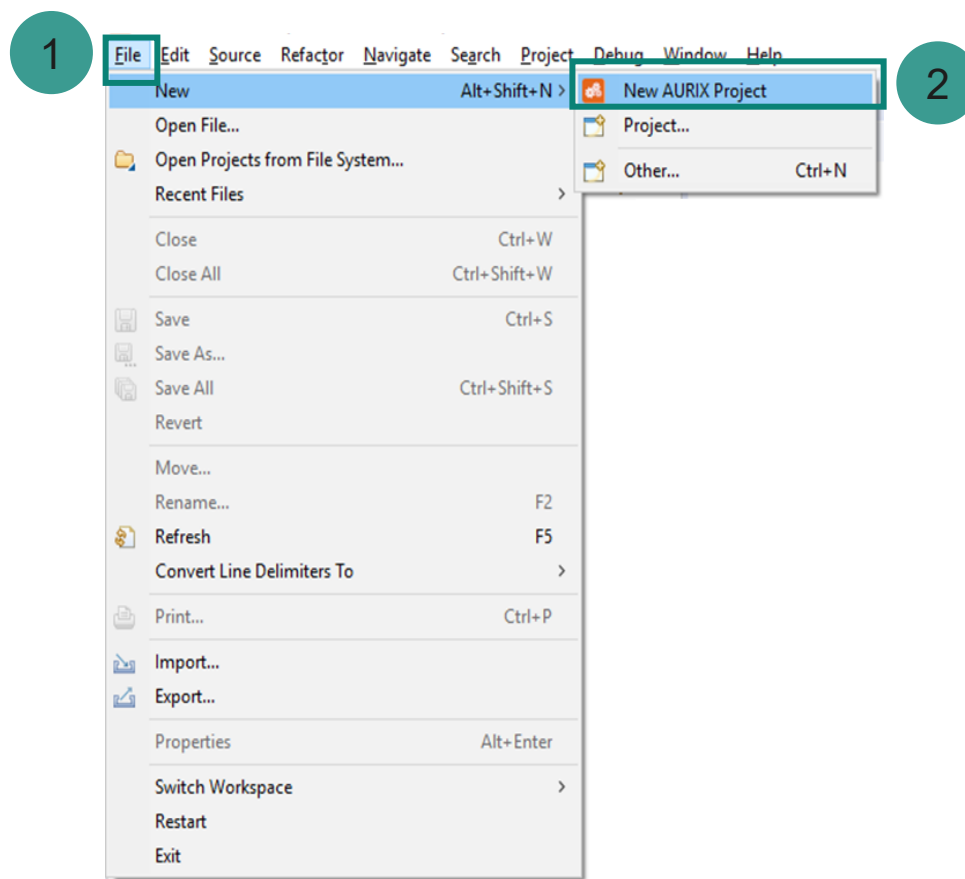


- You can later decide to modify your consent by clicking on “Open Data Evaluation Settings” on the toolbar



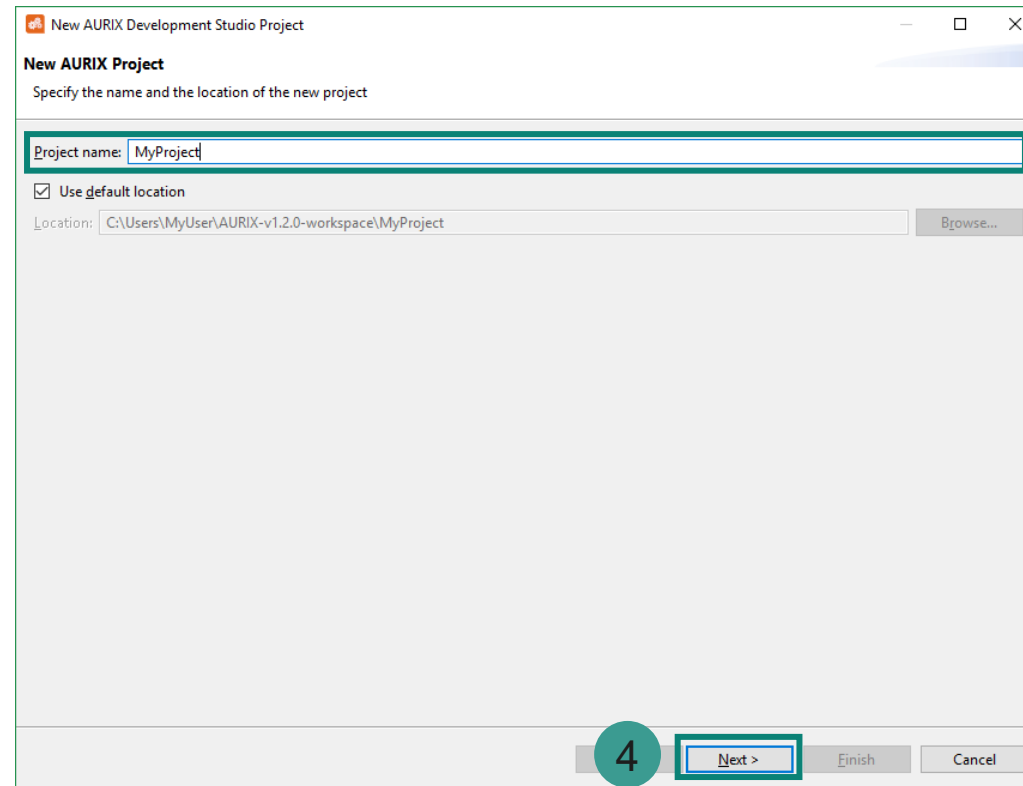
Create new project - 1

- Once the program is started, a new project can be created by selecting File >> New >> “New AURIX Project”



