SIB Fix for 4G Modem

Ewon Cosy 131 and Ewon Flexy

APPLICATION NOTE

AUG-0077-00 1.0 en-US ENGLISH

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1 Preface

1.1 About This Document

This document explains how to update the modem firmware of your Ewon Cosy 131 or Ewon Flexy if this one embeds a 4G modem and is impacted by the 4G modem – SIB issue.

For additional related documentation and file downloads, please visit www.ewon.biz/support.

1.2 Document history

Version	Date	Description
1.0	20190-06-07	First release

1.3 Related Documents

Document	Author	Document ID

1.4 Trademark Information

Ewon® is a registered trademark of HMS Industrial Networks SA. All other trademarks mentioned in this document are the property of their respective holders.

2 Introduction

This document explains how to perform a modem firmware update on an Ewon Cosy 131 or Ewon Flexy extension cards with 4G capabilities.

This modem firmware update is necessary because of the update planned and performed by the MNO — Mobile Network Operators — to their antennas providing the 4G network.

Once the update operated by the MNO on their infrastructure, there will be an incompatibility in the software stack provided by Intel® that may affect how products decode the *System Information Block* — a.k.a. *SIB* — which result in the inability to register on the 4G network.

All devices on the market embedding this Intel® chipset — the Intel XMM71*xx* or XMM72*xx* — are unable to connect to this updated 4G network. The Ewon Cosy 131 or Ewon Flexy extension cards are part of those devices.

However, devices with a fallback mechanism will still be able to connect to the Internet as they can fallback to the 2G or 3G networks. The Ewon Cosy 131 or Ewon Flexy extension cards are part of those devices.

3 Update for Specific Ewons

All 4G modem-based Ewons are not impacted by this update. Hereunder, we describe how to detect the affectedEwons.

3.1 Serial Numbers

You can check if your Ewon needs a modem firmware update by verifying its serial number.

The serial number that are involved are the following ones:

- Cosy 131 – 4G EU: **EC6133G**
  - SN below 1829-0231-22
  - SN from 1903-0941-22 to 1903-0980-22
  - SN from 1903-1061-22 to 1903-1080-22
- Cosy 131 – 4G US: **EC6133H**
  - SN below 1851-0029-22
- Flexy extension card – 4G EU: **FLB 3204**
  - SN below 0967-1911-0002-23
- Flexy extension card – 4G NA: **FLB 3205**
  - SN below 0968-1907-0001-24

3.2 Modem Firmware Version

The modem firmware verification is a step complementary to the serial number verification which remains the primary method to know if your Ewon is concerned.

The modem firmware version that are involved are the following ones:

- 4G EU
  - FW20.00.**402**
  - FW20.00.**403**
- 4G NA
  - FW20.00.**502**
  - FW20.00.**504**

3.3 Retrieve the Serial Number or Modem Firmware Version

3.3.1 Serial Number

You can retrieve the serial number of a Cosy 131 through two different methods:

- Check the right-sided label on the Cosy itself.
- Look at the bottom of the screen when browsing the dashboard of the Cosy web interface.

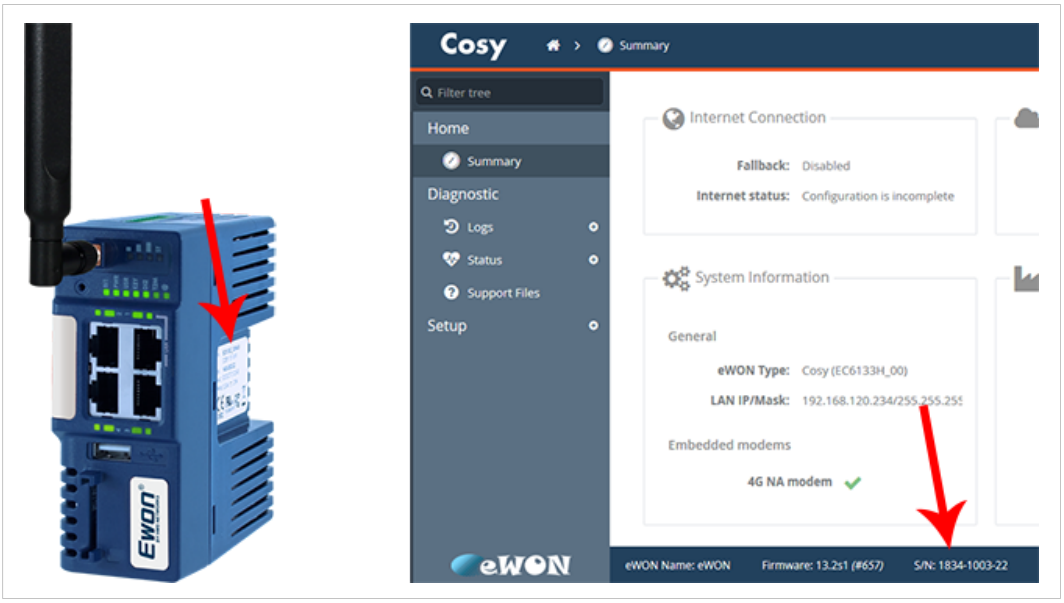

Fig. 1 Serial number on Cosy 131

You can verify the serial number of a Flexy extension card through two different methods:

- Check the white label on the Flexy extension card itself.
- Go to *Ewon web interface* ▸ *Status* ▸ *System Info* ▸ *System* when browsing the web interface of the Flexy.

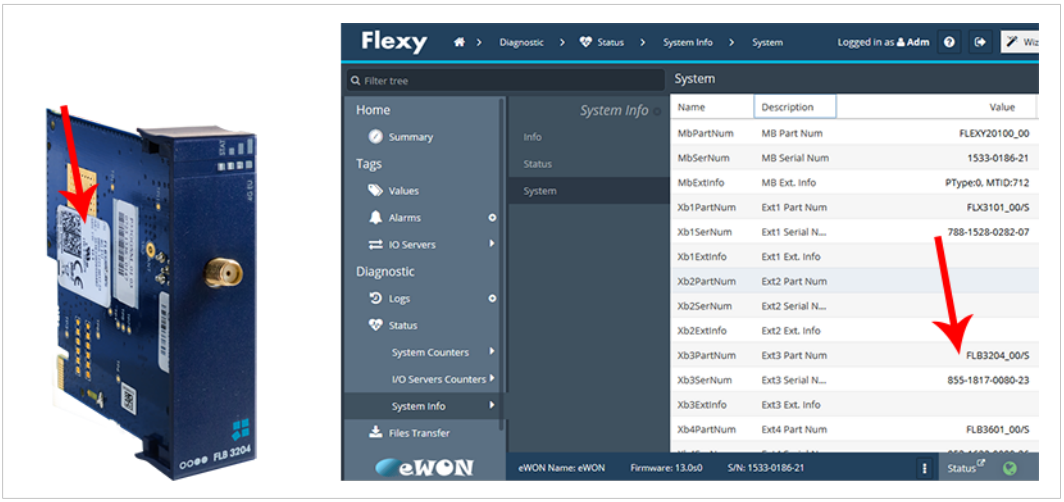

Fig. 2 Serial number on Flexy extension card

3.3.2 Modem Firmware Version

You can verify the current modem firmware version of your Cosy 131 or Flexy extension card by browsing the web interface of your Ewon and going to *Ewon web interface* ▸ *Status* ▸ *System Info* ▸ *Info*.

