Firmware Updater Manual

For all Xsens Devices

Revision	Date	By	Changes
A	Dec 2008	PRI/MMI	Initial release
K	23 December 2015	MHA	New FW Updater online v4.0.4
L	9 August 2017	MHA	New FW Updater v4.08
M	1 April 2019	SGI	New FW Updater V4.2.6
2020.A	Jan 2020	AKO	New Xsens brand identity
2020.B	Aug 2020	PRI	Updated screenshots, remark about multiple available firmware versions.
2020.C	Aug 2020	GLS	Updated screenshots, table of contents

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List of Abbreviations

The MT Family Reference Manual[1] provides a list of abbreviations used across our MT documentation.

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[1] The latest available documentation can be found in your MT Software Suite installation folder or via the following link: *https://xsens.com/xsens-mti-documentation*

1 Xsens Help Centre and User Community

Xsens has an extensive help centre, a place where users of Xsens and Xsens employees (support, field application engineers, sales and R&D engineers) meet. The knowledge base contains tips and tricks, guidance and answers to frequently asked questions. News is also shared at the knowledge base and it is possible to ask additional questions (registration required).

The user community is the place to ask questions. Answers may be given by other users or by Xsens employees. The response time in the user community is significantly shorter than the response time at Xsens support.

The knowledge base and user community are searchable simultaneously. A search query thus shows results irrespective of the source.

Please visit https://base.xsens.com to complete your 1-minute registration.

2 Introduction

Using the Firmware Updater, it is possible to update the firmware of your Xsens product. Always follow the instructions shown in the Firmware Updater very carefully.

***Note*: Do NOT run other programs while updating MT firmware. Do NOT run the Firmware Updater in a Windows emulation environment or virtual PC environment. Do NOT disconnect the device during an update in progress.**

When updating the firmware in your device, please make sure to use the <u>latest Firmware Updater</u>, which is available at our website www.xsens.com. **Not using the latest Firmware Updater can render your sensor inoperable in which case the sensor may need to be returned to Xsens for recovery.**

To start the Firmware Updater, go to Start → All Programs → Xsens → Firmware Updater 4.X.X → Firmware Updater 4.X.X.

For MTi 1-series modules that are already integrated and are therefore unable to connect to a PC, an alternative Firmware Updater is available. This Firmware Updater requires the use of an ST Nucleo board. It can be found via the following link:
https://os.mbed.com/teams/Xsens/code/MTi-1_fwu_example/

3 Firmware Updater functionality

The Firmware Updater downloads the latest released firmware by connecting to the Xsens server. A connection with internet is required at some point to perform a firmware update. It is possible to download firmware onto e.g. a laptop for updating the firmware of a Motion Tracker on a remote location. This procedure is described in section 3.2.
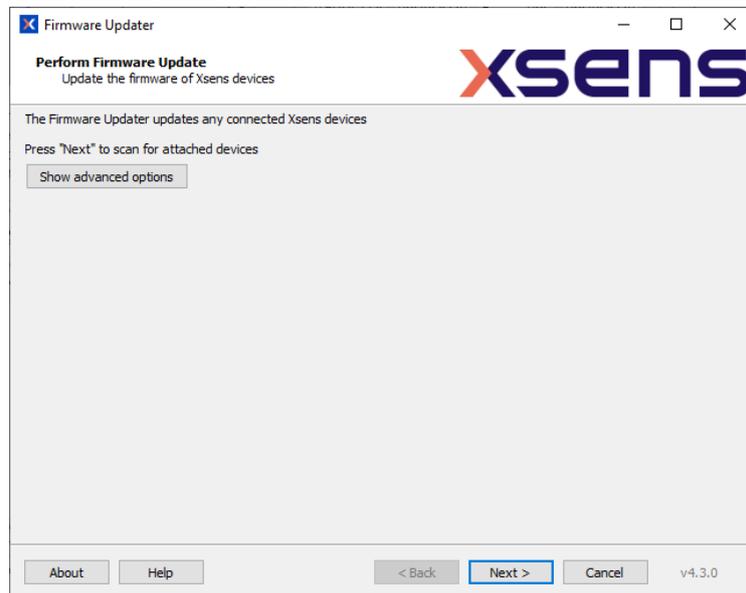
Figure 1: The start screen of the Firmware Updater