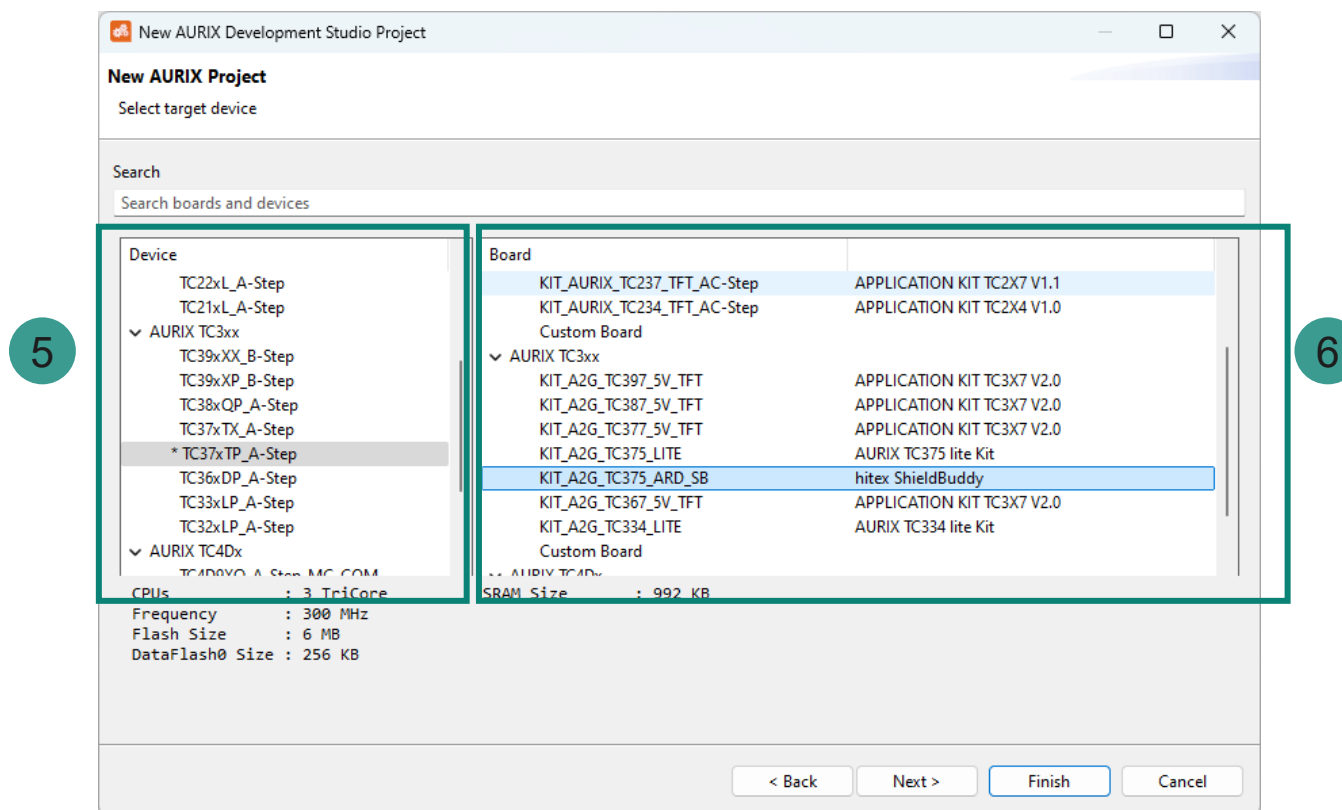
Create new project - 2

- From the “New AURIX Development Studio Project” window, choose a name for the new project (3)
- The “Use default location” checkbox should be set in order to create the project inside the current selected workspace



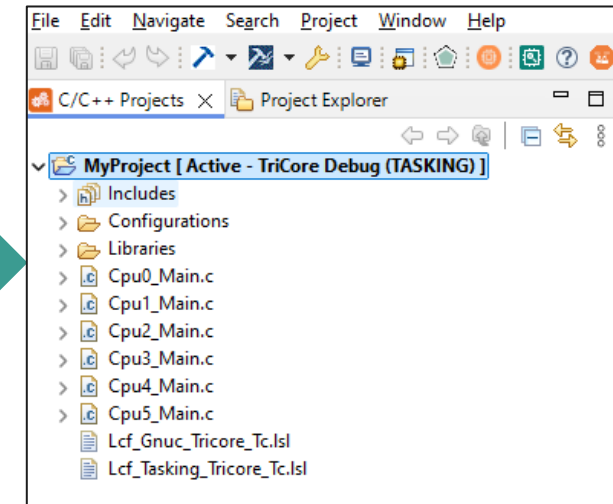
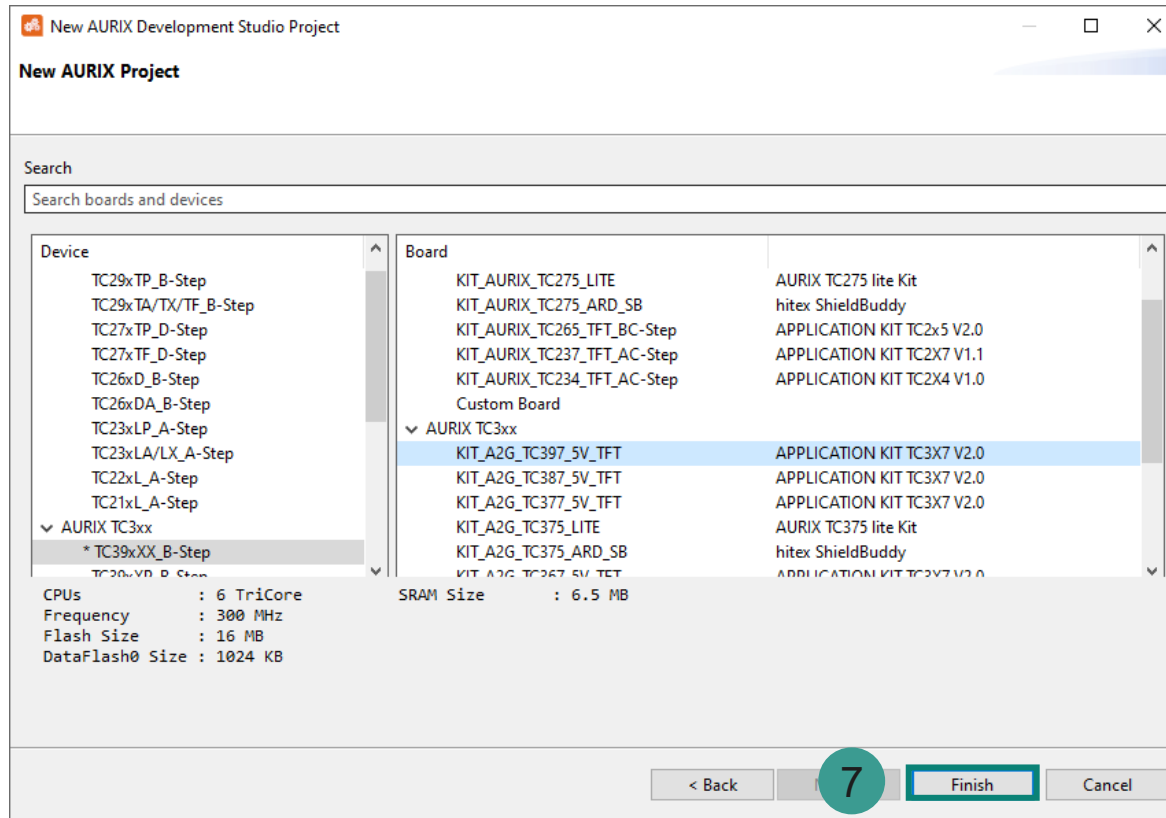
Create new project - 3

