

# TECHNICAL SUPPORT

Build the demo software from sources

*C-RED Cameras*



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## Glossary

- **HDR:** High Dynamic Range
- **ADU:** Analog Digital Unit
- **HG:** High Gain
- **LG:** Low Gain
- **ADC:** Analog to Digital Converter
- **NUC:** Non Uniformity Correction
- **IWR:** Integrate While Read
- **ITR:** Integrate Then Read
- **FPS:** Frames Per Second
- **CDS:** Correlated Double sample



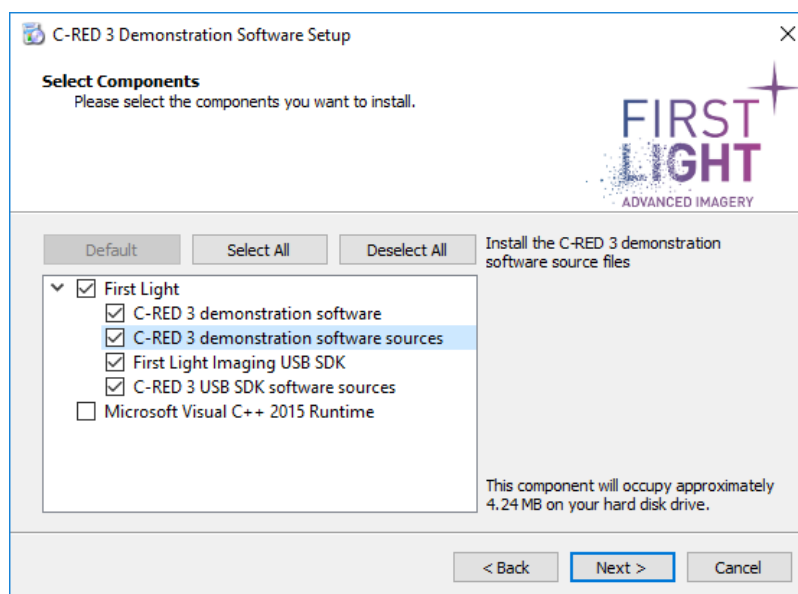
## 1. Introduction .....

The purpose of this application note is to explain how to build from the sources, the provided demo software application.

## 2. Build the demo software .....

### 2.1. Step1: Get the software sources

During the installation of the C-RED 2 / C-RED 3 demo software application, check the C-RED 2 / C-RED 3 demonstration software sources item, as shown below.



C-RED 2 demo application sources files can then be found in a zip file named credtwodemo-src-x.x.x.zip in the installation directory.

Default C-RED 2 installation directory can be one of the followings, depending of the release type.

- First Light Imaging\C-RED 2\Demonstration\USB
- First Light Imaging\C-RED 2\Demonstration\Matrox
- First Light Imaging\C-RED 2\Demonstration\Sapera

C-RED 3 demo application sources files can be found in a zip file name credthreedemo-src-x.x.x.zip in the installation directory.

Default C-RED 3 installation directory can be one of the followings, depending of the release type.

- First Light Imaging\C-RED 3\Demonstration\USB
- First Light Imaging\C-RED 3\Demonstration\Matrox
- First Light Imaging\C-RED 3\Demonstration\Sapera

Unzip the file.

The zip package contains the full source including project file.

The application uses the Qt framework, so the project file is a .pro file you can open directly with Qt creator.





**Note:** The C-RED 2 / C-RED 3 USB SDK is also checked. It is mandatory to install it if you want to build the USB version.

## 2.2. Step2: Install Microsoft visual studio community

At the time of writing, the demo software is compiled using Visual Studio Community 2015 64bit compiler. It can be downloaded from the link below:

[https://my.visualstudio.com/Downloads?q=visual%20studio%202015&wt.mc\\_id=o~msft~vscom~older-downloads](https://my.visualstudio.com/Downloads?q=visual%20studio%202015&wt.mc_id=o~msft~vscom~older-downloads)

**Note:** To be able to download it, you will probably have to register to visual studio dev essentials.

## 2.3. Step3: Install Qt framework

At the time of writing, the demo software relies on Qt 5.12.x LTS release. It can be downloaded from the link below:

<https://www.qt.io/download-thank-you>

During the install you can choose the release, the tools and toolkits you want to install. Please check the options as indicated below:





Qt Installateur

### Sélection des composants

Veillez sélectionner les composants que vous souhaitez installer.