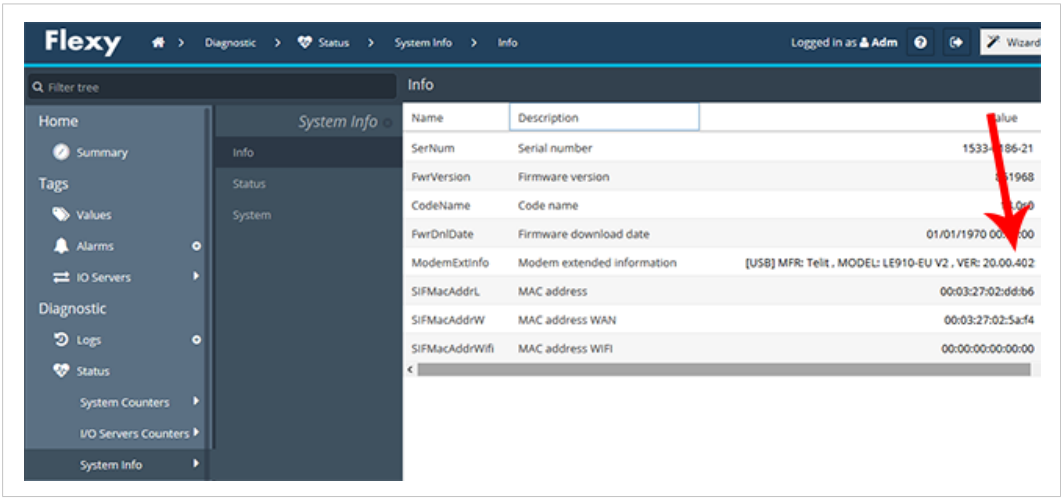

Fig. 3 Modem firmware version on the Ewon web interface

4 Upgrade the Modem Firmware

To upgrade the modem firmware, you can choose between 3 different methods:

- Use the Ewon SIB Fix Tool.
- Use the SD card commissioning.
- Use the FTP server of your Ewon.

4.1 Ewon SIB Fix Tool

The Ewon SIB Fix Tool is the easiest solution to update the modem firmware if your Ewon is currently active on the same network you are connected to or on a remote site.

> **!** Make sure you quit eBuddy before using the Ewon SIB Fix Tool as both Ewon software cannot be used simultaneously.

You can download the tool on our CDN platform.

The Ewon SIB Fix Tool scans your network, looking for Ewon to fix.

As long as you are physically connected to the same network, the tool is able to list all concerned Ewons connected to this network. If you are connected to an Ewon through Talk2M using eCatcher, the tool is also able to scan it.

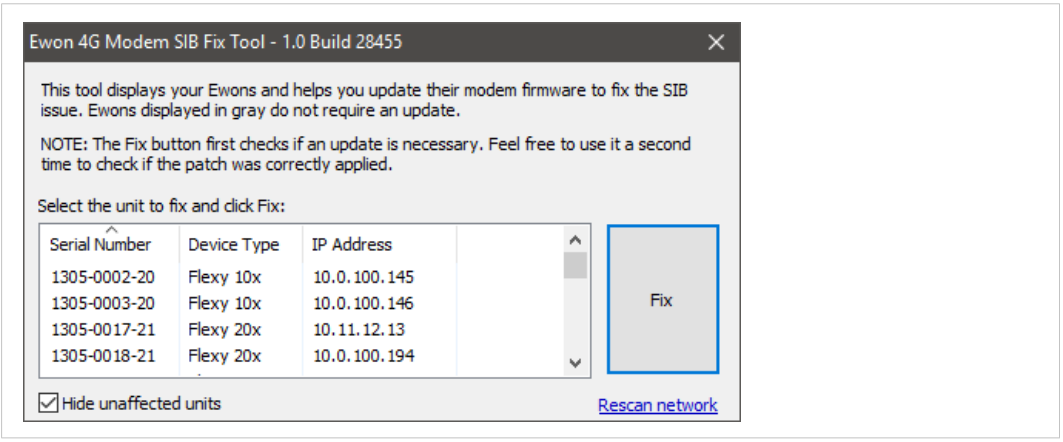

Fig. 4 SIB Fix Tool overview

4.1.1 Unaffected Units

You can decide to hide or show unaffected devices by checking the box at the bottom of the window.

> **!** By default, the tool displays all the affected Cosy 131 but also all the Flexy devices. The tool is incapable to sort the affected Flexy extension cards from the unaffected until you connect to the Flexy.

If you decide to display the unaffected devices, those unaffected devices (such as some Cosy 131, Cosy 141 and CD) appear in gray in the list.

By displaying the unaffected devices, you are able to see all devices connected and reachable on your network by the SIB Fix Tool.

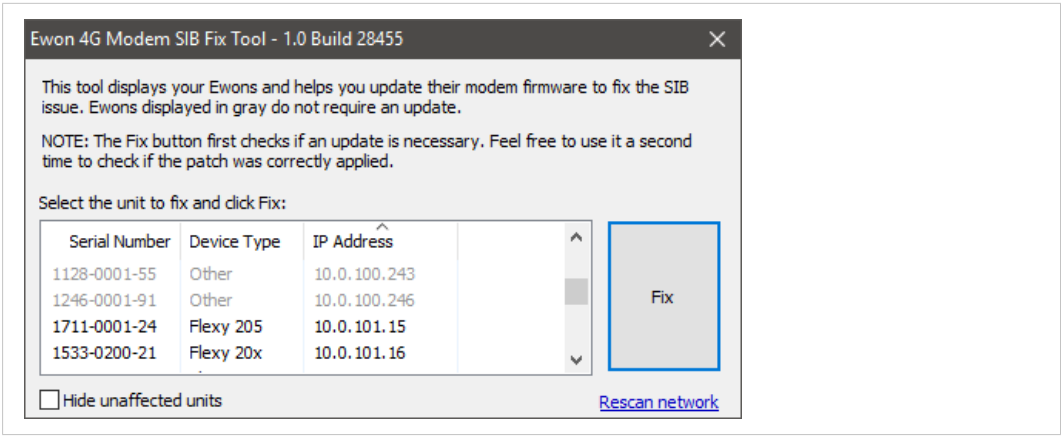

Fig. 5 Display unaffected devices

4.1.2 Remote Units

If your Ewon is located on a remote site, follow this procedure to display your Ewon in the tool's list:

1. Open eCatcher.
2. Log in to your Talk2M account.
3. Connect to your Ewon.

   [Optional] If your Ewon is configured to be triggered, wake it up as the Ewon must be online for you to connect to it.
4. Refresh the list within the SIB Fix tool using the ***Rescan Network*** link.

   → Once connected, you can now see your Ewon in the tool's list.

