
Veronte Updater

Release 6.14.20/1.0

Embention Sistemas Inteligentes, S.A.

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Scope of Changes

- Version 1.0
 - Added:
 - First version issued

Quick Start

Veronte Updater updates the software version of almost all Embention devices, being **Veronte Autopilot 1x** most of the time.

Once **Veronte Autopilot 1x** has been detected on [Veronte Link](#), download and install **Veronte Updater**.

Veronte Updater supports **Windows operating system**.

Note

Windows 10 is recommended, but **Windows 11** is supported.

System requirements

Before executing this software, users should check the following sections with the minimum and recommended PC hardware requirements.

Minimum requirements

- CPU: Intel Core i5-8365UE
- RAM: 8 GB DDR4
- STO: 256 GB SSD

Recommended requirements

- CPU: 12th Gen Intel(R) Core(TM) i7-12700H 14 cores up to 4,70 GHz
- RAM: 32 GB
- STO: 1 TB SSD M.2 NVMe PCIe

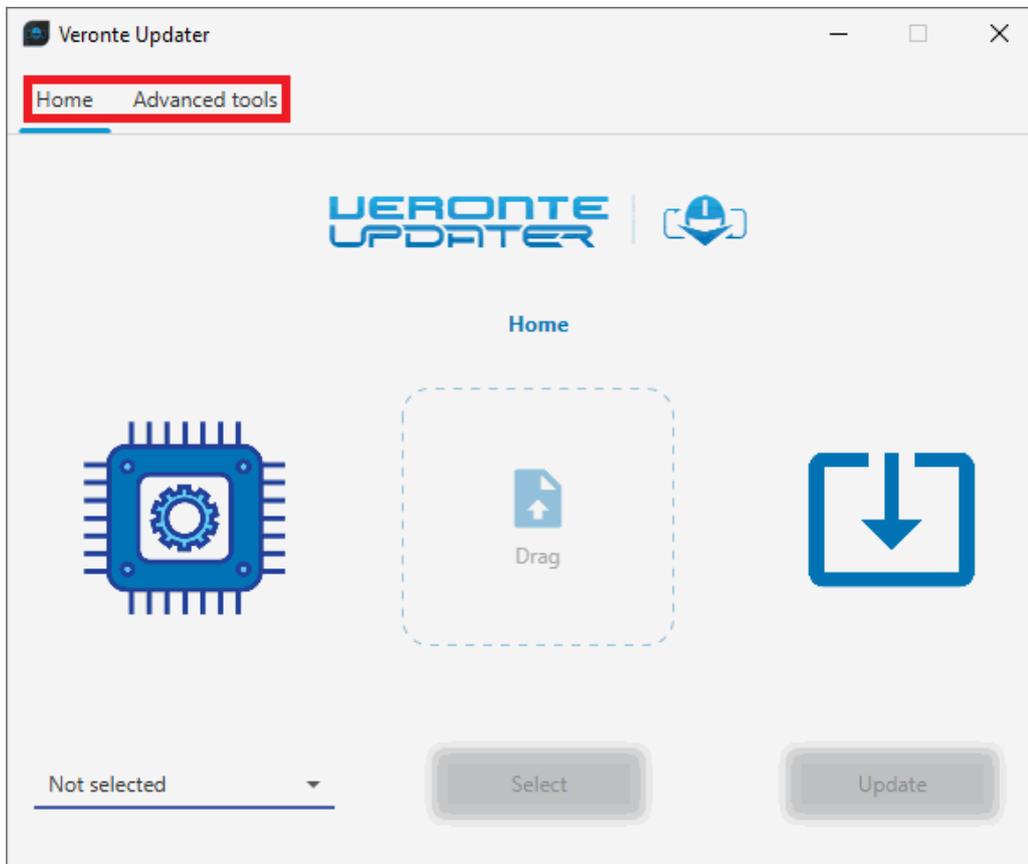
Download and Installation

Veronte Updater software is available in the **Veronte Toolbox** platform. From there, users can download and install the application. For more information, please refer to the [Veronte Toolbox](#) user manual.

A **personal account** is required to access **Veronte Toolbox**; create a [Ticket](#) in the user's **Joint Collaboration Framework** and the support team will create it for you.

Operation

Once the installation is finished, open **Veronte Updater** and the following main menu will appear:



Veronte Updater - Main menu

Users may notice that there are some tabs at the top of the menu:

- **Home:** This is the main tab, where the whole [update process](#) takes place.
- **Advanced tools:** When clicked, it displays a drop-down menu with several options to carry out on the connected device: File system, Upload files, Upload backup, Flash tool, Switch BootStage, Configure Remote ID, Flash Remode ID, Identify SD and Upload partition data. For more information, refer to [Advanced tools section](#).

Update process

Since the most frequently updated device is **Veronte Autopilot 1x**, this user manual uses this device as an example. However, all other devices require the same procedure.

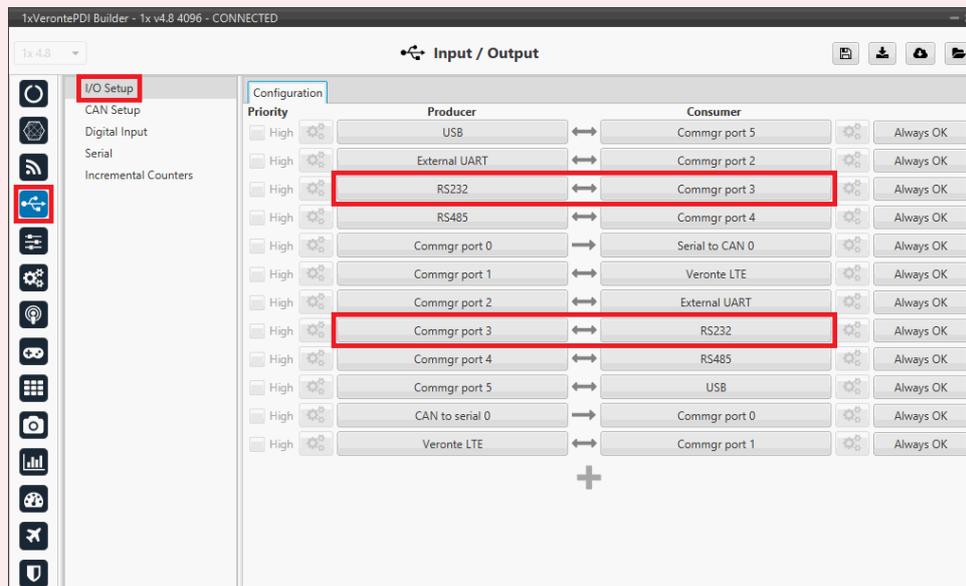
Within the same firmware version

⚠ Danger

To update a device within firmware versions **6.14 or higher**, the connection **must not** be via the **USB harness**. For example, configure a connection via RS232 (users can use an RS232-to-USB adapter to connect it to the PC).

Since this user manual will use **Autopilot 1x** as an example, to configure it via RS232:

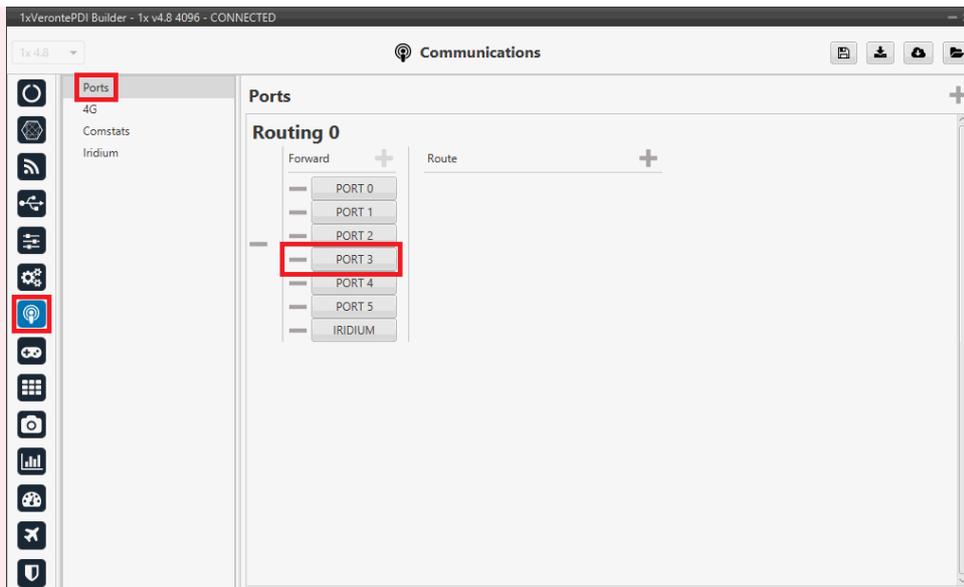
1. Connect the device with **Veronte Link 6.14** via **USB harness**. For more information on this app, refer to the [Veronte Link](#) user manual.
2. Next, open **1x PDI Builder**, select the connected device and open the PDI online.
3. Go to Input/Output menu → **I/O Setup panel**. Set up a bidirectional connection between **RS232** port and a COM Manager port, in this case **Commgr port 3** is used.



1x PDI Builder - I/O Setup configuration

4. Go to Communications menu → **Ports panel**.

Make sure that the COM Manager port configured in the previous step is set in the **Forward** column, in this case **PORT 3**.



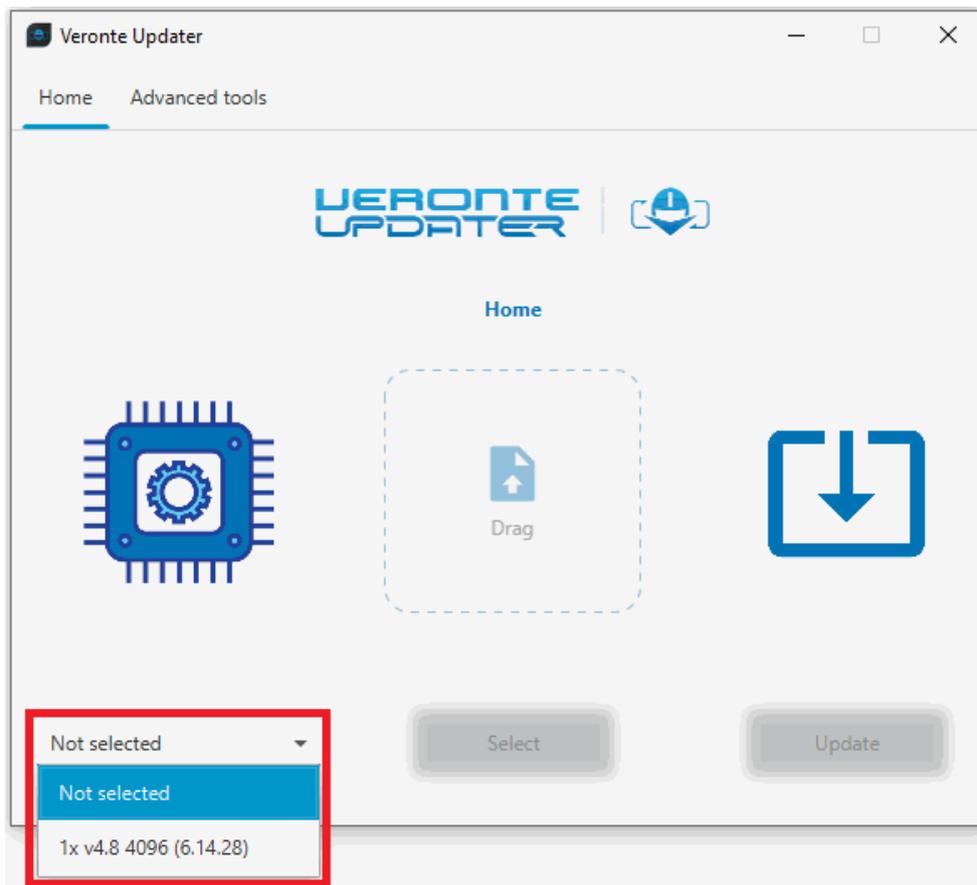
1x PDI Builder - Ports configuration

5. Save the configuration by clicking on the  icon.
6. Finally, disconnect **Autopilot 1x** from the USB harness. The device is ready to be updated with **Veronte Updater 6.14**.

Follow the steps below to carry out the update process of a **Veronte Autopilot 1x**:

1. Connect the device (to be updated) to a computer with [Veronte Link](#) in **another way than USB**.

Then, open **Veronte Updater** and select the connected device in the marked area:

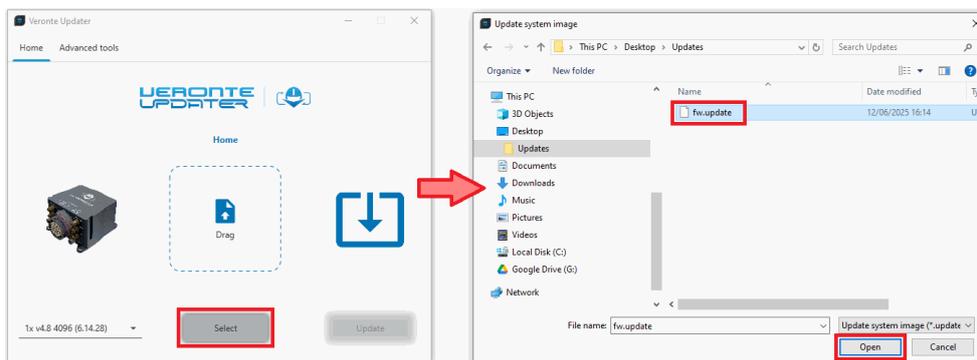


Selecting connected device

2. Load the **.update** file.

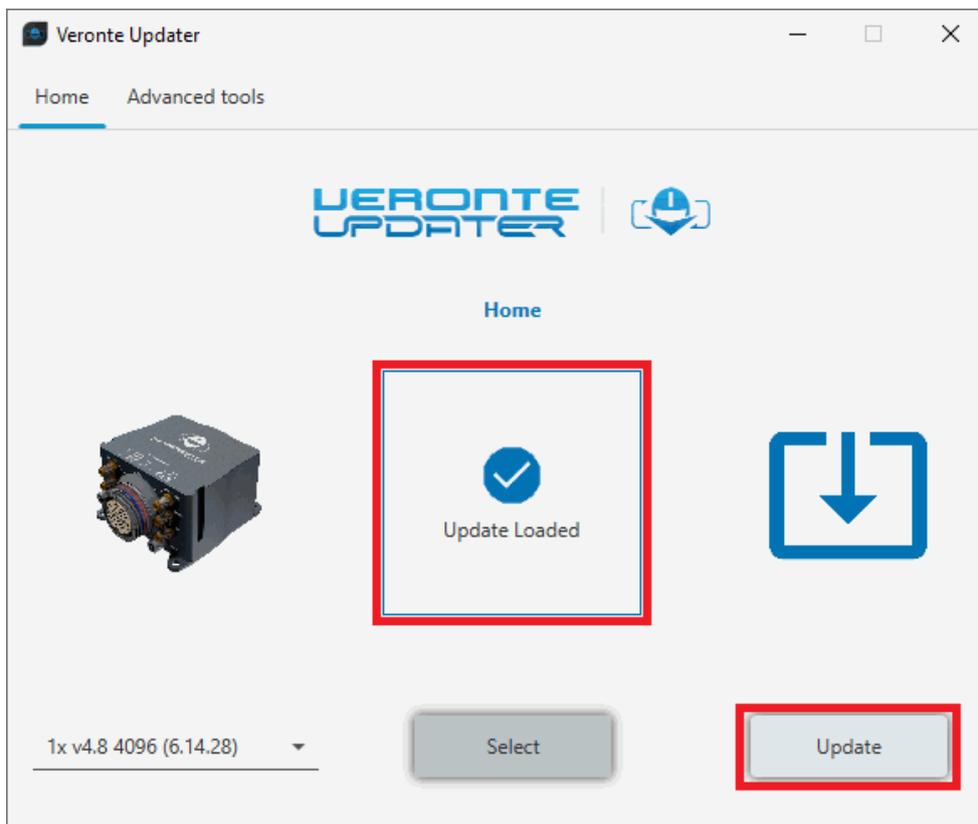
There are two ways to do this, dragging the file to the **Drag** area or by using the **Select** button.

The latter option will open the following browser to select the **fw.update** file stored in the user's local storage:



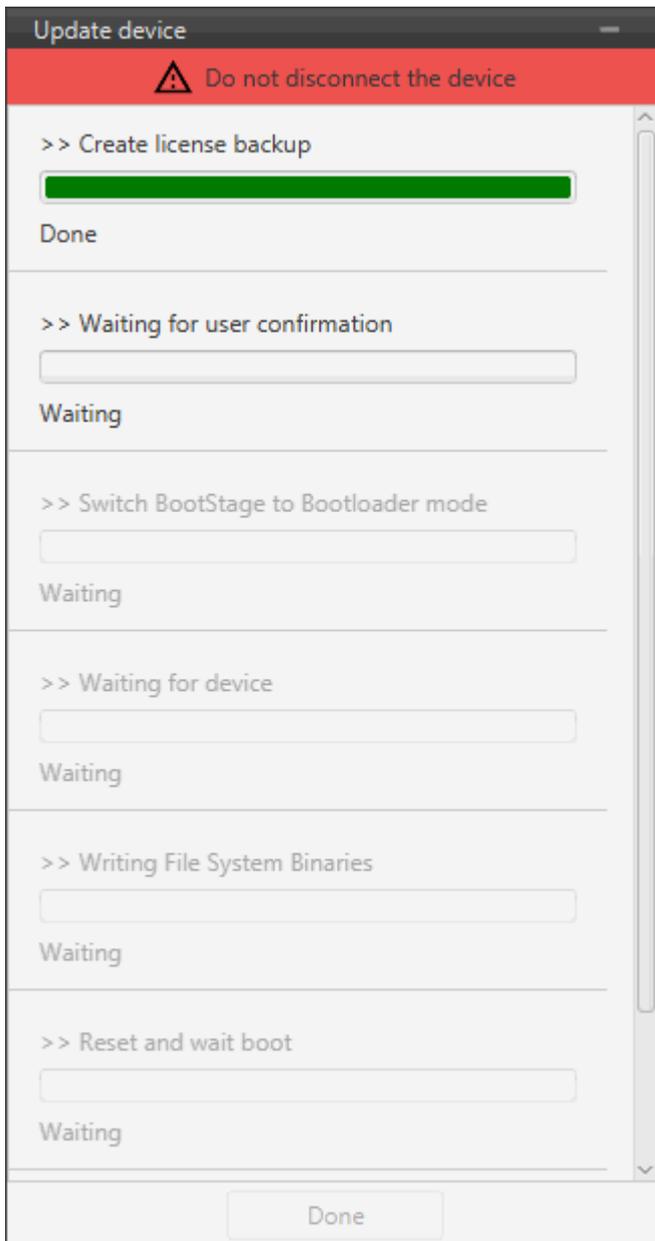
Loading file

3. Once the .update file is loaded, click on **Update** to send the configuration to the device.



Update loaded

4. The update process will start, the next window will show the progress:



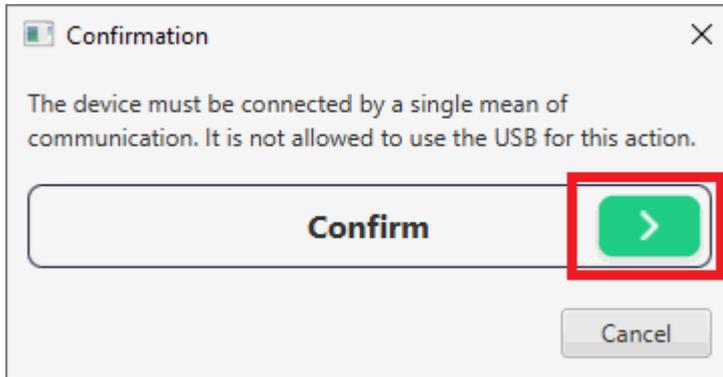
Update device process

- 5. A confirmation panel will then appear to ensure that the user has **not connected** the device **through the Veronte USB**.