3.1 Standard firmware update process

When starting the Firmware Updater, click Next to Scan for devices.
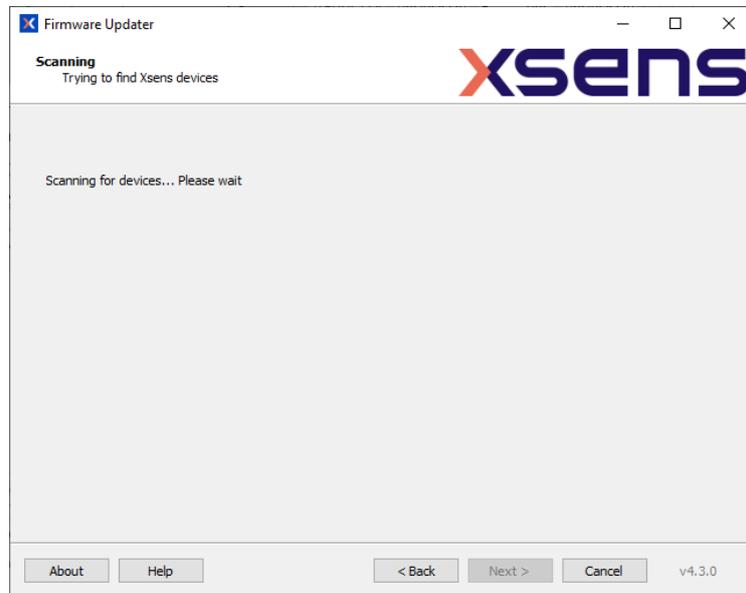
Figure 2: Scanning for devices

When devices are found, select the devices you want to update. If multiple firmware versions are available for download then choose the desired version from the dropdown box.
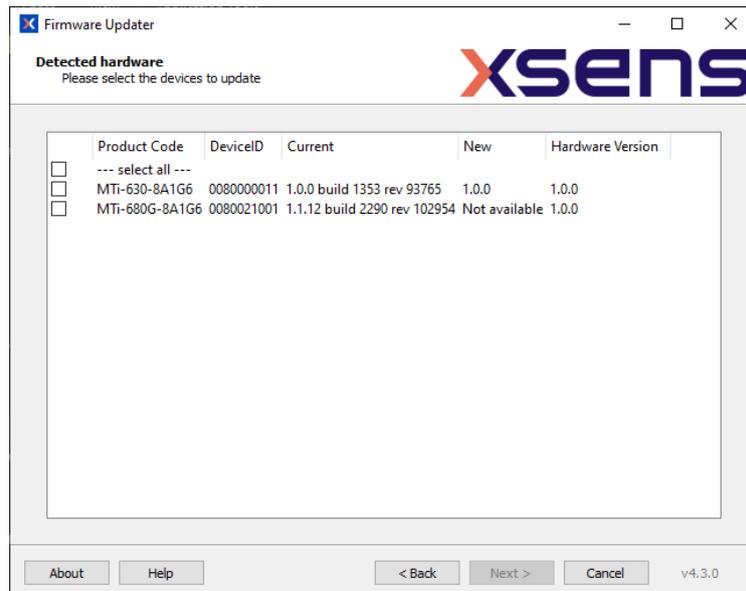
Figure 3: A list of detected hardware

