SVANTEK

svan net

USER MANUAL

SvanNET
ON-LINE MONITORING
SOLUTIONS

Warsaw, 2022-05-25
Rev. 2.01

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1 WHAT IS SVANNET

SvanNET is an online solution that supports connections with Svantek noise & vibration monitoring stations. To ensure the reliability and data security the SvanNET has been located on the Microsoft Azure™, the cloud platform working through global network of Microsoft-managed data centres. SvanNET includes the standard function - *Remote Communication Services* available to all SvanNET users and the optional extension - *Automatic Monitoring Services* offered via a license for SvanNET Users.

Remote Communication Services maintain remote connection with the monitoring devices and service includes status alarms (e.g. battery, memory), remote access to device settings and measurement files stored in the device and preview of the current results and recent time-history graph.

Automatic Monitoring Services offers automatic control of measurement points, data sharing with other SvanNET users as well as data preview in the form of a customised website with either public or restricted access. The preview website can be customised with a logo and individual project name. Access to the preview can be either open to the public or protected by a password.

To support noise, vibration & dust monitoring SvanNET provides online connection services such as a web interface, access to data files in the monitoring station and status alarms.

SvanNET is an online solution which means it doesn't require software installation and is accessible through a web browser. Connection over SvanNET allows users to use a web browser on any device such as mobile phone or tablet to watch real-time measurement results, download measurement files and configure the station settings.
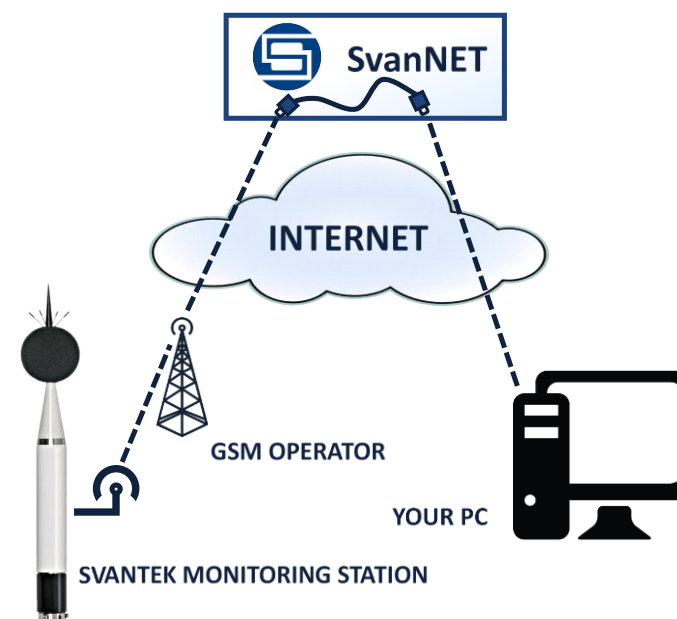
Before start using the SvanNET web-service:

1. Check that your local distributor has created the SvanNET account for you and assigned your station(s) to your SvanNET account.

2. Install connections of your measuring devices with SvanNET (see user manuals dedicated for the measuring instruments). Successful connection with SvanNET is usually indicated by the ⑤ icon on the SVANTEK instrument's display.