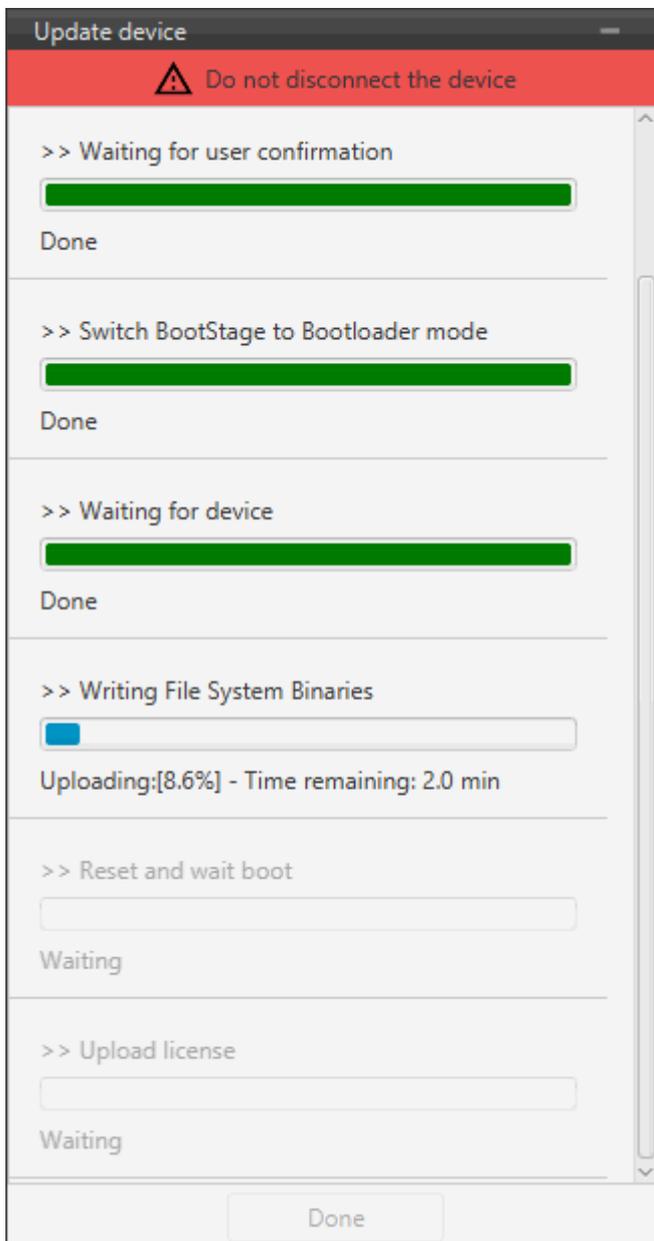


Update device process - Confirmation panel

- If the device is connected in a way other than USB, drag the blue arrow to the right until it turns green to confirm and the update process will continue.



Confirmation panel OK

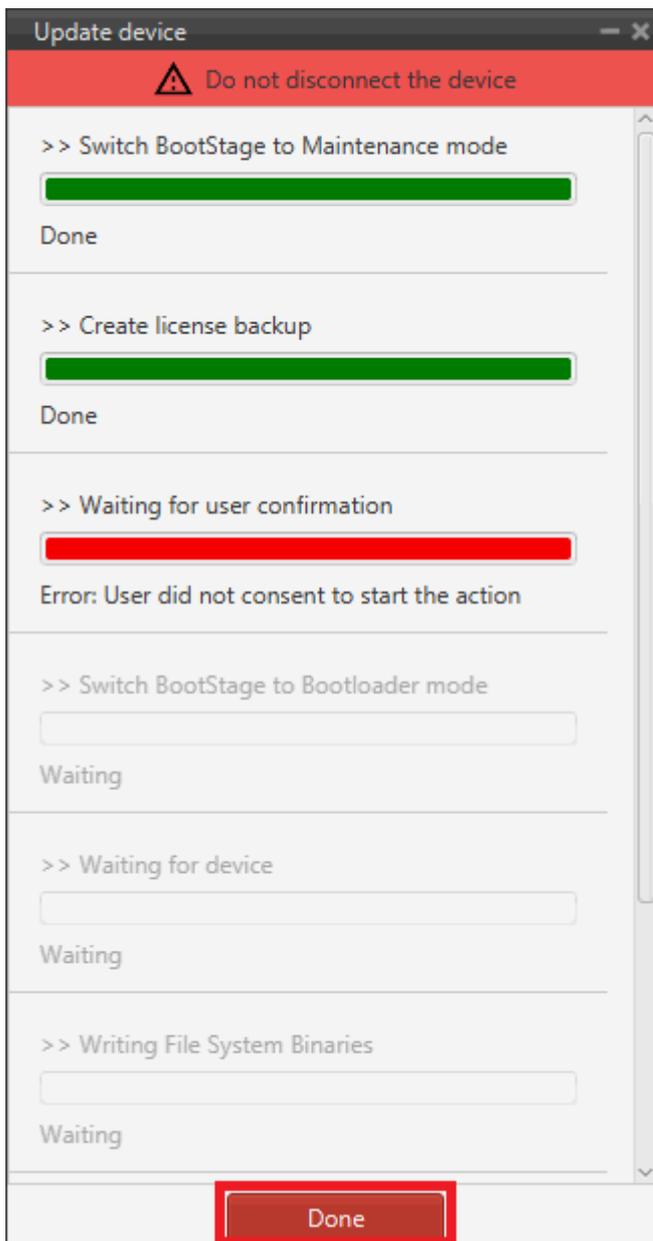


Update device process - Confirmed

- Otherwise, click **cancel** and the update process will stop:

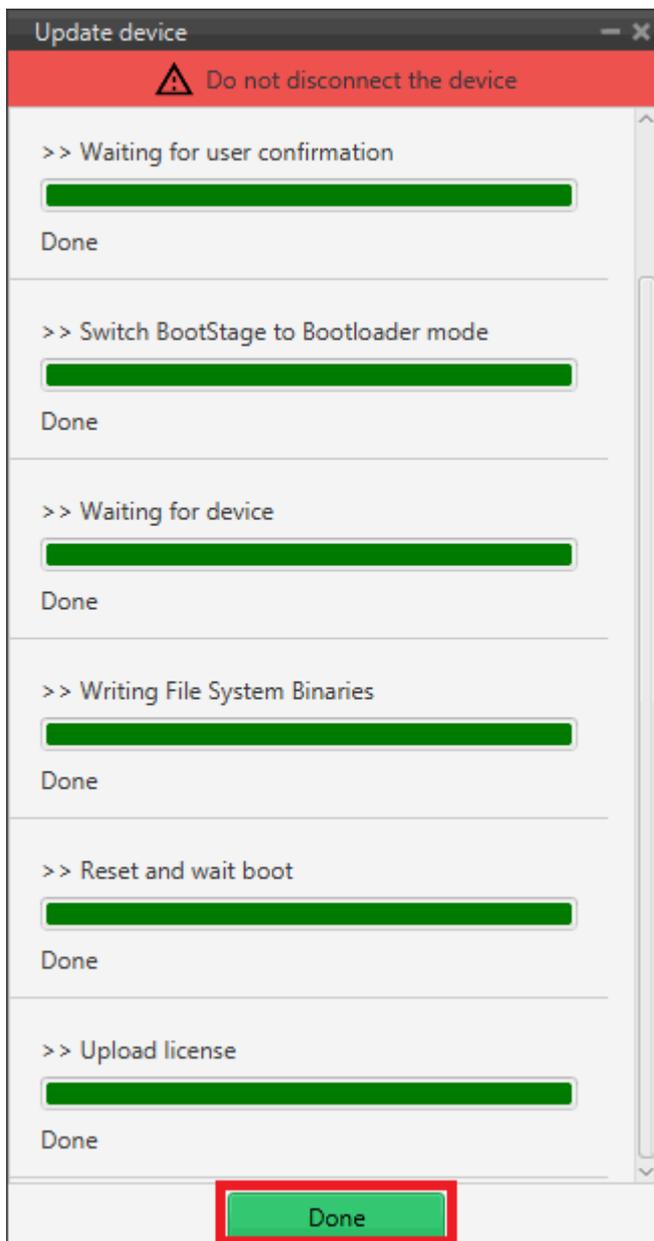


Confirmation panel CANCEL



Update device process - Cancelled

6. When finished, click on **Done**:



Update device process finished

Upgrade 6.12 to 6.14

Depending on the **Veronte Autopilot 1x firmware version**:

- If the previous firmware version of **Autopilot 1x** is **lower than 6.12.116**, the update process will not be able to proceed. Therefore, users first need to **update it to 6.12.116**.

Error

Upgrading an **Autopilot 1x** to 6.14 with firmware version **lower than 6.12.116** will result in Autopilot 1x needing an **RMA**.

- If **Autopilot 1x** is on **6.12.116** firmware version, the update process can start.

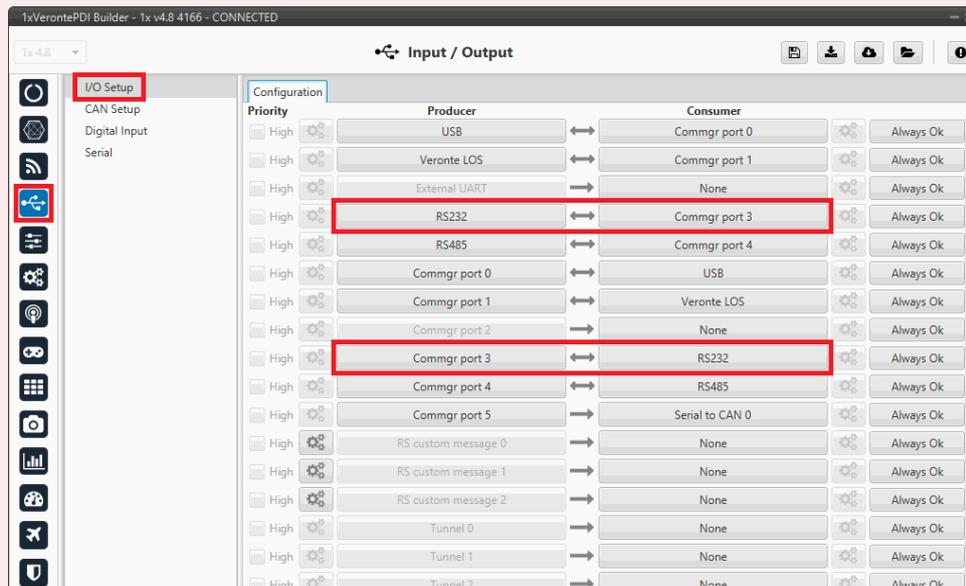
! Danger

To update a device to firmware versions **6.14**, the connection **must not** be via the **USB harness**. For example, configure a connection via RS232 (users can use an RS232-to-USB adapter to connect it to the PC).

Since this user manual will use **Autopilot 1x** as an example, to configure it via RS232:

1. Connect the device with **Veronte Link 6.14** via **USB harness**. For more information on this app, refer to the [Veronte Link](#) user manual.
2. Next, open **1x PDI Builder 6.12**, select the connected device and open the PDI online.
3. Go to Input/Output menu → **I/O Setup panel**.

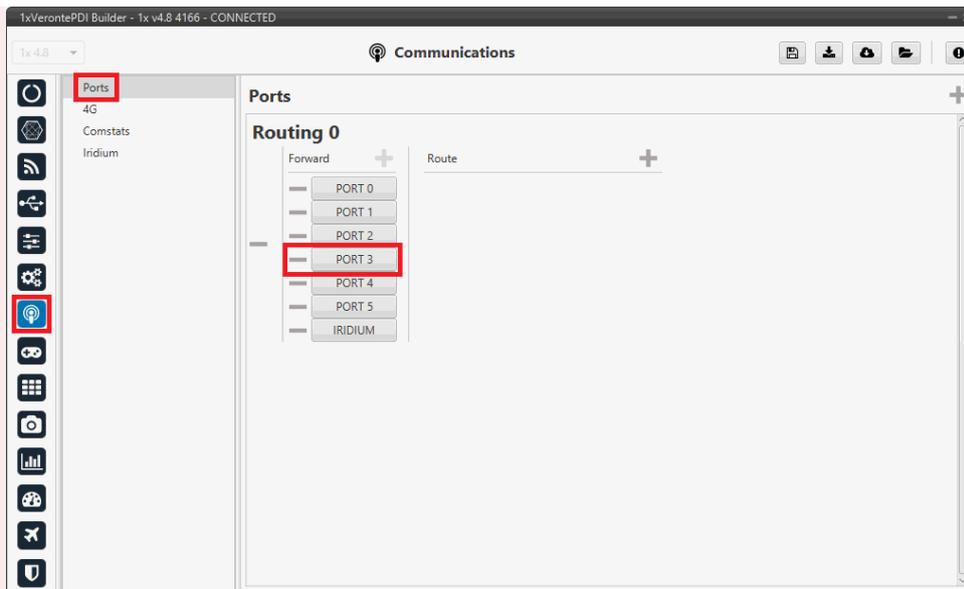
Set up a bidirectional connection between **RS232** port and a COM Manager port, in this case **Commgr port 3** is used.



1x PDI Builder - I/O Setup configuration

4. Go to Communications menu → **Ports panel**.

Make sure that the COM Manager port configured in the previous step is set in the **Forward** column, in this case **PORT 3**.



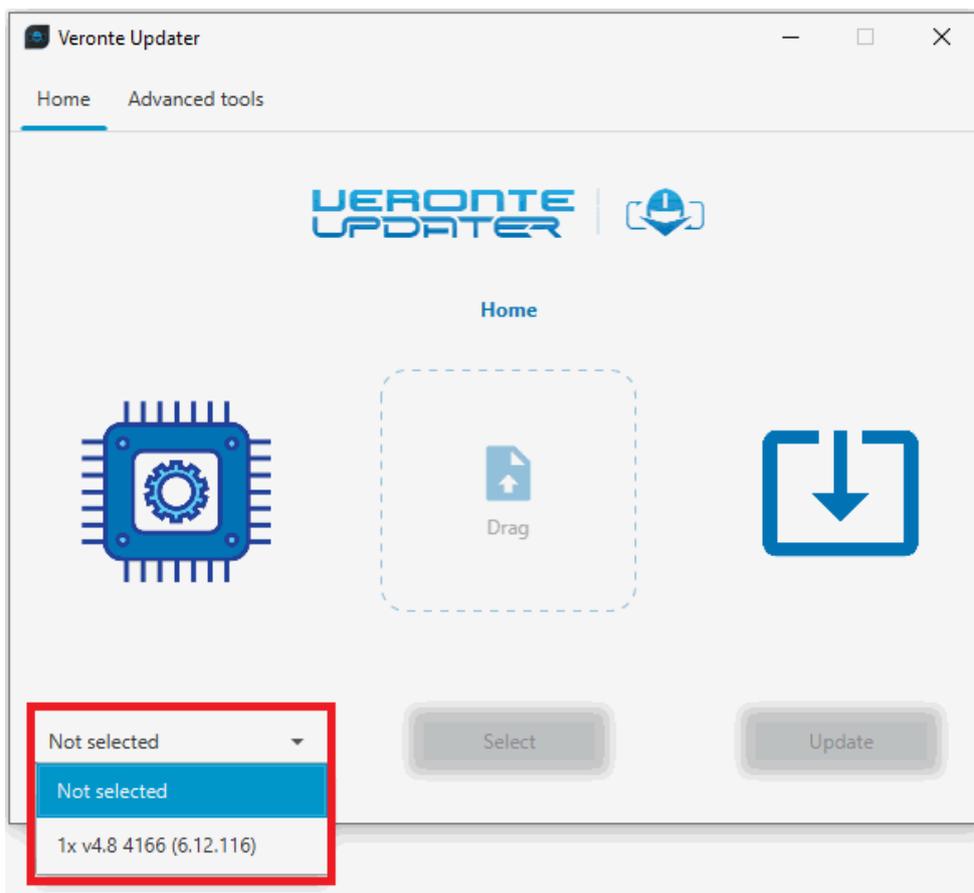
1x PDI Builder - Ports configuration

5. Save the configuration by clicking on the  icon.
6. Finally, disconnect **Autopilot 1x** from the USB harness. The device is ready to be updated with **Veronte Updater 6.14**.

Follow the steps below to carry out the update process of a **Veronte Autopilot 1x**:

1. Connect the device (to be updated) to a computer with [Veronte Link](#) **in a way other than USB**.

Then, open **Veronte Updater** and select the connected device in the marked area:

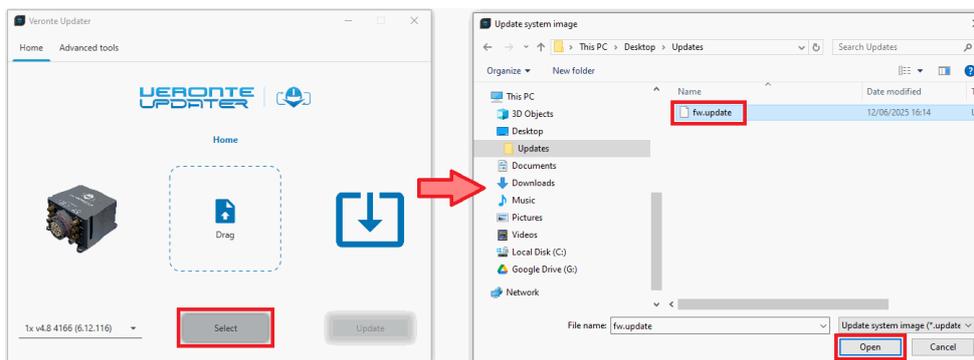


Selecting connected device

2. Load the **.update** file.

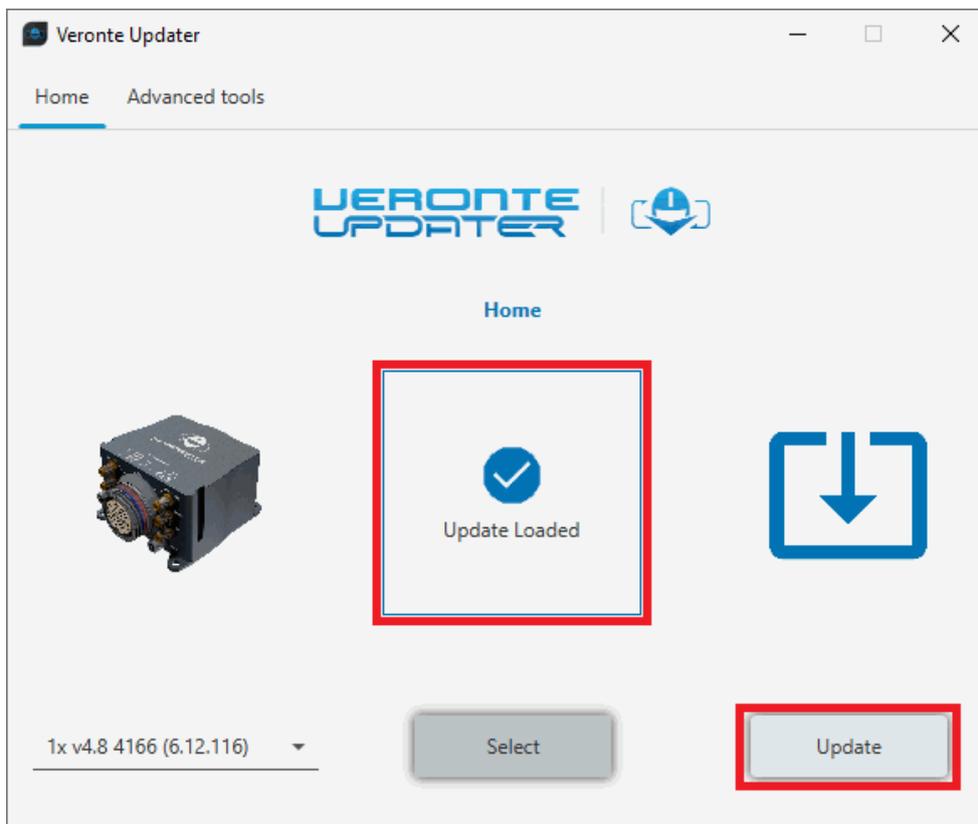
There are two ways to do this, dragging the file to the **Drag** area or by using the **Select** button.