- From the “New AURIX Development Studio Project” window, choose the device or the board. A specific device (5) or board (6) can be chosen from the left or right list. Furthermore, while selecting a board, the tool highlights the supported devices for that board and vice versa



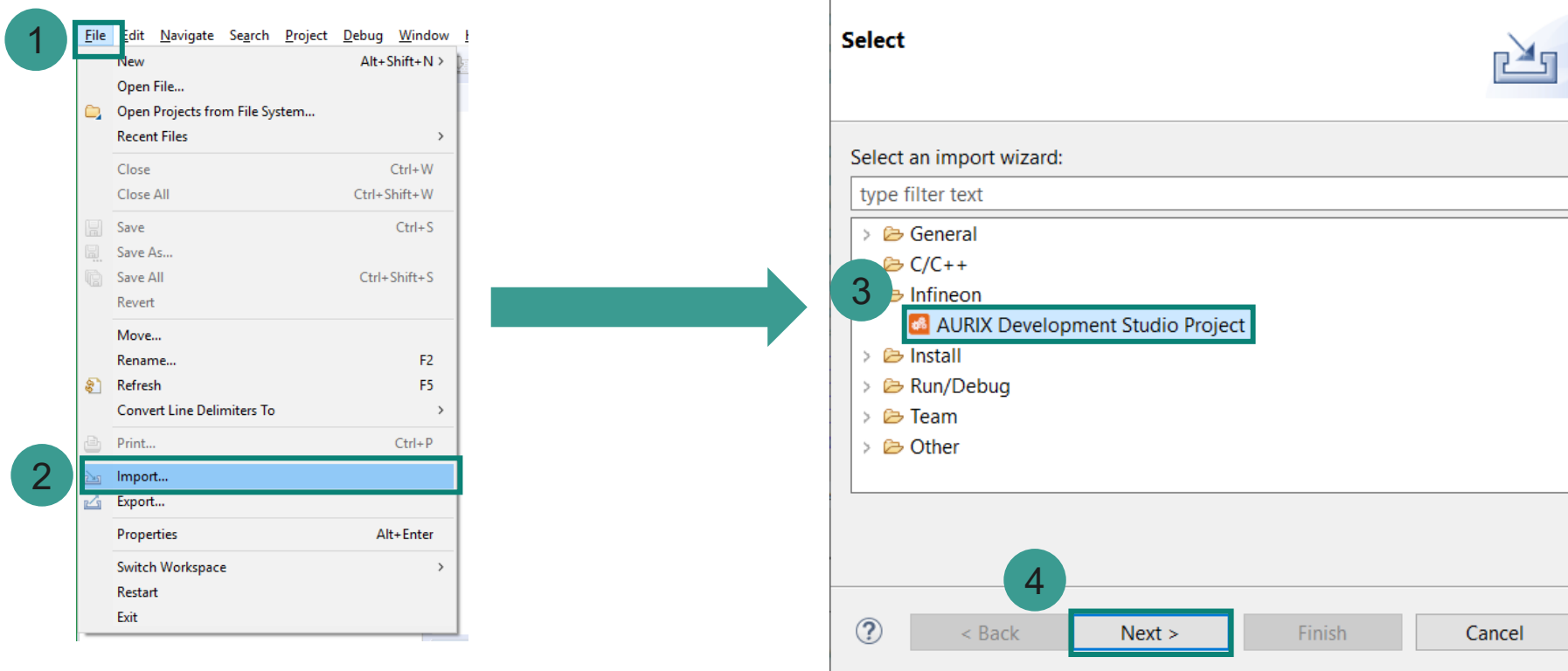
Create new project - 4

- By pressing “Finish” (7), a new project is created



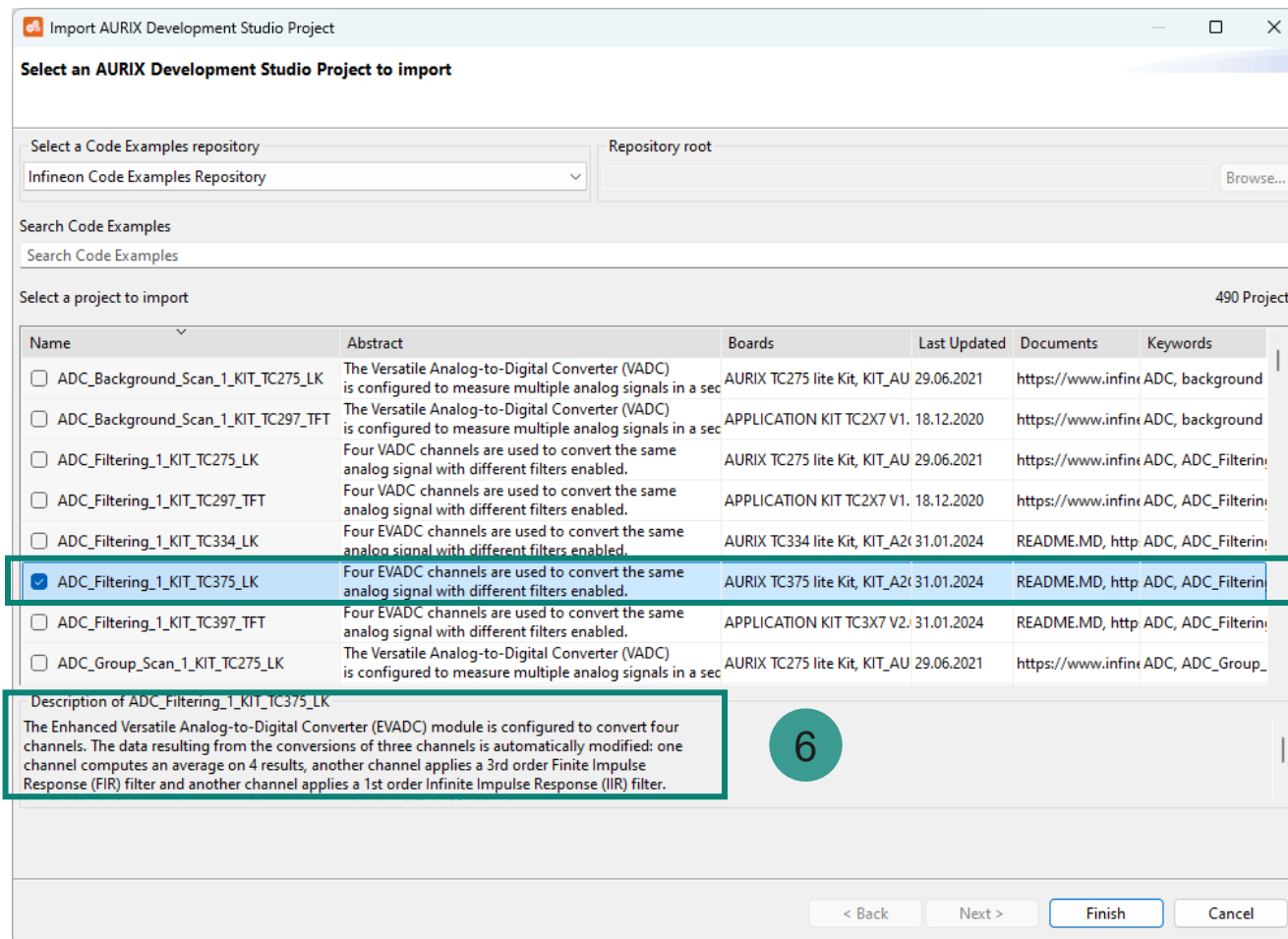
Import project (Infineon Code Examples Repository) - 1