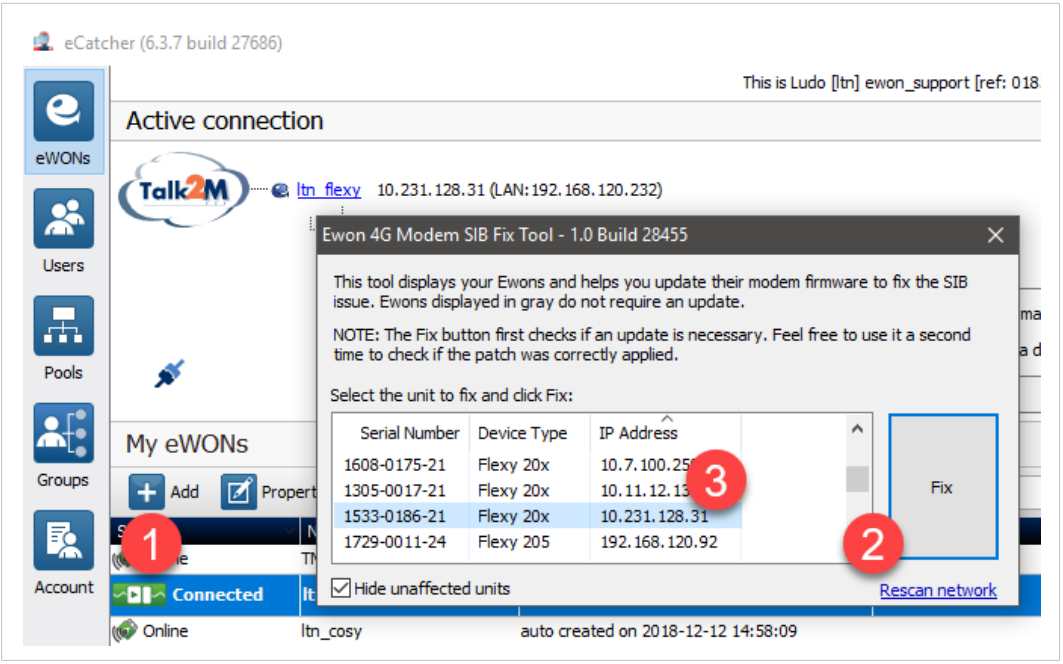

Fig. 6 Display a remote connected Ewon

If you are connected remotely to the Ewon, the tool displays the Ewon under its VPN IP address and not its LAN IP address.

4.1.3 Update Process

Update the modem firmware through the SIB Fix Tool

1. Once the tool open, the tool lists all potentially affected Ewons on the network.

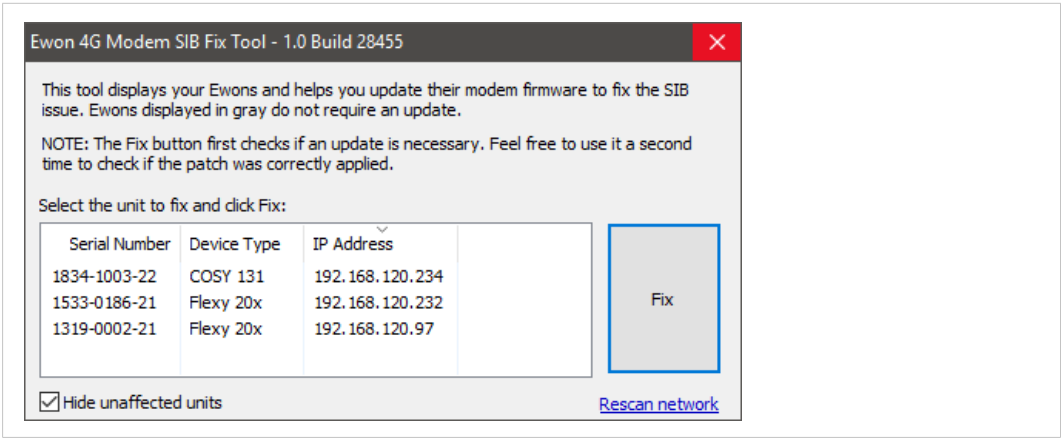

Fig. 7 Ewon SIB Fix Tool — Main window

2. Select the Ewon you wish to update.

   You can click on the column name — Serial Number, Device Type and IP Address — to sort the Ewon(s).

3. [Optional] If your Ewon is located on a remote site, please refer to *Remote Units, p. 9* before proceeding any further.