The latter option will open the following browser to select the **fw.update** file stored in the user's local storage:



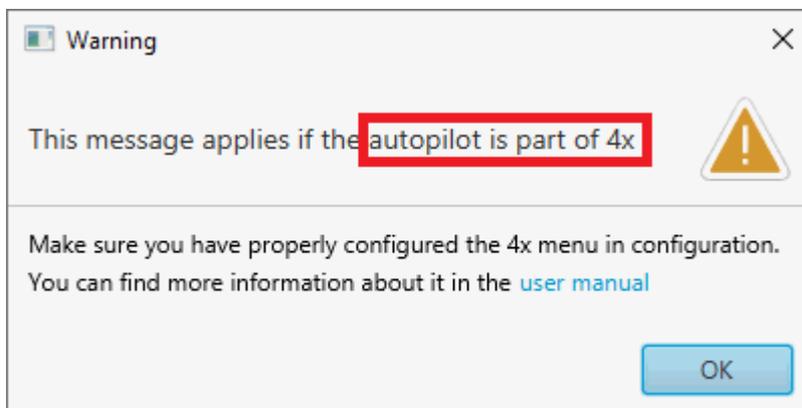
Loading file

3. Once the **.update** file is loaded, click on **Update** to send the configuration to the device.



Update loaded

4. In the update process, a warning panel about the **4x configuration in Autopilot 1x** appears first:



Update device process - Warning panel

- To prevent any error, users should check that the settings in the **4x modes menu** in the **Autopilot 1x** are correct according to the case. For this:
 - Close the warning message, close **Veronte Updater** app and open **1x PDI Builder v6.12**.
 - Go to Modes menu → Modes panel → **4xVeronte tab**.

Depending on the case:

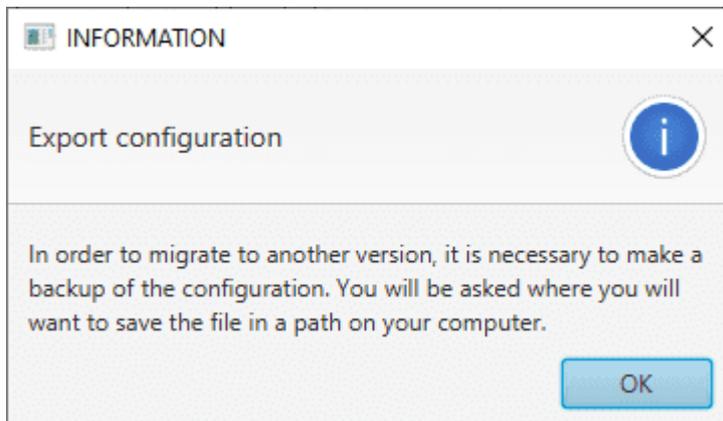
- If Autopilot 1x is **not apart of a 4x**, the configuration in the 4x Veronte tab should be **disabled**.
- If Autopilot 1x is **within a 4x**, the configuration in the 4x Veronte tab should be as explained in the [Autopilot 4x - Integration examples](#) section of the **1x PDI Builder** user manual.
- If the configuration has been previously checked and it is correct, click OK and continue the process.

Error

If users perform the update process with this configuration incorrectly, the migration to 6.14 will lead Autopilot 1x to a Loaded with errors status. Users can find a solution to this in the [Incorrect configuration when upgrading from 6.12 to 6.14 - Troubleshooting](#) section of the present manual.

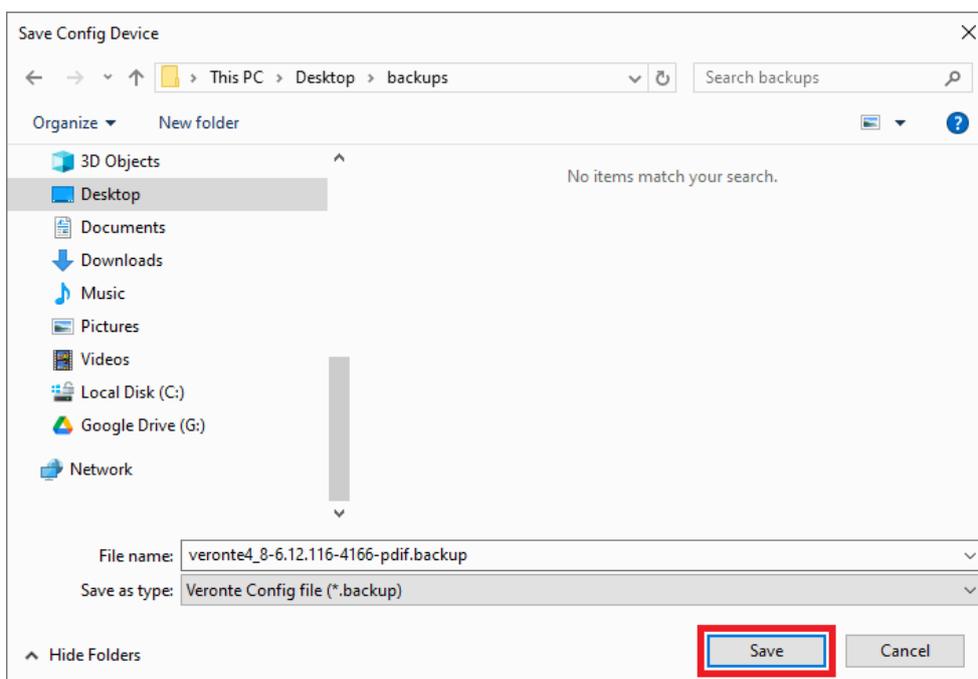
5. If the update process can continue, the following message will appear. This is because updating a device will format it and a backup is the only way to restore the previous configuration.

This configuration file will be needed later.



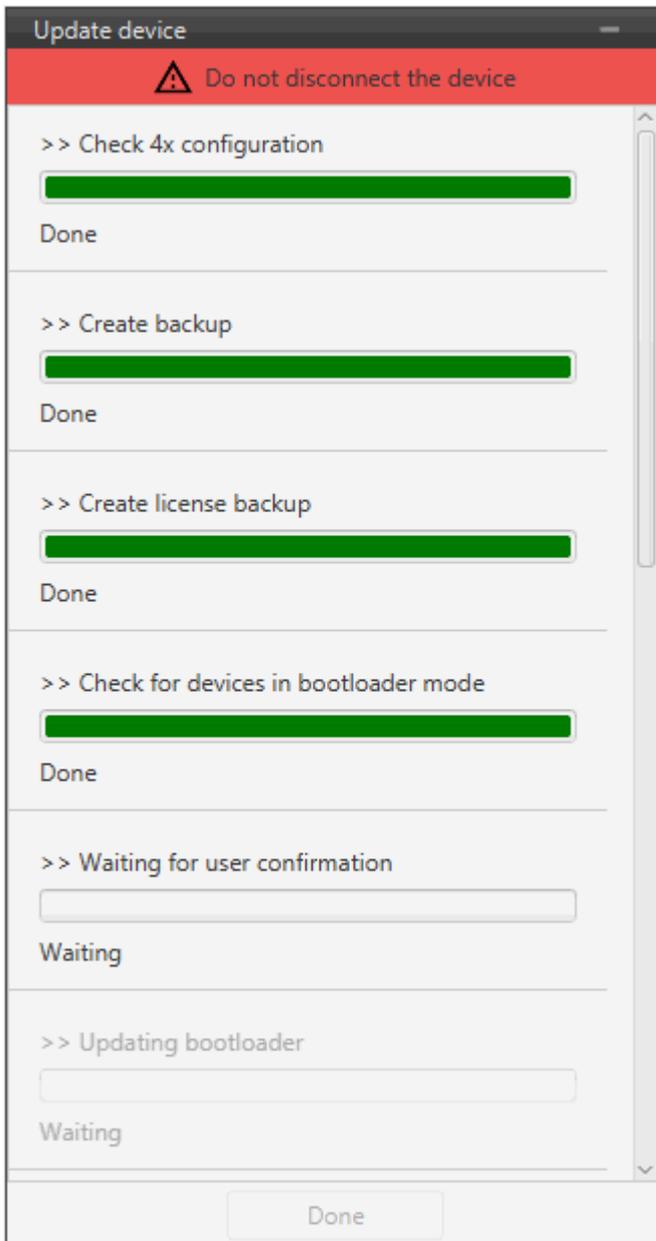
Export configuration message

6. Choose the folder where the backup will be stored as a **.backup** file:



Save .backup file

7. The update process will start, the following windows will show the progress:



Update device process

- 8. A confirmation panel will then appear to ensure that the user has **not connected** the device **through the Veronte USB**.

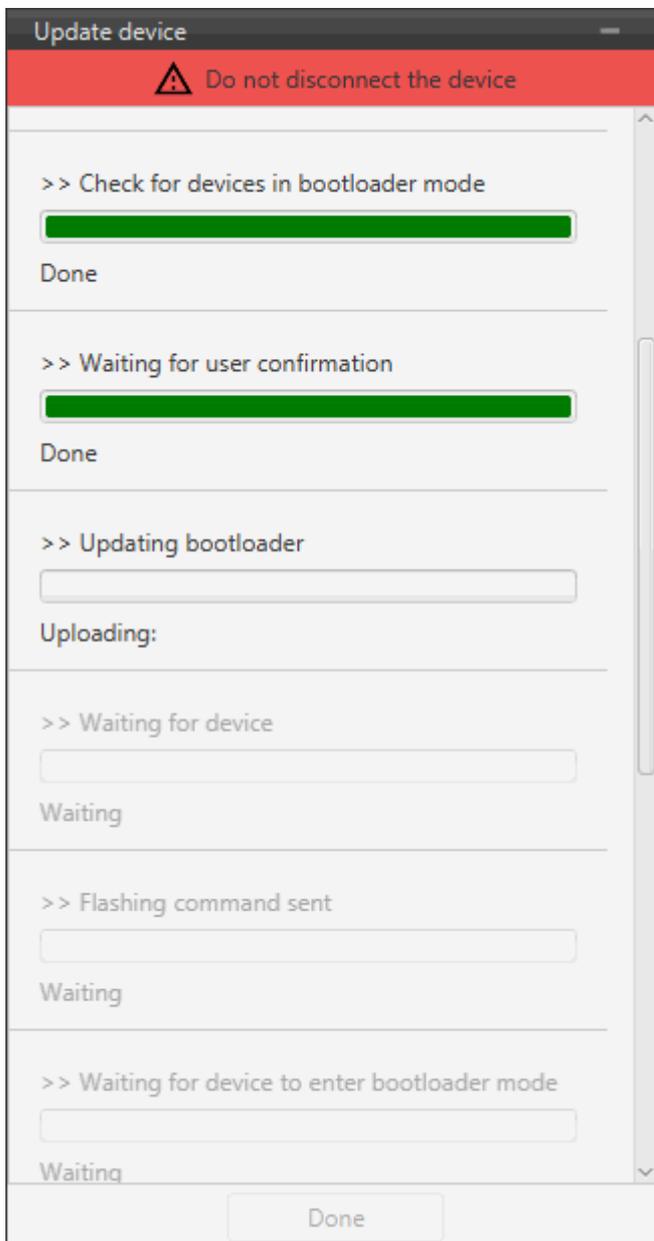


Update device process - Confirmation panel

- If the device is connected in a way other than USB, drag the blue arrow to the right until it turns green to confirm and the update process will continue.



Confirmation panel OK

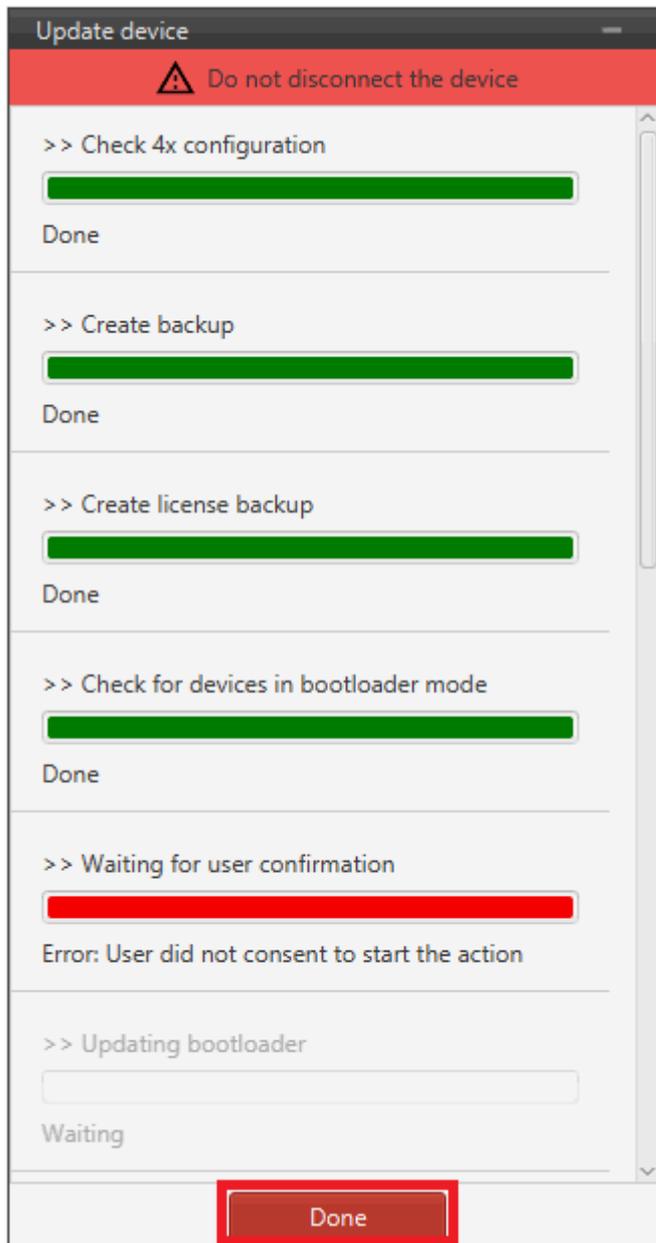


Update device process - Confirmed

- Otherwise, click **cancel** and the update process will be cancelled:

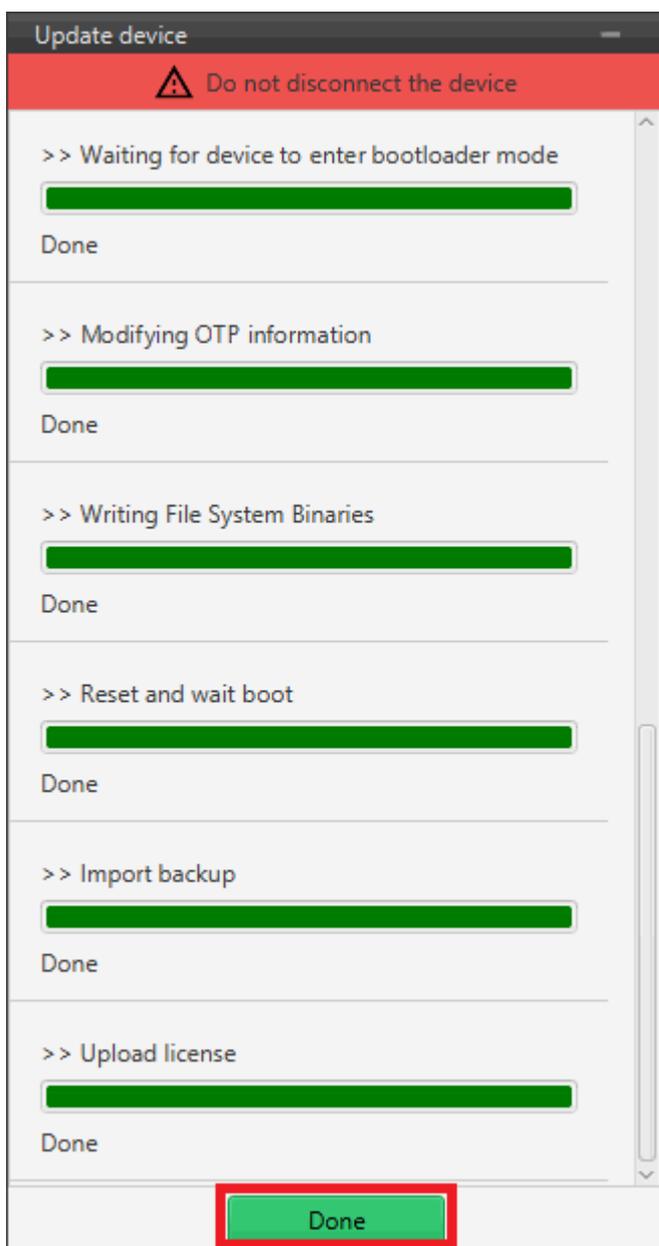


Confirmation panel CANCEL



Update device process - Cancelled

9. When finished, click on **Done**:

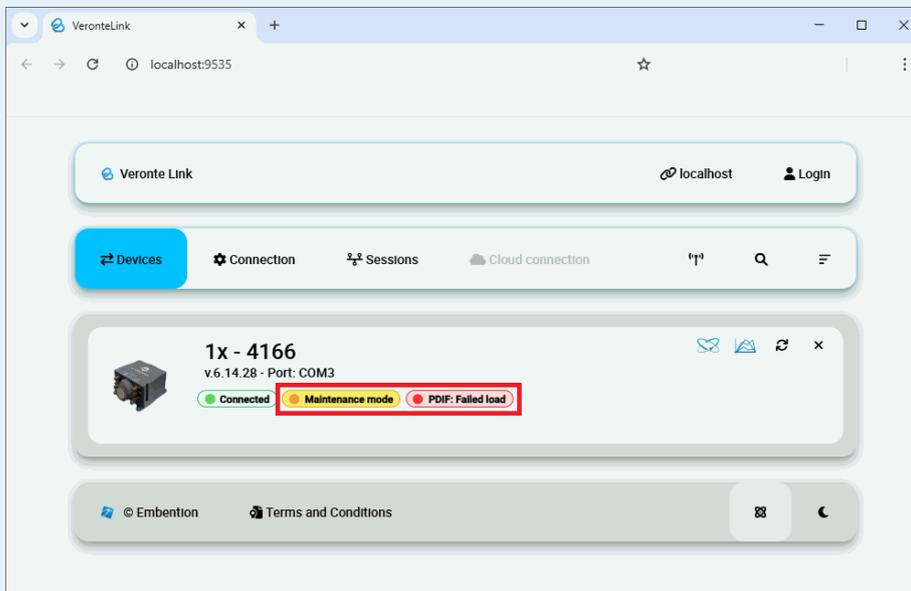


Update device process finished

Note

During the update the device has been formatted and consequently the Autopilot 1x configuration has been deleted.