- Qt
  - Qt 5.10.1
  - Qt 5.10.0
  - Qt 5.9.5
  - Qt 5.9.4
  - Qt 5.9.3
  - Qt 5.9.2
  - Qt 5.9.1
  - Qt 5.9.0
  - Qt 5.8
    - MinGW 5.3.0 32 bit
    - WinRT armv7 (MSVC2015)
    - WinRT x64 (MSVC2015)
    - WinRT x86 (MSVC2015)
    - Windows Phone ARM (MSVC2013)
    - Windows Phone x86 (MSVC2013)
    - Windows Runtime 8.1 x64 (MSVC2013)
    - msvc2013 32-bit
    - msvc2013 64-bit
    - msvc2015 32-bit
    - msvc2015 64-bit
    - Android x86
    - Android ARMv7
    - Sources
    - Qt Charts
    - Qt Data Visualization
    - Qt Purchasing
    - Qt Virtual Keyboard
    - Qt WebEngine
    - Qt Gamepad (TP)
    - Qt Network Auth (TP)
    - Qt Speech (TP)
    - Qt Script (Deprecated)
  - Qt 5.7
  - Qt 5.6.3
  - Qt 5.6
  - Qt 5.5
  - Qt 5.4
  - Qt 5.3
  - Qt 5.2.1
  - Qt 5.2.0
  - Qt 5.1.1
  - Qt 5.1.0
  - Qt 5.0.2
- Tools
  - Qt Creator 4.6.0
    - Qt Creator 4.6.0 CDB Debugger Support
    - Qt 3D Studio 1.1.0
    - MinGW 4.9.2
    - MinGW 4.9.1
    - MinGW 4.8.2

Qt 5.8.0 Prebuilt Components for msvc2015 64-bit  
Ce composant va occuper environ 1,40 GiB sur le disque dur.