- Alternatively, it is possible to import an example project using File >> “Import...” utility (1-2) and selecting Infineon >> “AURIX Development Studio Project” type (3)
- At the end, press “Next” (4)



Import project (Infineon Code Examples Repository) - 2

- Hint: Clicking on an example project (5) in the list shows the example description (6)



Import AURIX Development Studio Project

Select an AURIX Development Studio Project to import

Select a Code Examples repository
Infineon Code Examples Repository

Repository root
Browse...

Search Code Examples
Search Code Examples

Select a project to import 490 Projects

Name	Abstract	Boards	Last Updated	Documents	Keywords
<input type="checkbox"/> ADC_Background_Scan_1_KIT_TC275_LK	The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sec	AURIX TC275 lite Kit, KIT_AU	29.06.2021	https://www.infineon.com	ADC, background
<input type="checkbox"/> ADC_Background_Scan_1_KIT_TC297_TFT	The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sec	APPLICATION KIT TC2X7 V1.	18.12.2020	https://www.infineon.com	ADC, background
<input type="checkbox"/> ADC_Filtering_1_KIT_TC275_LK	Four VADC channels are used to convert the same analog signal with different filters enabled.	AURIX TC275 lite Kit, KIT_AU	29.06.2021	https://www.infineon.com	ADC, ADC_Filterin
<input type="checkbox"/> ADC_Filtering_1_KIT_TC297_TFT	Four VADC channels are used to convert the same analog signal with different filters enabled.	APPLICATION KIT TC2X7 V1.	18.12.2020	https://www.infineon.com	ADC, ADC_Filterin
<input type="checkbox"/> ADC_Filtering_1_KIT_TC334_LK	Four EVADC channels are used to convert the same analog signal with different filters enabled.	AURIX TC334 lite Kit, KIT_A2	31.01.2024	README.MD, http	ADC, ADC_Filterin
<input checked="" type="checkbox"/> ADC_Filtering_1_KIT_TC375_LK	Four EVADC channels are used to convert the same analog signal with different filters enabled.	AURIX TC375 lite Kit, KIT_A2	31.01.2024	README.MD, http	ADC, ADC_Filterin
<input type="checkbox"/> ADC_Filtering_1_KIT_TC397_TFT	Four EVADC channels are used to convert the same analog signal with different filters enabled.	APPLICATION KIT TC3X7 V2.	31.01.2024	README.MD, http	ADC, ADC_Filterin
<input type="checkbox"/> ADC_Group_Scan_1_KIT_TC275_LK	The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sec	AURIX TC275 lite Kit, KIT_AU	29.06.2021	https://www.infineon.com	ADC, ADC_Group_

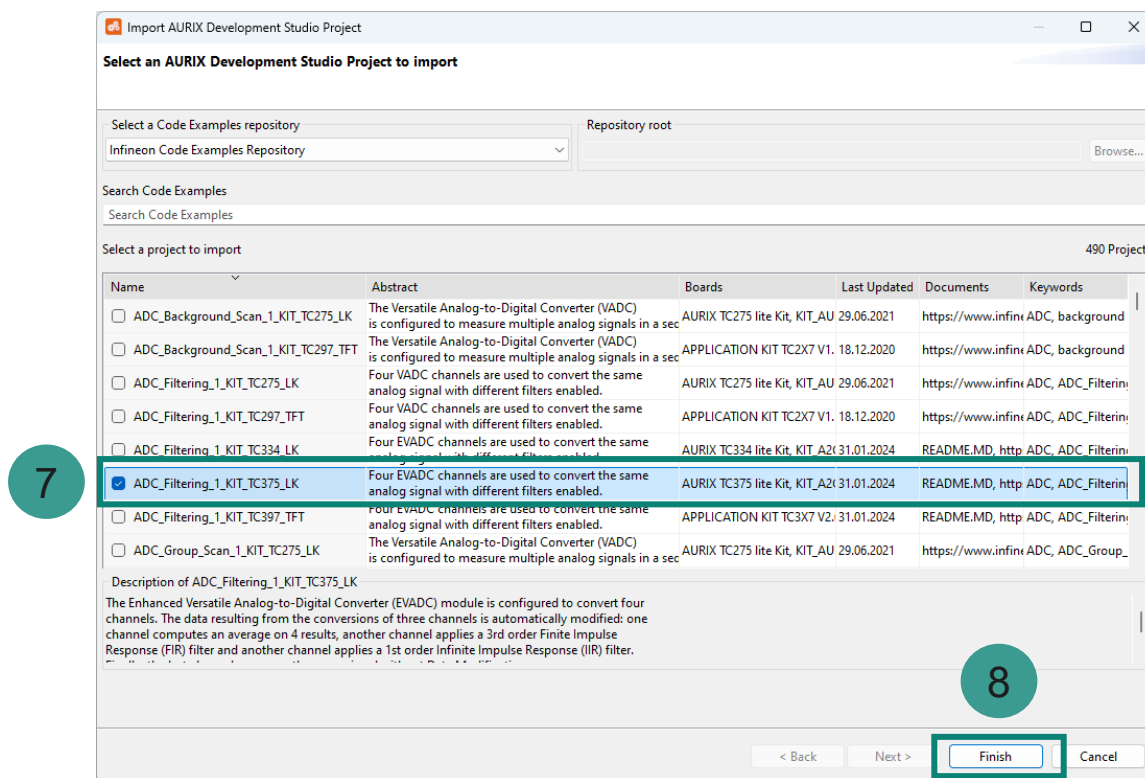
Description of ADC_Filtering_1_KIT_TC375_LK

The Enhanced Versatile Analog-to-Digital Converter (EVADC) module is configured to convert four channels. The data resulting from the conversions of three channels is automatically modified: one channel computes an average on 4 results, another channel applies a 3rd order Finite Impulse Response (FIR) filter and another channel applies a 1st order Infinite Impulse Response (IIR) filter.