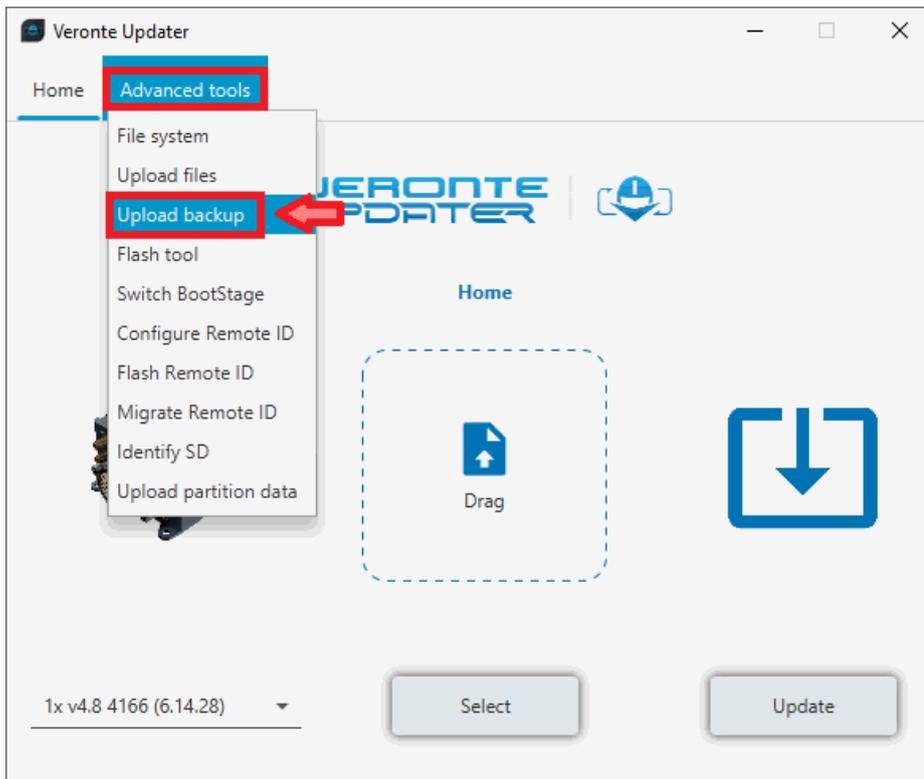
Therefore **Veronte Link** will show it as **Maintenance mode** and **PDIF: Failed load**.

**Veronte Link - Failed load**

10. Finally, upload the **.backup** file obtained in [step 6](#).

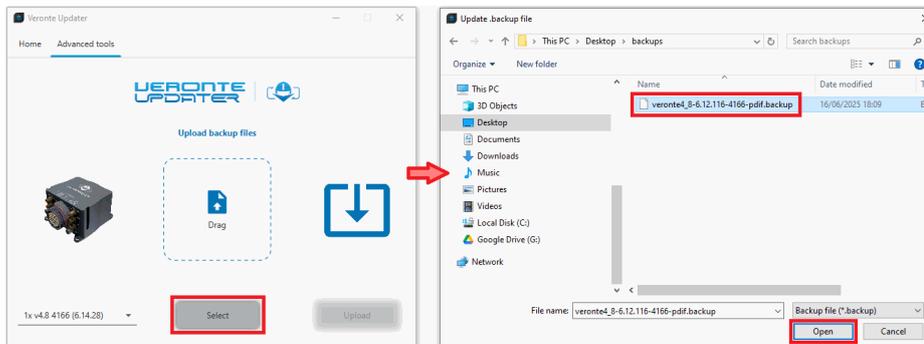
Use the [Upload backup tool](#) of **Veronte Updater**. For this:

- Click on Advanced tools → **Upload backup**.



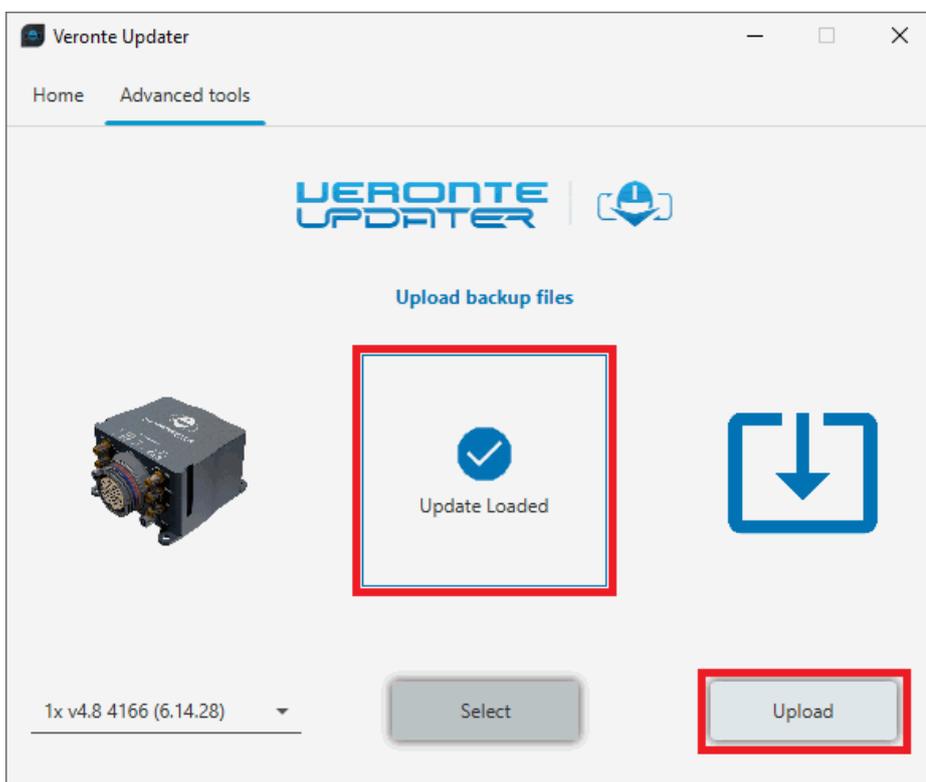
Upload backup

- Load the **.backup** file. There are two ways to do this, dragging the file to the **Drag** area or by using the **Select** button. The latter option will open the following browser to select the **.backup** file stored in the user's local storage:



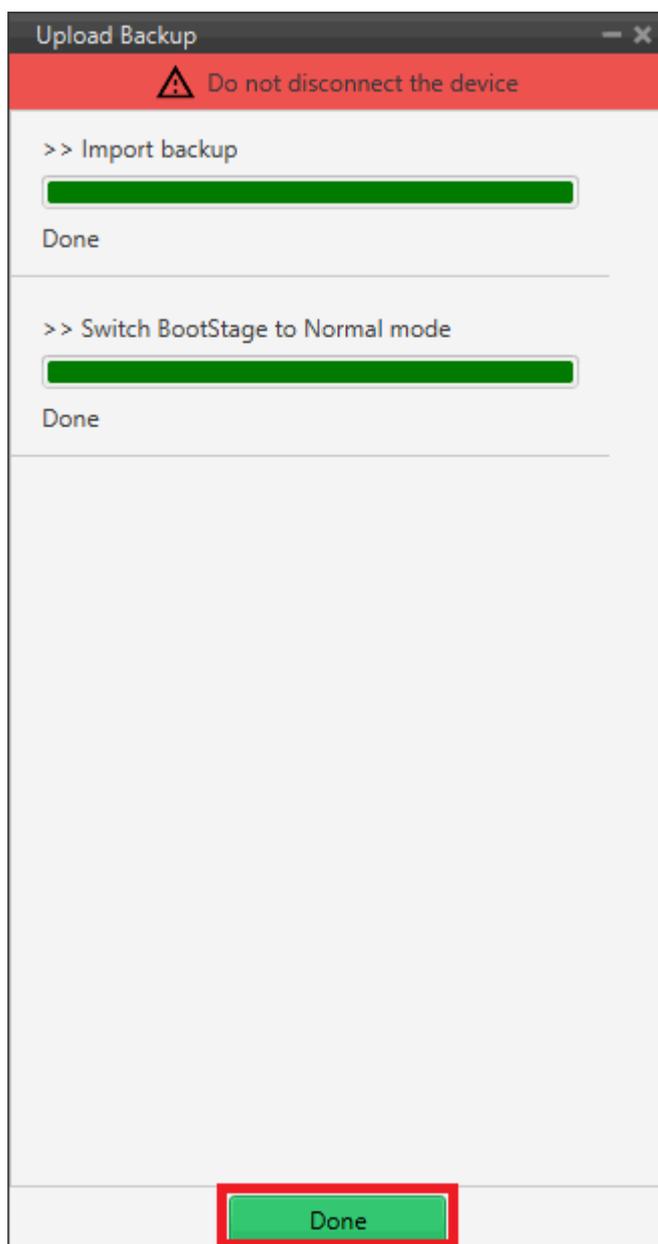
Upload backup - Select .backup file

- Once the **.backup** file is loaded, click on **Update** to send the configuration to the device.



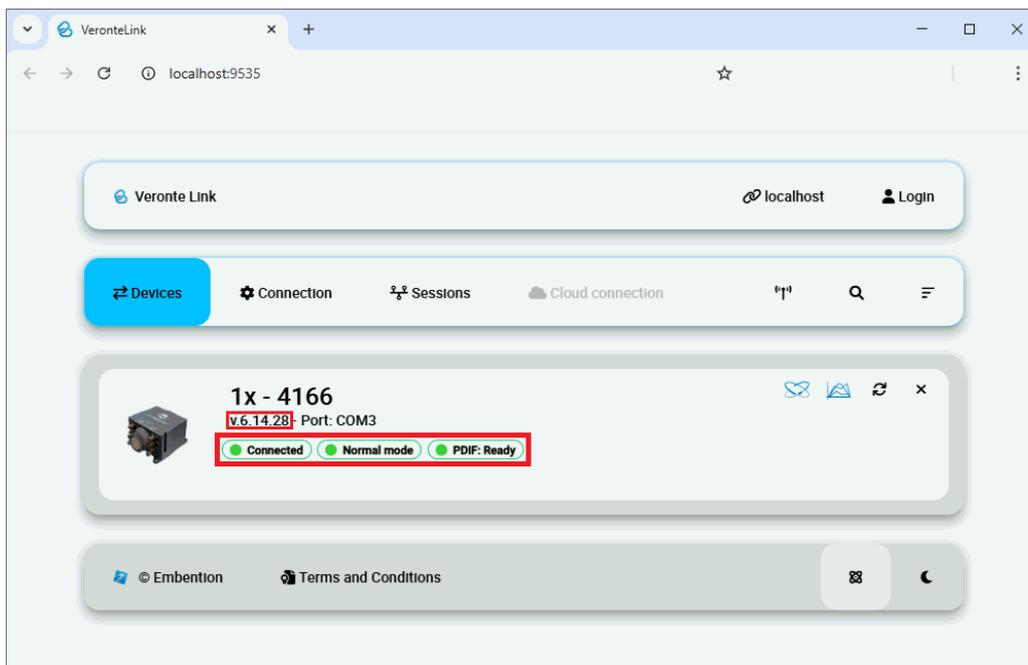
Upload backup - Upload

- Once the process, finish, click on **Done**.



Upload backup - Upload process

Autopilot 1x should now be in version 6.14 with the migrated PDI and switch to **Normal mode** and **Ready** status:



Veronte Link - Normal mode and Ready

Autopilot 4x

To update an Autopilot 4x, the 3 Autopilots 1x and the Arbiters, it is necessary to start the process by updating first the Autopilots 1x.

Autopilots 1x within the 4x

When updating an **Autopilot 1x within a 4x** from firmware version **6.12** to **6.14**, users should carefully follow these additional steps, in addition to those already explained for [updating a device from 6.12 to 6.14](#) in the previous section.

Note

Each Autopilot 1x has to be updated individually.

1. First, connect **Dev Harness 4x** to Autopilot 4x, power up the 3 Autopilots 1x and connect them to PC via USB.
2. Check that the configuration of RS232 connection of all autopilots is correctly done as detailed in the [Upgrade 6.12 to 6.14](#) section.
3. Users can now unplug the Autopilots 1x and disconnect all USB from the PC.

4. Now, connect **Veronte Harness Yellow** to Autopilot 4x, power up it and connect it to the PC.
5. Open **4x PDI Builder** app, select the connected **Autopilot 4x** and click the **Open 4xVeronte** option to access its configuration.
6. Go to Arbitration menu → **Config panel**. In this panel users must set the Autopilot 1x to be updated as Fixed. The relations between mode and Autopilots 1x are as follows:

Mode	Autopilot 1x
Fixed 0	Autopilot 1
Fixed 1	Autopilot 2
Fixed 2	Autopilot 3

That is, if we want to update Autopilot **1**, the method Fixed **0** should be set.

7. Save the configuration by clicking on the .
8. Connect **Autopilot 4x** to PC via the **RS232** connector of the Dev Harnes 4x
9. Now, it is necessary to force Autopilot 4x to maintenance mode. For this:
 1. With Autopilots 1x **unplugged** (that is, with Dev Harnes 4x unplugged), connect the **I2C pins** or press the **mainteance mode button** of Dev Harness 4x (depending on the user harness).
 2. Turn on only **Autopilot 1**. **Don't power up Autopilots 2 and 3** to avoid arbitration initialization.

 **Note**

If the Autopilot 1x being updated is Autopilot 2, turn un only Autopilot 2, and the same for Autopilot 3.

3. Finally, disconnect both pins or release the button (depending on the user harness).
10. Only **Autopilot 1** should be recognized by **Veronte Link**.

11. Finally, follow the steps detailed in the [Upgrade 6.12 to 6.14](#) section to update it.

Autopilot 1 should be correctly migrated to 6.14 firmware version.

Then, to update Autopilots 2 and 3 repeat the process from [step 4](#), in each case configuring the arbiter to the corresponding mode.

For more information on the harnesses, please refer to [Harnesses - Hardware Installation](#) of the **4x Harware Manual**.

Arbiters within the 4x

The process for upgrading Arbiter A is the same as that explained in the [Upgrade 6.12 to 6.14](#) section; no further steps are needed.

Advanced Tools

Together, the processes listed under the **Advanced Tools** tab, involve the entire update process described above, except for the Configure Remote ID, Flash Remote ID and Upload partition data which are not part of the upgrade process.

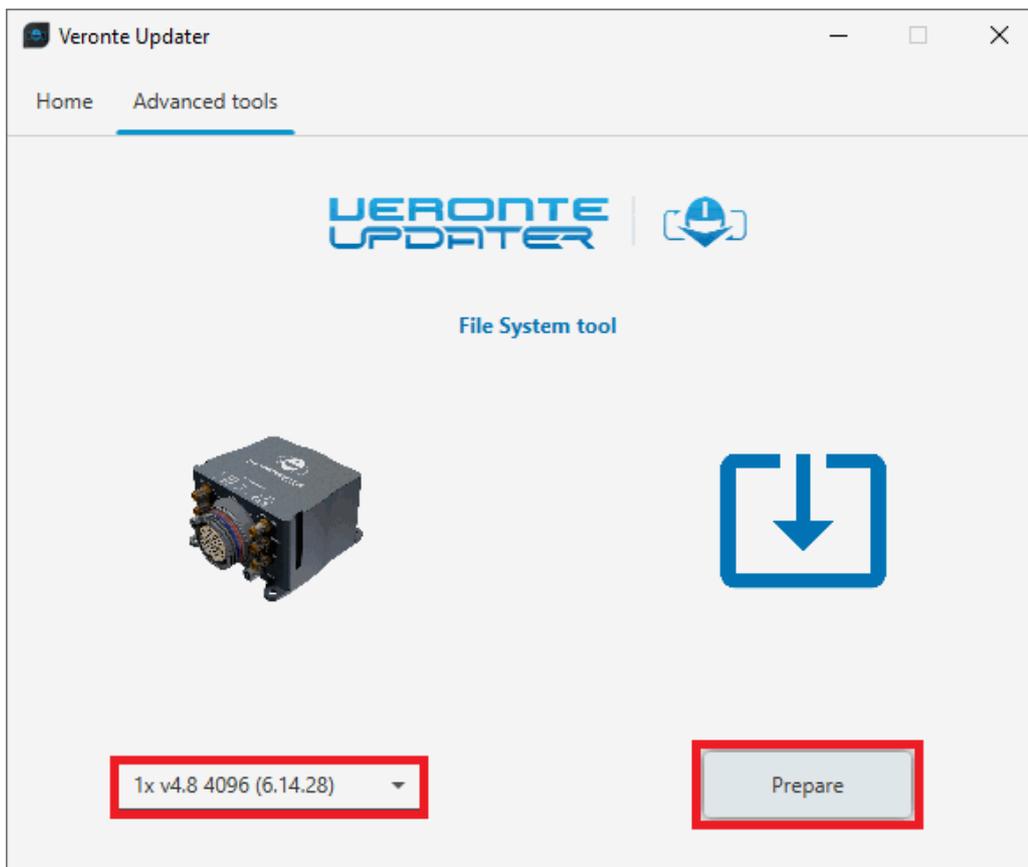
In other words, this allows the user to submit the device to only one of the processes that is carried out during the entire update process.

These are detailed below:

File system

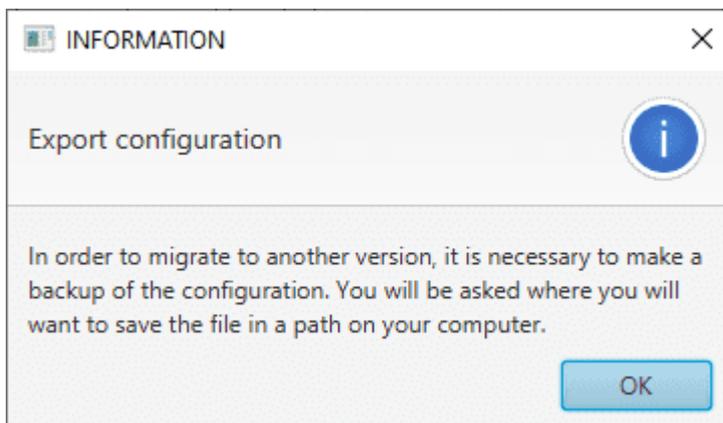
By selecting this option, the file memory of the connected device will be prepared for the update process.