Défaut Sélectionner tout Désélectionner tout

Suivant > Annuler





## 2.4. Step 4: Build the Software

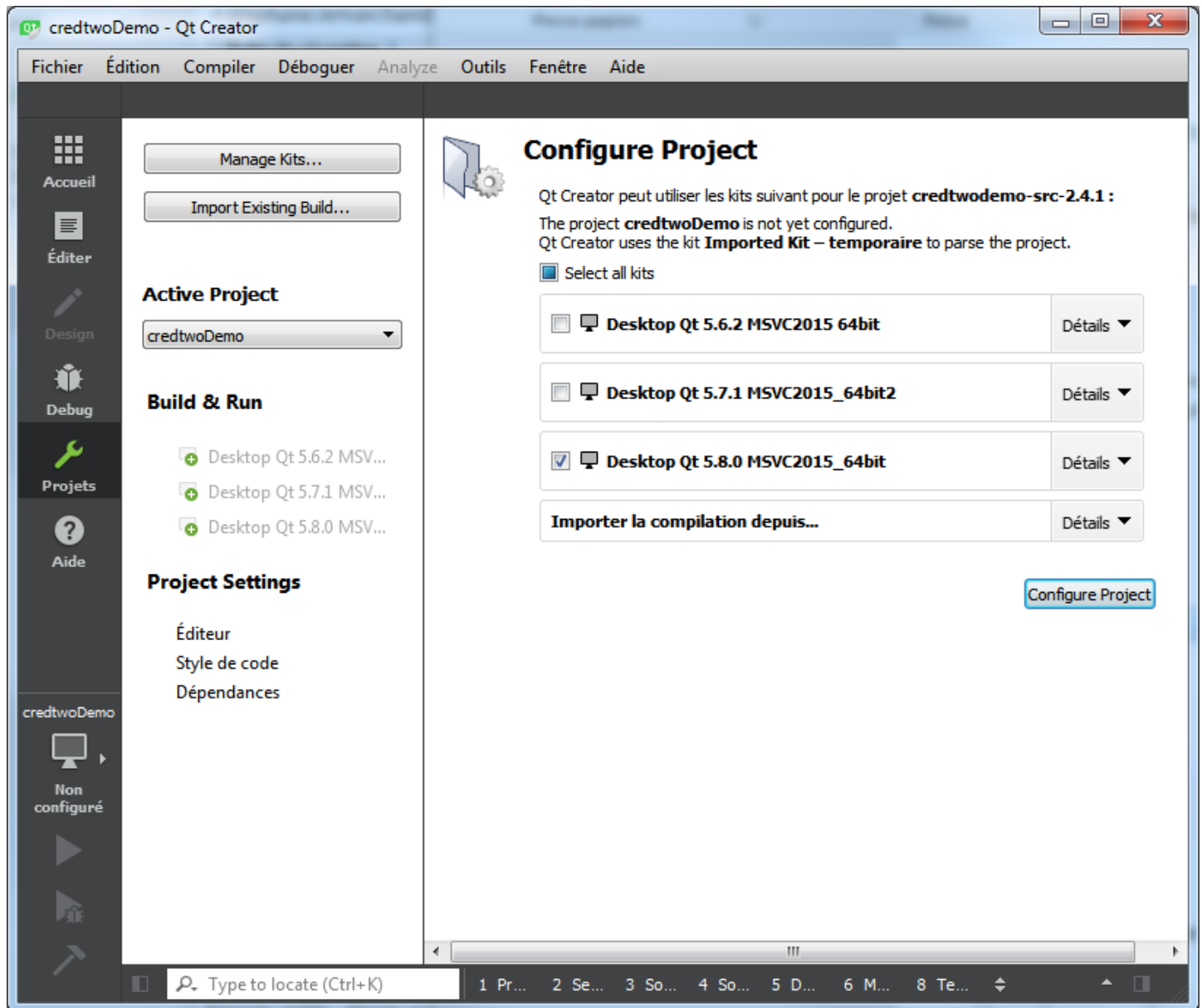
Double click on the *credtwoDemo.pro* file

image	25/04/2018 15:20	Dossier de fichiers	
linux	25/04/2018 15:20	Dossier de fichiers	
windows	25/04/2018 15:20	Dossier de fichiers	
cameralinkframegrabber.cpp	08/03/2018 13:29	C++ Source file	1 Ko
cameralinkframegrabber.h	08/03/2018 13:29	C++ Header file	1 Ko
cli.cpp	08/03/2018 13:29	C++ Source file	9 Ko
cli.h	08/03/2018 13:29	C++ Header file	3 Ko
console.cpp	08/03/2018 13:29	C++ Source file	4 Ko
console.h	08/03/2018 13:29	C++ Header file	1 Ko
credtwo_mil.dcf	08/03/2018 13:29	Fichier DCF	260 Ko
credtwo_sap.ccf	08/03/2018 13:29	Fichier CCF	6 Ko
credtwoDemo.pro	08/03/2018 13:29	Qt Project file	4 Ko
credtwoDemo.qrc	08/03/2018 13:29	Fichier QRC	1 Ko
credtwoDemo.rc	08/03/2018 13:29	Resource Script	1 Ko
credtwowidget.cpp	08/03/2018 13:29	C++ Source file	86 Ko
credtwowidget.h	08/03/2018 13:29	C++ Header file	11 Ko
defaultsettings.cpp	08/03/2018 13:29	C++ Source file	3 Ko
defaultsettings.h	08/03/2018 13:29	C++ Header file	1 Ko
dialogcooling.cpp	08/03/2018 13:29	C++ Source file	2 Ko
dialogcooling.h	08/03/2018 13:29	C++ Header file	1 Ko
dialogcooling.ui	08/03/2018 13:29	Qt UI file	6 Ko
dialogdefaultsettings.cpp	08/03/2018 13:29	C++ Source file	4 Ko
dialogdefaultsettings.h	08/03/2018 13:29	C++ Header file	1 Ko
dialogdefaultsettings.ui	08/03/2018 13:29	Qt UI file	7 Ko
dialogsaveimages.cpp	08/03/2018 13:29	C++ Source file	11 Ko
dialogsaveimages.h	08/03/2018 13:29	C++ Header file	3 Ko
dialogsaveimages.ui	08/03/2018 13:29	Qt UI file	11 Ko
dialogtelnet.cpp	08/03/2018 13:29	C++ Source file	2 Ko
dialogtelnet.h	08/03/2018 13:29	C++ Header file	1 Ko
dialogtelnet.ui	08/03/2018 13:29	Qt UI file	2 Ko

