

# SKF @ptitude Observer 13.6

Release summary

February 2025



*Please read this document. Important information not covered in the @ptitude Observer User Manual is listed here.*

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## Requirements

Software and FW requirements in Observer 13.6



## Requirements

### Software and FW requirements in Observer 13.6

- Recommended IMx-1 GW firmware version – **5.1**
- Recommended IMx-1 Sensor firmware version – **5.0**
- Recommended IMx firmware version – **7.8**
- Recommended Microlog dBX SW version – **1.2**
- Monitor Service requires **64bit** OS

**Note:** Since Microsoft no longer supports MS SQL Server 2014, the required minimum version is now MS SQL server 2016. SQL server 2016 will have extended support from Microsoft until July 14<sup>th</sup> 2026.

## New features

### License key is now required to show plots

From software version 13.6 it is not possible to install and view plots without a license key.

### Process gating

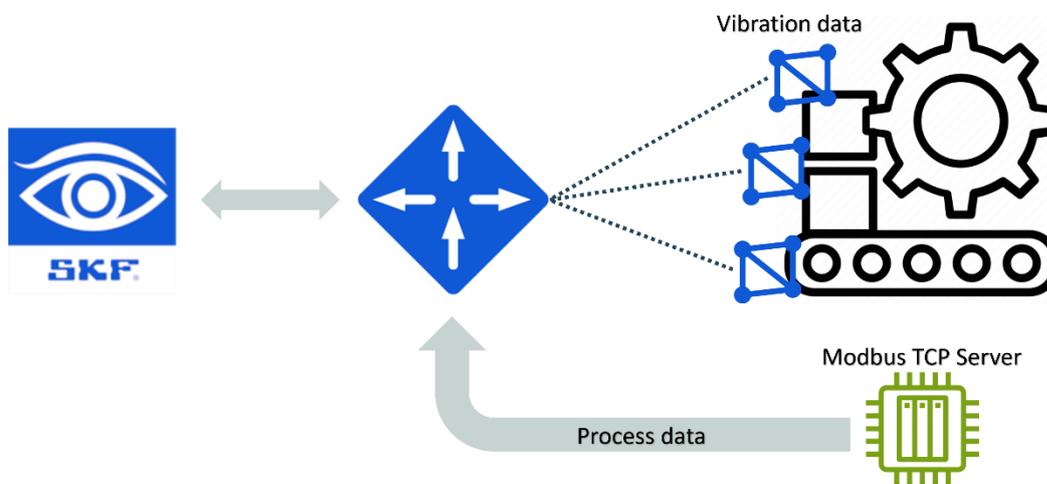
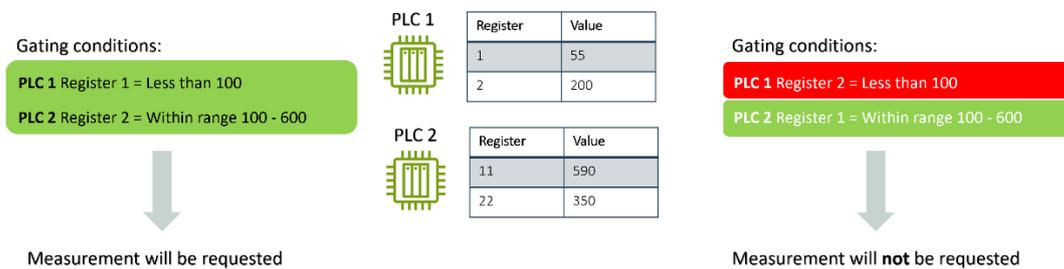


Figure 1 SKF @ptitude Observer process gating and streaming – IMx-1 System and Modbus TCP

The objective is to acquire measurement data only if it is relevant for condition monitoring purposes. When a measurement is taken, the process value can be attached as speed to the trend value.



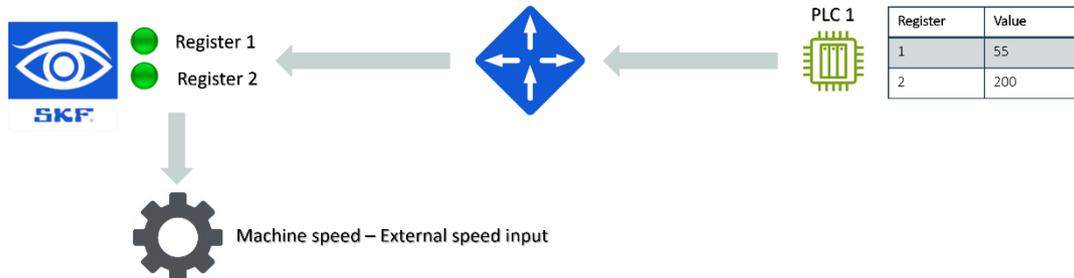
## New features

### Process streaming



## Process streaming

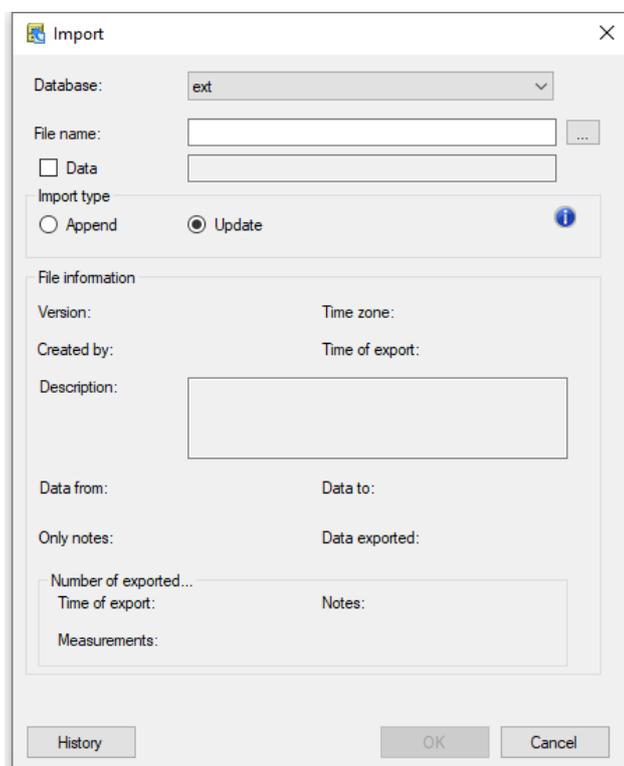
Process data values can be streamed to the backend at a customer-defined interval, with a minimum value of 1 minute and a maximum value of 1 day.



## Microlog dBX – Importing directly to root node

A new import option called **update** has been added, which can be used to update data for an existing hierarchy. This is useful when there is a need to synchronize two databases.