< Back Next > Finish Cancel

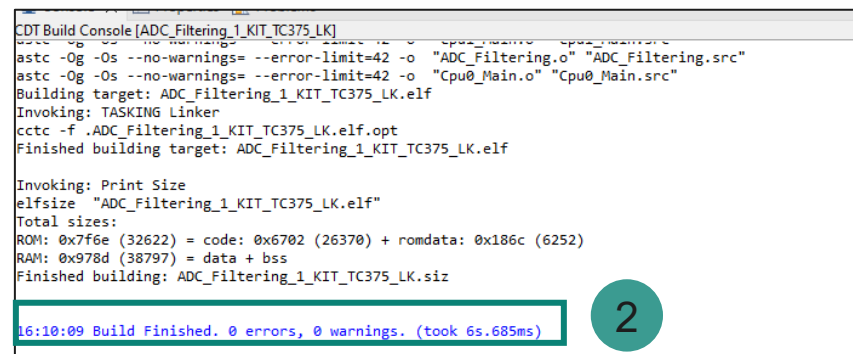
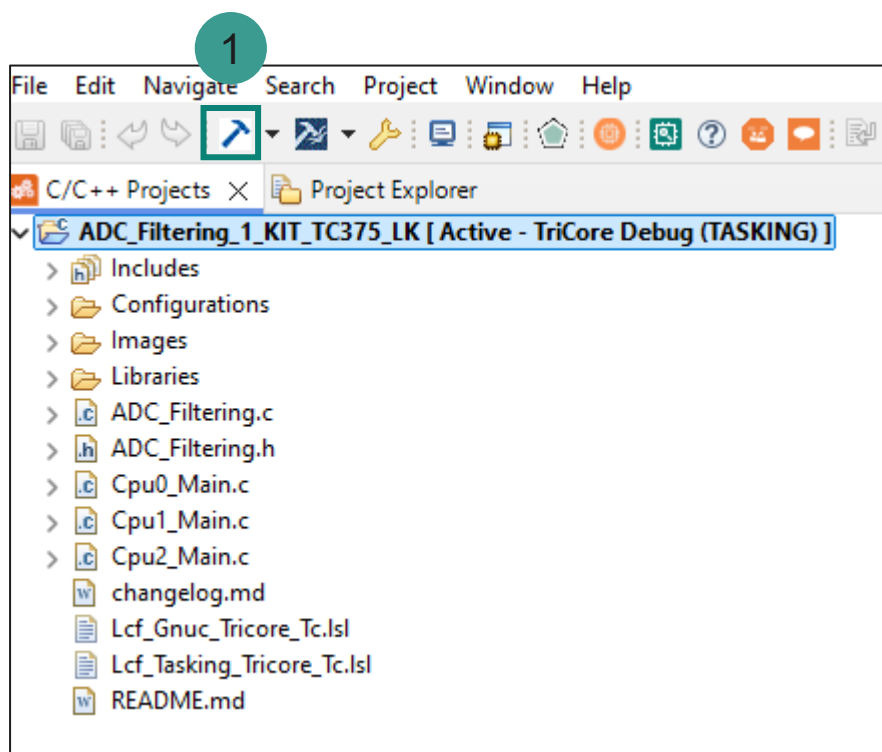
Import project (Infineon Code Examples Repository) - 3

- Select (double-click) an example project (7) from the list and press “Finish” (8). This creates a local copy of the example in your workspace directory and opens the project



Build project

- Before debugging, it is necessary to build the project. Press the “Build Active Project” icon (1) and when the build is finished, check that there are no compiling errors (2)



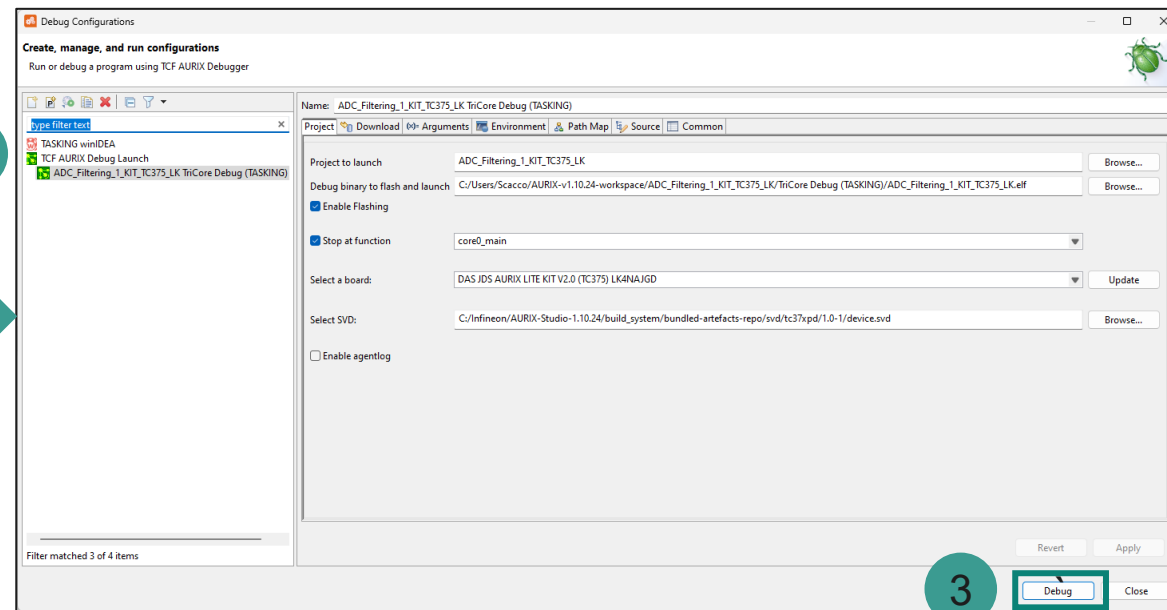
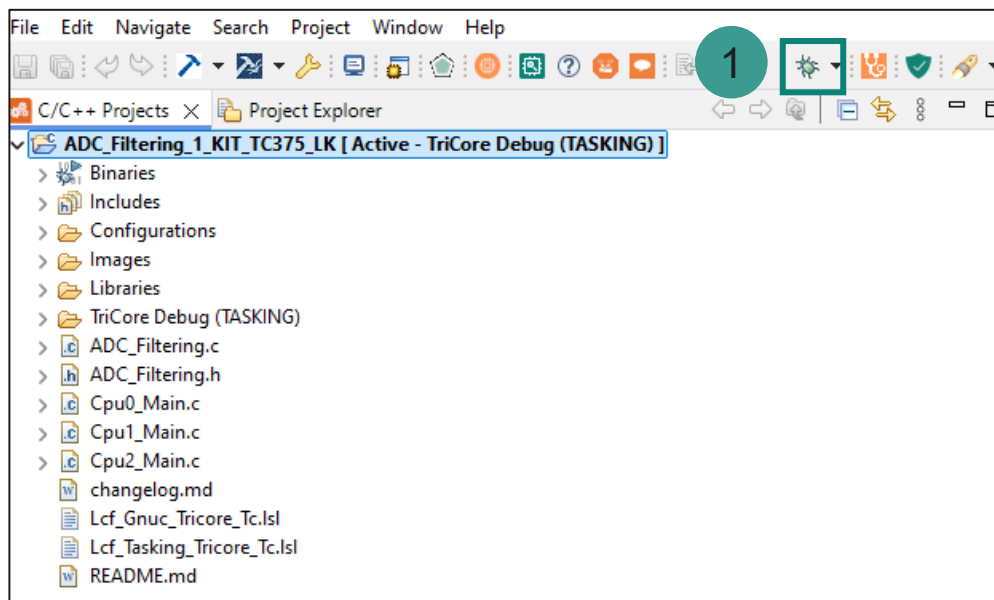
Debug project - 1