3. To access SvanNET, log in to your account at: https://www.svannet.com/panel-login.php

Before logging in, select your language, clicking the appropriate flag.
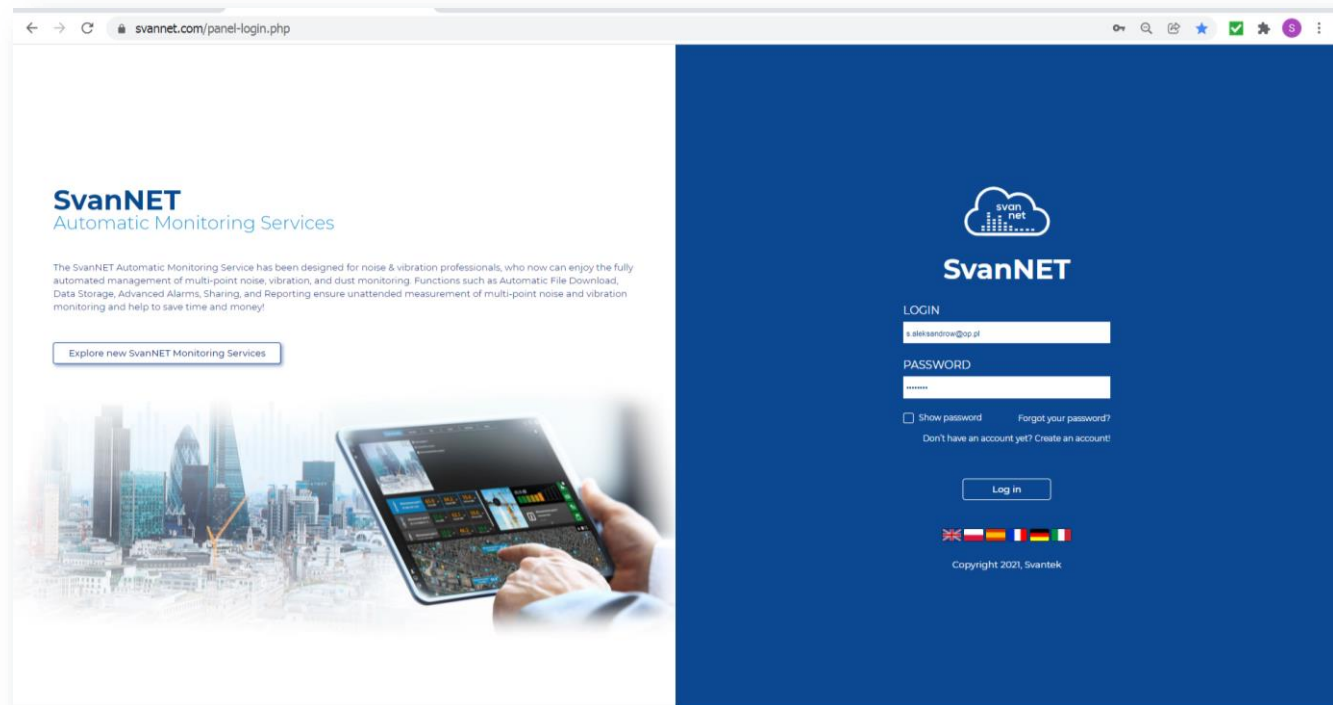
Once logged in, you can use the web interface to control monitoring stations.
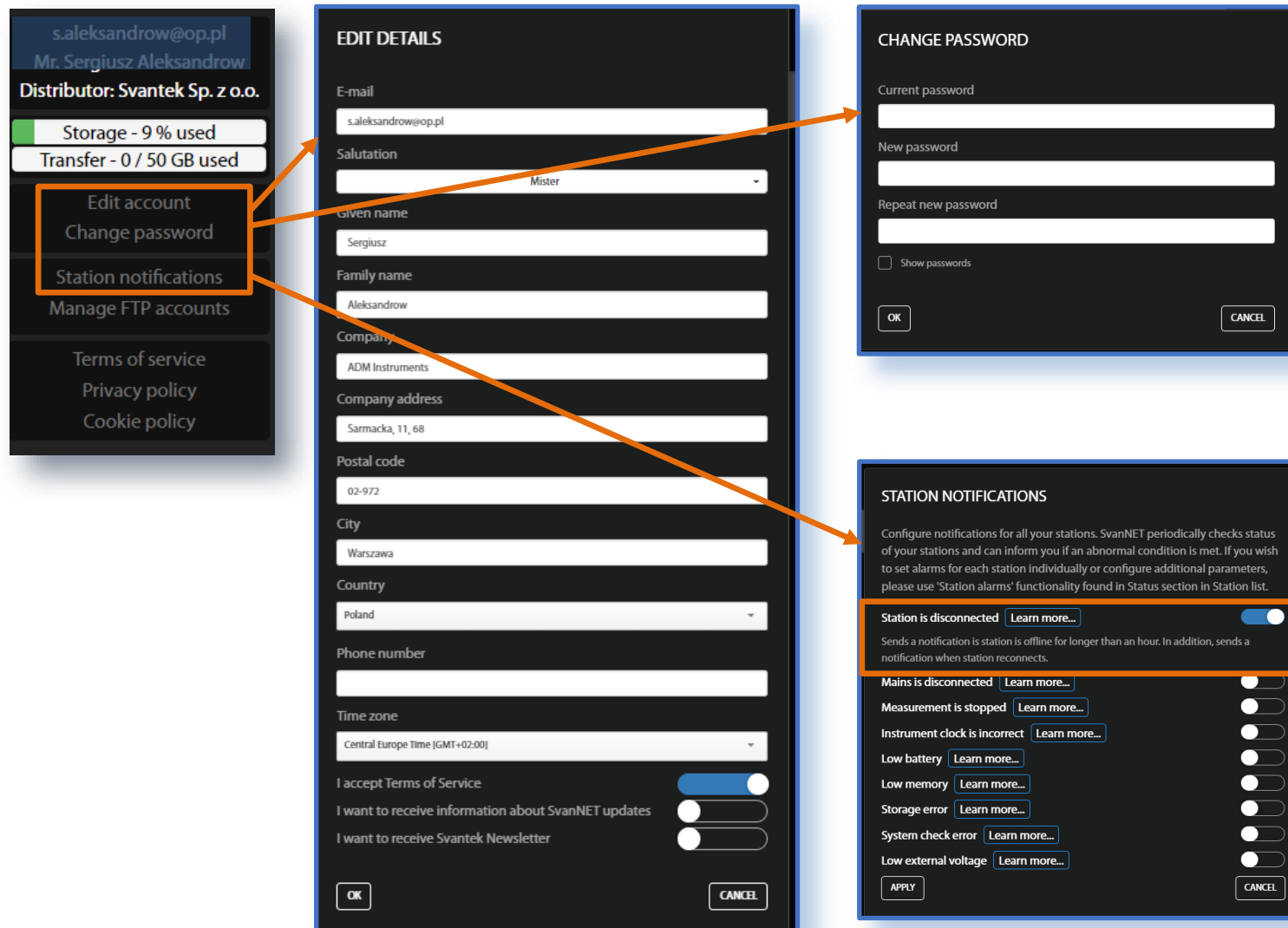
1.1. SvanNET Main and Tool panels

Main and Tool panels are always presented in each view. Main Panel is located at the left side of the SvanNET window and Tool Panel – at the right side. You can extend or hide each panel clicking ▦.
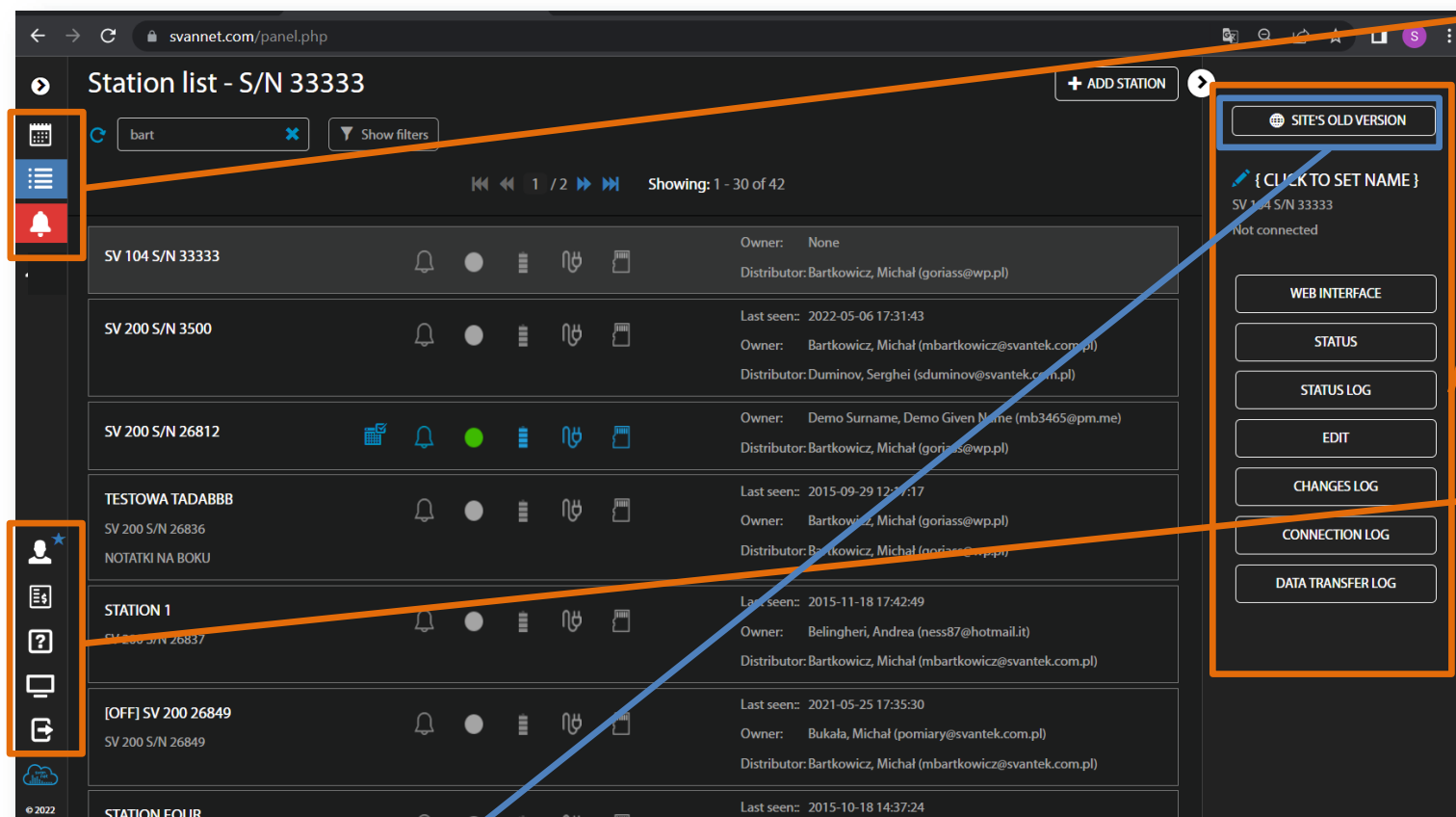
- Upper part of the Main Panel allows you to activate **Project list** or **Station list** tools, check **Warnings**.