**Note:** Only Microlog Points are supported for this type of import. Other types of Points will not be imported.



## NEW FEATURES



### Importing and exporting notes

#### Import and export history

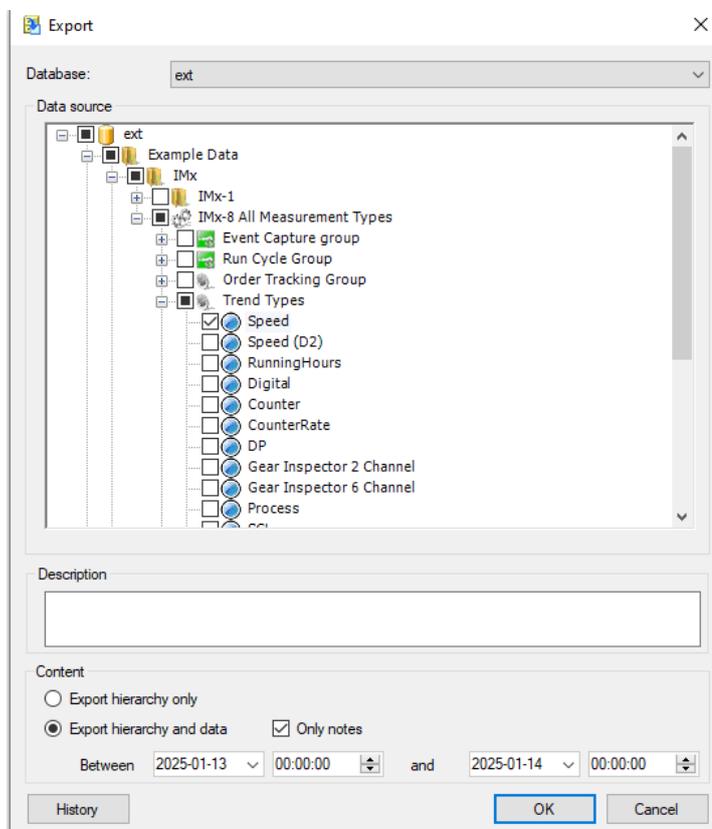
To help keep track and troubleshoot when importing and exporting, we have added the option to check the history.

Select **Database > History** to open Import & Export view.

Timestamp	Type	Settings	User	Description	No. Notes	No. Nodes	No. Measurements	From	To	Origin timezone	Origin database id
2025-01-13 16:19:32	Import	Data and update	admin, admin		1	536	0	2025-01-12 23:00:00	2025-01-13 23:00:00	W. Europe Standard Time	07d1ac77-911e-4616-b0ce-36924599b400
2025-01-13 16:18:59	Export	Hierarchy & notes	admin, admin		1	536	0	2025-01-12 23:00:00	2025-01-13 23:00:00	W. Europe Standard Time	07d1ac77-911e-4616-b0ce-36924599b400

#### Importing and exporting notes

The option to import and export notes in Observer has been added. Notes can be exported separately or together with hierarchy and data.

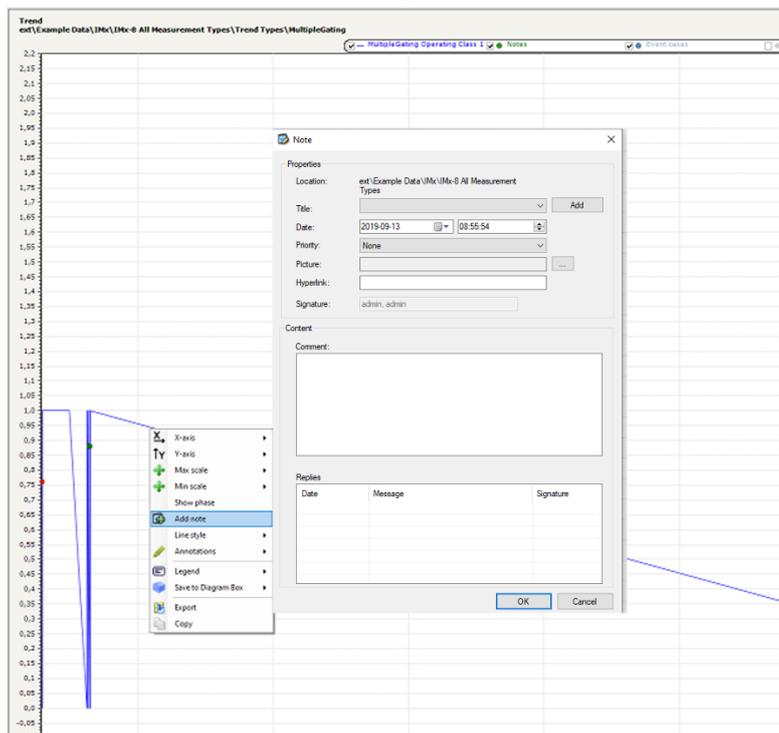


## New features

### Adding a note on trend plot

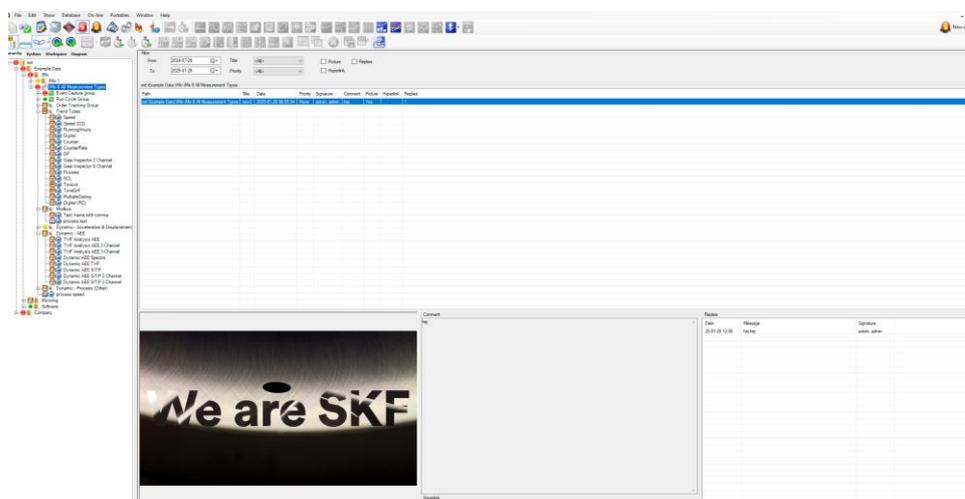
## Adding a note on trend plot

It is now possible to add a note by right-clicking directly on a trend. This should make it smoother to add notes when analysing trends.



## Notes

Functionality has been added to use notes to communicate with other users of the same database. Select **File > Notes** to open the Notes view.