Simply, select the unit to be prepared and click **Prepare**:



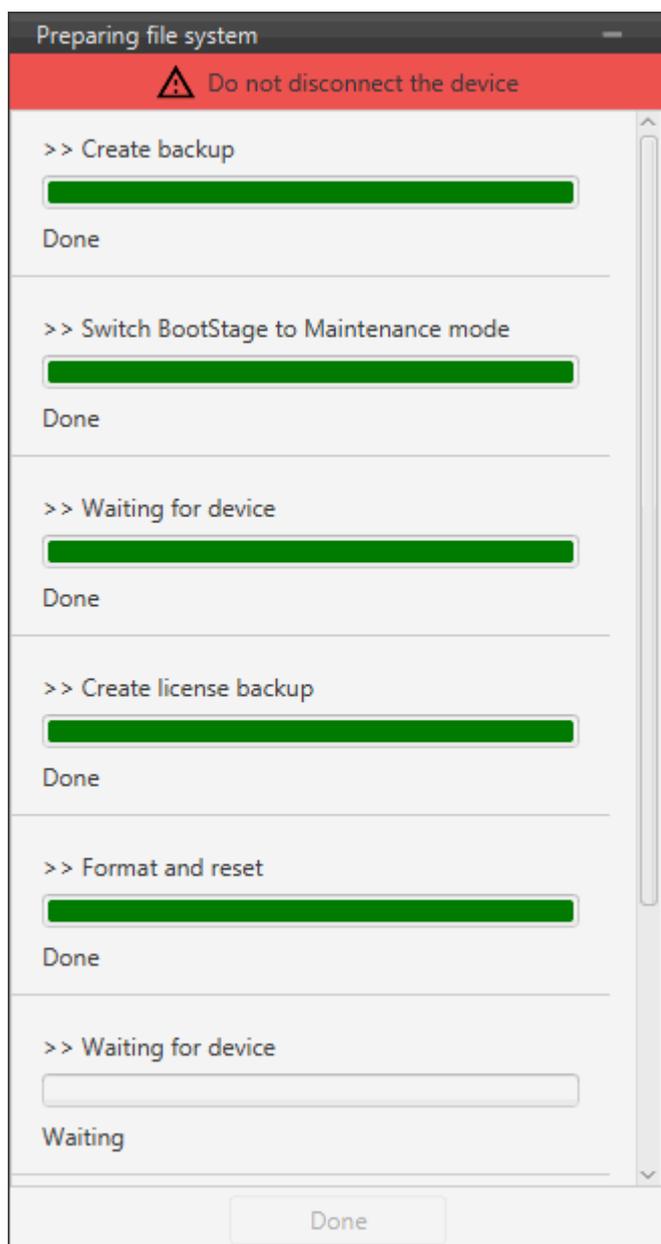
File system

Before the process starts, users must save a back up of the current configuration.



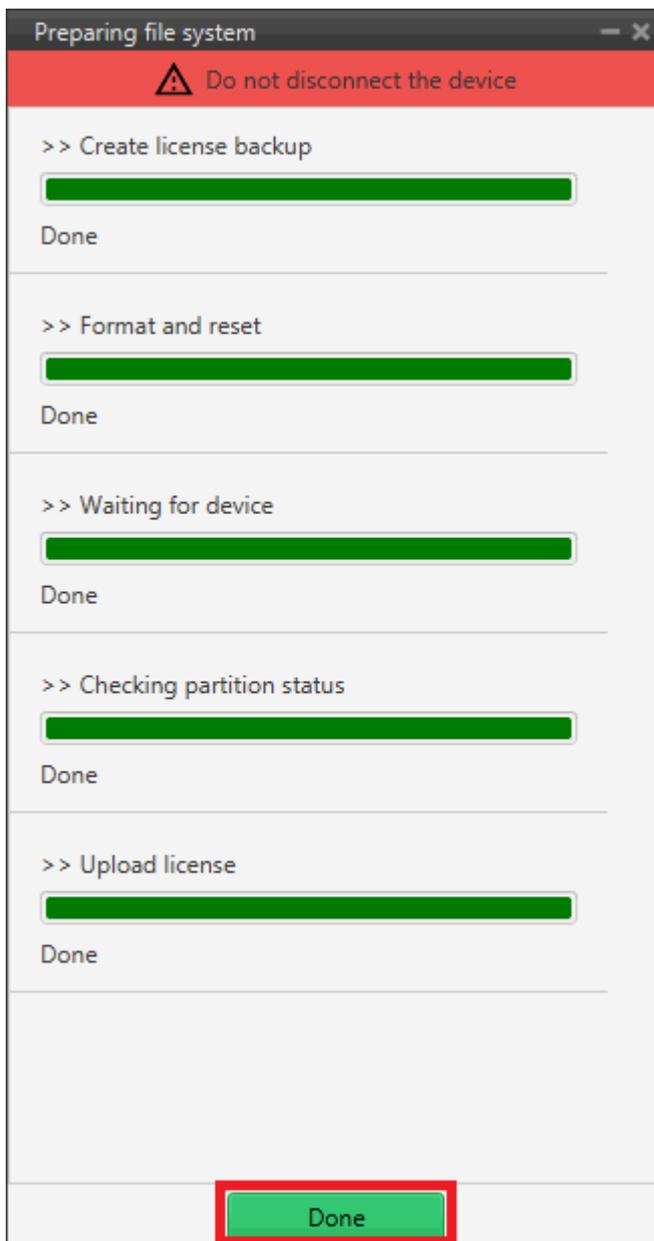
Export configuration message

The preparation process will then start and the following windows will show the progress:



File system process

When finished, click on **Done**:



File system process finished

Upload files

In this tab, the user can load the updating files to the corresponding **slots** of the connected device.

⚠ Important

This option is **not supported for version 6.14 or higher**. If users try to upload the files in these versions, the following message will appear:



Upload files - Incompatible version

There are two ways to do this:

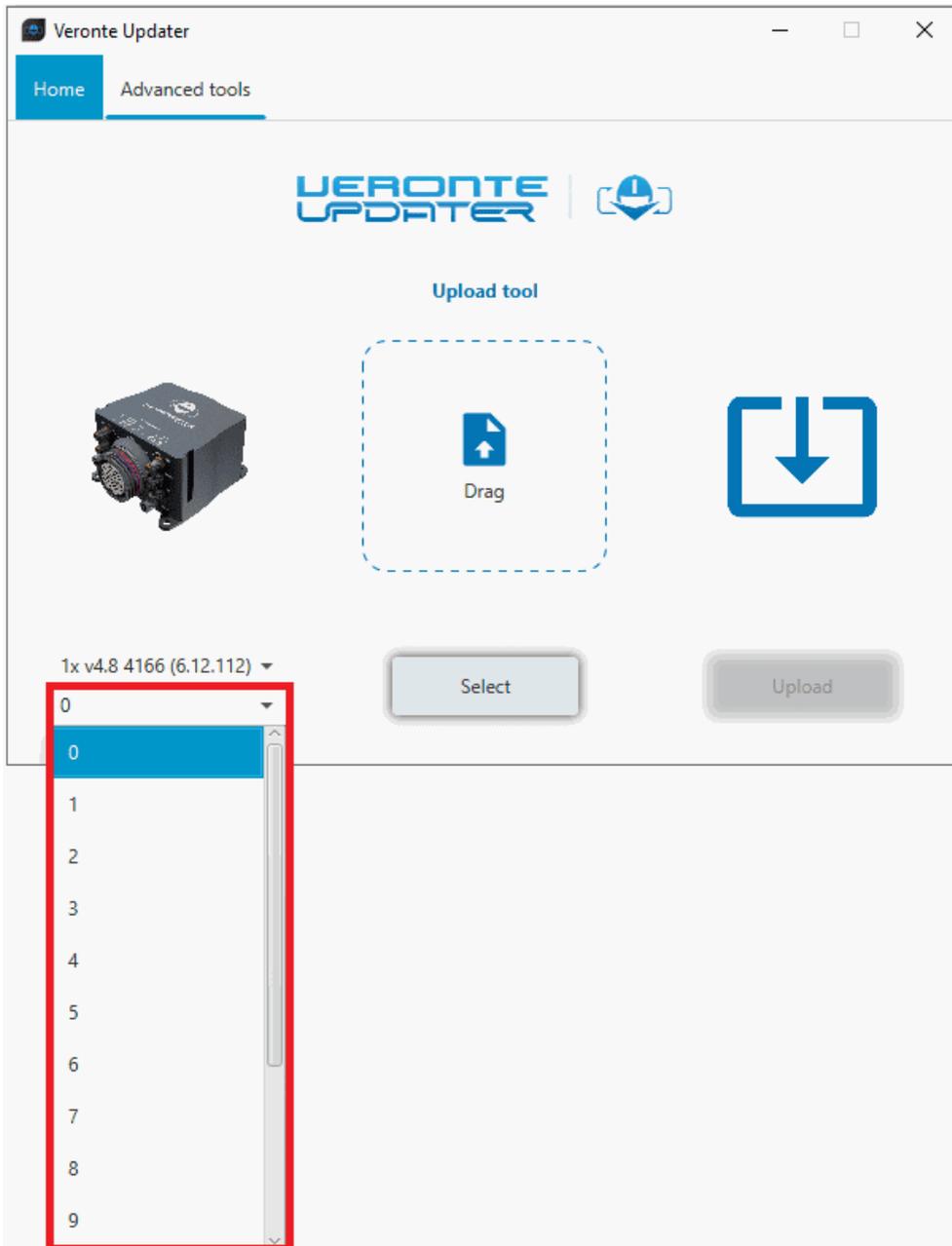
1. Doing it the same way as in the **Home** tab, i.e. selecting a `.update` file and letting **Veronte Updater** internally place each `.bin` file contained in the `.update` file into each slot.
For instance, if slot 0 is selected, one of the `.bin` files will be placed here and the other in the next slot, slot 1.
2. Selecting a slot and uploading the first `.bin`, then selecting the next slot and uploading the second `.bin` file.

📘 Note

The available slots in memory are displayed in the drop-down menu under the unit selection drop-down menu.

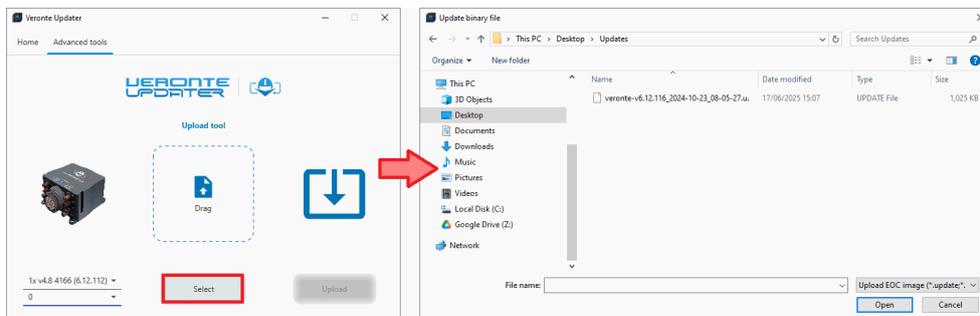
In this example, the first option has been done:

- First, select the slot to locate the `.update` file:



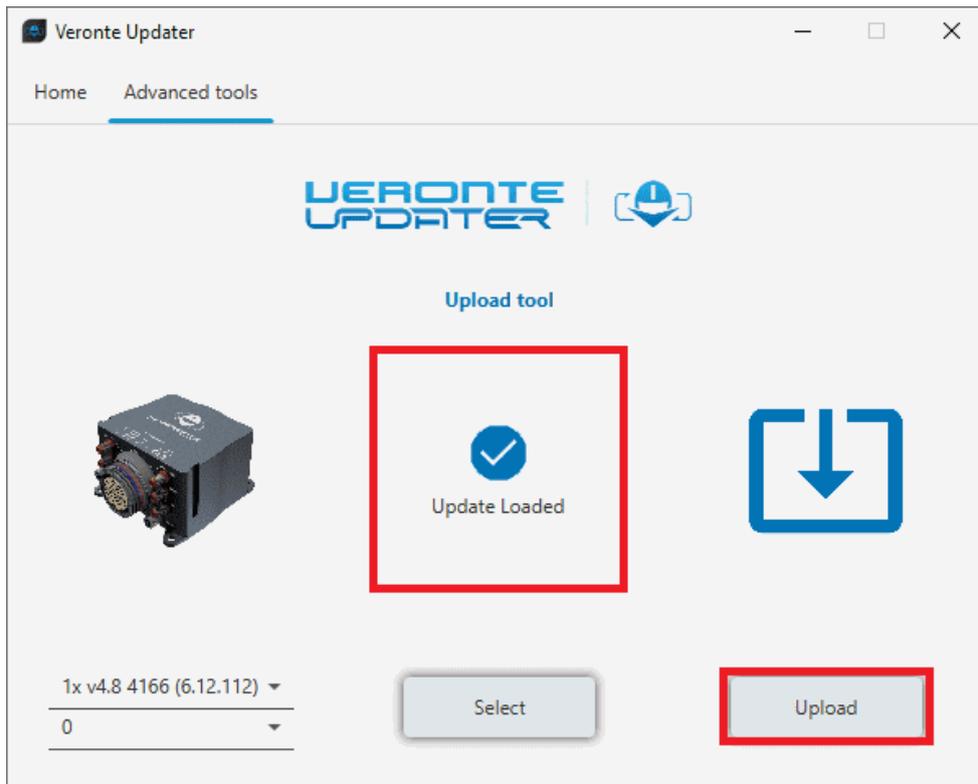
Upload files - Slot selection

- Secondly, drag the file to the **Drag** area or click on **Select** and select it from the local storage:



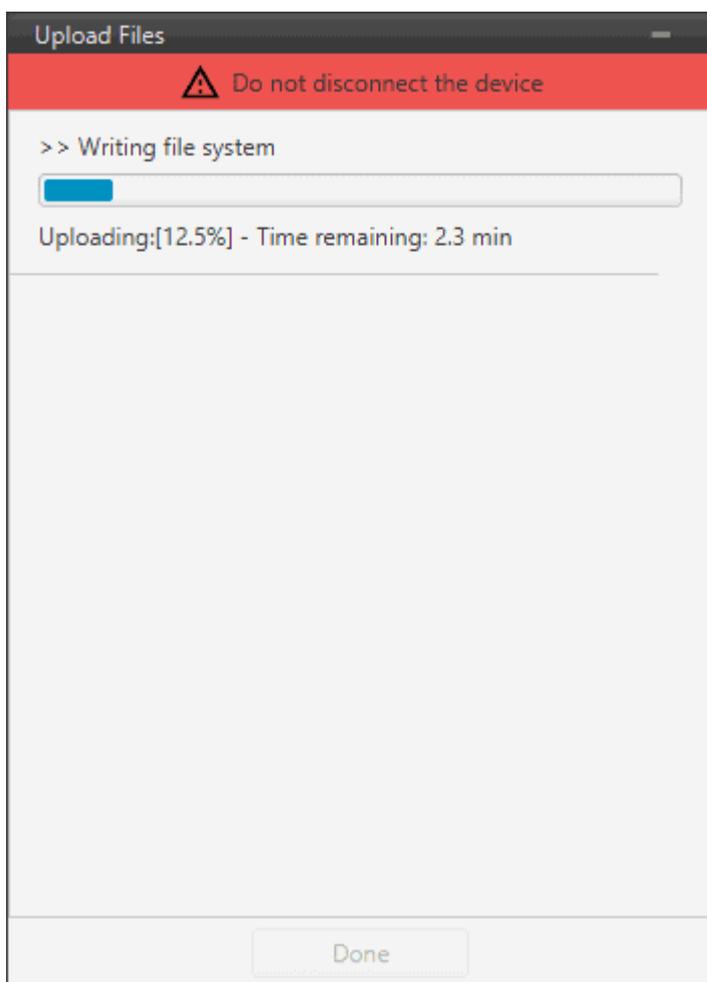
Upload files - Loading file

- Once the `.update` file is loaded, click on **Upload** to send the configuration to the device:



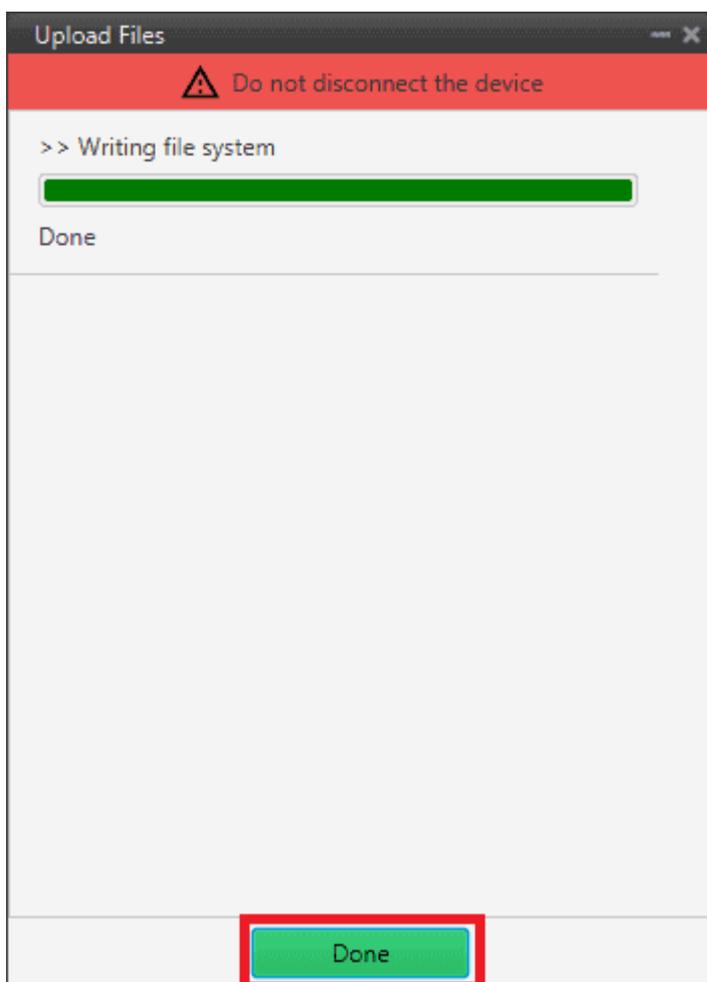
Upload files - Update loaded

- The process will start and the following windows will show the progress:



Upload files process

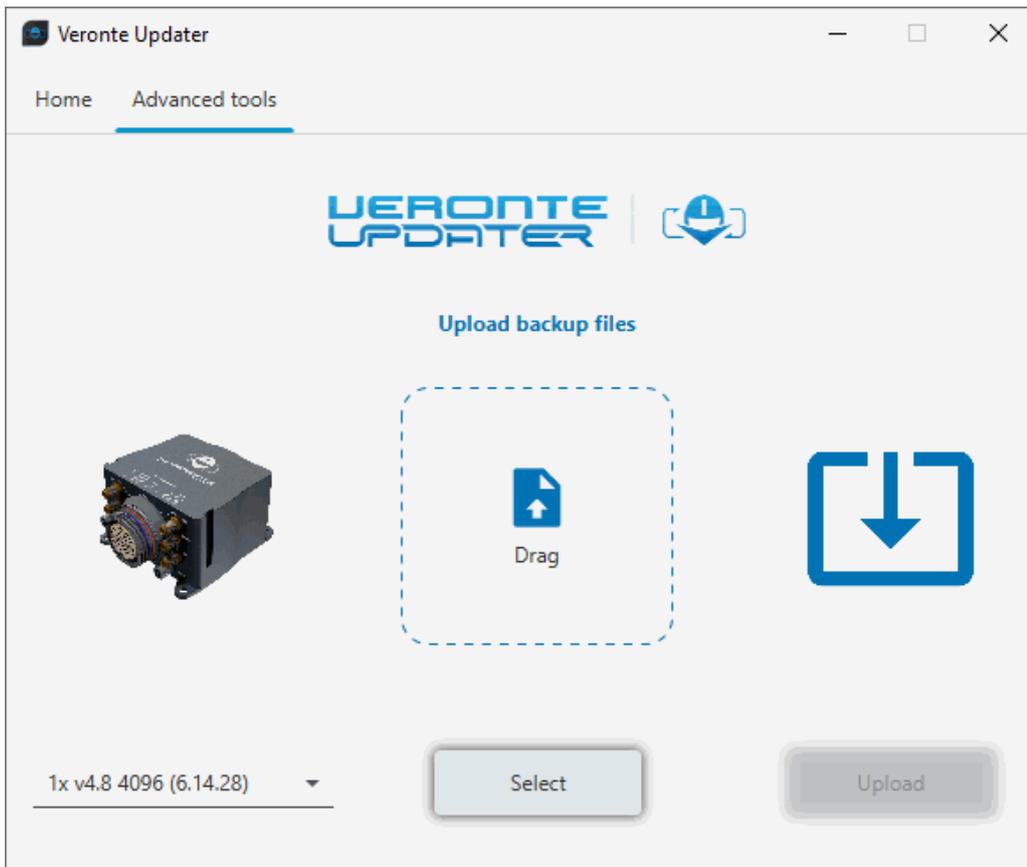
- When finished, click on **Done**:



Upload files process finished

Upload backup

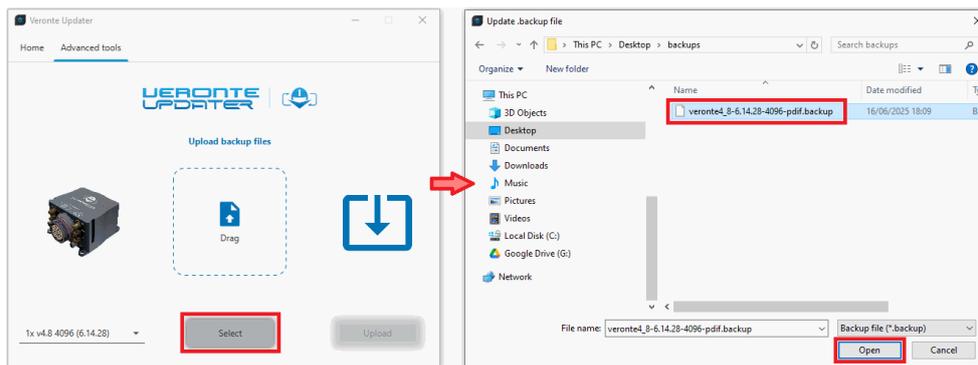
By selecting this option, users can **upload** the **.backup** file to the connected device.