- The Tool Panel provides some functions for the station or project control.

- Lower part of the Main Panel allows you to manage user account, activate licences, contact Svantek Support team, change the colour scheme of SvanNET from "dark" to "light" and logout from SvanNET.

- You can change the SvanNET version clicking SITE'S OLD VERSION.

Clicking **Options** [icon], you can edit your account, change password, configure station notifications, manage FTP account, acquaint with the terms of service, private policy and cookie policy.

s.aleksandrow@op.pl
Mr. Sergiusz Aleksandrow
Distributor: Svantek Sp. z o.o.

Storage - 9 % used
Transfer - 0 / 50 GB used

Edit account
Change password

Station notifications
Manage FTP accounts

Terms of service
Privacy policy
Cookie policy

EDIT DETAILS

E-mail
s.aleksandrow@op.pl

Salutation
Mister

Given name
Sergiusz

Family name
Aleksandrow

Company
ADM Instruments

Company address
Sarmacka, 11, 68

Postal code
02-972

City
Warszawa

Country
Poland

Phone number

Time zone
Central Europe Time [GMT+02:00]

I accept Terms of Service
I want to receive information about SvanNET updates
I want to receive Svantek Newsletter

OK   CANCEL

CHANGE PASSWORD

Current password

New password

Repeat new password

☐ Show passwords

OK   CANCEL

STATION NOTIFICATIONS

Configure notifications for all your stations. SvanNET periodically checks status of your stations and can inform you if an abnormal condition is met. If you wish to set alarms for each station individually or configure additional parameters, please use 'Station alarms' functionality found in Status section in Station list.

Station is disconnected Learn more...
Sends a notification is station is offline for longer than an hour. In addition, sends a notification when station reconnects.

Mains is disconnected Learn more...
Measurement is stopped Learn more...
Instrument clock is incorrect Learn more...
Low battery Learn more...
Low memory Learn more...
Storage error Learn more...
System check error Learn more...
Low external voltage Learn more...

APPLY   CANCEL

- Click **Edit account**, to edit your account details in the EDIT DETAILS dialog box.

- Click **Change password**, to change your password in the CHANGE PASSWORD dialog box.

- Click **Station notification**, to configure station alarms in the STATION NOTIFICATIONS dialog box.

  If you click **Learn more**…, the information about this notification will be displayed below.

Clicking **License**, you can activate license for Automatic Monitoring Services, order licenses and check your licenses.

- To activate new license, get its code from the distributor, press the ACTIVATE CODE button and enter the code.

- To order a new option, you should send a request for the new license. For this, press the REQUEST NEW LICENSE, select a **License type** and **No. of periods** and **Submit** the request.

- To check you licenses, press the MY LICENSES button.

Clicking **Support**, you can send the message to the Svantek support team and watch tutorials.

- To send a message to the Svantek support team, press the TECHNICAL SUPPORT button, fill the form and submit the message.

- To watch tutorials, press the TUTORIALS button, click on the tutorial you would like to watch. The tutorials are played using YouTube.

2 SVANNET REMOTE COMMUNICATION SERVICES

Remote Communication Services is a basic SvanNET functionality with the use of the **Station list** tools. Its role is to maintain remote connection with the measuring devices (monitoring stations), station status and measurement alarms, remote access to device settings and measurement files stored in the device and viewing of the current results and recent time-history graphs.

Remote connection with monitoring devices

When you buy one or more Svantek monitoring stations that communicate with the Internet, you automatically get access to SvanNET *Remote Communication Services*. The local distributer should get you the SvanNET account and assign your monitoring stations to your account. After logging to SvanNET you will have remote access to these stations. To connect the station to the Internet, follow the instructions described in the User Manual for this device.

Station status alarms

You can check the status of your monitoring station using status icons or switching to the Status view. If necessary, you can also configure Station Alarms related to the system conditions of the monitoring stations, such as battery status, connection status, memory status, measurement status, etc. Alarms are based on Conditions and relate to Actions, that are default e-mails to the specified recipients.

Device settings

You can configure remotely measurement and data storage settings and, for some stations, station measurement alarms (exceeding threshold levels). For some devices, you can remotely perform calibration check and upgrade the firmware.

Viewing measurement results

You can select the current measurement results to be viewed and monitored as well as to start and stop measurements remotely.