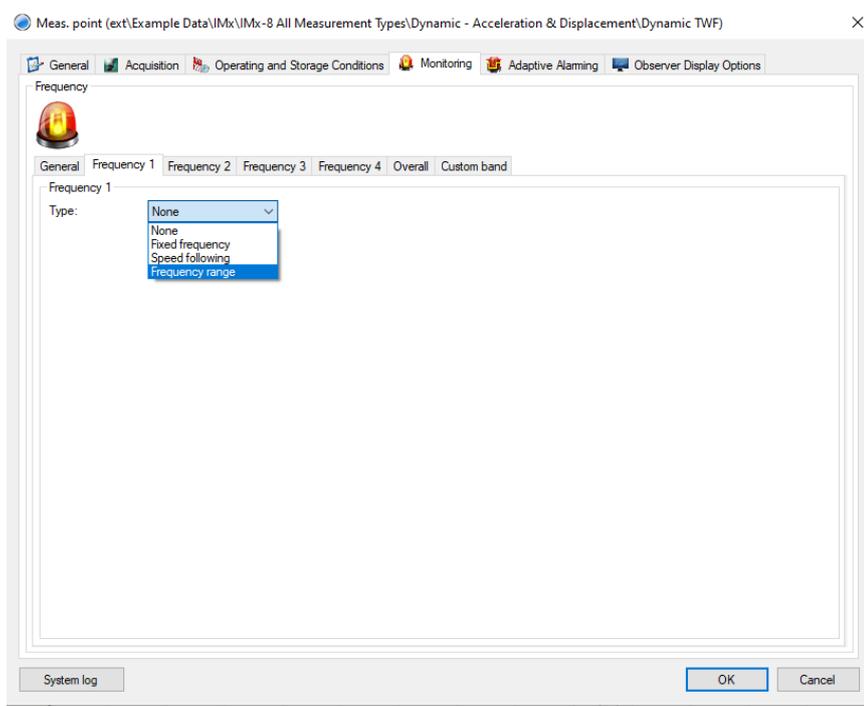
## NEW FEATURES

### Phoenix API



## IMx-8/16 Power in bad/RMS

The **Frequency range** option has been added for F1-F4, which can be used to extract the band values (RMS) via Modbus.



## Phoenix API

The framework has been upgraded to .NET 6. This should significantly improve performance when using the Phoenix API.

Dashboard APP requests:

- Added API to retrieve pictures
- Create a note
- Edit an existing note
- Post a picture to an existing route
- Delete a note

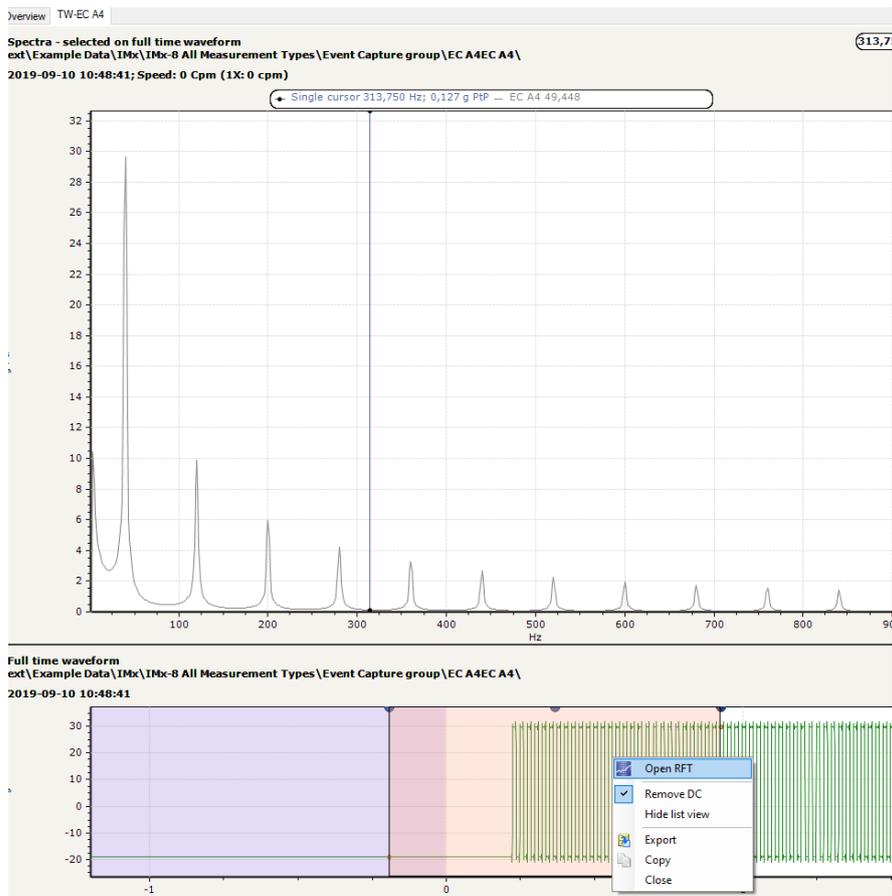
A new endpoint, v1/systemcheck, has been added. This allows you to get information about when a sensor/point has not received data within a specified period. The period is defined using the **Auto Alarm** feature in Observer.

For more detailed information, refer to the API documentation.

## Enhancements

### RFT for capture event

RFT support for Event Capture has been added. Right-click on the part of the waveform you want to select in the Event Capture form. Then, choose **Open in RFT**.



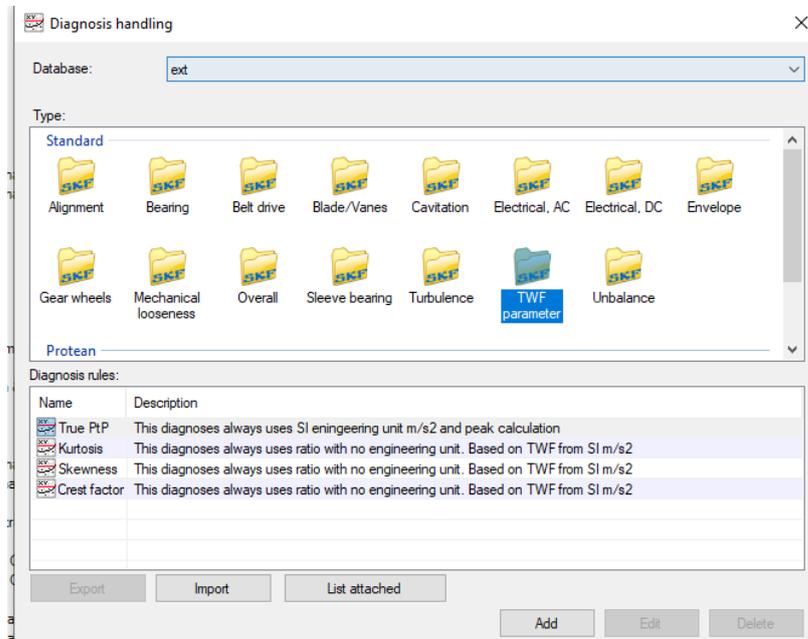
## ENHANCEMENTS

### Data Bridges languages



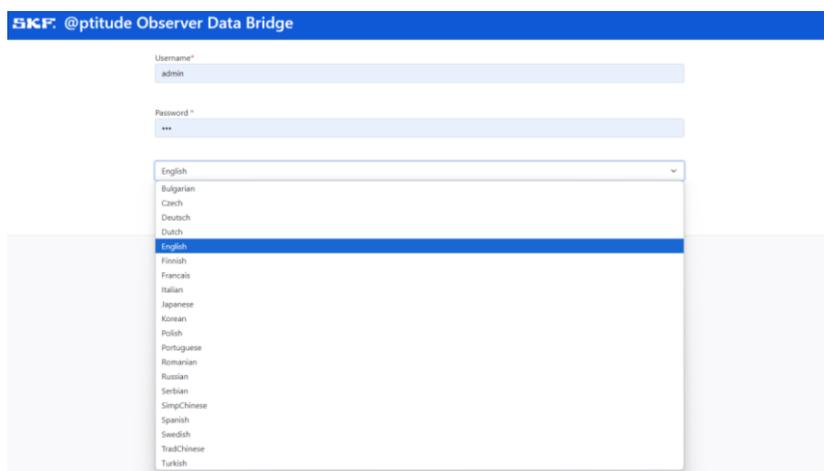
### TWF Crest factor

A new diagnosis rule has been added to allow the analysis of crest factor, kurtosis, and skewness for all points that store time waveforms



### Data Bridges languages

An option to change the language in Data Bridge has been added, which can be found in the settings menu. The available languages are the same as in Observer: Czech, German, Spanish, French, Italian, Japanese, Korean, Portuguese, Romanian, Russian, Traditional Chinese, Simplified Chinese, Turkish, and Swedish.