4. Hit the ***Fix*** button.

5. Enter the ***password*** of the *Adm* user of your Ewon.

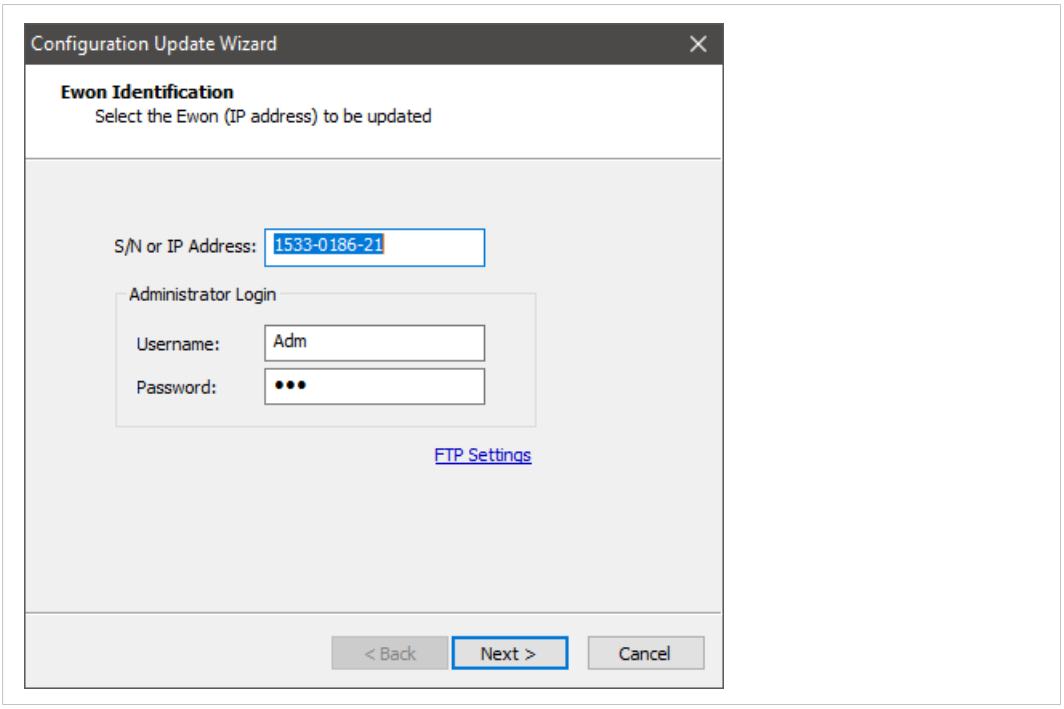

Fig. 8 FTP settings

6. Click ***Next***.

7. The tool displays a summary of the current Ewon situation that needs the update.

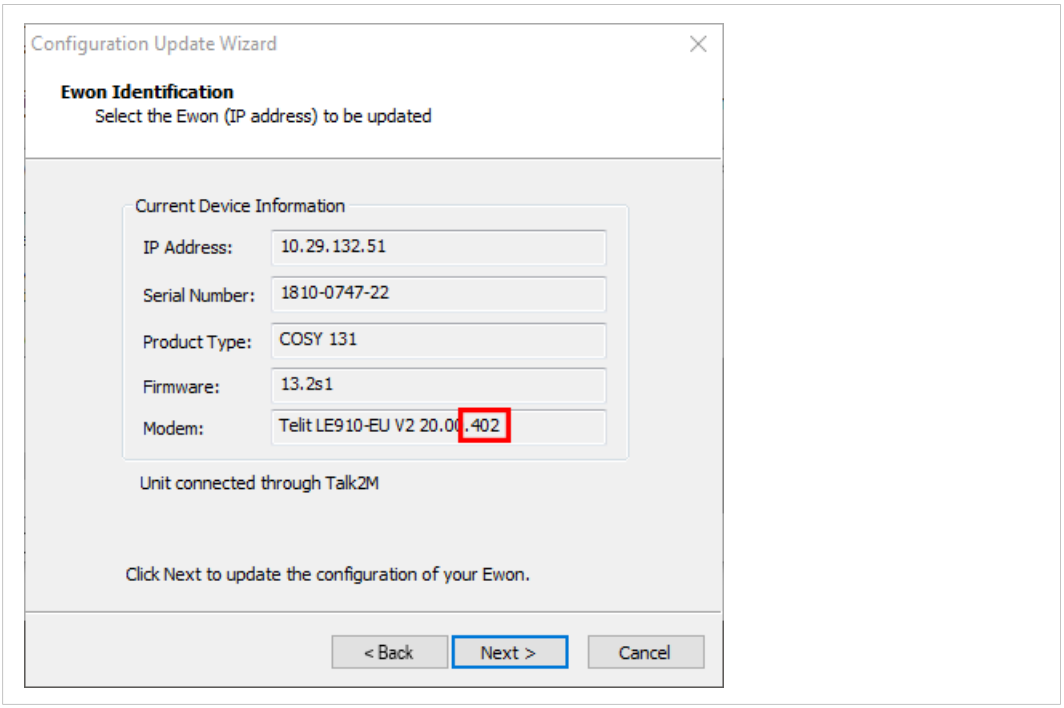

Fig. 9 Ewon status prior to update

8. Click ***Next***.

9. The tool sends the update file to the Ewon.

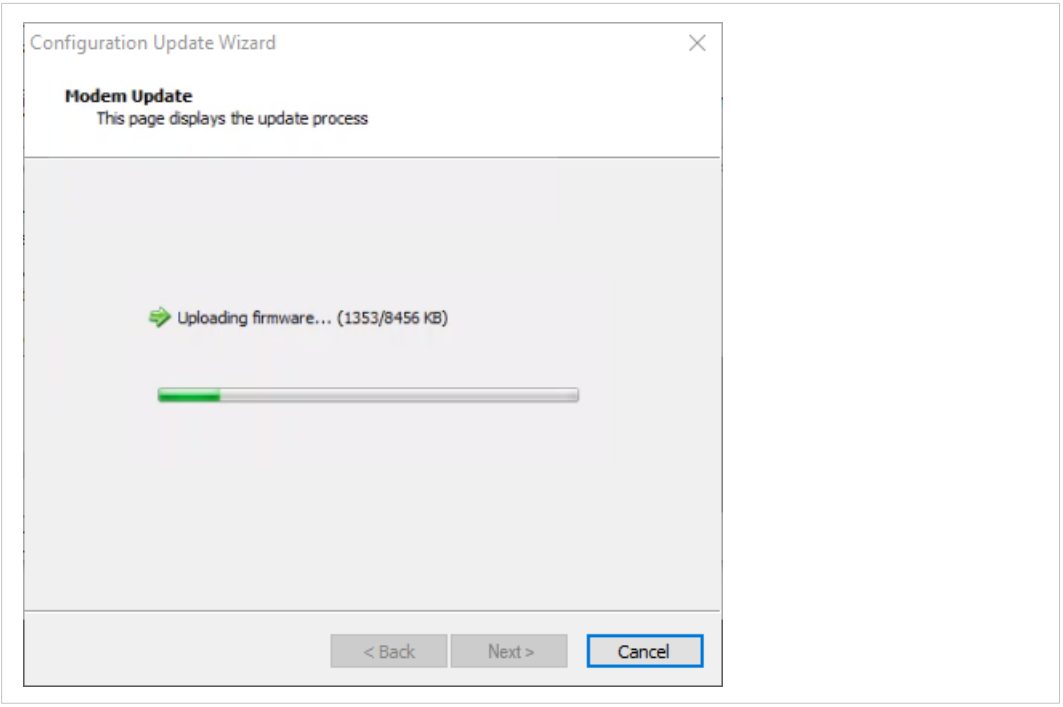

Fig. 10 Upload of the update file

10. Once the Ewon has received the update file, the Ewon applies the update file.

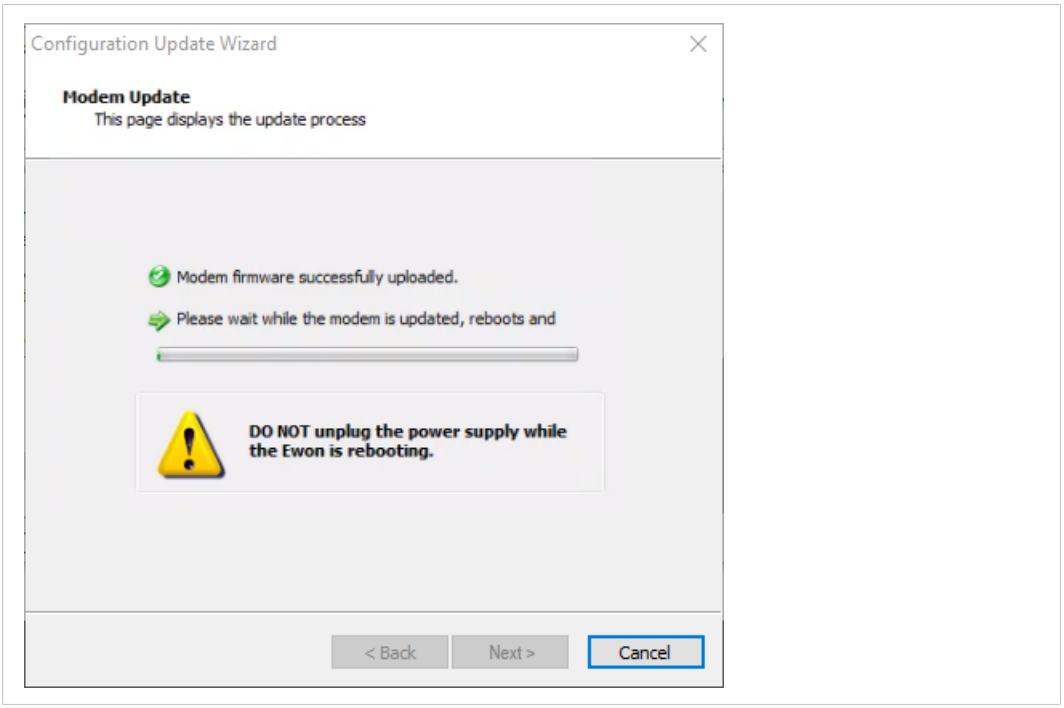

Fig. 11 Ewon performing the modem update

11. Your Ewon is updated and is able to connect to the updated 4G network.

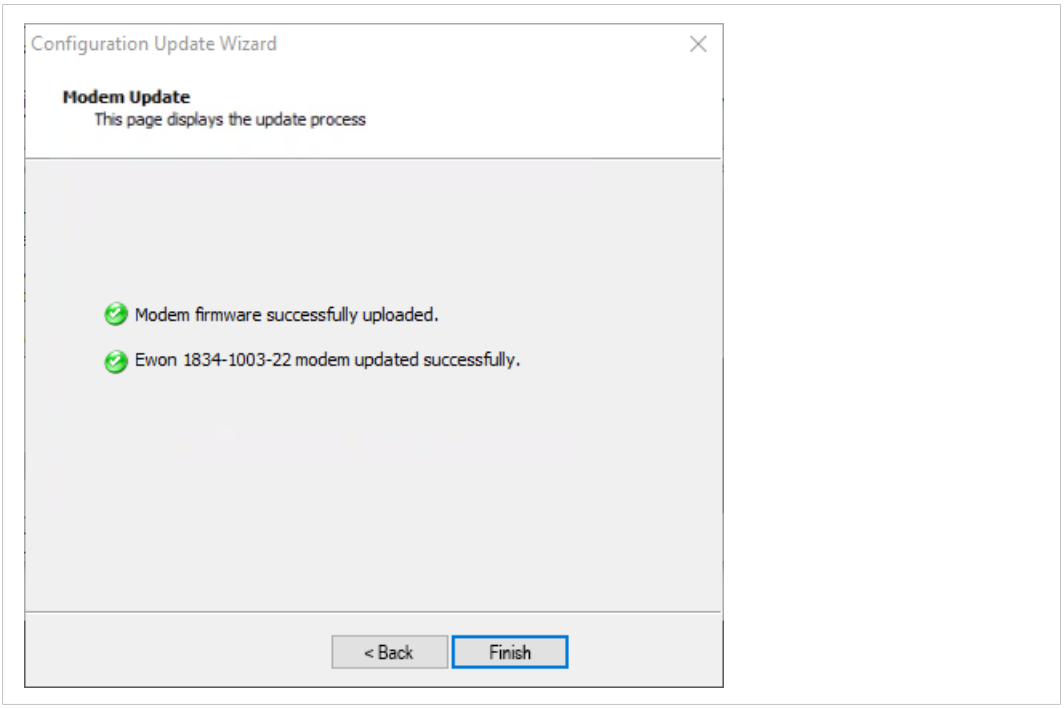

Fig. 12 Modem update successful

4.1.4 Verification Process

The verification process using the SIB Fix Tool is similar to the update process.

Verify the successfulness of the modem firmware update through the SIB Fix Tool

- Select the Ewon you wish to confirm the update.

  You can click on the column name — Serial Number, Device Type and IP Address — to sort the Ewon(s).