2.1. Station list

Station list displays information about all stations assigned to the user account – turned on and off. You can select the required station by clicking the line with its name. The selection is marked as grey horizontal bar.
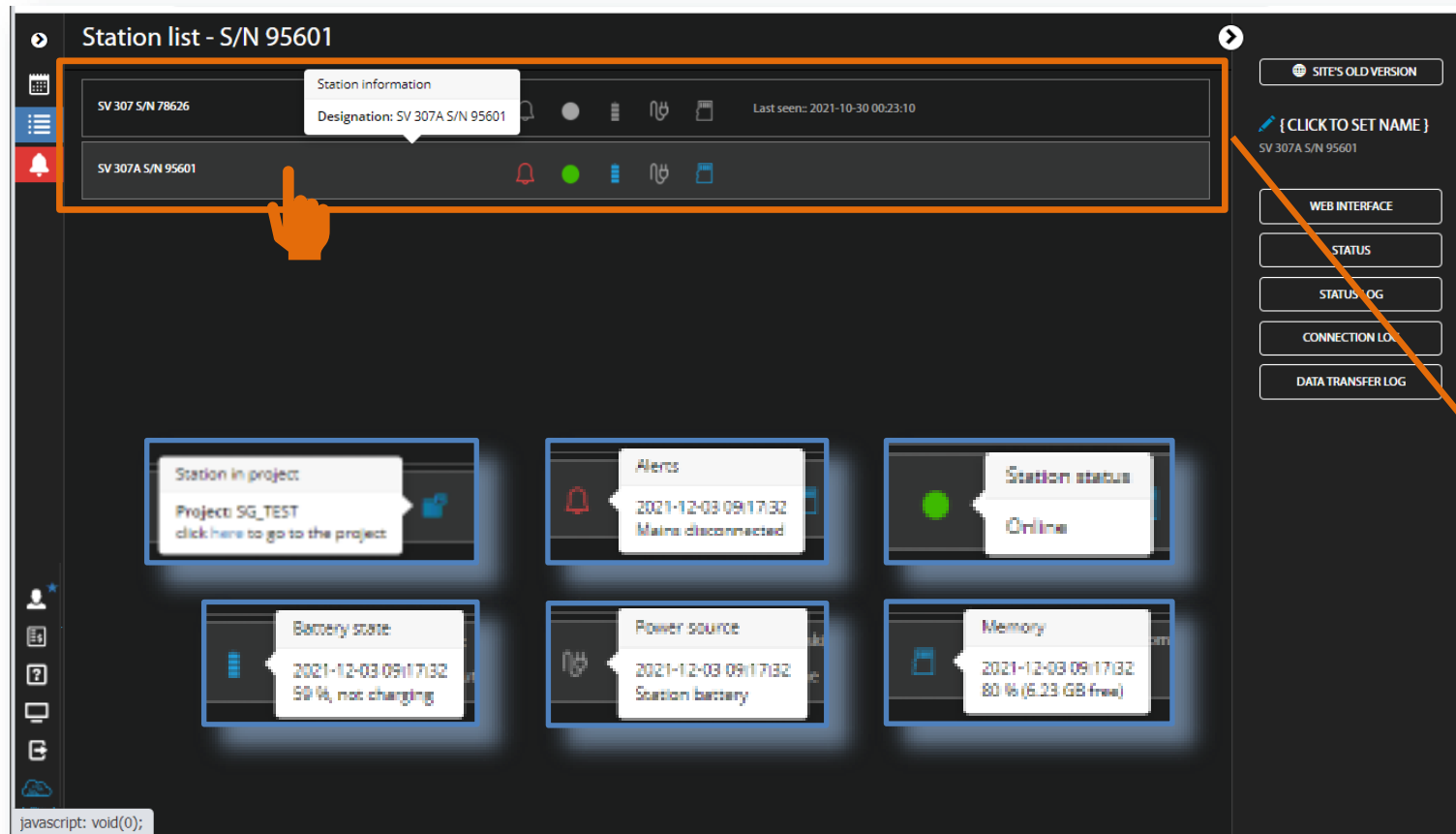
The station bar except the station name and its serial number includes five or six icons that indicate station states. When the station is disconnected from SvanNET all icons are of grey colour.

- Click the station name to display station information or status

If a station is connected to SvanNET the „bell" icon can be red if there are warnings or blue otherwise and the "mains" icon can be blue if there is mains power or grey otherwise.

The Tool panel provides some functions for station control. To switch the function, point cursor on the appropriate button (it will change its colour to blue) and click it.
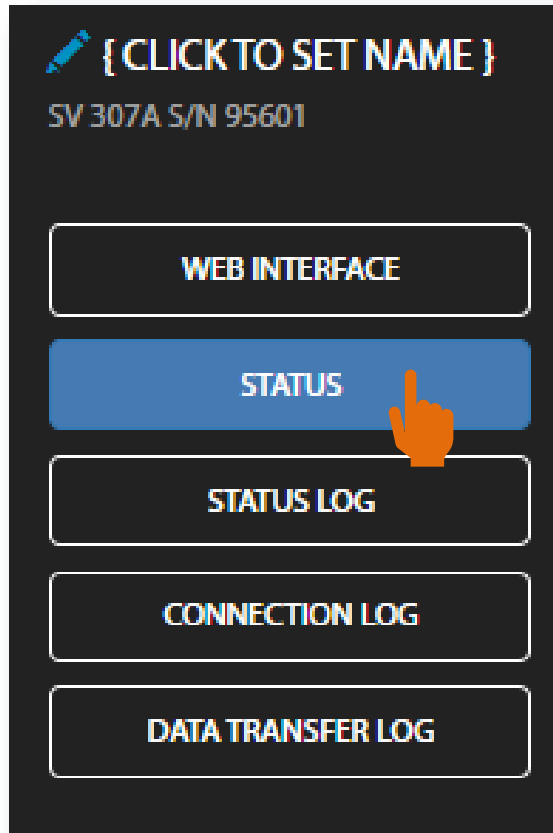
- Click ✏ to set the new station name instead of the default.

- Click **WEB INTERFACE** to go to the **Live data** view (Chapter 2.4) in which you can view measurement results and use additional tools to configure station parameters, download data files, start/stop measurements and perform station checking. This button is available for the stations connected to SvanNET.

- Click **STATUS** to go to the **Station** status view (Chapter 2.2) in which you can check the station status, restart connection and configure station status alarms.

- Click **STATUS LOG** to go to the **Status log** view (Chapter 2.3) in which you can check the history of station statuses.

- Click **CONNECTION LOG** to go to the **Connection log** view (Chapter 2.3) in which you can check the history of station connections to SvanNET.

- Click **DATA TRANSFER LOG** to go to the **Data transfer log** view (Chapter 2.3) in which you can check the history of data transfers (uploads).