## **Bugs**

### **Fixed bugs**

- Fixed more than 50 bugs
- Analyse: 6
- Configuration: 12
- Data Bridge: 1
- Other: 13
- Railmo: 12

For a full list of fixed bugs, refer to the change log.

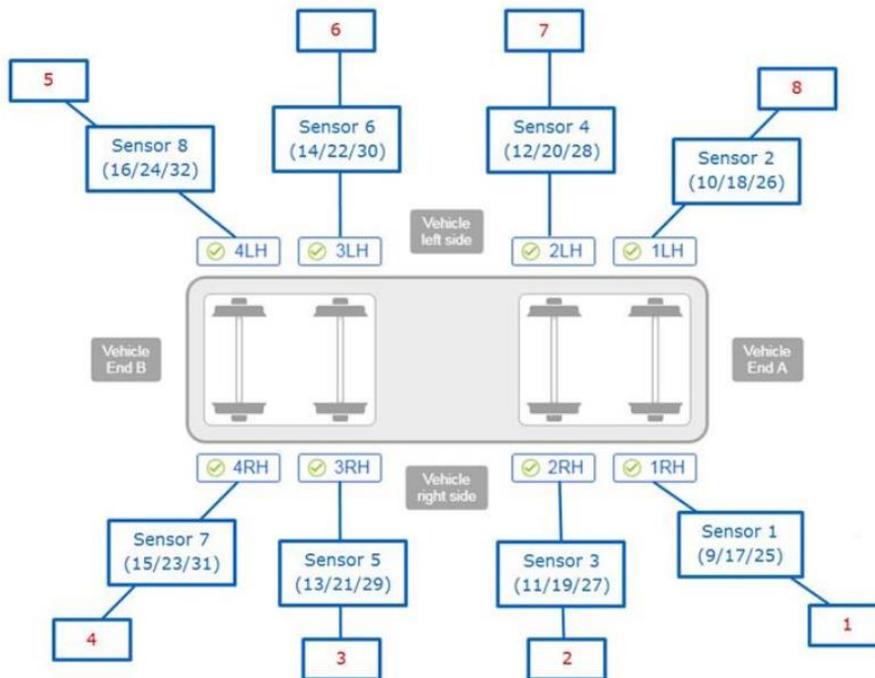
## Rail Monitoring new features

### Insight Rail – Switching between alias names for assets in Observer hierarchy

For any asset (Train, Axlebox, etc.) in the hierarchy, it should be possible to switch between the default ‘SKF’ naming and a ‘customer-specified alias’. The ‘alias’ name should be received from the Gen2 backend, and Observer should provide RDC with an easy way to toggle which name is displayed in the hierarchy at any time.

This means that we can more easily handle situations like the ones below:

- 377123-1.1.LH (default SKF naming)
  - Train=377123, Carriage=1, Axlebox=1LH
- 78523 Wheel 8 (customer naming for the same location)
  - Carriage 1 on Train 377123 is EVN=78523, and the position we call 1LH is what they call Wheel 8.



In the **Machine properties** pop-up for the Insight Rail sensor, if the customer labelling name is present, it will be displayed in this pop-up.

# Rail Monitoring new features



## Insight Rail – Switching between alias names for assets in Observer hierarchy

Machine properties

General Extended Information Machine speed Diagnosis Protean Diagnoses Attachments Advanced Machine parameters RailMo Enlight

Insight Rail sensor

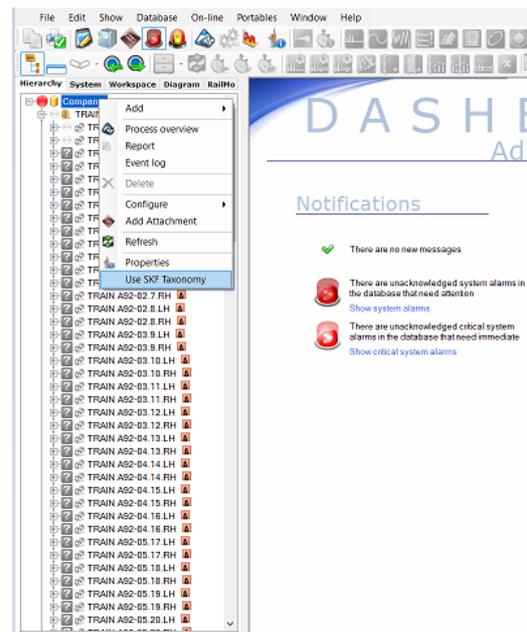
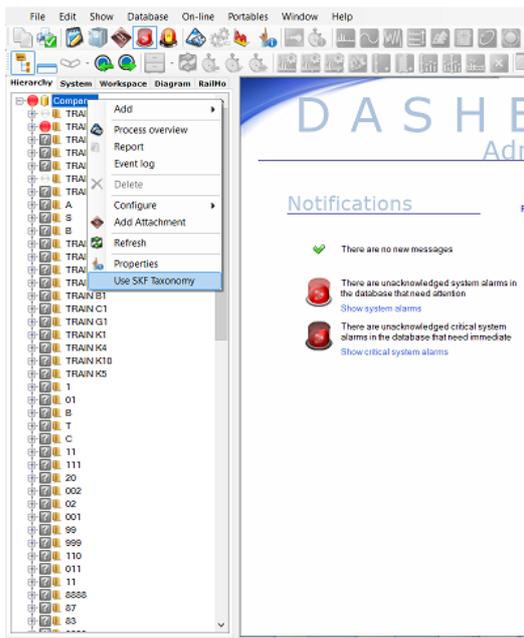
Insight Rail sensor

Sensor Metrics	
Sensor IMEI	

Location Properties	
Vehicle EVN or UIC	D20048
Wheelset position	110
Wheelset type	SelfPowered
Wheel side	Left hand side
Wheel Diameter	950
Vehicle status	InService
Inner bearing manufacture	TIMKEN-AP-2 SKFTest 12
Inner bearing designation	
Outer bearing manufacture	TIMKEN-AP-2 SKFTest 12
Outer bearing designation	
Customer labeling name	