Upload backup

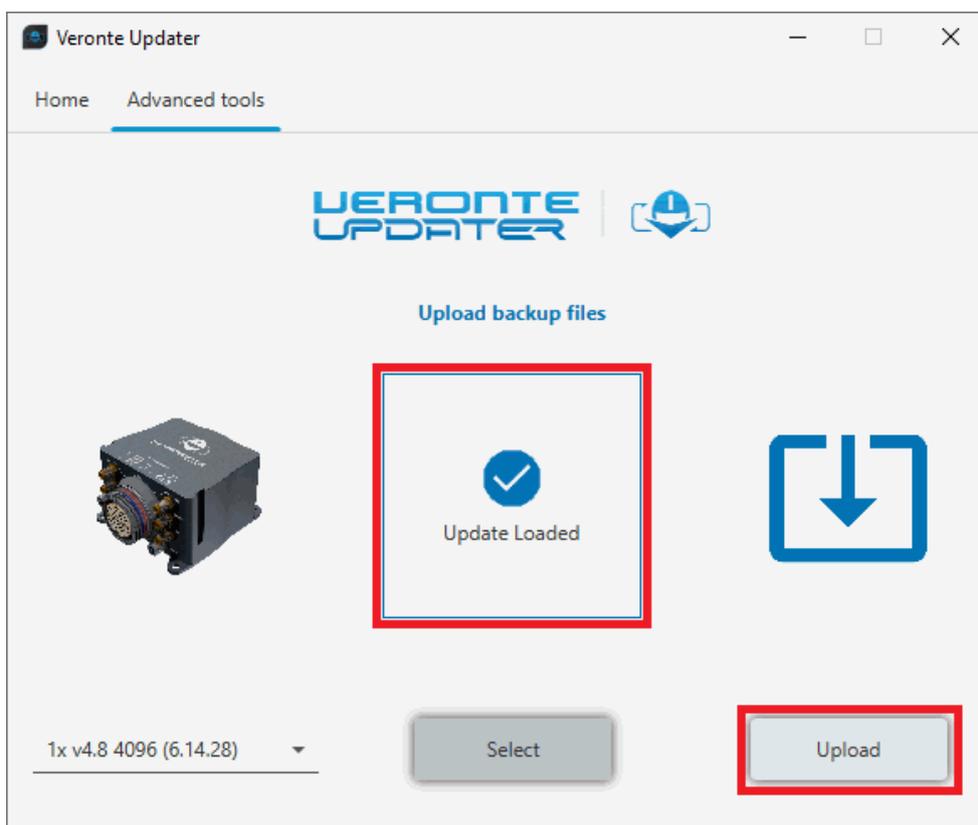
1. Load the **.backup** file. There are two ways to do this, dragging the file to the **Drag** area or by using the **Select** button.

The latter option will open the following browser to select the **.backup** file stored in the user's local storage:



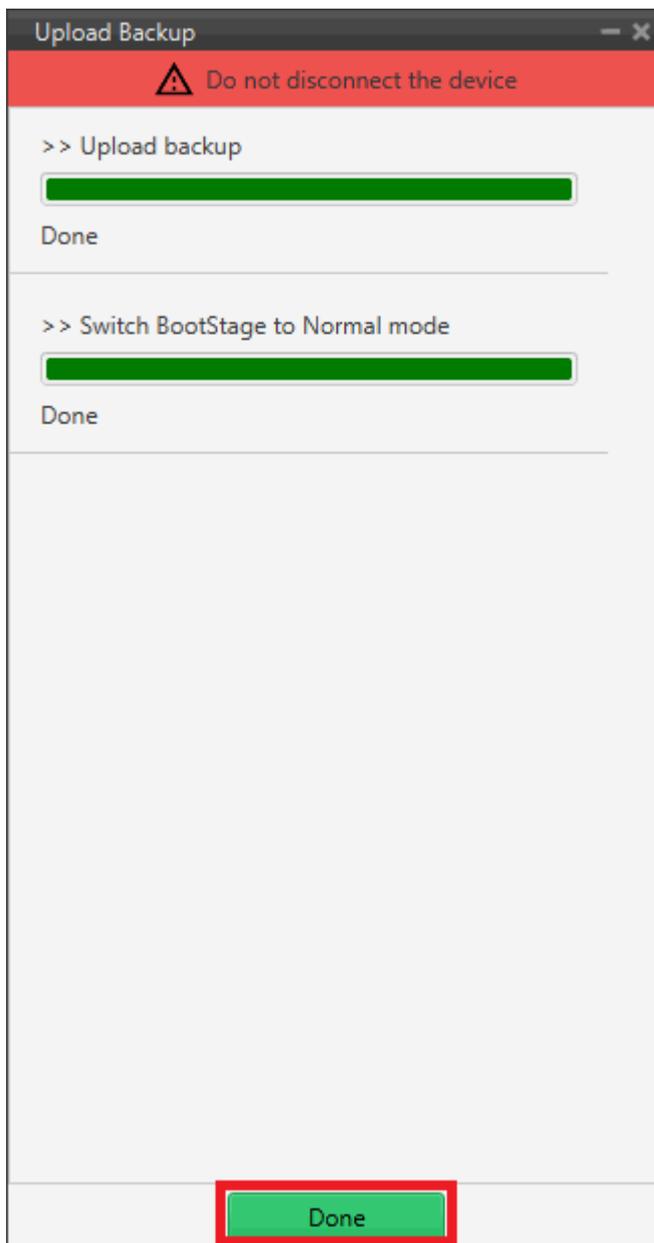
Upload backup - Select .backup file

2. Once the **.backup** file is loaded, click on **Update** to send the configuration to the device.



Upload backup - Upload

- 3. Once the process, finish, click on **Done**.



Upload backup process

Flash tool

This tab will flash the device. That is, the connected device is reset and the files previously loaded into memory (in the slots) will be uploaded to the connected device.

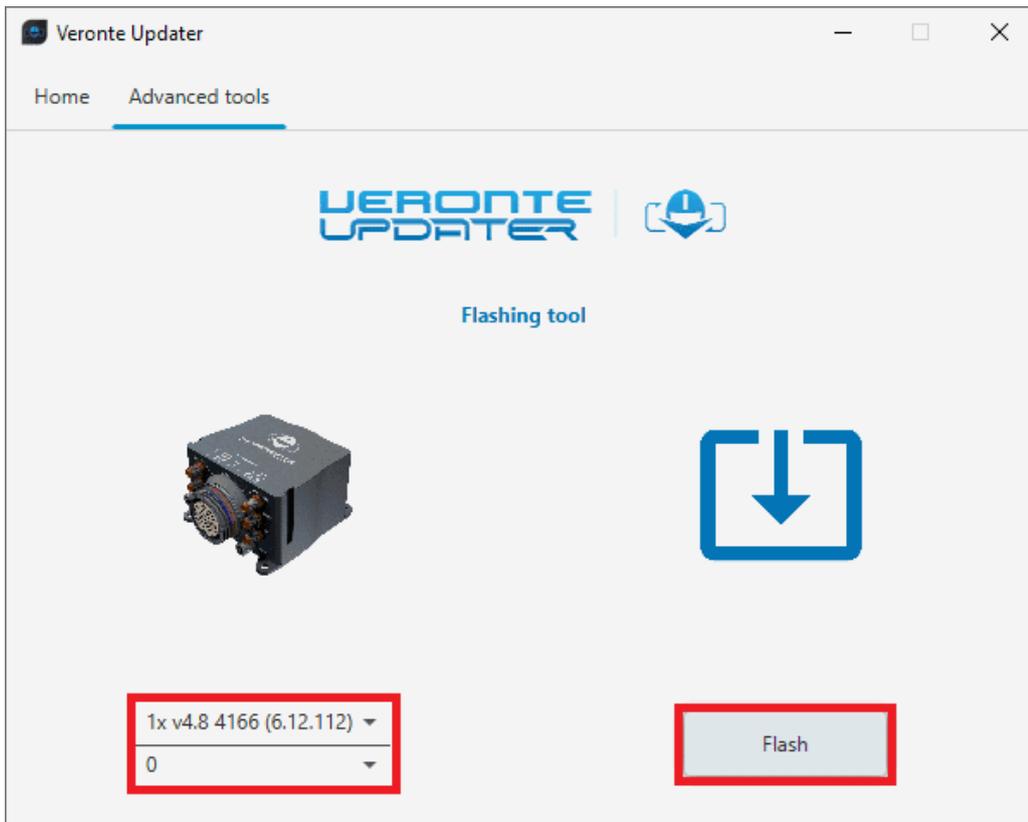
Important

This option is **not supported for version 6.14 or higher**. If users try to flash the device in these versions, the following message will appear:



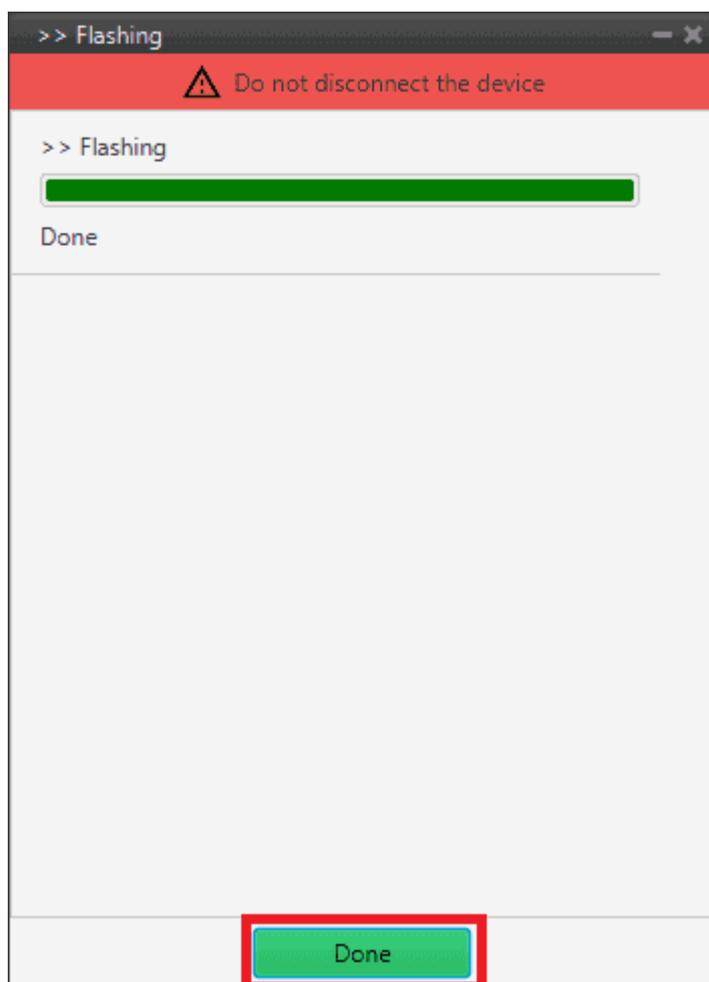
Flash tool - Incompatible version

Simply choose the desired unit to be flashed and the slot where the `.update` file has been located and click **Flash**:



Flash tool

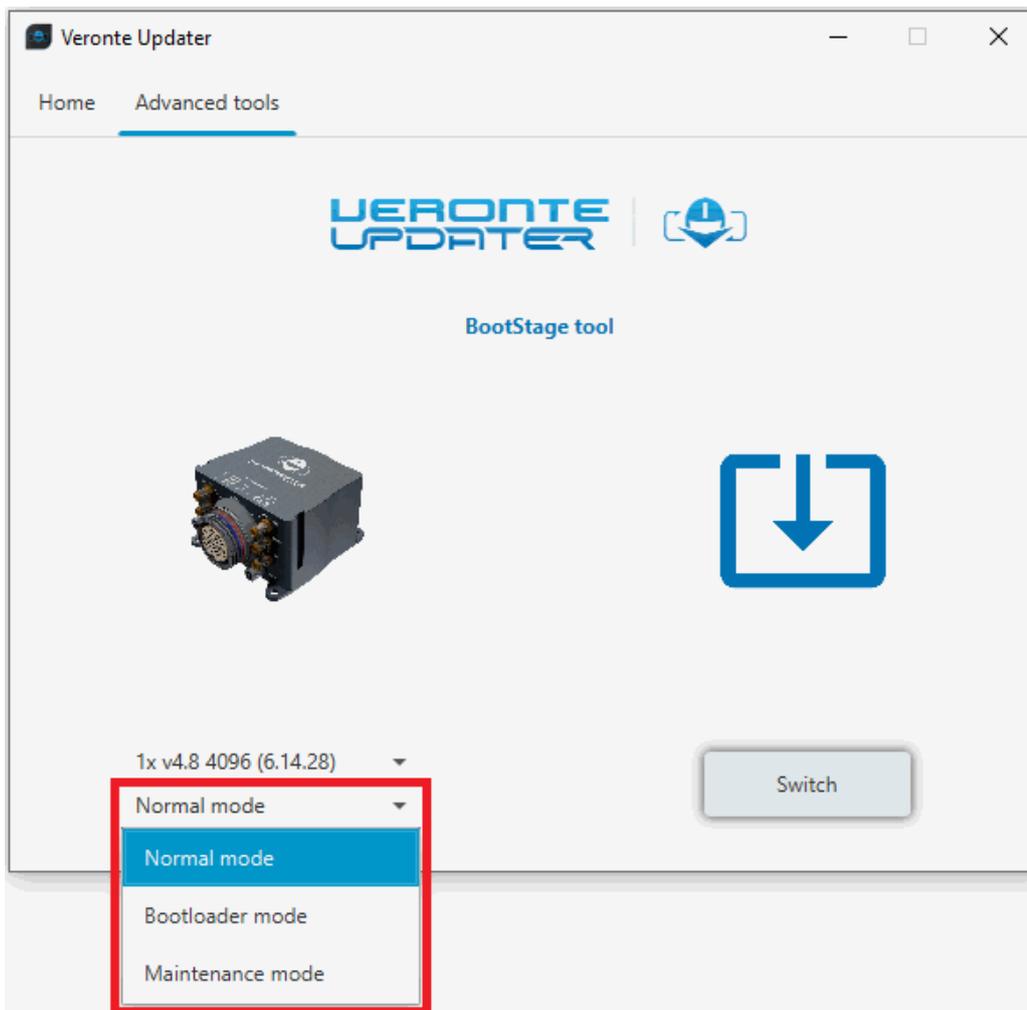
The flashing process is quite quickly, finally click on **Done**:



Flash tool process

Switch BootStage

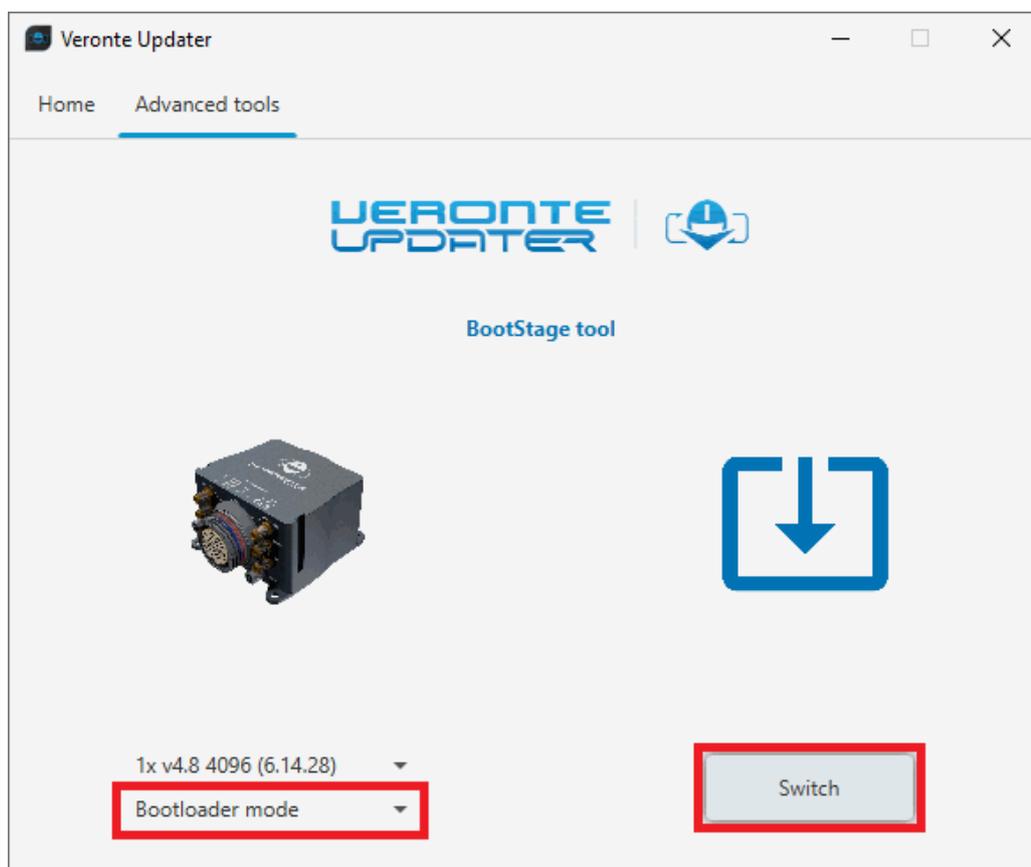
With this option, users can switch between the modes shown in the drop-down menu.