Qt creator will be started, and it will open the credtwoDemo project.



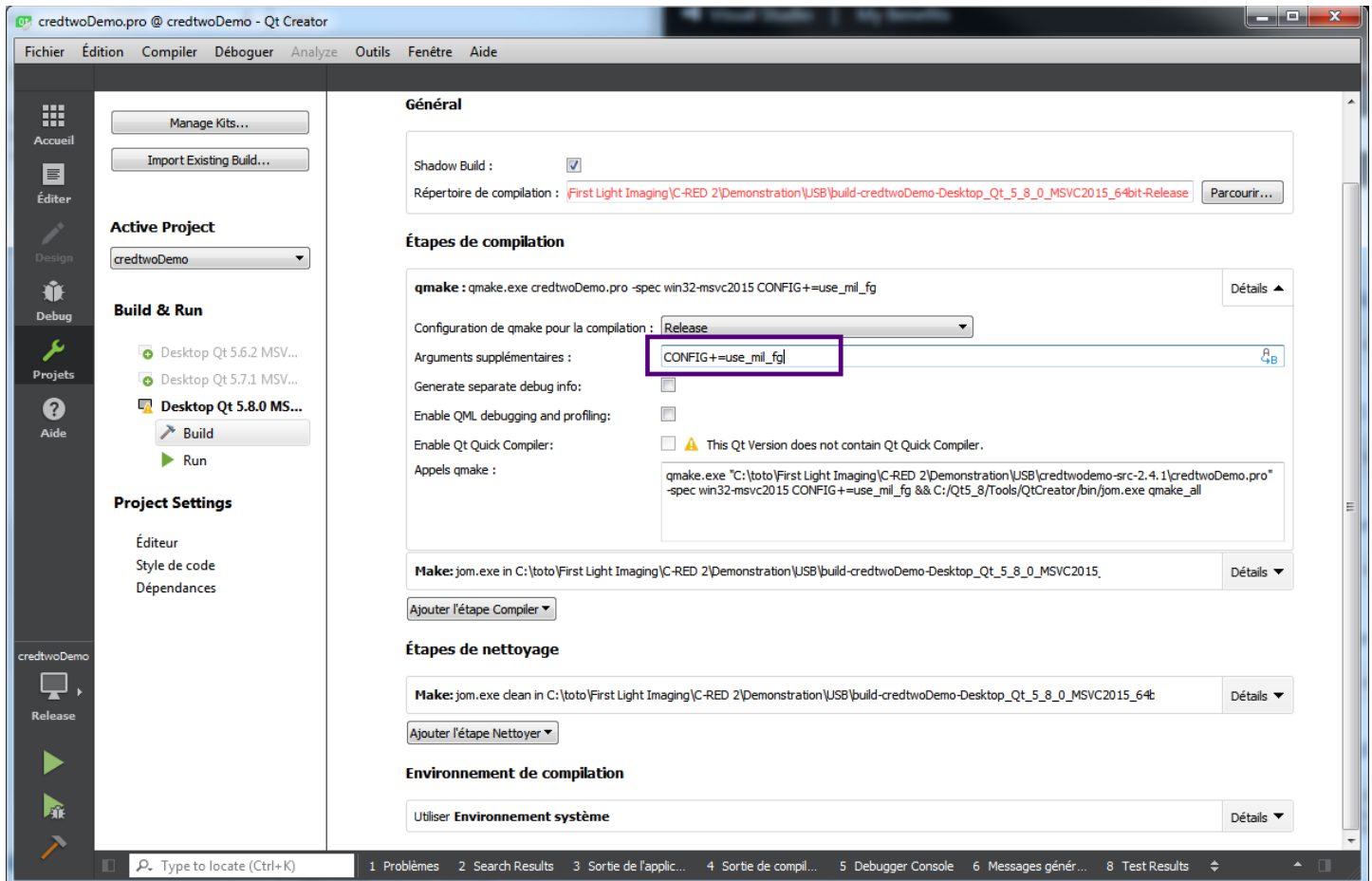
Select the MSVC2015\_64bit toolkit and click on *configure project*.