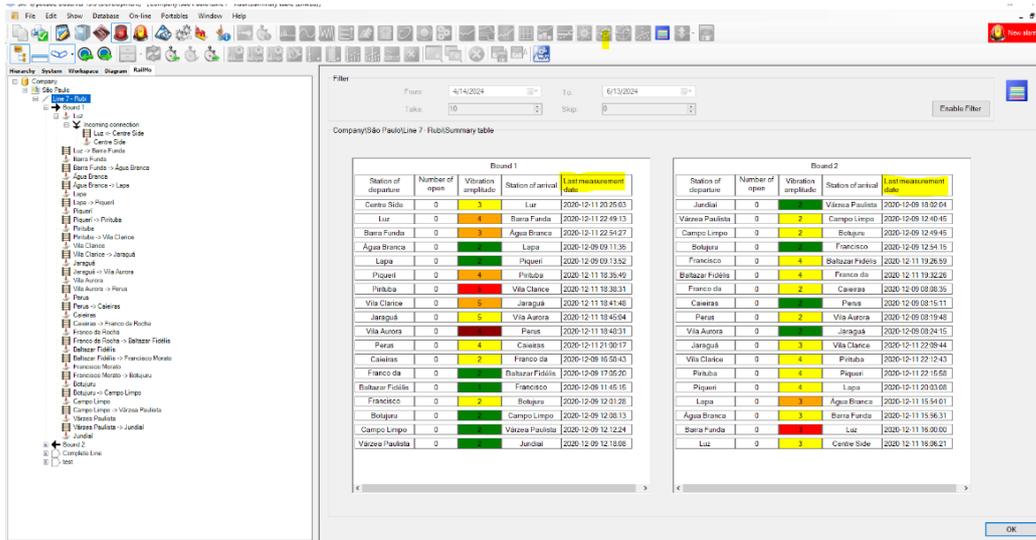
In the Observer hierarchy, for the company node, an option is given to use customer taxonomy. If the customer's name is displayed, then the option will show **Use Apple Taxonomy**. You will be able to switch between these views to display either Customer or SKF naming accordingly.



Add date when last measurement was received to Line Summary table

### Add date when last measurement was received to Line Summary table

In the Mo system for users, it is often unclear from which date the last assigned data in the Line summary table is. The analysis picture sometimes shows a status that might be several weeks old. Therefore, it would be good to have an additional column with the date of the last assigned record.





### Optimizing automatic deletion of RailMo data

Optimized the stored procedure for efficiently and quickly deleting matched/unmatched captures of RailMo data.

Under Observer **Options-> RailMo** tab there is an option to delete Matched/Unmatched captures and Noise monitoring data for a specific time in order to keep a check on the database size.

As the data is too large (a few TB) for one of the customers, enabling this feature is causing Observer to crash.

Hence, we created a database job that deletes data in batches to prevent the system from crashing. We tested the job for a few weeks, and when it worked well, we added it to the stored procedure that is called when this feature is enabled from Observer.

**Automatical deletion of old data**

**Enable**

Matched RailMo captures:  [Months]

Not matched captures:  [Months]

\*Noise Monitoring data :  \*[Months]

### Compatibility of RailMo, Eventcases, Insight, and all 3 RailMo web clients with .NET 6.

Changes have been made to all three web clients to ensure they work as expected with the Phoenix API .NET 6 upgrade.

Additionally, several changes were made to the RailMo, Eventcase, and Insight APIs to return data as expected. The Insight Rail and web clients required data in a defined format, and after the .NET 6 upgrade, they were not working as expected.

EventCase		
GET	/v1/eventcases	A list of all event cases
GET	/v1/eventcases/pictures/{pictureId}	Retrieve picture from the event case report
DELETE	/v1/eventcases/pictures/{pictureId}	Delete a picture in Observer based on pictureId.
POST	/v1/eventcases/{eventCaseId}/{reportId}/confirm	Post confirmation of a report into the event case.
POST	/v1/eventcases/{eventCaseId}/{reportId}/correct	Post correction of a report into the event case.
POST	/v1/eventcase	Create event case in Observer
GET	/v1/eventcases/{eventCaseId}	Fetch event case related to the EventCaseId
POST	/v1/eventcases/pictures	POST picture to the event case report

# Rail Monitoring enhancements



Compatibility of RailMo, Eventcases, Insight, and all 3 RailMo web clients with .NET 6.

MainLine		
GET	/v1/mainline/trains	List all trains in mainline
GET	/v1/mainline/{trainId}/shocks	List all shocks of trains in the mainline
GET	/v1/mainline/{machineId}/shocksAmplitude	List noise amplitude of machines.
GET	/v1/mainline/microphoneMachines	List all machines which has microphone points under them
GET	/v1/mainline/frequencyBandsList	List all frequency bands of all microphone points

RailMo		
GET	/v1/railmo/trains	All trains
GET	/v1/railmo/trains/{trainId}	Single train
GET	/v1/railmo/stations/{captureid}	Stations
GET	/v1/railmo/station/{stationId}	Single Station
GET	/v1/railmo/stations	All Station
GET	/v1/railmo/lines	All lines
GET	/v1/railmo/bounds/{id}	Bounds
GET	/v1/railmo/sections/{id}	Sections
GET	/v1/railmo/sections/{id}/captures	Captures
GET	/v1/railmo/region	Regions
GET	/v1/railmo/sections/{id}/chainagecaptures	ChainageCaptures
POST	/v1/user/acceptEULA	Accept EULA
POST	/v1/user/password/change	Change password
GET	/v1/railmo/configurations	RailMo Configurations
GET	/v1/railmo/Getobserverversion	RailMo Get observer version and DB Name

Insight		
POST	/v1/insight/testJsonSchema	
POST	/v1/insight/telemetry	Saves a new dynamic measurement into the database
POST	/v1/insight/vehicle	Receives Vehicle commission CREATE or UPDATE from Insight Rail Cloud – Example URL for call: http://localhost:50000/api/InsightVehicle
GET	/v1/insight/getNodeIDandNodeName	Returns NodeId and NodeName corresponding to the VehicleID, WheelsetID and AxleboxID passed.

## Rail Monitoring fixed bugs

### Insight Rail MVP – Failing Observer telemetry

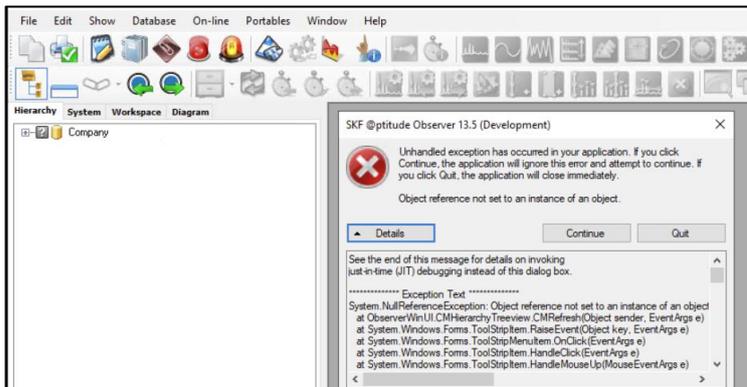
The Telemetry API was failing to save to Observer in the Observer Service. Observer complains about *energy\_remaining* being empty

```
{
  "level": "Error",
  "message": "Observer telemetry value error",
  "requestId": "5877a004-237c-5ceb-9c53-fea574b3cac8",
  "xrayTraceId": "1-66275595-3661a835937bb472bdd081af",
  "details": {
    "vehicleId": "21aaad11-d8a6-4eb7-95a9-f4a5f9c1cd96",
    "wheelsetId": "011f33c8-f957-4bcd-9b8c-5a34d07d5655",
    "axleboxId": "5e2ca89c-47c0-4b6a-b1cb-cafac488275f",
    "sensorId": "IMEI354033096781151",
    "type": "energy_remaining",
    "result": {
      "error_message": "Measurement Value is empty"
    }
  }
}
```

This was happening because Observer was treating 0 as a missing value, whereas it is a valid measurement value. Changes were made so that if the measurement value tag is empty in the Telemetry JSON, it is considered empty. However, if the value is 0 or 0.0, it is considered a valid measurement value and accepted.