- [Optional] If your Ewon is located on a remote site, please refer to *Remote Units, p. 9* before proceeding any further.
- Hit the ***Fix*** button.
- Enter the ***password*** of the *Adm* user of your Ewon.
- Click ***Next***.

The tool displays a success message if your Ewon has been successfully updated or is unaffected.

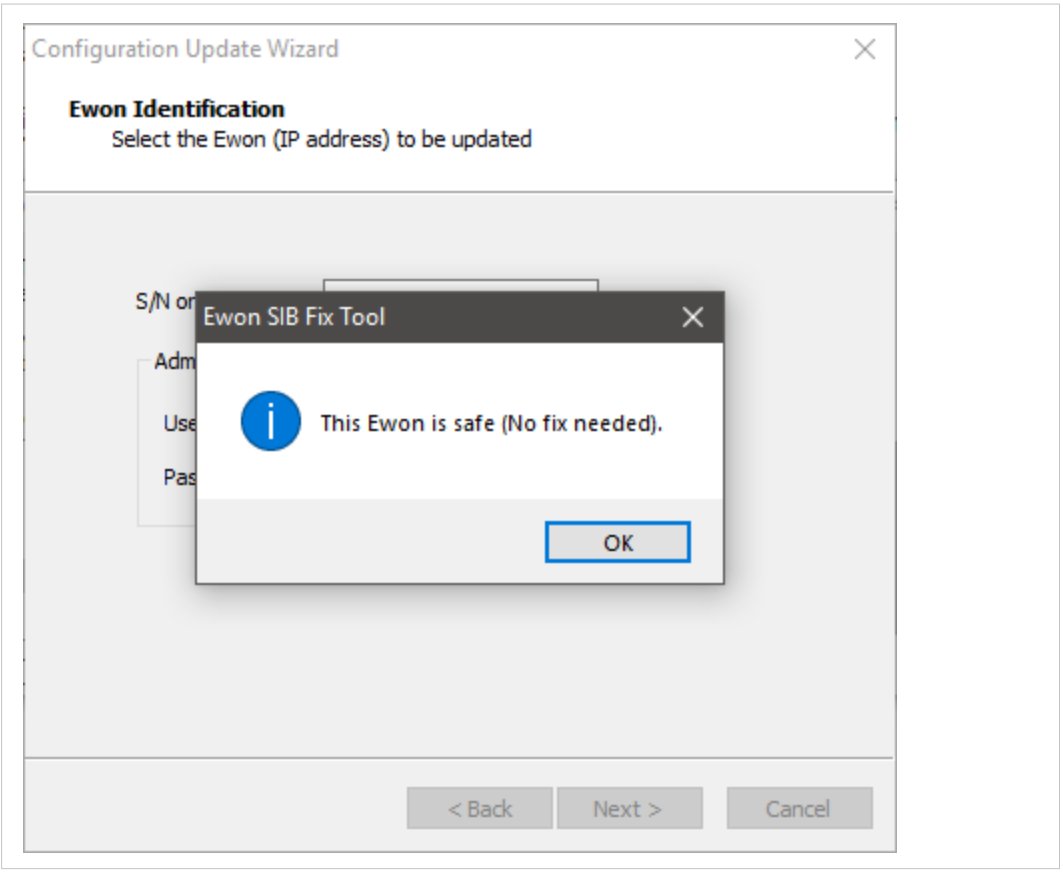

Fig. 13 Ewon unaffected or updated

4.2 SD Card Commissioning

The SD card solution is the easiest solution to update the modem firmware if you have a physical access to your Ewon

To perform the modem firmware update through the SD card commissioning, you need the following items:

- An SD card of FAT32 format with a recommendation that its capacity does not exceed 8GB.
- The modem update file represented as an *.edf* file:
  - For EU models (Cosy 131 and Flexy extension cards): cdn.ewon.biz/firmware/telit-4g-modem/ewonfwr-fixsib-eu-404.edf
  - For NA models (Cosy 131 and Flexy extension cards): cdn.ewon.biz/firmware/telit-4g-modem/ewonfwr-fixsib-na-505.edf

> We recommend performing the following procedure while the Ewon is already powered on.