## 2.4.1. Matrox build

To build a demo software which will use a Matrox camera link frame grabber, add the option `CONFIG+=use_mil_fg` to the project config.

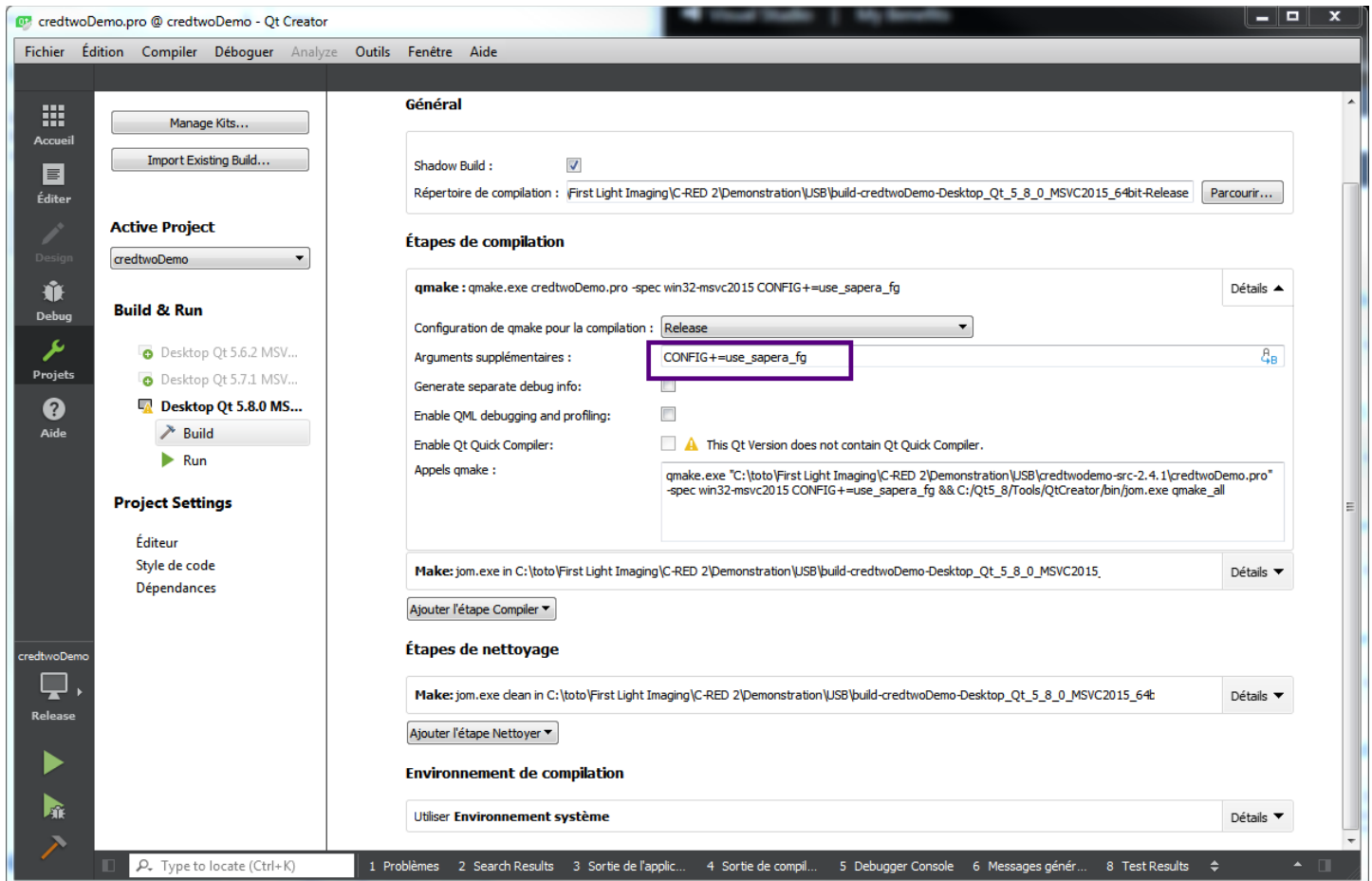


Now you should be able to build the demo software (Matrox version).