### Refreshing Observer with empty hierarchy generates error message

When a user opens any database in iOS, removes all nodes under Company, and right-clicks to refresh the Company node, an error popup appears as follows:



This bug is now fixed.

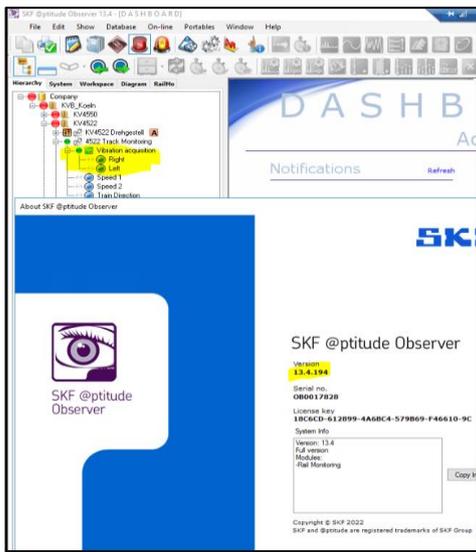
## Rail Monitoring fixed bugs



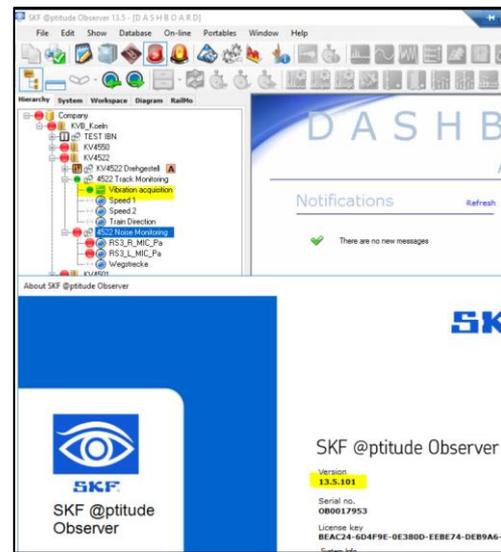
Measurement Points of capture groups not appearing on the hierarchy

### Measurement Points of capture groups not appearing on the hierarchy

After upgrading Observer from 13.4 to 13.5, measurement Points of capture groups are not reflecting in the hierarchy. Upon clicking the plus/expand option, it shows empty for all capture groups, such as event capture, run cycle capture, and schedule capture.



Observer 13.4

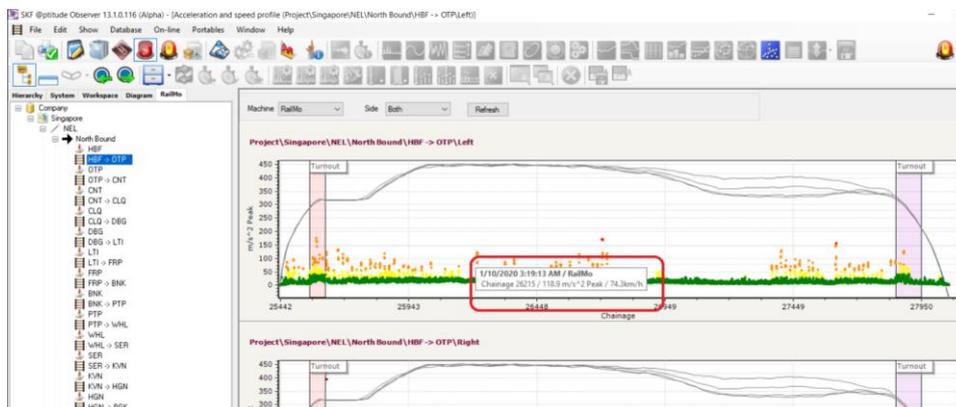


Observer 13.5

We found that this was happening due to Insight Rail hierarchy changes. As a fix, we added a validation check for the event capture group globally using the *IsHavingInsightAccess* property.

### Tool tip is missing in the spectrum Point from 13.4 build

Tool tip functionality to show machine details and point details is no longer visible in the spectrum Point after the 13.4 release. Due to this, users are unable to get point information. Expected result was that it should be shown as below which was missing in the latest version.



This bug now fixed.

## RAIL MONITORING FIXED BUGS



Capture view shows data, but rail acceleration and speed profile page are empty

### Observer data transmission delay

The captures was “discarded” based on current day, If buffered data was arriving a lot was “discarded”.

#### Example

IMx day 1, storing 300 capture, communication to monitor ok. Monitor stores 50 and truncate 250

IMx day 2, storing 300 capture, communication to monitor Not ok.

IMx day 3, storing 300 capture, communication to monitor Not ok.

IMx day 4, storing 35 capture, memory full, communication Not to monitor ok.

IMx day 5, storing 0 capture, communication to monitor Not ok.

Communication back, **Monitor stores 50 captures form day 2 and truncate the rest.**

IMx day 6, storing 300 capture, communication to monitor ok. Monitor stores 50 and truncate 250

Monitor should store

IMx day 1, Monitor stores 50

Communication back day 5

Monitor stores 50 captures form day 2

Monitor stores 50 captures form day 3

Monitor stores 35 captures form day 4

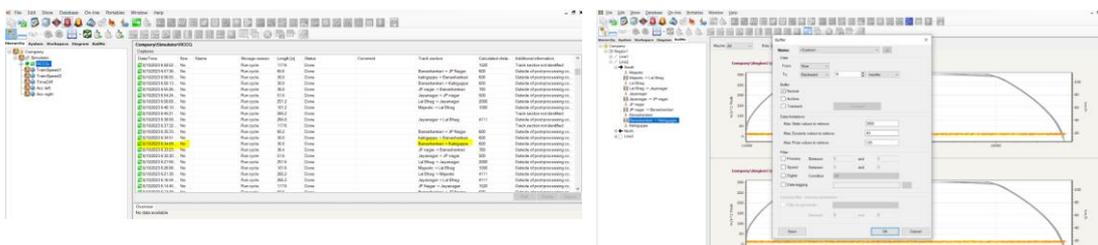
Monitor stores 0 captures form day 5

We made changes in the code to get the last capture date and event capture for the days when the monitor service was stopped. Additionally, changes were made to find the event capture’s last captured date in the query using **created at** instead of **updated at**.

### Capture view shows data, but rail acceleration and speed profile page are empty

Post Observer **13.4** update

In the main capture view, we can see that there is data captured but when you go to **RailMo > Select the railway line > Acceleration** and **Speed profile** there is no data.



When filter is applied, no latest data is seen

This bug fix was delivered in build **13.5.1**.