Switch BootStage

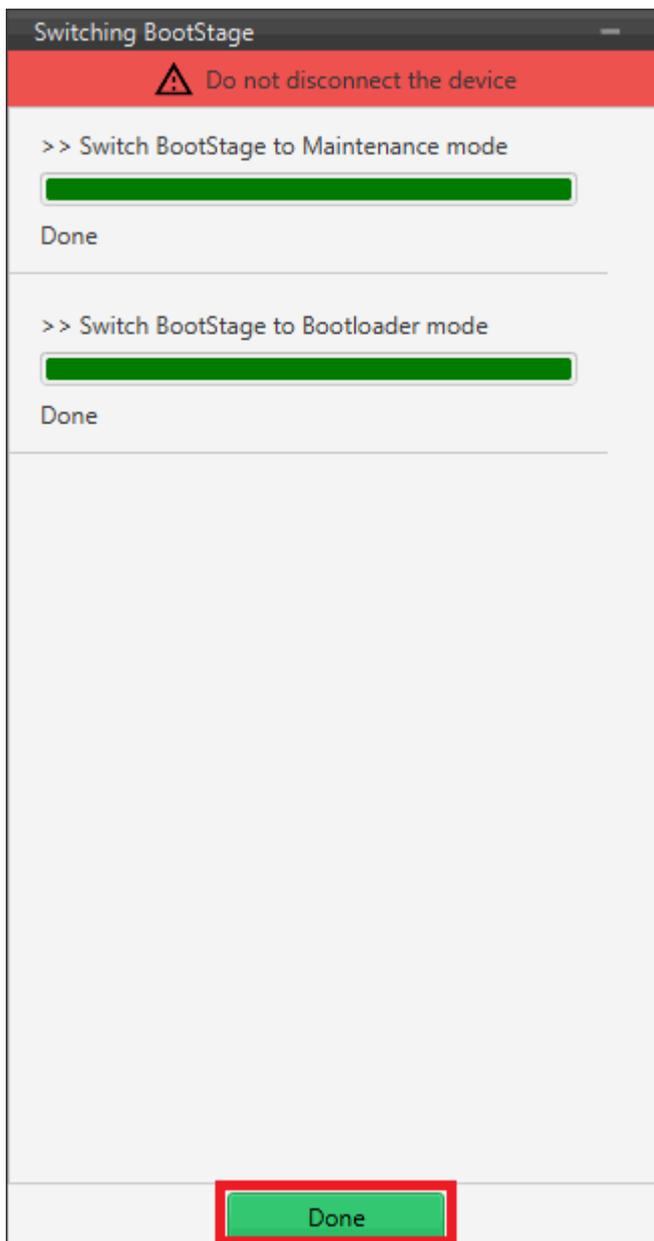
- Normal mode
- Bootloader mode: This is the mode a device must be in to be updated.
- Maintenance mode

Select the desired mode to switch to and click **Switch**:



Switch BootStage - Switch to Bootloader mode

Once the process, finish, click on **Done**.



Switch BootStage process

Configure Remote ID

Warning

THIS IS NOT PART OF THE UPGRADE PROCESS.

In this panel, the Remote ID of the connected **Autopilot 1x** is configured.

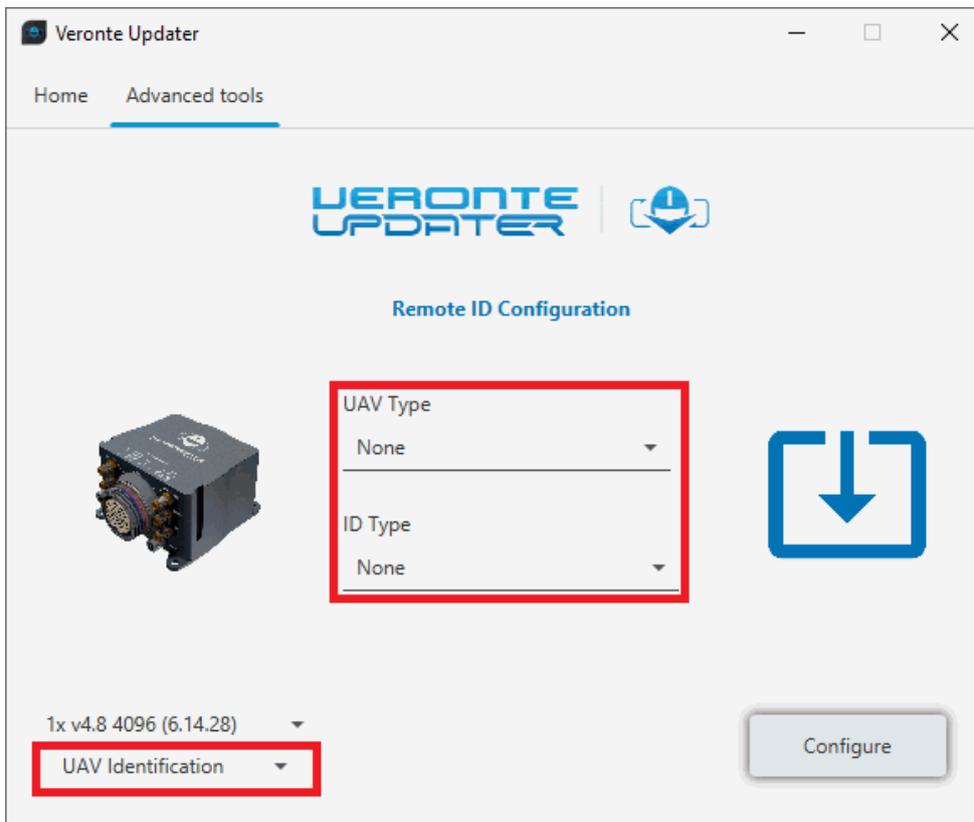
Note

This panel only applies to Veronte Autopilots 1x with **Remote ID**.

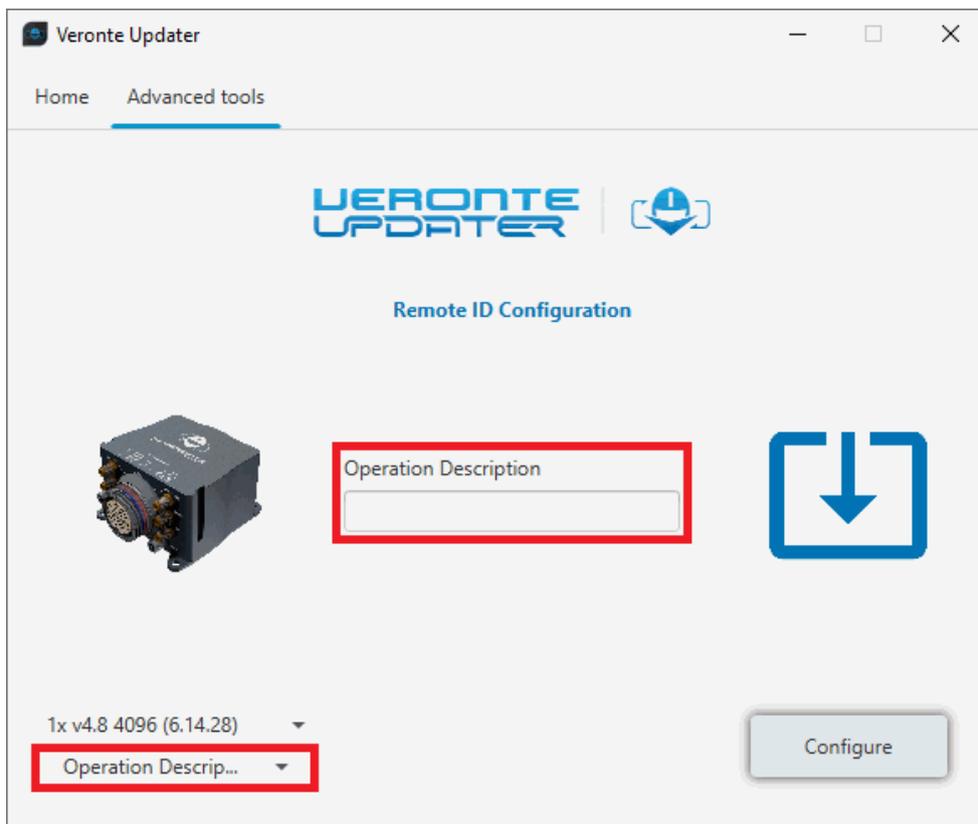
There are different settings:

• UAV Identification

- **UAV Type:** Select between the options the **type of the platform**.
- **ID Type:** Select the type of ID that will appear in external Remote ID applications.

**Configure Remote ID - UAV Identification****• Operation Description**

Users can write a brief description of the mission. It is optional and its maximum length is 23 bytes.

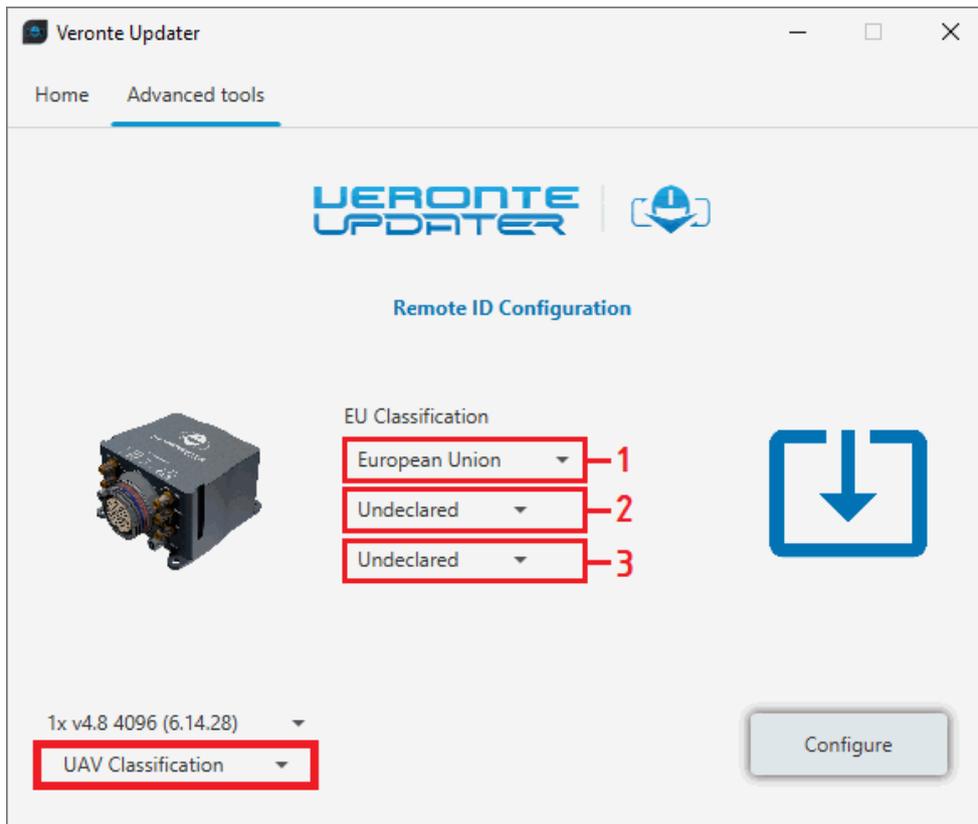


Configure Remote ID - Operation Description

- **UAV Classification**

Define the three classifications of the aircraft:

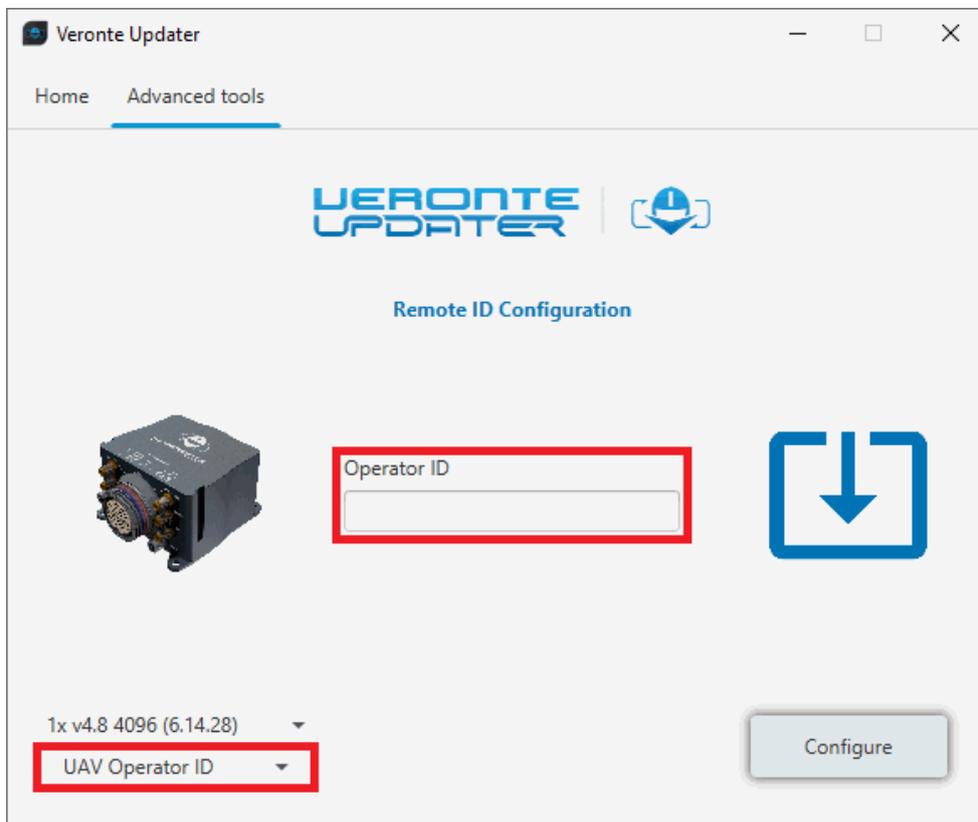
1. Region where the aircraft will fly.
2. Risk classification according to EASA:
 - Open: Low risk. LOS with an operator is required, it must be at safe distances from airports and flights over crowds are not allowed.
 - Specific: Increased risk. Approval is required by the National Aviation Authority, which is based on the Specific Operations Risk Assessment.
 - Certified: High risk. Regulations similar to manned aviation, with approval for all the systems employed.
3. [Open category](#) defined by EASA.



Configure Remote ID - UAV Classification

- **UAV Operator ID**

Enter the Operator ID of the user.



Configure Remote ID - UAV Operator ID

- Once the configuration has been finished, click on **Configure** to upload the configuration to **1x**.

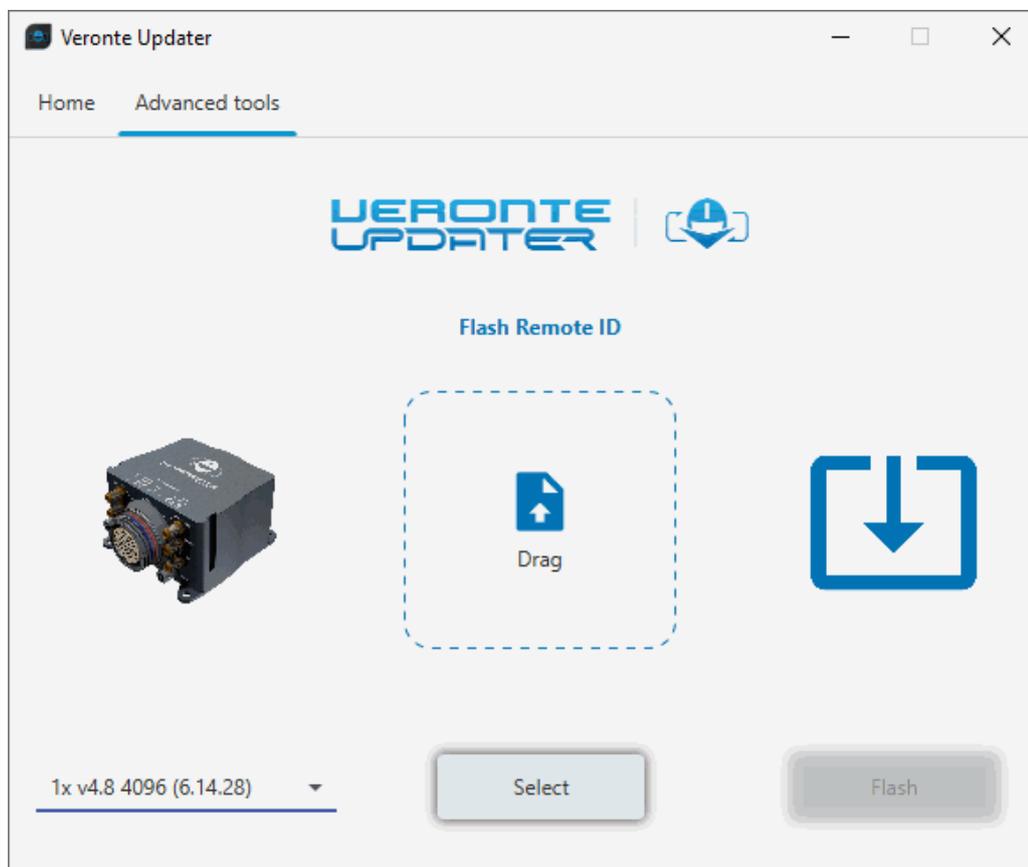
For more information about this product, please contact sales@embention.com.

Flash Remote ID

Warning

THIS IS NOT PART OF THE UPGRADE PROCESS.

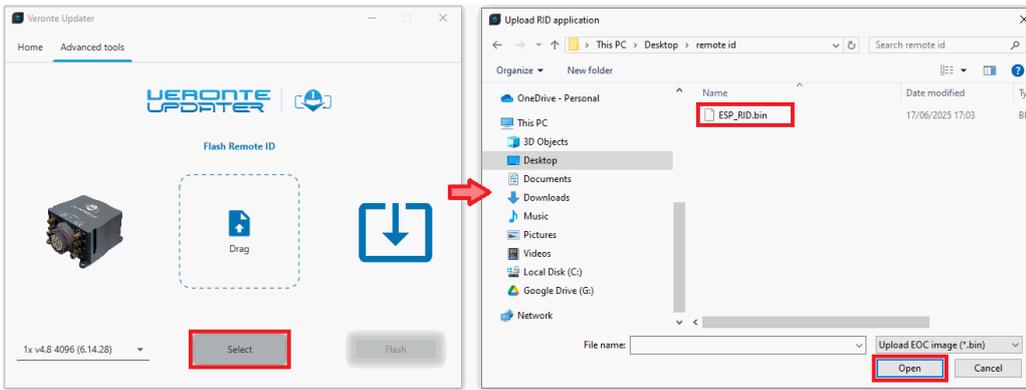
With this option, users can update the Remote ID product.



Flash Remote ID

Load the **.bin** file. There are two ways to do this, dragging the file to the **Drag** area or by using the **Select** button.

The latter option will open the following browser to select the **.bin** file stored in the user's local storage:



Flash Remote ID - Select .bin file

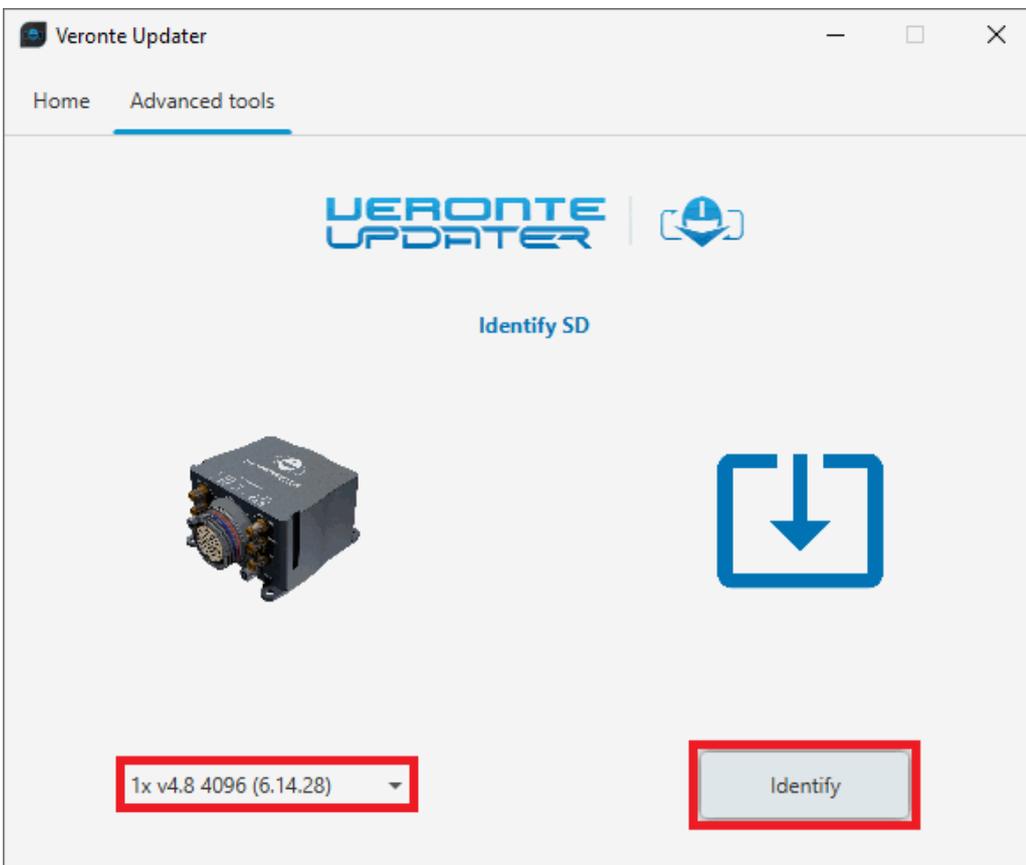
Once the .bin file is loaded, click on **Flash** to start the process.