Click Next to download the firmware (if not already downloaded to cache before).
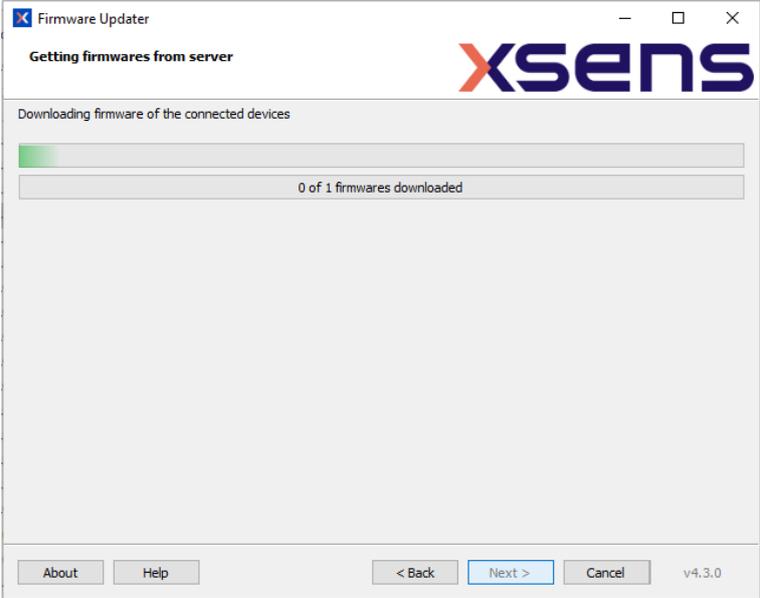
Figure 4: Downloading firmware

The Firmware Updater will indicate if the firmware can be updated.
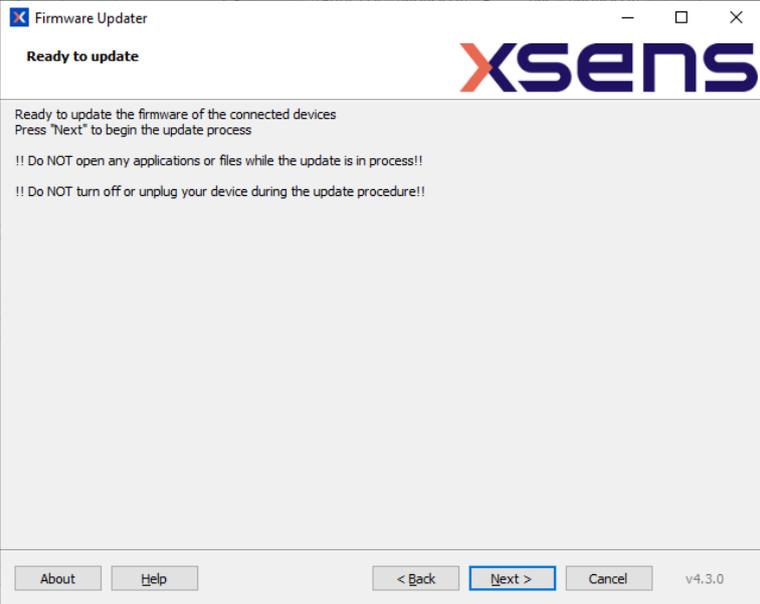
Figure 5: The firmware can be updated

Pressing Next will start the Firmware Update process.
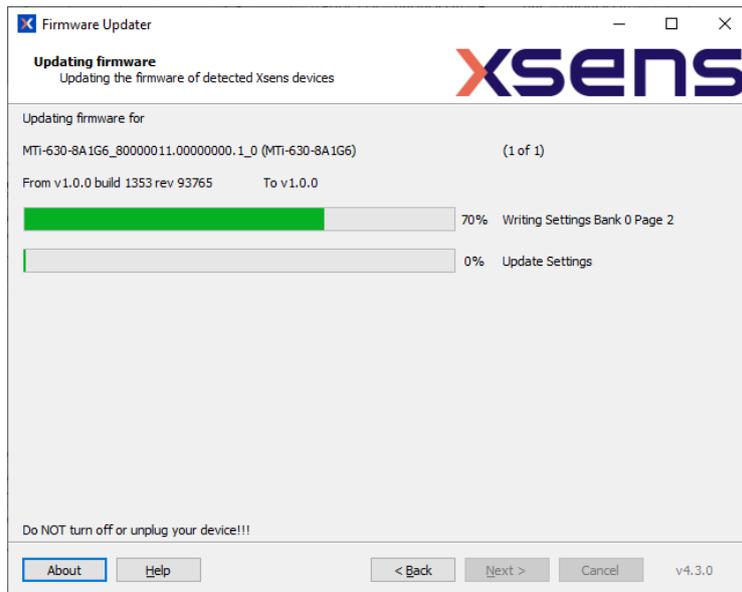
Figure 6: The status bars show the progress of the update