⚠ *Note: Further views depend on the type of instrument. In this manual, description of views for **SV 307A** monitoring station is given. The description of views for other instruments is given in their User manuals.*

2.2. STATUS view

This view is used for checking the instrument status (firmware version, battery charging, memory capacity etc.), its connection status and configuring station status alarms.
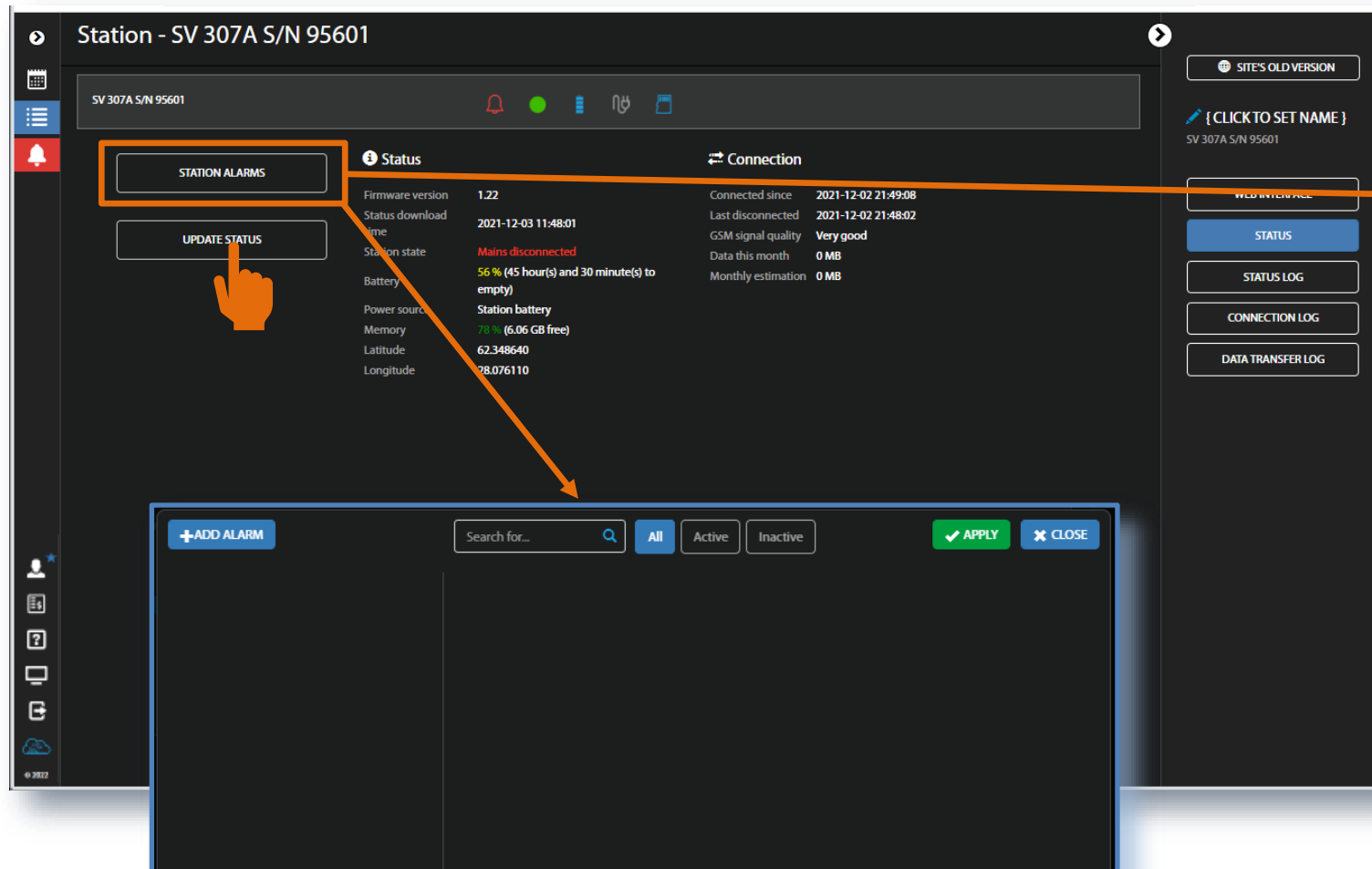
- Click **UPDATE STATUS** to update instrument's status.

- Click **STATIONS ALARMS** to configure station status alarms.

STATION ALARMS relate to the system c```````````onditions of the monitoring stations, such as battery status, connection status, memory status, etc. Alarms are based on CONDITIONS and relate to ACTIONS, that are default e-mails to the specified recipients, and refer to MEASUREMENT POINTS.

Click **+ADD ALARM**, to configure CONDITIONS, ACTIONS and MEASUREMENT POINTS settings. Alarm CONDITIONS can be defined in the EDIT CONDITION box, opened when you click the **Status** button.

- In this line you can rename, switch on/off or delete the Alarm.

- Click **Status source** and select: *Mains, External voltage, Battery charge, Storage memory, System check, Measurement stopped, Storage error, Instrument clock is incorrect, or Station is disconnected*.

- Click **Trigger value** and choose the required threshold level for the selected **Status source**.

- Click **OK** and new CONDITION will be displayed in the CONDITIONS area.

ALARMS relate to ACTIONS, that are default e-mails to the specified recipients, and refer to MEASUREMENT POINTS.

- Click the **E-mail** button to enter/edit e-mail recipients.

  ACTIONS may have additional options depending on the selected Status source, e.g. **Start Measurement** for the *Measurement Stopped* Status source.

- Click the **Assign** button to assign alarm to the station(s).

- Made selections are displayed in the ACTIONS and MEASUREMENT POINTS sections.

Station Alarms description is given in Appendix A.

2.3. LOG views

There are three station logs, that register system events, connections and data transfer.

- Use these buttons to navigate through pages of records.

- Click here to refresh the log.

- In this field you can select the required period of records and maximum number of presented records.

- Select the period for data transfer presentation: **Monthly**, **Weekly**, **Daily** or **Hourly**.

2.4. WEB INTERFACE

WEB INTERFACE provides live data viewing, instrument controlling and configuring with the **VIEW**, **STATUS**, **CONFIGURATION** and **STORAGE** buttons.
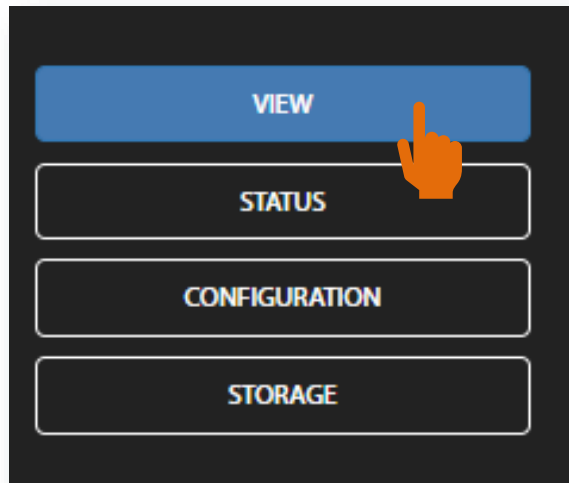
- The **VIEW** button switches you to the Live data view (Chapter 2.4) in which you can view broadband results, 1/1 or 1/3 octave spectra and time-history results.