## Rail Monitoring fixed bugs

Metro Web Client: Event cases confirmed option is not working

### Metro Web Client: Event cases confirmed option is not working

Unable to confirm the event case from the web client. It is throwing the error as below:

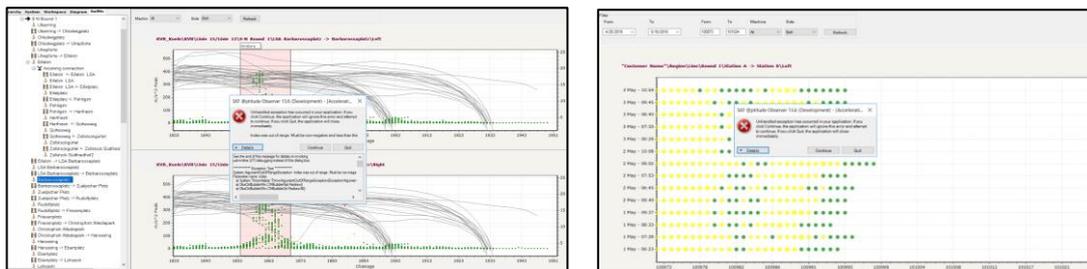
Line	From	To	Bound				
Linie 15/Linie 12	Chlodwigplatz	Ullreppforte	S-N Bound 1				
ID	Date	Chainage	Rail	Analyst Severity	Confirmed	Action	Charts
4	25 Nov 2020, 12:55:17 PM	420-450				Not set, please confirm	

Unable to confirm exception in Observer EventCase service. The current view MAY be incorrect. Please check log for further information.

This bug is now fixed.

### Exception when clicking on measurement in bubble chart, speed and acceleration page

Getting an unhandled exception when clicking the measurement from the bubble chart and also from the Speed and Acceleration page.



This bug is now fixed.

### Metro: Departure and arrival stations are the same for both bounds but should be reversed for the opposite bound.

In Metro web client stations are showing same for both bounds although they should be reversed when looking at the opposite bound.



Bound 1: Incoming connection



Bound 2: Outgoing connection

This bug is now fixed.



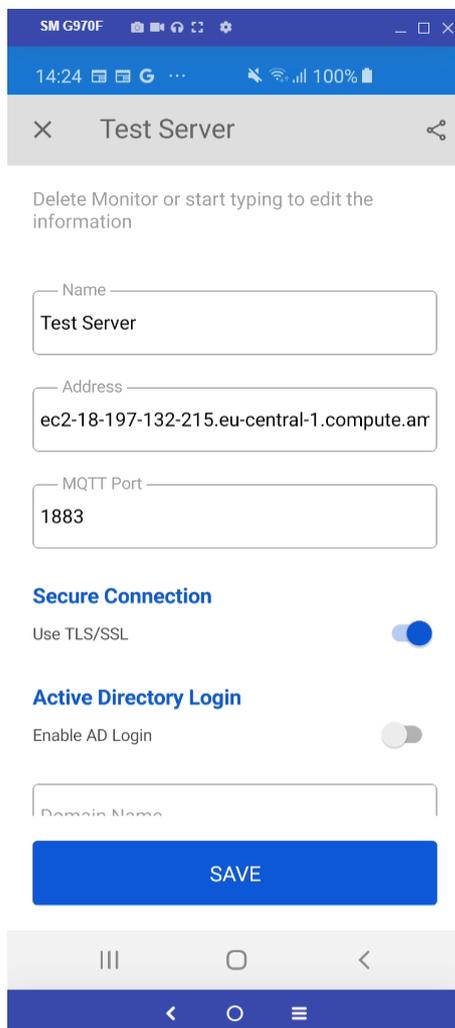
## Enlight Collect Manager Phoenix dashboard new features

### Sharing monitor settings via QR code

The monitor setup now includes an option to generate a QR code, which can be shared or saved to a file and used to replicate the same setup on another device.

Click on the share icon  in the top right to generate a QR code and display it in a new window.

On the Monitors list, there is a camera icon on the caption bar. Click to activate the phone's camera, and to scan the QR code. The monitor settings will be imported.



The screenshot shows a mobile application interface for editing a monitor. At the top, there is a title bar with 'Test Server' and a share icon. Below the title bar, there is a text input field for 'Name' containing 'Test Server', an 'Address' field containing 'ec2-18-197-132-215.eu-central-1.compute.ar', and an 'MQTT Port' field containing '1883'. There are two toggle switches: 'Secure Connection' (Use TLS/SSL) which is turned on, and 'Active Directory Login' (Enable AD Login) which is turned off. Below the toggles is a 'Domain Name' input field. At the bottom of the form is a blue 'SAVE' button. The entire form is displayed within a mobile browser window with a status bar at the top showing the time as 14:24 and 100% battery.

Note replies

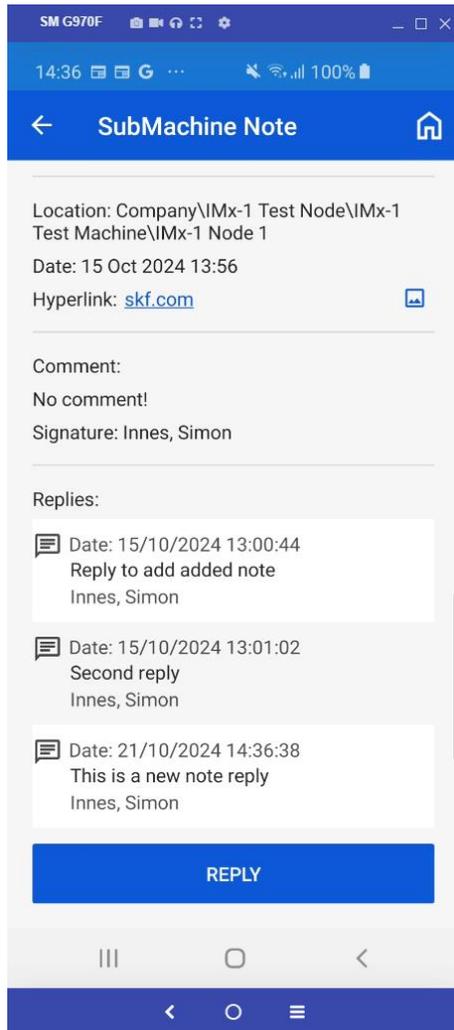
### Note replies

When used with Observer 13.6, users may view the new note replies and add new replies to the note.

Click **Reply** to enter a reply and post it back to Observer.

Only users whose Observer role includes editing of notes will be able to send replies.

A prompt will ask for confirmation before posting the reply to Observer.



### Notes pictures

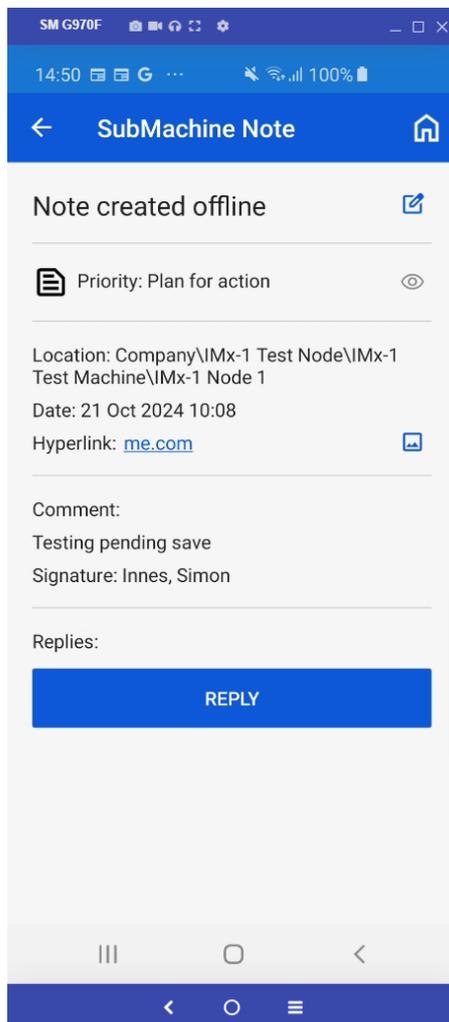
When used with Observer 13.6, users may view or replace the note picture.