When the update process is finished, the Firmware Updater provides a summary of the updated devices and their firmware versions.
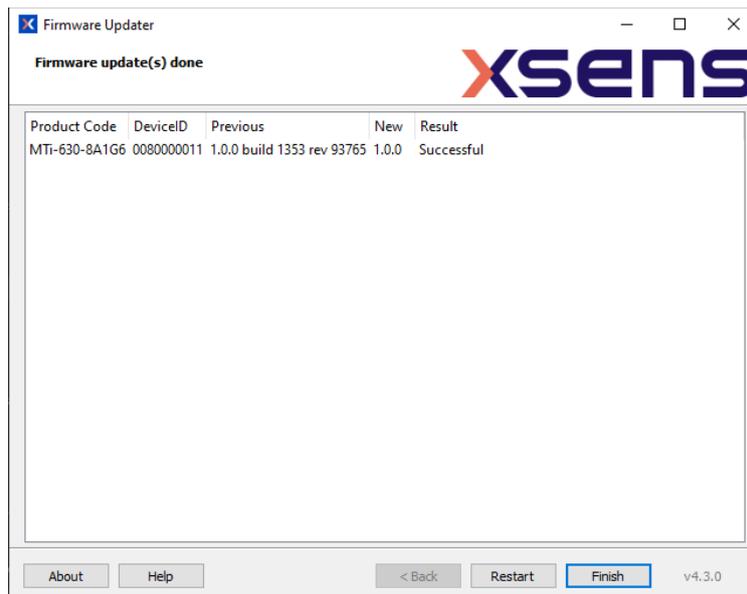
Figure 7: After the firmware update, the results are shown

3.2 Updating Motion Trackers in offline mode

This feature can be used if it is not possible to connect to internet when the Motion Tracker is connected to the Firmware Updater. This is a two-step procedure:

3.2.1 Download Only

This section details the 'Download Only' feature that downloads firmware files to cache, in order to update Motion Trackers. First, click Show Advanced Settings and select "Download Only"
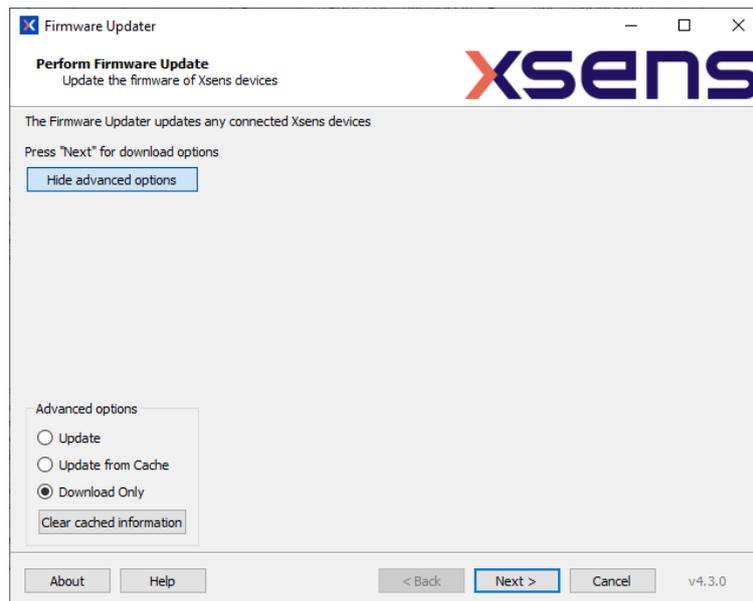
Figure 8: It is possible to download firmware to cache for future use when there is no live internet connection available