- The **STATUS** button switches you to the station status view (Chapter 2.4.2) in which you can check the station status and to start/stop measurement.

- The **CONFIGURATION** button switches you to the station Configuration view (Chapter 2.4.3) in which you can configure measurement and instrument parameters and perform calibration check.

- The **STORAGE** button switches you to the Storage view (Chapter 2.4.4) in which you can download files manually.

*Note: Content of the **Configuration** tabs depends on the selected parameters. The task of this manual is not the presentation of all possible combinations of parameters, but an indication of the principles of working with SvanNET.*

2.4.1. VIEW results

The **VIEW** button opens the **Live data** view which includes tabs: **OVERVIEW** and **SPECTRUM RESULTS**.

The **OVERVIEW** tab displays the map with the instrument's position and current results:
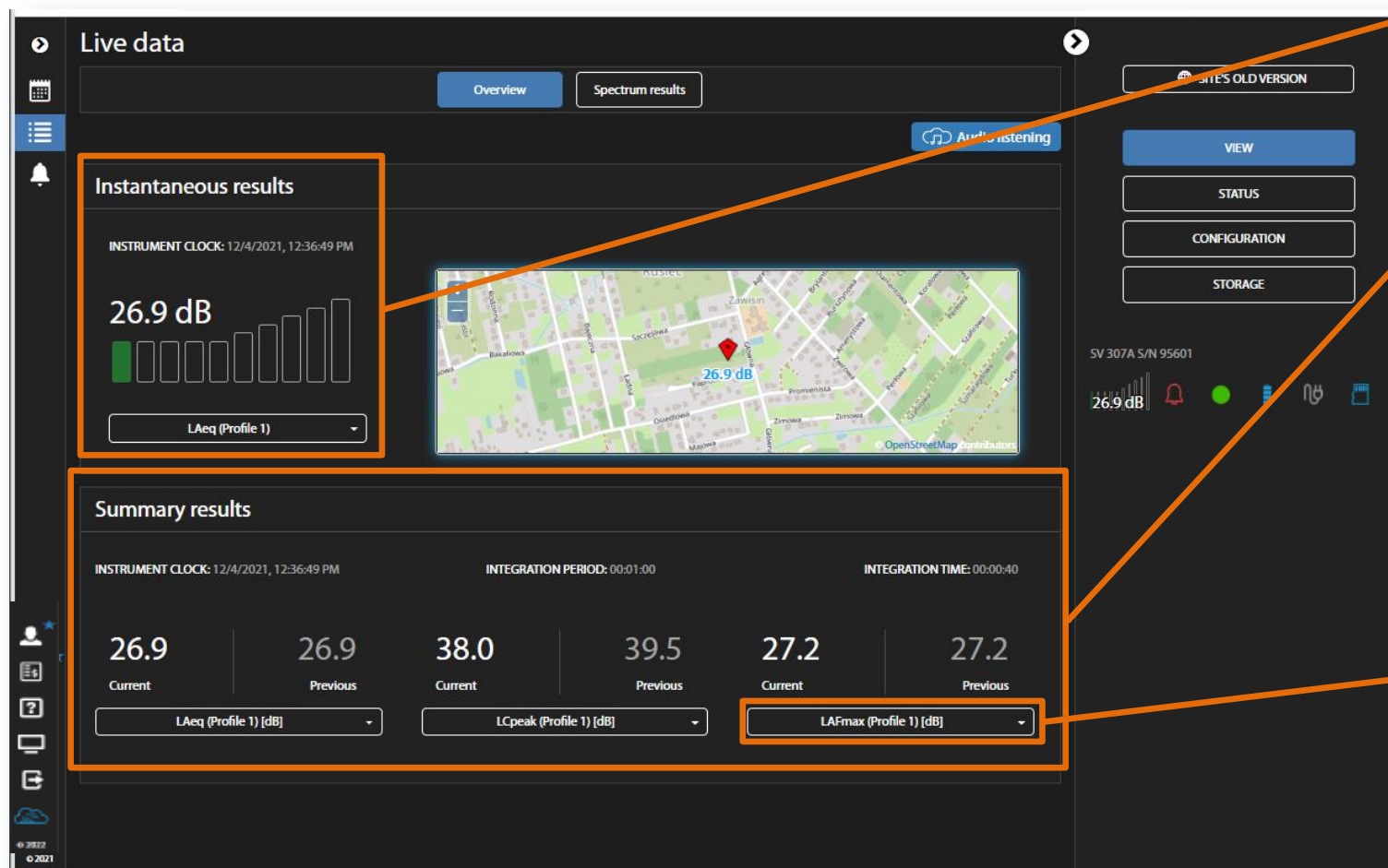
- **Instantaneous Results** calculated and refreshed with the time equal to 1 second and

- **Summary Results** for three profiles measured by INTEGRATION TIME and refreshed every second (**Current**) and by INTEGRATION PERIOD (**Previous**) and refreshed every integration period.

- Click the appropriate selector and choose the required result to be displayed.