- Connect your device via an USB cable to the PC



Debug project - 2

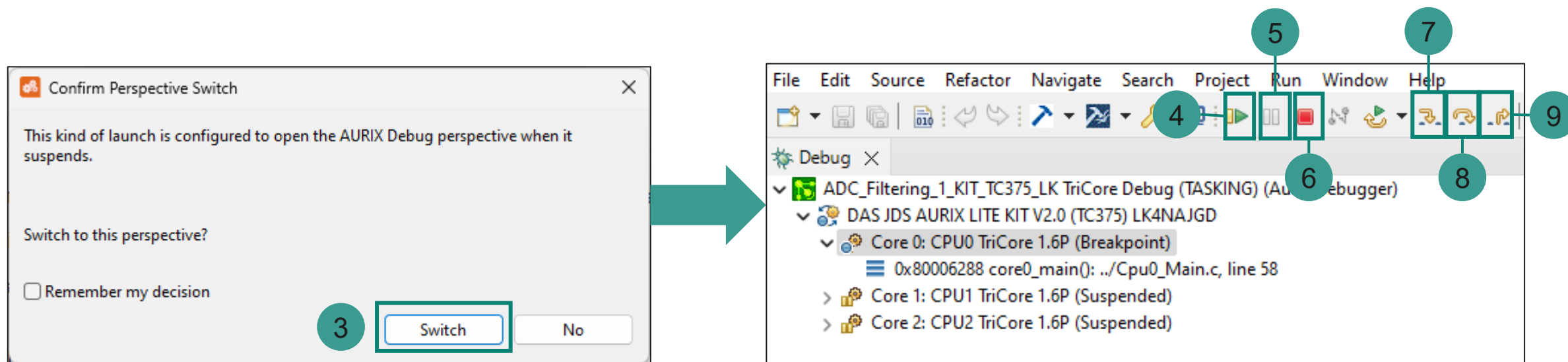
- In order to flash and debug the code, press the “Debug Active Project” icon (1), chose a debugger (2) and then press the “Debug” button on the “Debug Configurations” window (3)



Debug project - 3

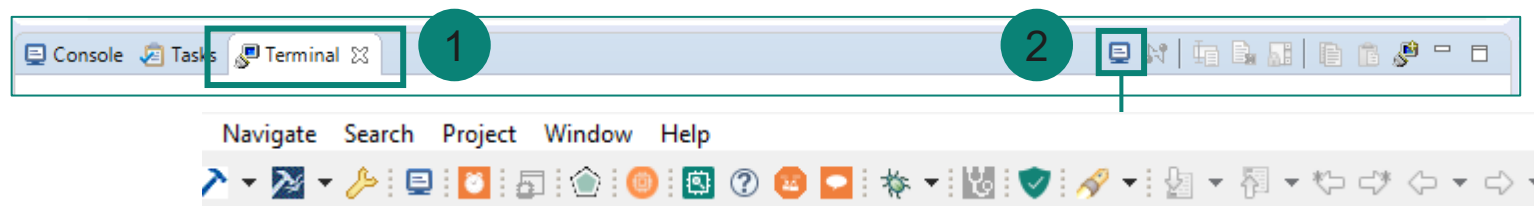
When using TCF AURIX Debugger:

- Switch the perspective when asked (3) and press “Resume” (4) to run the code
- While running, the code can be stopped with the “Suspend” button (5)
- To terminate the debug session, press the “Terminate” button (6)
- Additionally, in the Debug perspective, it is also possible to run the code in single or multiple steps with the buttons “Step Into” (7), “Step Over” (8) and “Step Return” (9)

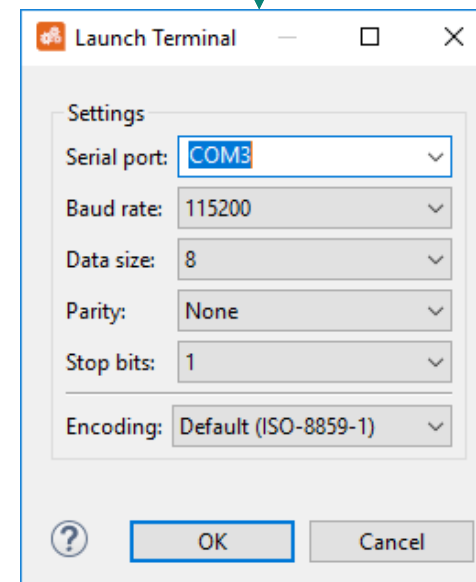


Debug project - 4

- A serial monitor is open by default (1) in the Debug Perspective inside the AURIX™ Development Studio, or it can be open manually from the terminal icon (3)



- The serial monitor must be configured (2-3) with the following parameters to enable the communication between the board and the PC:
 - Serial port number
 - Speed (baud rate)
 - Data size
 - Parity
 - Stop bits



Additional material - 1

- All the imported examples from Infineon come with a tutorial explaining the needed HW/SW setup, the code and how to run and test the example
- The tutorial can be a .pdf file or a readme file in Markdown, depending on the type of example code.