Click "Next" to make a selection of the firmware files to download. The numbers between brackets are the first digits of the DeviceID. In this case, the firmware files for all products of the MTi 600-series modules are selected. Click Next to download the firmware.
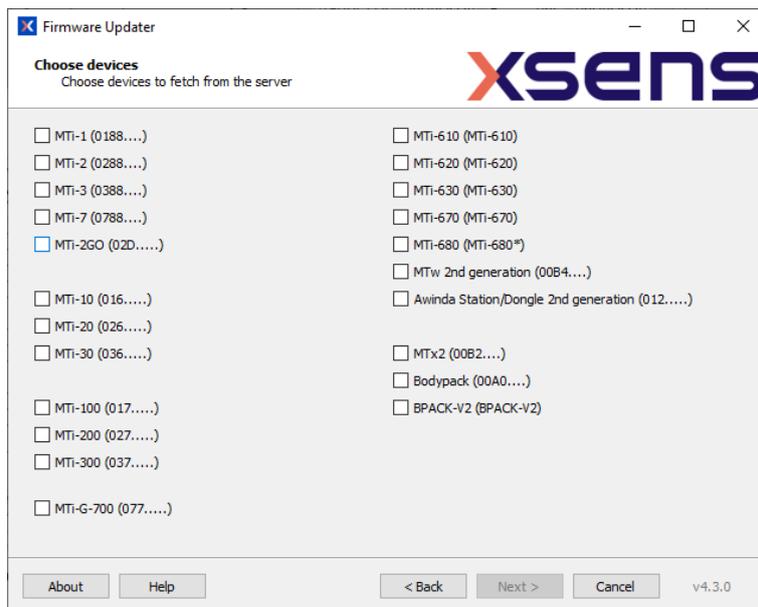
Figure 9: Selecting the firmware files to download

It is now possible to review the firmware files that will be downloaded. You can also check whether the firmware files are newer than those already in the cache. If multiple firmware versions are available for download then choose the desired version from the dropdown box.
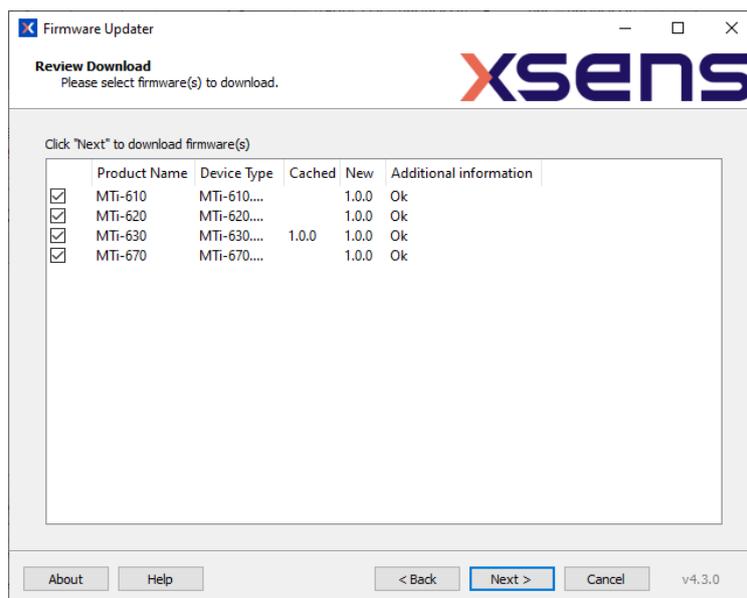
Figure 10: Review the firmware files that will be downloaded