Update the modem firmware through SD card

1. Rename the *.edf* file you just downloaded so it matches “ewonfwr.edf”.

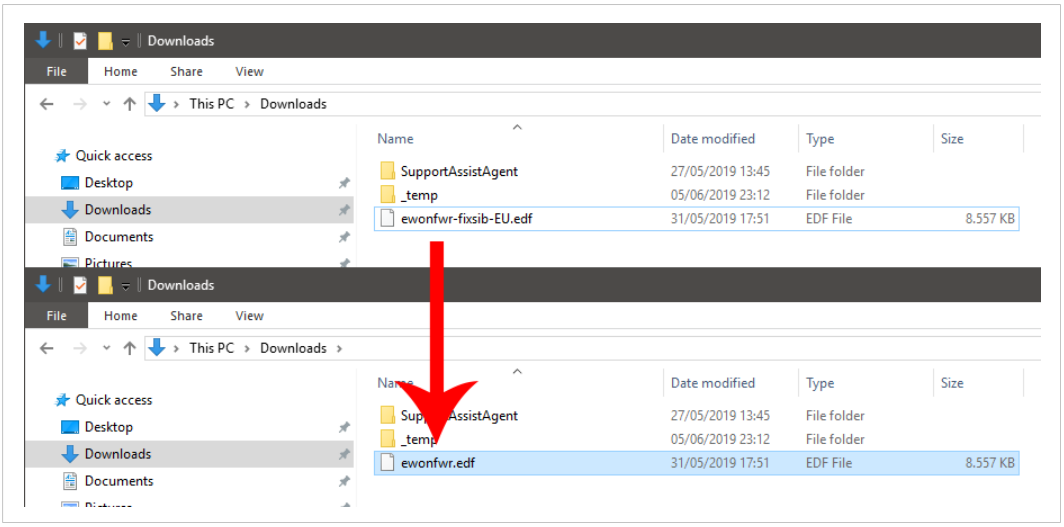

Fig. 14 Rename the .edf file.

2. Copy the “ewonfwr.edf” file on the SD card.
3. Insert the SD card into the Ewon.
   → First, the USR LED blinks quickly orange (ON/OFF each 200ms). This phase indicates the Ewon is checking the validity of the SD card (e.g. proper format and valid files).
   → Second, the USR LED blinks slowly orange (ON/OFF each second). This phase indicates the Ewon is copying the file from the SD card to its internal memory.
   → Last, the USR LED turns steady green. The Ewon is ready to continue the procedure.
4. Remove the SD card from the Ewon.
5. The USR LED switches colors every second, between red and green. This phase can last from 5 to 15 minutes.
   → This phase indicates the Ewon is processing the update file.

6. Wait for the Ewon to reboot.

   → If the reboot occurs quickly after removing the SD card ► it is highly probable that the update did not occur (failed or update already performed previously).

   → If the reboot occurs a while after the SD card removal ► it is highly probable that the update succeeded.

4.2.1 Successfulness Verification

To verify that the update has successfully occurred, you must verify the modem firmware version.

To do so, please refer to *Modem Firmware Version, p. 7*.

If the update was a success, the Ewon should display the following modem firmware version:

- For EU models (Cosy 131 and Flexy extension cards): FW20.00.**404** (instead of FW20.00.**402** **or** FW20.00.**403**)
- For NA models (Cosy 131 and Flexy extension cards): FW20.00.**505** (instead of FW20.00.**502** **or** FW20.00.**504**)

4.3 FTP Server

To perform the modem firmware update by using the FTP server of the Ewon, you need the following items:

- The modem update file represented as an *.edf* file:
  - For EU models (Cosy 131 and Flexy extension cards): cdn.ewon.biz/firmware/telit-4g-modem/ewonfwr-fixsib-eu-404.edf
  - For NA models (Cosy 131 and Flexy extension cards): cdn.ewon.biz/firmware/telit-4g-modem/ewonfwr-fixsib-na-505.edf
- A connection to your Ewon using an FTP client software.

  The Ewon can be reachable:
  - because you are connected to the same physical network your Ewon is connected to;
  - because you are connected to your Ewon through a VPN tunnel established by eCatcher.

Update the modem firmware through Ewon FTP server

1. Rename the *.edf* file you just downloaded so it matches “ewonfwr.edf”.

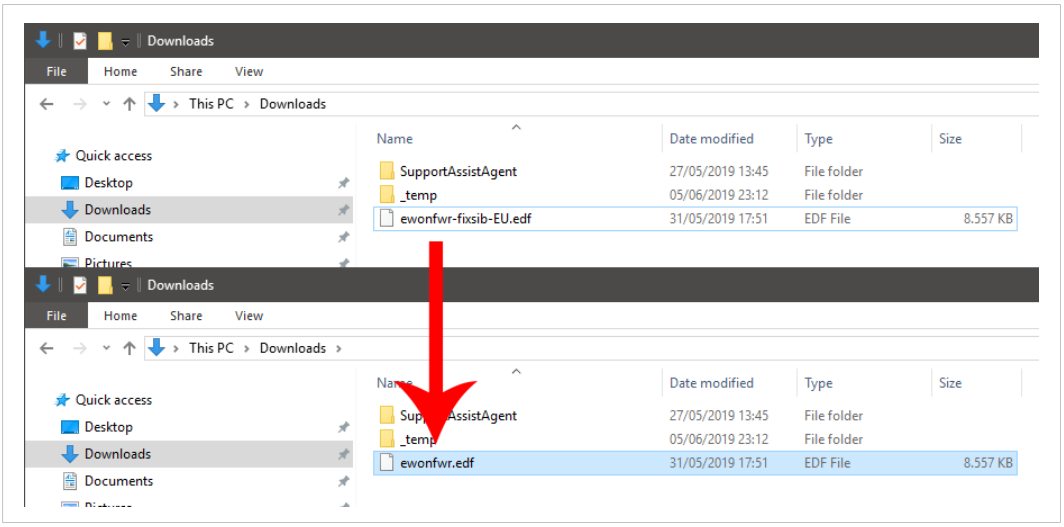

Fig. 15 Rename the .edf file.

2. Open your FTP client.

   In our case, we use the FileZIlla® software.

3. Establish a connection to your Ewon with the “Adm” username and password. You can use:
   - its LAN IP address if you are connected to the same network your Ewon is connected to.
   - its LAN IP or VPN address if you are connected to your Ewon through eCatcher.