Additional material - 2

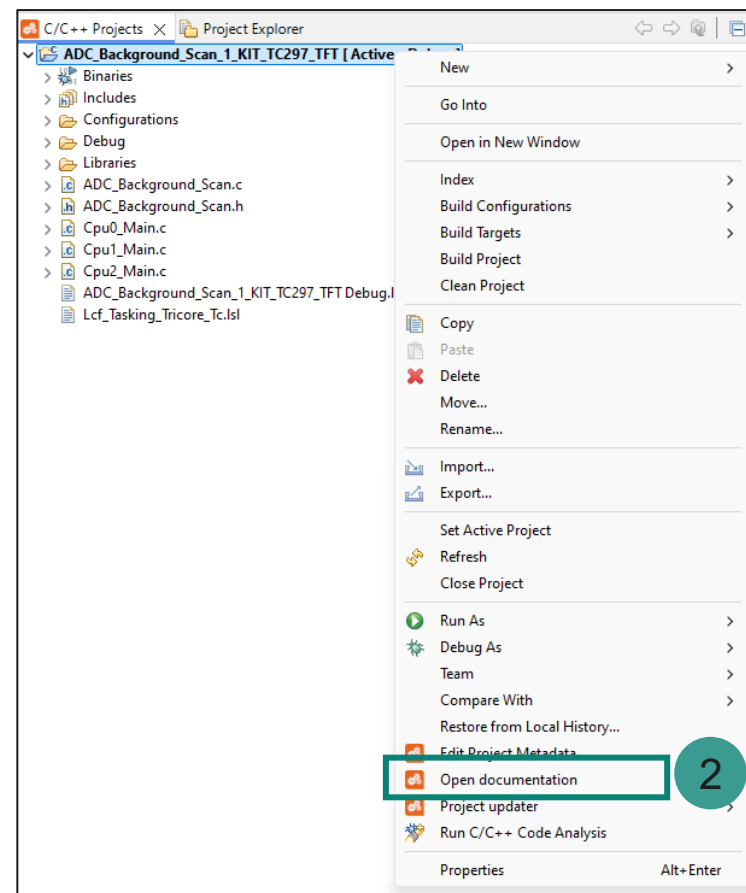
- If the Tutorial is a pdf file, is accessible from the AURIX™ Development Studio by Ctrl + click on the link (1) in the Cpu0_Main.c file or by Right clicking on the project name and pressing the “Open documentation” utility (2)

```

Cpu0_Main.c
22 * WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE
23 * COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN
24 * CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
25 * IN THE SOFTWARE.
26 *****/
27 /*title ADC background scan source
28 * \abstract The Versatile Analog-to-Digital Converter (VADC) is configured to measure multiple analog signals in a sequence using background scan request.
29 * \description The Background Scan mode of the Analog-to-Digital Converter (ADC) module is configured to measure the
30 *         analog signals applied to the channels 0 to 3 of the group 0.
31 *
32 * \name ADC_Background_Scan_1_KIT_TC297_TFT
33 * \version V1.0.0
34 * \board APPLICATION KIT TC2X7 V1.1, KIT_AURIX_TC297_TFT_BC-Step, TC29xTA/TX_BC-Step
35 * \keywords ADC_background_scan_conversion VADC ADC_Background_Scan_1_AURIX
36 * \documents https://www.infineon.com/aurix-expert-training/Infineon-AURIX\_ADC\_Background\_Scan\_1\_KIT\_TC297\_TFT-TR-v01\_00\_00-EN.pdf
37 * \documents https://www.infineon.com/aurix-expert-training/TC297\_TFT-TR-v01\_00\_00-EN.pdf
38 * \lastUpdated 2020-02-11
39 *****/
40 #include "Ifx_Types.h"
41 #include "IfxCpu.h"
42 #include "IfxScuWdt.h"
43 #include "ADC_Background_Scan.h"
44
45 IfxCpu_syncEvent g_cpuSyncEvent = 0;
46
47 int core0_main(void)
48 {
49     IfxCpu_enableInterrupts();
50
51     /* !!WATCHDOG0 AND SAFETY WATCHDOG ARE DISABLED HERE!!
52      * Enable the watchdogs and service them periodically if it is required
53      */
54     IfxScuWdt_disableCpuWatchdog(IfxScuWdt_getCpuWatchdogPassword());
55     IfxScuWdt_disableSafetyWatchdog(IfxScuWdt_getSafetyWatchdogPassword());
56
57     /* Wait for CPU sync event */
58     IfxCpu_emitEvent(&g_cpuSyncEvent);