The **SPECTRUM RESULTS** tab displays 1/1 or 1/3 octave spectra. Spectra are refreshed every second.
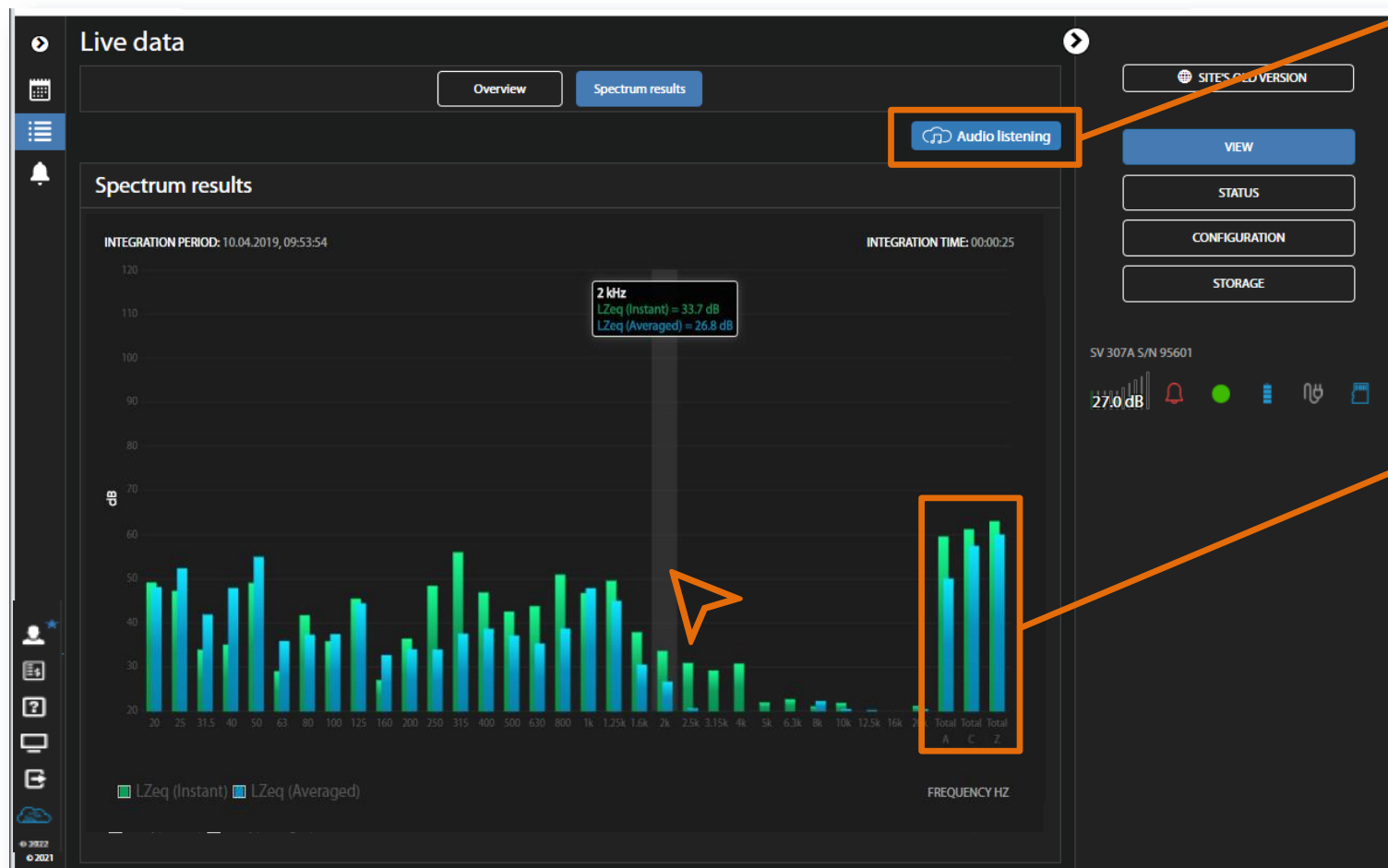
- Switch on the Audio listening if you have a valid license.

- Point your mouse cursor on the plot to readout the values of instantaneous and averaged results for each 1/1 or 1/3 octave band.

- Point your mouse cursor on the last three bars of the plot to readout the values of instantaneous and averaged three Total results.

Note: Spectrum can only be displayed, when Octave 1/1 or Octave 1/3 measurement functions has been selected in the Configuration → Measurement setup tab.

2.4.2. *STATUS view*

This view is used for checking the instrument status (firmware version, battery charging, memory capacity etc.), its connection status.
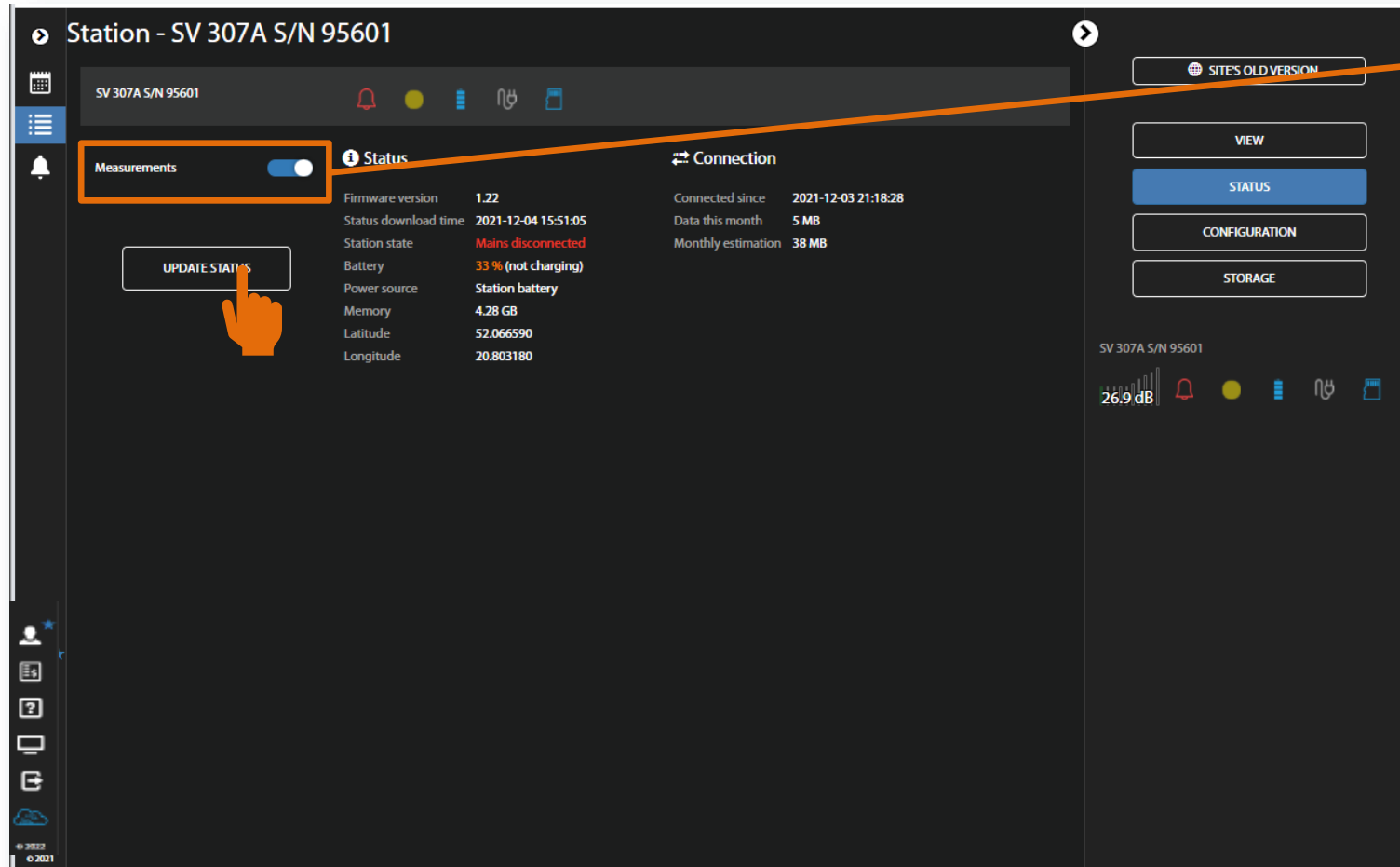
In this view you can:

- start/stop measurements,

- update instrument's status clicking the **UPDATE STATUS** button.