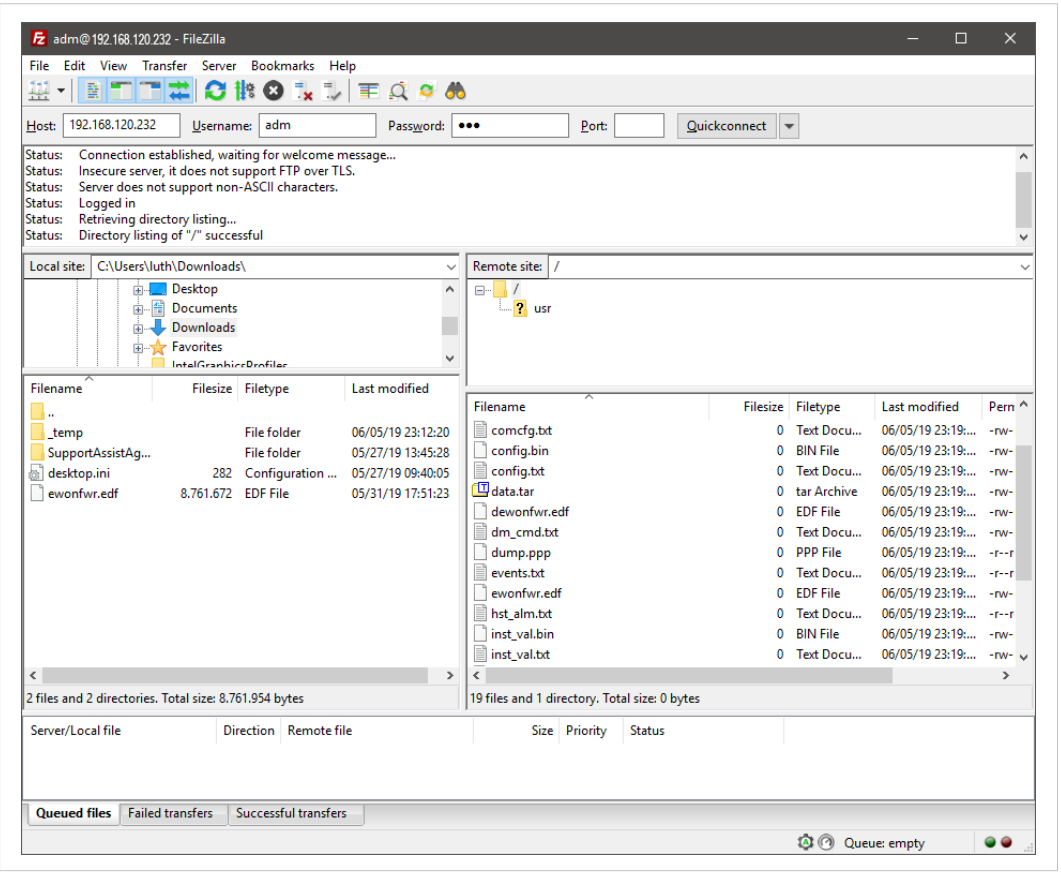

Fig. 16 FTP connection to the Ewon

4. Transfer the“ewonfwr.edf” file from your computer to the Ewon.

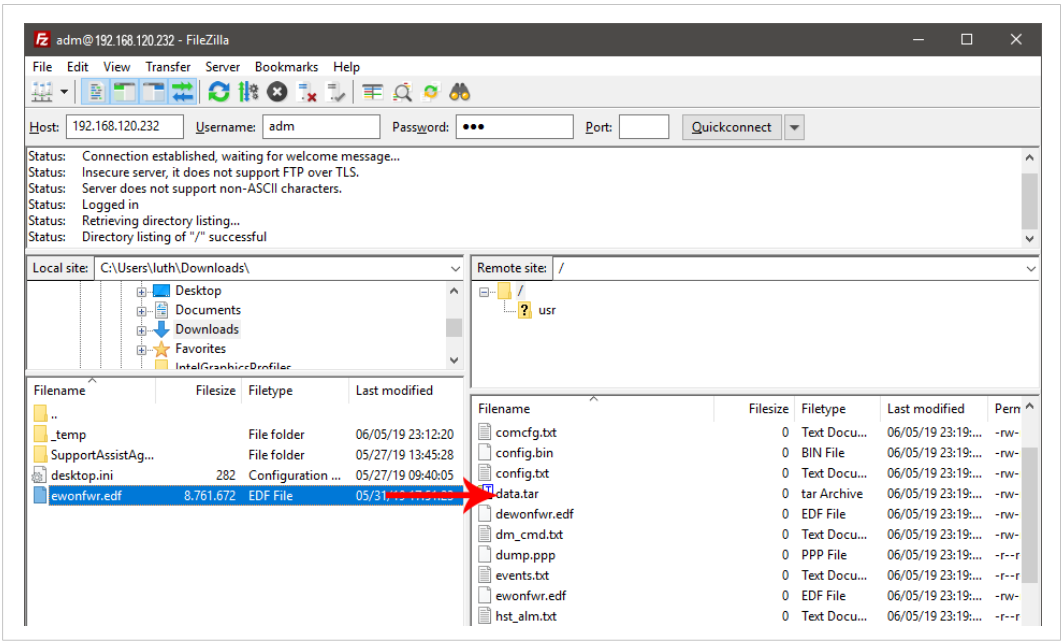

Fig. 17 Transfer the update file

5. Close the FTP connection.

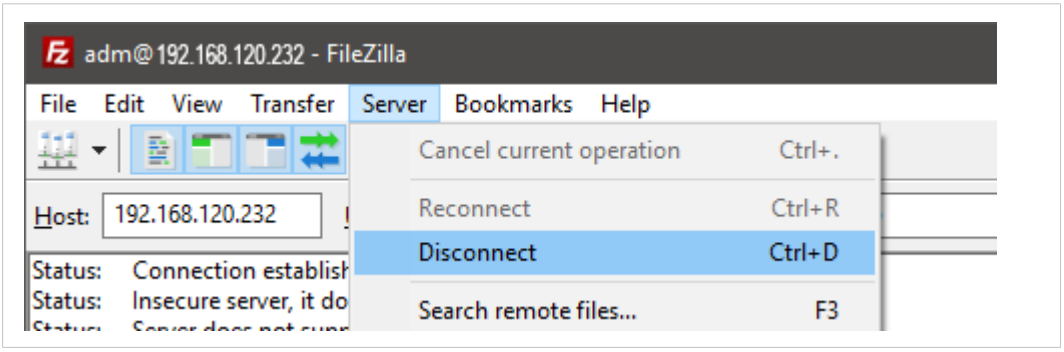

Fig. 18 FTP disconnection

6. The USR LED switches colors every second, between red and green. This phase can last from 5 to 15 minutes.

   → This phase indicates the Ewon is processing the update file.

7. Wait for the Ewon to reboot.

   → If the reboot occurs quickly after closing the FTP connection► it is highly probable that the update did not occur (failed or update already performed previously).

   → If the reboot occurs a while after after closing the FTP connection ► it is highly probable that the update succeeded.

4.3.1 Successfulness Verification

To verify that the update has successfully occurred, you must verify the modem firmware version.

To do so, please refer to *Modem Firmware Version, p. 7*.