Click Next to download the firmware files.
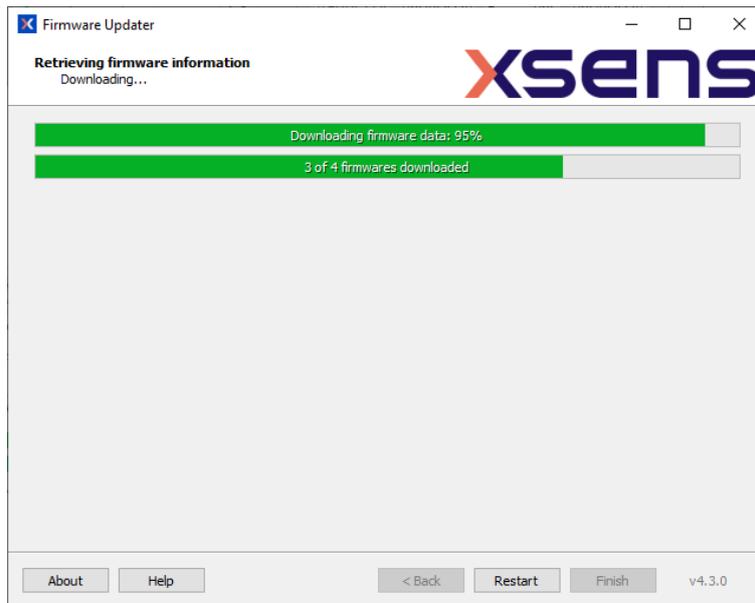
Figure 11: The downloading process of firmware for the cache

When all firmware files are downloaded, the Firmware Updater shows the following log.
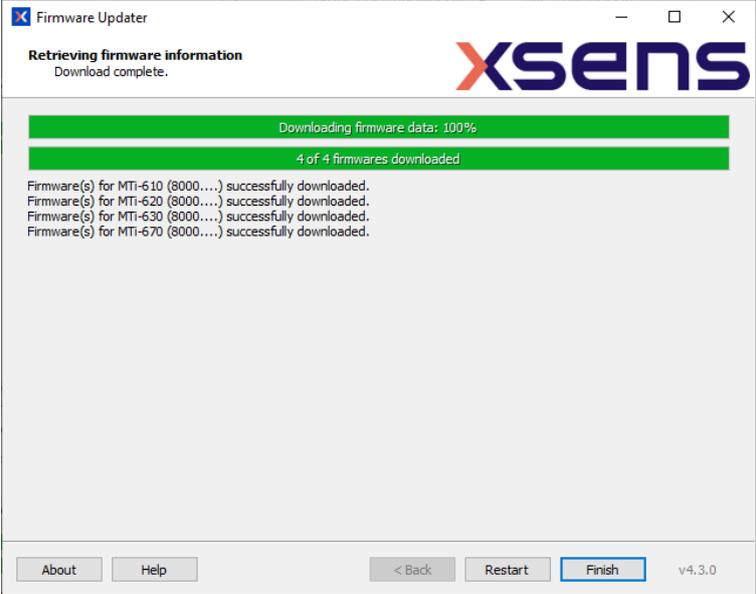
Figure 12: The Firmware Updater showing the result of the download operation to cache

Now it is possible to update Motion Trackers from cache (see section 3.2.2).

3.2.2 Updating firmware from cache

Firmware files are downloaded to cache with the "Download Only" step (as described in section 3.2.1). Firmware files are also downloaded to cache when performing a standard firmware update (see section 0), but this cache file may not contain settings for all Motion Trackers. Always download firmware to cache manually (section 3.2.1) before updating from cache.

Click Show Advanced Options and select "Update from Cache". Click Next to start scanning for devices.
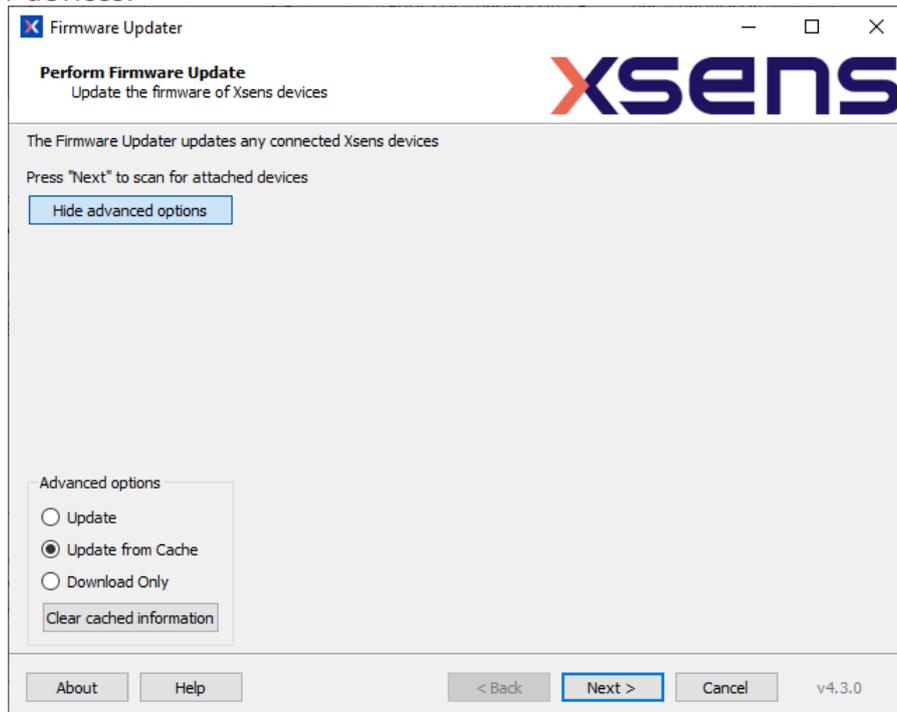
Figure 13: Start screen updating MTi's from cache