## 2.4.2. Sapera build

To build a demo software which will use a Sapera camera link frame grabber, add the option `CONFIG+=use_sapera_fg` to the project config.



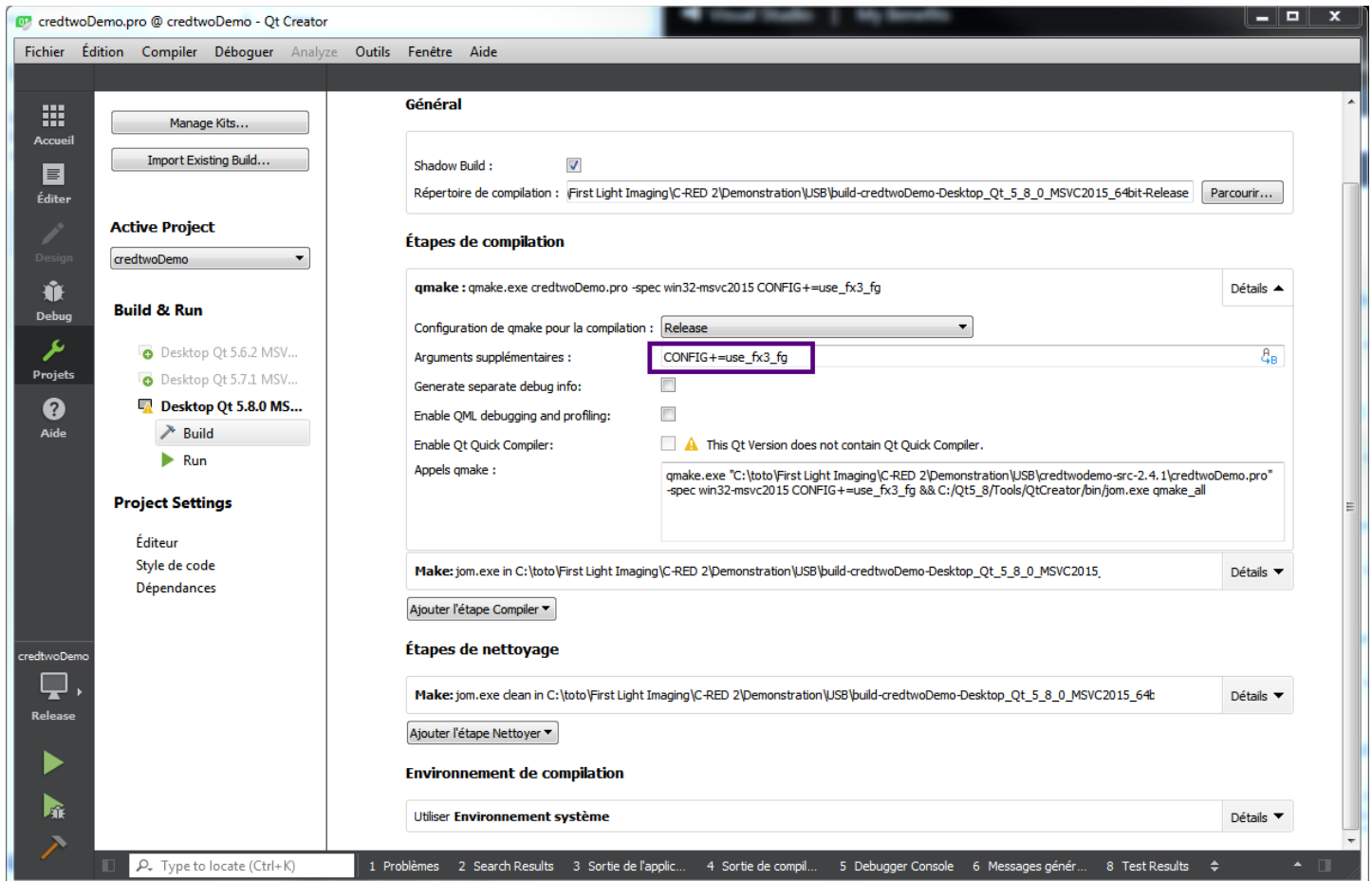
Now you should be able to build the demo software (Sapera version).