If the picture icon next to the Hyperlink text is in gray colour, this means the note does not have a picture.

Clicking on the picture icon when there is no picture will show a prompt allowing the user to choose a picture from the phone's photo library or take a picture using the camera.

The picture can be previewed before using the Add button to save it to Observer. Once added, the picture icon is colored blue.

A similar process exists for notes with existing pictures, whereby the picture may be replaced.



## Editing an existing note

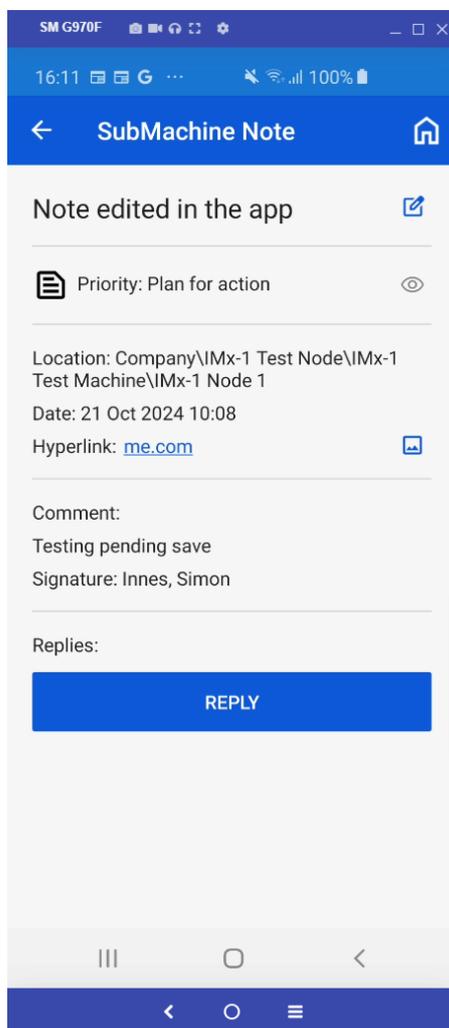
## Editing an existing note

When used with Observer 13.6, users may edit an existing note.

This requires note editing privileges. If the user has these, an edit note icon will be visible at the top right of the note title.

When the icon is clicked, a note editing view will pop up, allowing the editing of the four main fields of the note. Other properties, such as pictures and replies, are handled separately.

Click **Save** to save any edits back to the server.



## Entering a new note

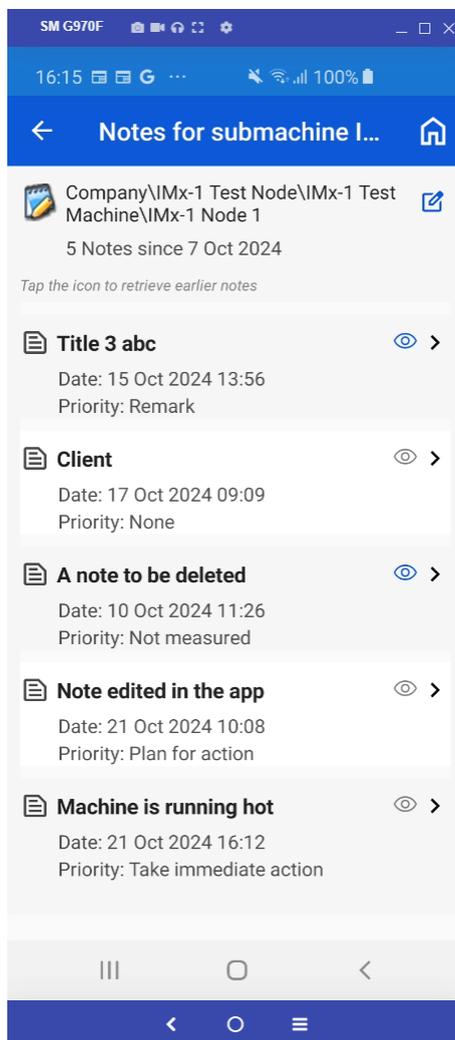
### Entering a new note

When used with Observer 13.6, users may create a new note using the app.

This requires note editing privileges. If the user has these, a create note icon will be visible in the top right of the notes list (only when this list is showing notes for a single location).

When the icon is clicked, a note editing view will pop up, allowing the editing of the four main fields of the note. Other properties, such as pictures and replies, are handled separately. The note title and comment are mandatory before saving is allowed.

A confirmation prompts before saving the note. Once saved, it will appear in the original list.



## Deleting a note

## Deleting a note

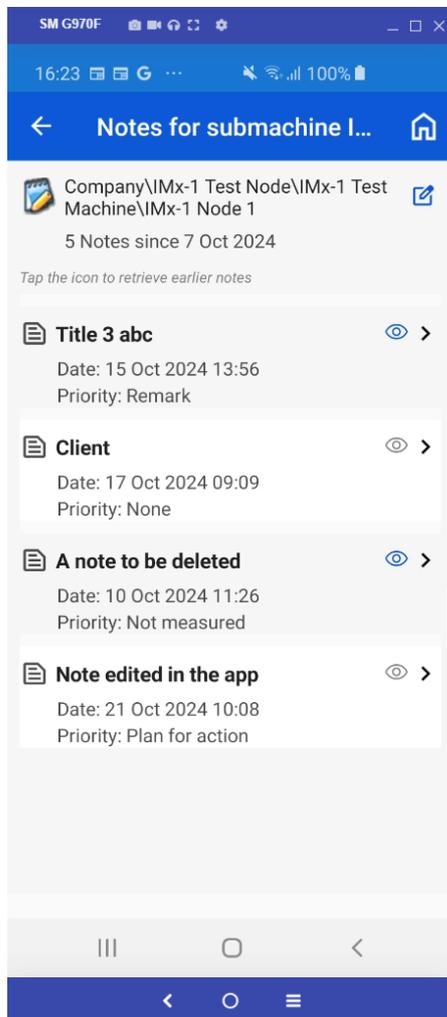
When used with Observer 13.6, users may delete notes.

This requires note editing privileges, and users may only delete notes that they originally created. To delete a note, swipe it to the left and a **Delete** option appears.

If you attempt to delete a note created by someone else, the action is blocked.

If the user is allowed to delete the note, a confirmation prompt appears.

If the user chooses to delete the note, a confirmation message will appear once it is deleted and it will no longer appear in the list.



### App translations

The app supports the languages that are available in Observer.

The app will follow the primary language selection in Android or iOS.