The Firmware Updater will check whether the firmware is available in the cache. If it is, the following screen will be shown:
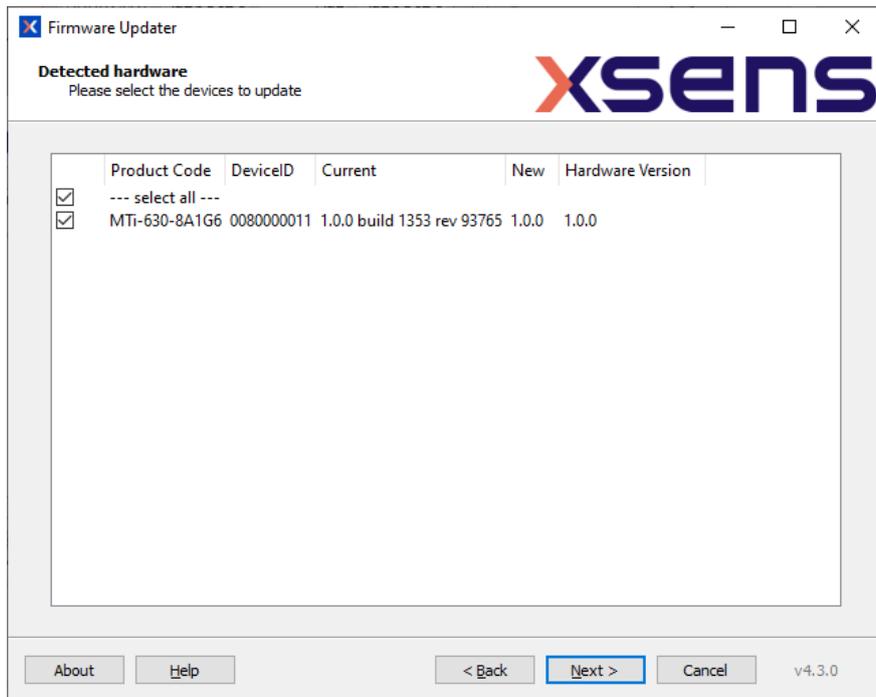
Figure 14: Hardware detected plus new firmware available in the cache