If the update was a success, the Ewon should display the following modem firmware version:

- For EU models (Cosy 131 and Flexy extension cards): FW20.00.**404** (instead of FW20.00.**402 or** FW20.00.**403**)

- For NA models (Cosy 131 and Flexy extension cards): FW20.00.**505** (instead of FW20.00.**502 or** FW20.00.**504**)

5 Troubleshooting

Error: The Ewon does not reply anymore

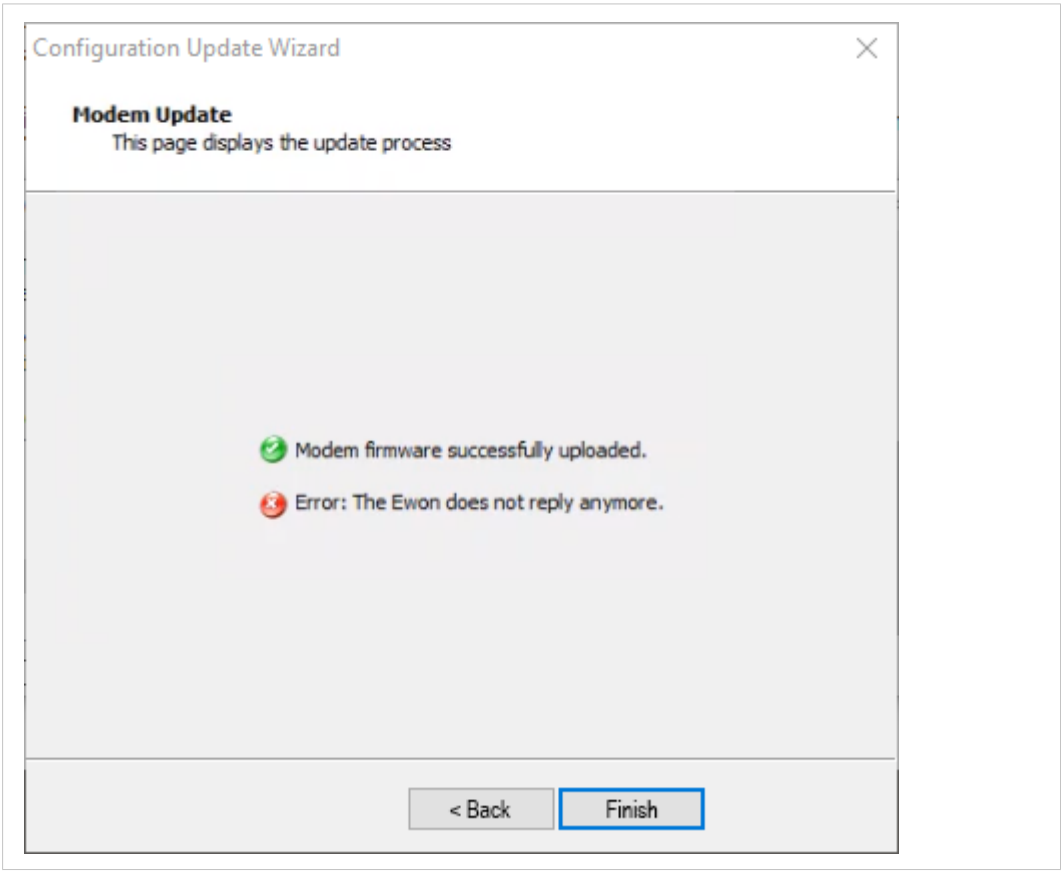

Fig. 19 Ewon Timeout

The Ewon can take up to 15 minutes to perform the update. It may happen that the Ewon takes longer than expected to apply the update, reboot and be reachable again.

This doesn’t necessarily mean the update failed:

- There is no need to push the *Back* button. Instead, click the *Finish* button, wait for 10 more minutes and check if the Ewon is online/reachable again.
- If your Ewon is on a remote site and is configured to use a triggered connection, you need to send a wake-up sms again to switch the Ewon back online.

The maximum timeout you can experienced is an hour. After an hour, the Ewon automatically reboots regardless of the successfulness of the modem update.

Error: Modem not found or still initializing

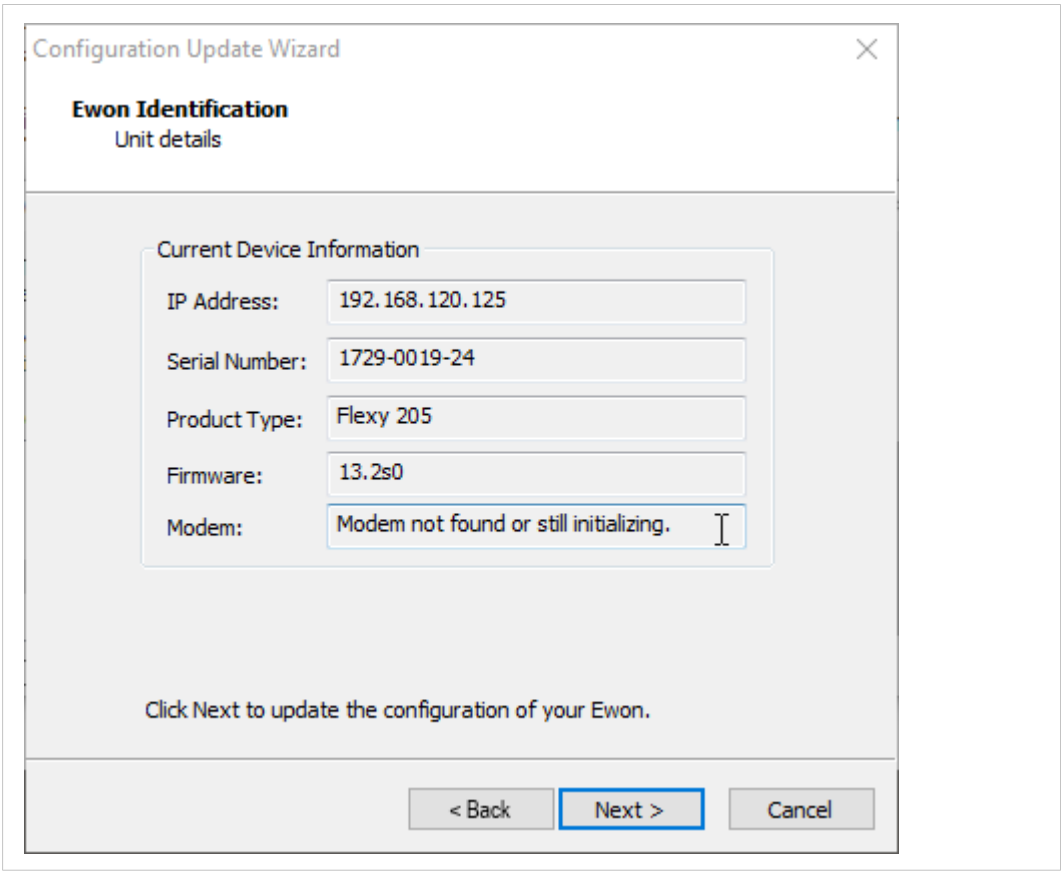

Fig. 20 Modem not ready

The Ewon takes a little bit of time to initiate its modem and display the modem information.

Make sure you wait at least 5 minutes before browsing to the *System Info* web page of the Ewon or before launching the SIB Fix Tool to verify the modem firmware version.

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