### 2.4.3. USB(=FX3) build

To build a demo software which will use the USB3 interface, add the option `CONFIG+=use_fx3_fg` to the project config.



For the USB interface, the build mode must be “Release”. Indeed, by default the demo software links statically with the `cred2sdk` (=firstlight USB3 sdk) library and this library is built in “release mode” only.

To build in debug mode, you must modify the `credtwoDemo.pro` file to link dynamically with the `cred2 lib` instead. You can do that by doing the following modification:

```
LIBS += -L$$ (CRED2SDKDIR) /lib -lcred2sdk
#LIBS += -L$$ (CRED2SDKDIR) /lib/static -lcred2sdk_static -lSetupAPI -luser32
```



```
52 INCLUDEPATH += $$($SAPERADIR)\Classes\Basic $$($SAPERADIR)\Include
53 LIBS += -L$$($SAPERADIR)\Lib\Win64 -lSapClassBasic ${LIBFLAGS}
54 }
55
56 use_mil_fg {
57     message("Matrox build")
58     DEFINES += USE_MIL_FG
59     INCLUDEPATH += $$($Mil_path)/../Include
60     LIBS += -L"$$($Mil_path)/../lib" -lMil ${LIBFLAGS}
61 }
62
63 use_fx3_fg {
64     message("FX3 build")
65     DEFINES += USE_FX3_FG
66     INCLUDEPATH += $$($CRED2SDKDIR)/include
67     #LIBS += -L$$($CRED2SDKDIR)/lib -lcred2sdk
68     LIBS += -L$$($CRED2SDKDIR)/lib/static -lcred2sdk_static -lSetupAPI -luser32
69 }
70 }
71 }
72
73 CREDTWODEMO_VERSION = $$system(git describe --tags --dirty)
74 isEmpty( CREDTWODEMO_VERSION ) {
75     CREDTWODEMO_VERSION = unknown
76 }
77
78 unix {
79     CREDTWODEMO_BUILD = $$system(echo $(date +%x-%R))
80 }
81 else {
82     CREDTWODEMO_BUILD = "$$system(echo "%date%-%time: =0%")"
83 }
84
```

Now you should be able to build the demo software (USB3 version).

For any further information, please contact First Light Imaging's support team ([support@first-light.fr](mailto:support@first-light.fr)).



[www.first-light-imaging.com](http://www.first-light-imaging.com)