```

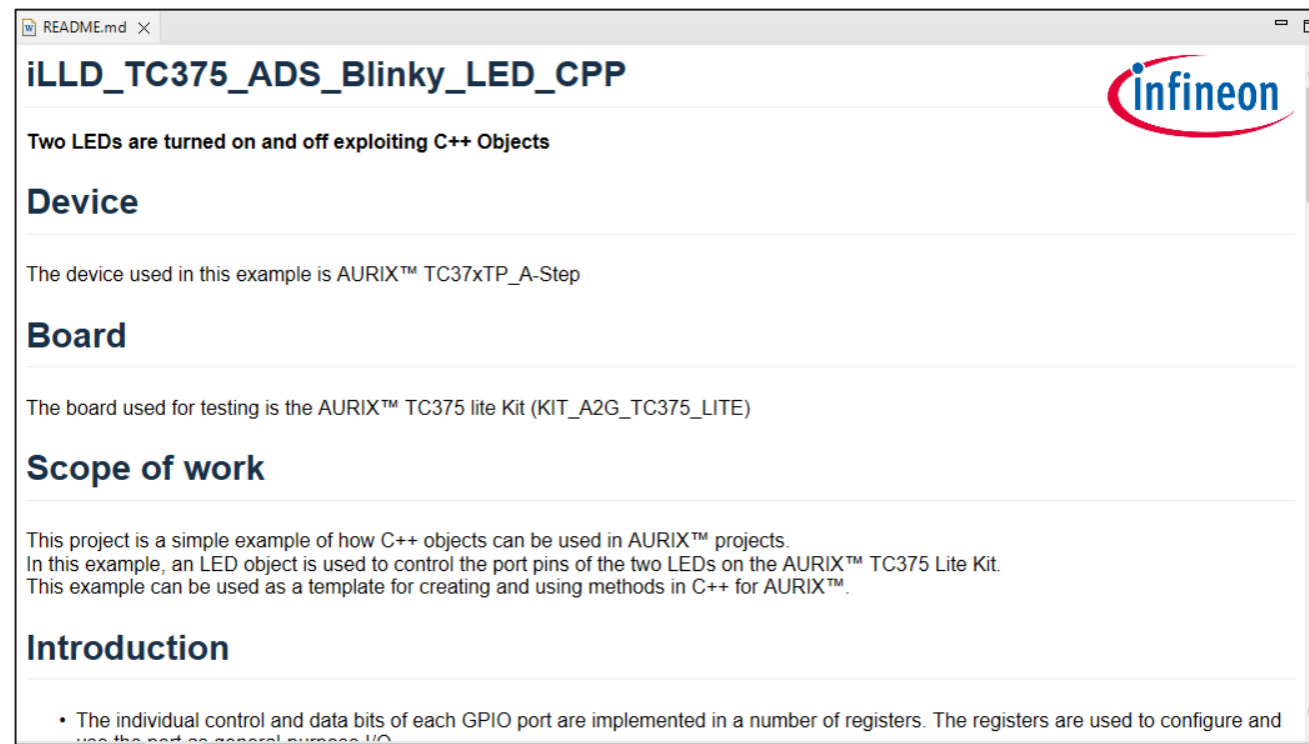
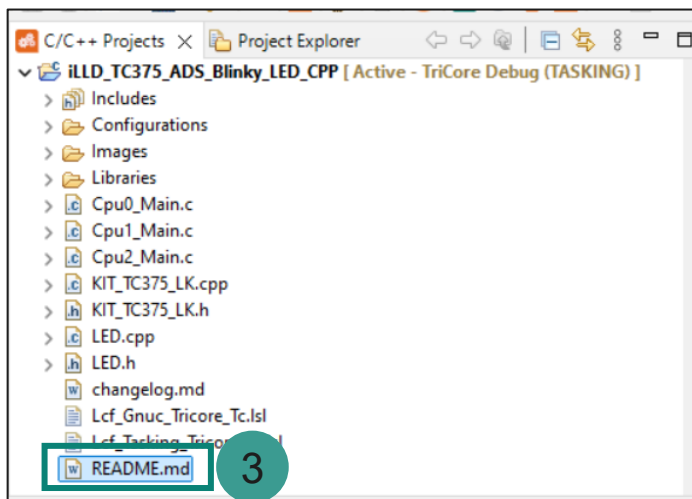
1



2

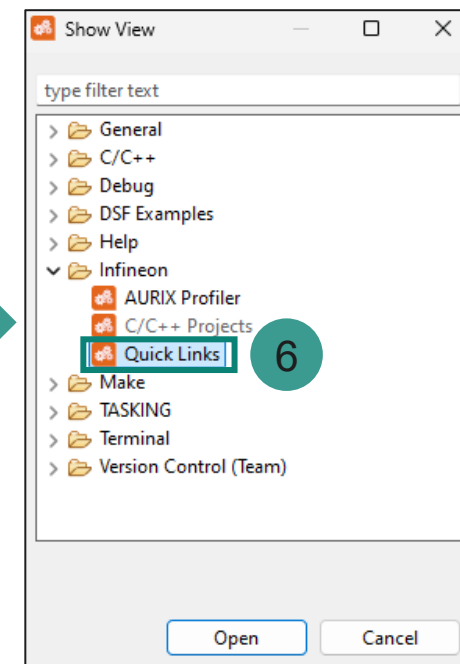
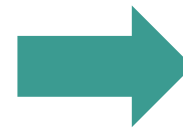
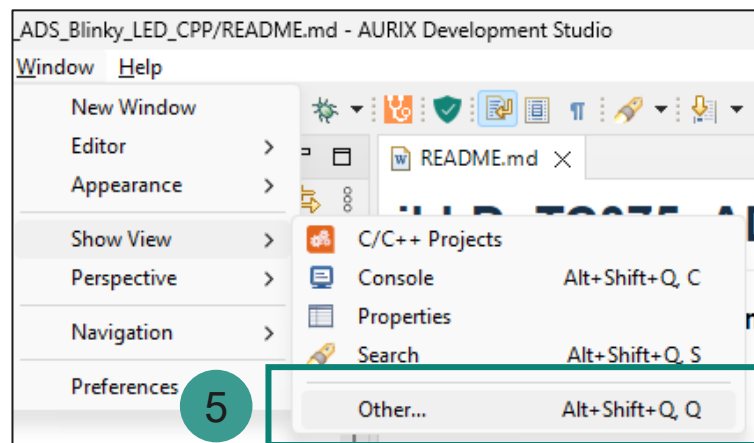
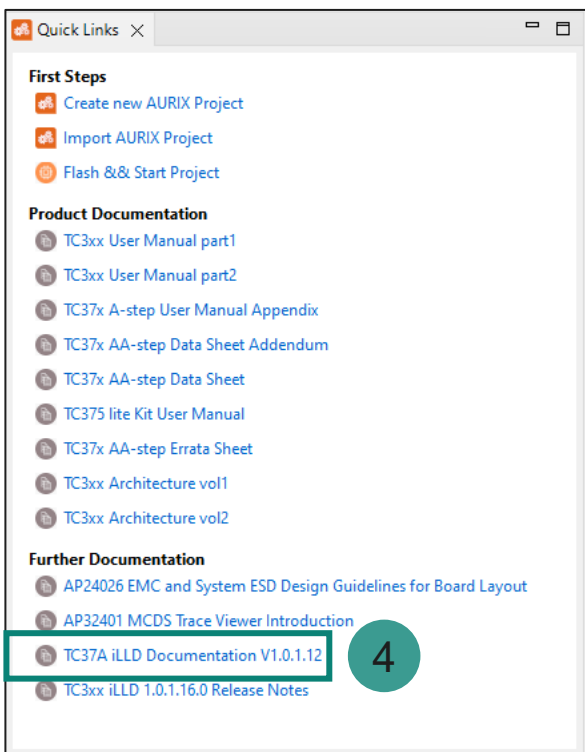
Additional material - 3

- If the Tutorial is a readme markdown file, is accessible from the AURIX™ Development Studio by clicking on the readme.md (3) file in the project.



Additional material - 4

- It is possible to download the Infineon Low Level Drivers documentation for the specific device used in the example through the link(4) present in «Quick Links» section.
- If the Quick Links section is closed, open it manually by clicking "Windows >> Show View >> Other..."(5) Open «Infineon folder >> Quick Links(6)»



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**Document reference
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AURIX™ Development Studio
V1.10.24**

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