When the firmware for the connected Motion Tracker is not present in the cache, the Firmware Updater will indicate that there is no new firmware file available.
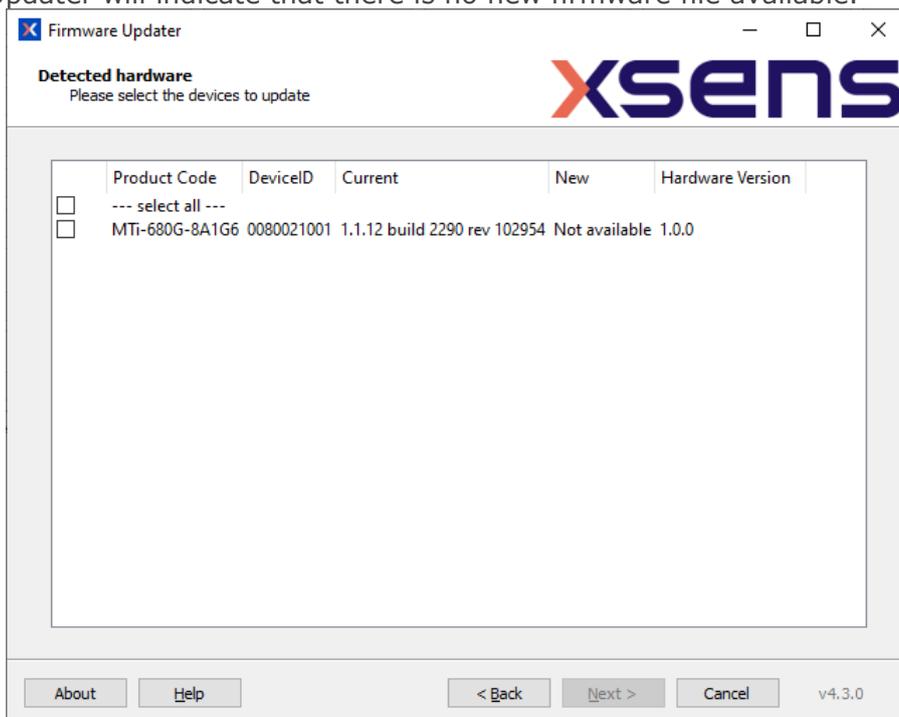
Figure 15: The screen that is shown when a firmware is not available in the cache

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If the firmware file is available in the cache, the remainder of the firmware update process is identical to the standard firmware update process, as described in section3.1.

3.3 Clearing cache

It is possible to clear the cache. In most cases however, this will not be necessary. Press "Show Advanced Options" and press the button "Clear cached information". Confirm by pressing Yes.
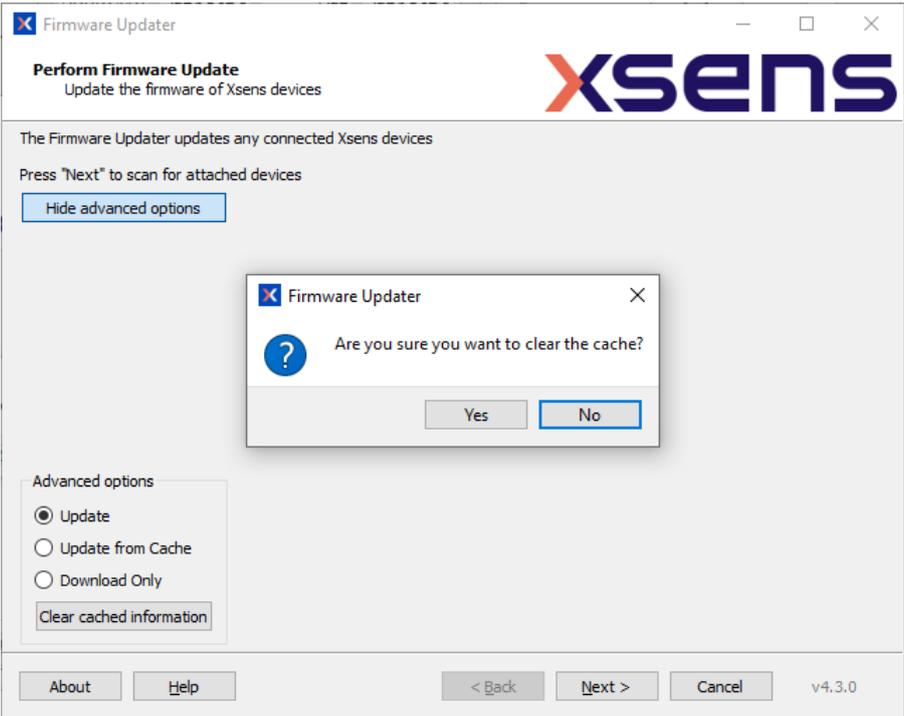
Figure 16: Clearing the cache