For more information about this product, please contact sales@embention.com.

Identify SD

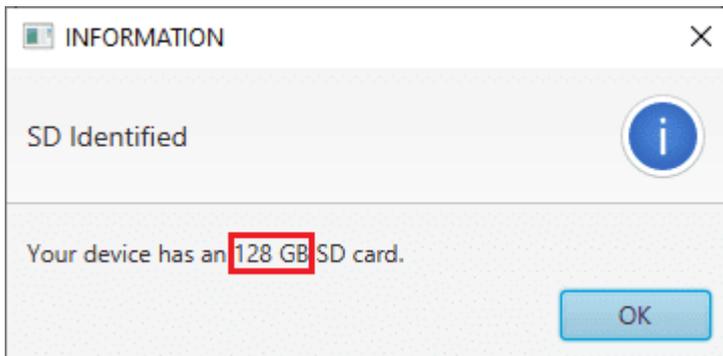
Selecting this option will identify the file memory capacity of the connected device.

Simply select the unit to be indentified and click **Identify**:



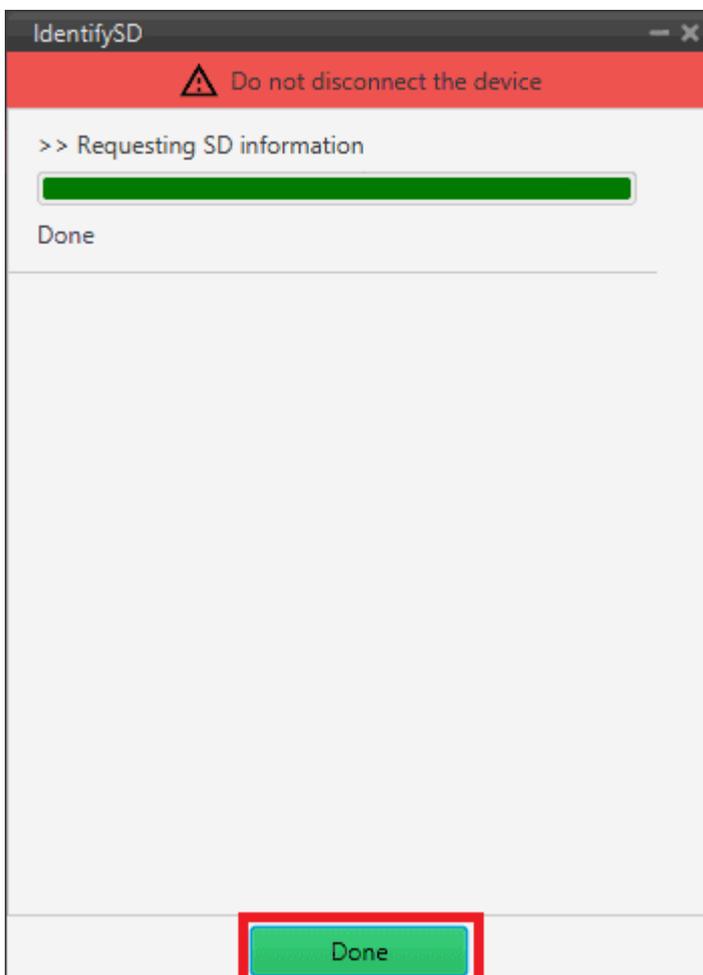
Identify SD

As the identification process is quite fast, a message with the information about the capacity of the SD card will quickly appear:



Identify SD message

Finally click on **Done**:



Identify SD process

Upload partition data

Warning

THIS IS **NOT PART OF THE UPGRADE PROCESS.**

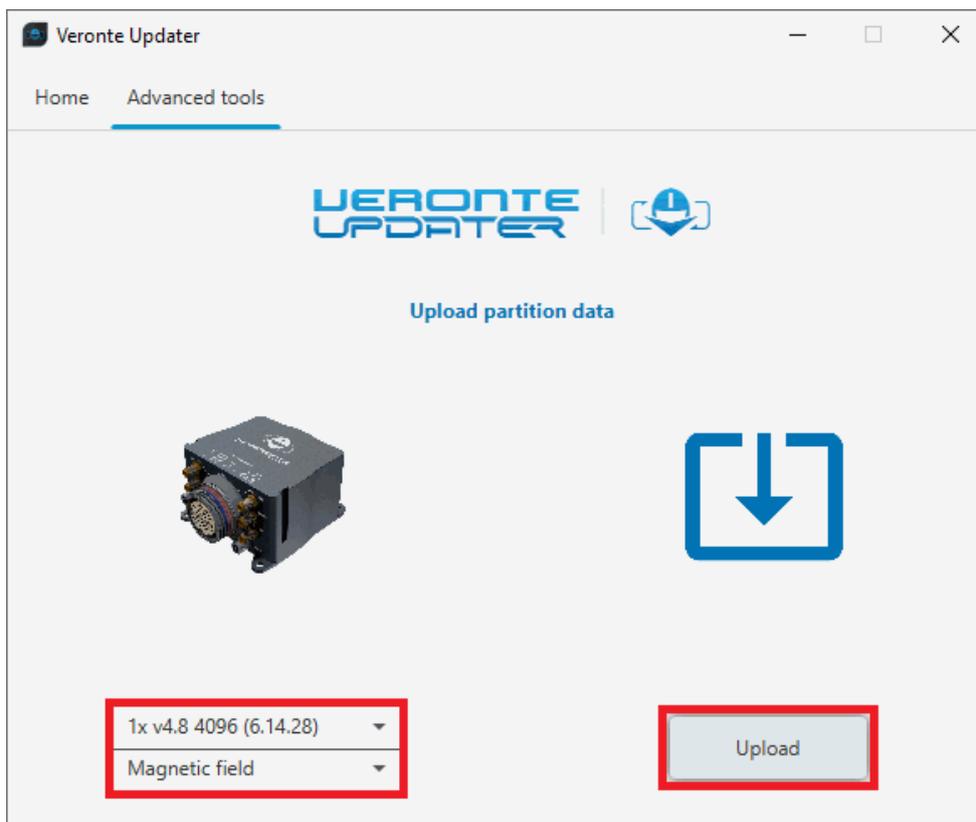
Veronte Updater shall require the user to carry out this action in the event that the device's file memory has **no magnetic field and geoid data.**

Follow the steps below to upload the needed partition data:

1. Simply select the desired unit, choose **Magnetic field** or **Geoid** and click **Upload:**

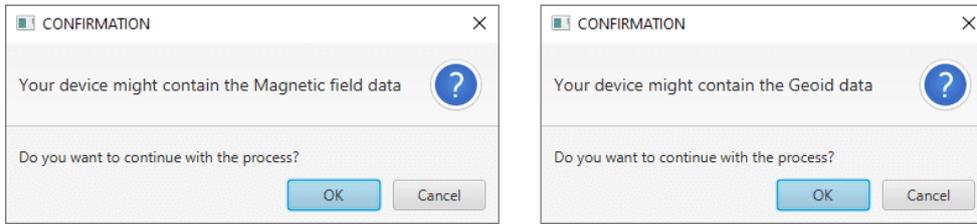
Note

The process carried out only uploads the chosen data (**Magnetic field** or **Geoid**). Repeat the process for uploading the remaining data.



Upload partition data - Uploading Magnetic field

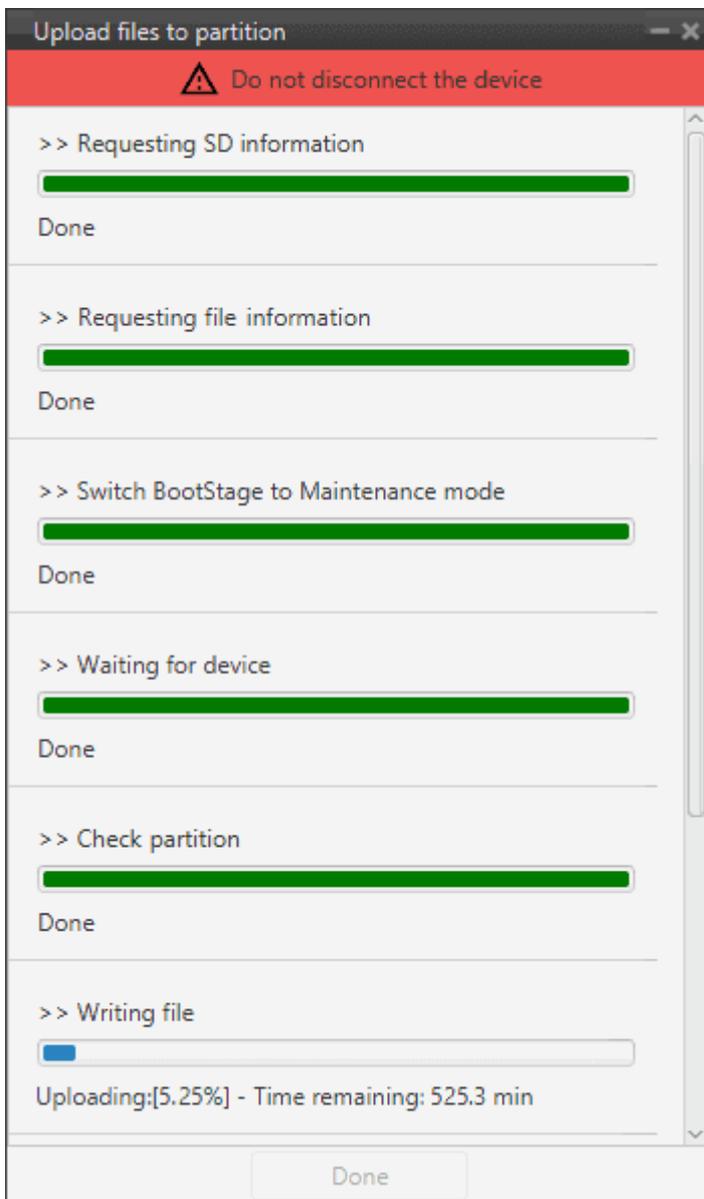
2. If the device already has the data to be uploaded, a window will pop up to confirm continuing with the process.



Upload partition data - Process confirmation

- Once confirmed, the uploading process will start and the following window will show the progress.

⚠ Warning
Writing file step is a long and slow process that can take a few hours.



Upload partition data - Uploading process

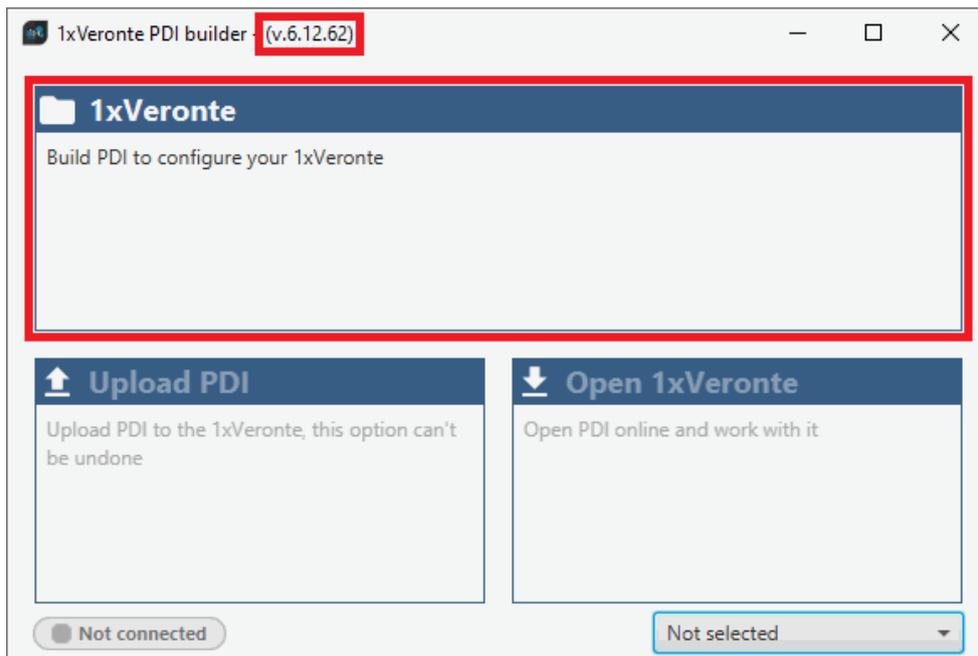
When finished, click on **Done**.

Troubleshooting

Incorrect configuration when upgrading from 6.12 to 6.14

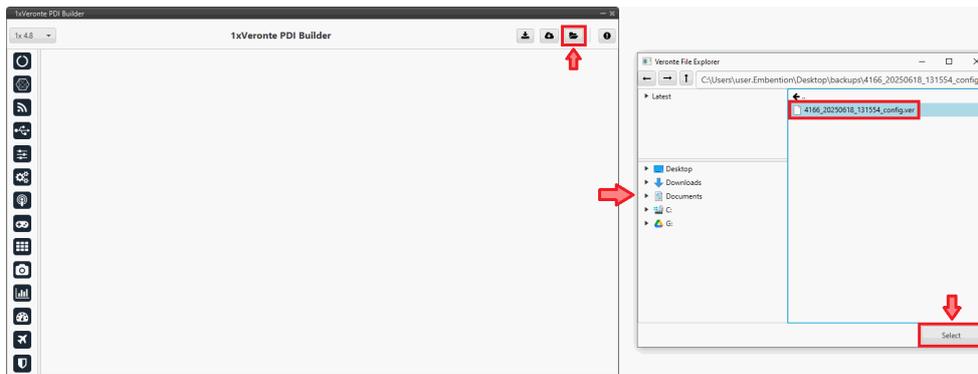
If users have an incorrect configuration of **4x modes** menu in firmware version 6.12 when doing the upgrade to 6.14, the following must be done to fix it:

1. First, users will need to have downloaded the `.ver` file of the **Autopilot 1x** configuration to be fixed **before starting the upgrade process**. If they have not downloaded it, please contact the support team by opening a [Ticket](#) in the user's **Joint Collaboration Framework** for further assistance on this.
2. Open **1x PDI Builder** app **v6.12.62 or higher** and click on the **1x Veronte** option to access the app in **offline mode**.



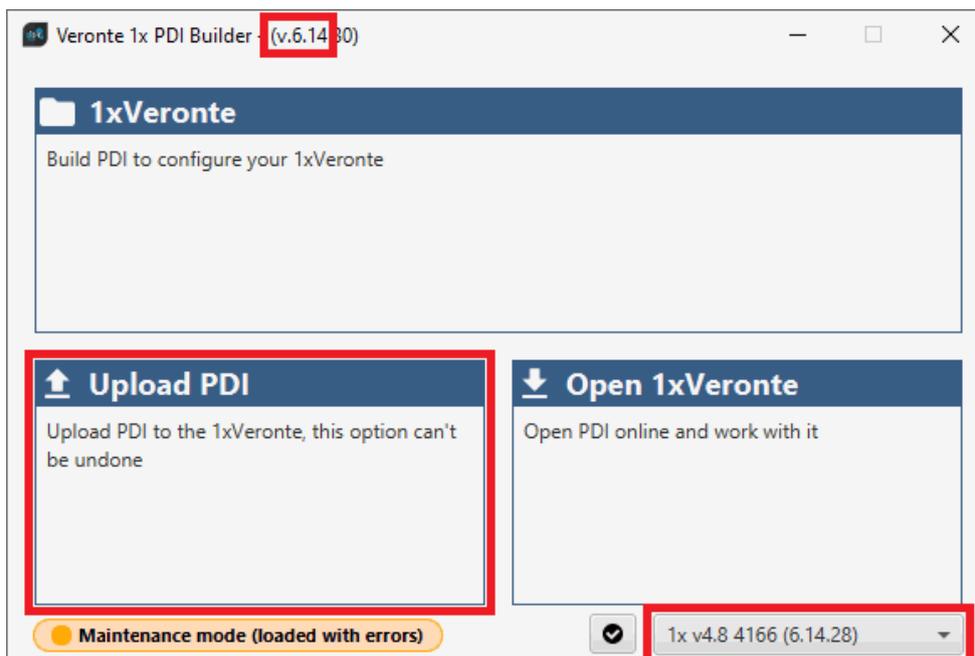
Incorrect configuration when upgrading from 6.12 to 6.14 - 1x PDI Builder v6.12

3. Then click on the  icon to load the `.ver` file, select it in the user's local storage and click **Select**.



Incorrect configuration when upgrading from 6.12 to 6.14 - Select .ver file

4. Modify the settings in the **4x Veronte** tab of the **Control menu** to correct the autopilot configuration.
5. Now download the **.ver** file with the correct configuration by clicking on the  icon and save it to the local storage.
6. Open **1x PDI Builder** app **v6.14** and click on the **Upload PDI** option to load the **.ver** file with the correct configuration to the connected **Autopilot 1x**.



Incorrect configuration when upgrading from 6.12 to 6.14 - 1x PDI Builder v6.14

7. Select from the user's local storage the **.ver** file previously downloaded with the proper configuration.
8. Finally, save the configuration by clicking on the  icon.

Autopilot 1x should now be in version 6.14 with the correct migrated PDI.

Software Changelog

This section presents the changes between the previous software version (**v. 6.12.12**) and the current (**v.6.14.20**).

Added

- User confirmation alert concerning connection via USB when updating to version 6.14
- Warning message devices 1x, CEX, MEX, MC110 and MC01S to update to the latest 6.8 version available before updating to 6.12
- User confirmation alert prior to the update to check 4x configuration
- New options in **Advanced Tools**:
 - Upload backup
 - Switch BootStage
 - Configure Remote ID
 - Migrate Remote ID: to provide support to migrate internal Remote ID module from old version (1.1) to new one (6.12)
- Safety warning when Upload File System Binaries step fails when updating a device
- Process to read the serial number for Remote ID configuration

Improved

- Processes are stopped when the device is disconnected
- License is backed up when formatting a device
- Upload the device's configuration after updating firmware
- Additional process to check partition state after a format operation
- Autoscroll during Veronte Updater processes
- Mechanism to handle SD's data maps integrity (magfield and geoid)
- Device name not fully visible for longer names
- Ambiguous naming for "Request information" processes. Changed to "Request SD information" and "Request file information"

Changed

- Backup format changed from `.ver` to `.backup`, containing configurations in XML format rather than binary
- Upload files advanced tool disabled for devices with firmware version 6.14 or higher
- Flash tool advanced tool disabled for devices with firmware version 6.14 or higher

Removed

- Feedback button