2.4.3. CONFIGURATION views

Configuration views consist of several sections that enable setting of: measurement parameters (**Measurement setup**), data saving (**Storage**), export of measurement data into CSV files (**CSV export**), audio recording (**Audio recording**), triggering events (**Event trigger**), calibration of the instrument (**Calibration**), settings auxiliary parameters (**Auxiliary settings**) and upgrading instrument firmware (**Firmware upgrade**). After changing settings, click **APPLY SETTINGS**.

Measurement setup

In this section, you can set:

- **Measurement function**: *Level Meter*, *Octave 1/1* or *Octave 1/3*,

- type of **RMS/LEQ Integration**: *Linear* or *Exponential*,

- synchronisation of measurement starts with RTC,

- **Filter** and **Detector** type for profiles and spectrum,

- switch **Microphone correction** *On/Off* or select *Environment* or *Airport* compensation,

- RLeq rolling windows.

Storage
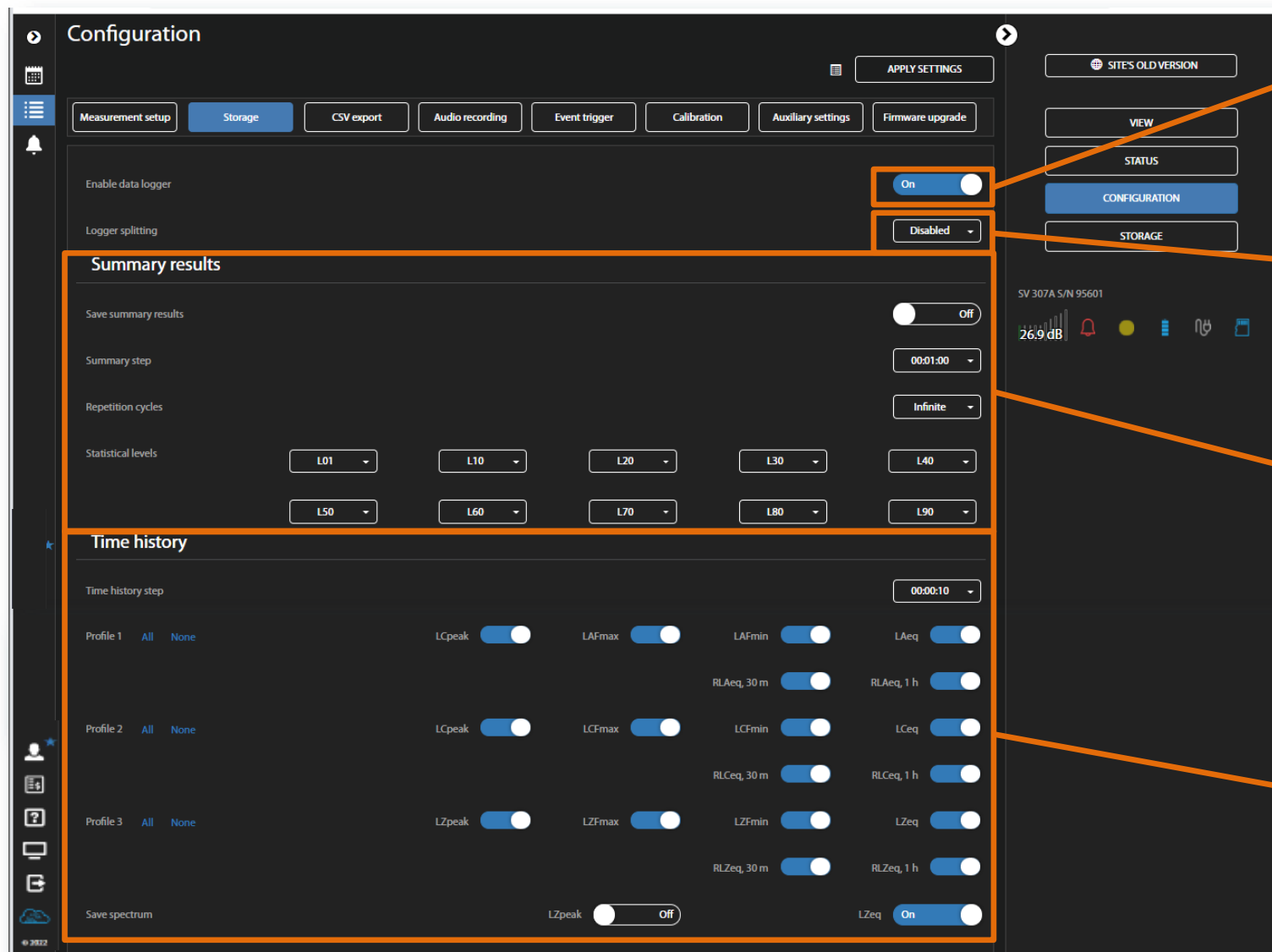
In this section, you can:

- enable data logging,

  Without enabling data logger no data files will be created.

- enable logger file splitting mode and select its type (*Every 15m*, *Every 30m*, *Every 1h* or *Every day*).

- set **Summary results** parameters: step of measurement and logging (**Summary step** equal to Integration period), **Repetition cycles** and **Statistics levels**,

- set **Time history** results parameters: step of measurement and logging (**Step**), results to be logged, including spectra.

If you enable saving Summary results, you can:

- switch on saving Profile results and select Profile results to be saved,

- switch on saving of the Overload Time,

- select type of spectra to be saved,

- switch on saving statistics and select statistics for profiles to be saved,

- switch on saving Profile Histogram.

CSV export

In the **CSV export** section, you can configure direct export of measurement data into CSV files (Comma Separated Values) and saving them in the instrument's memory.
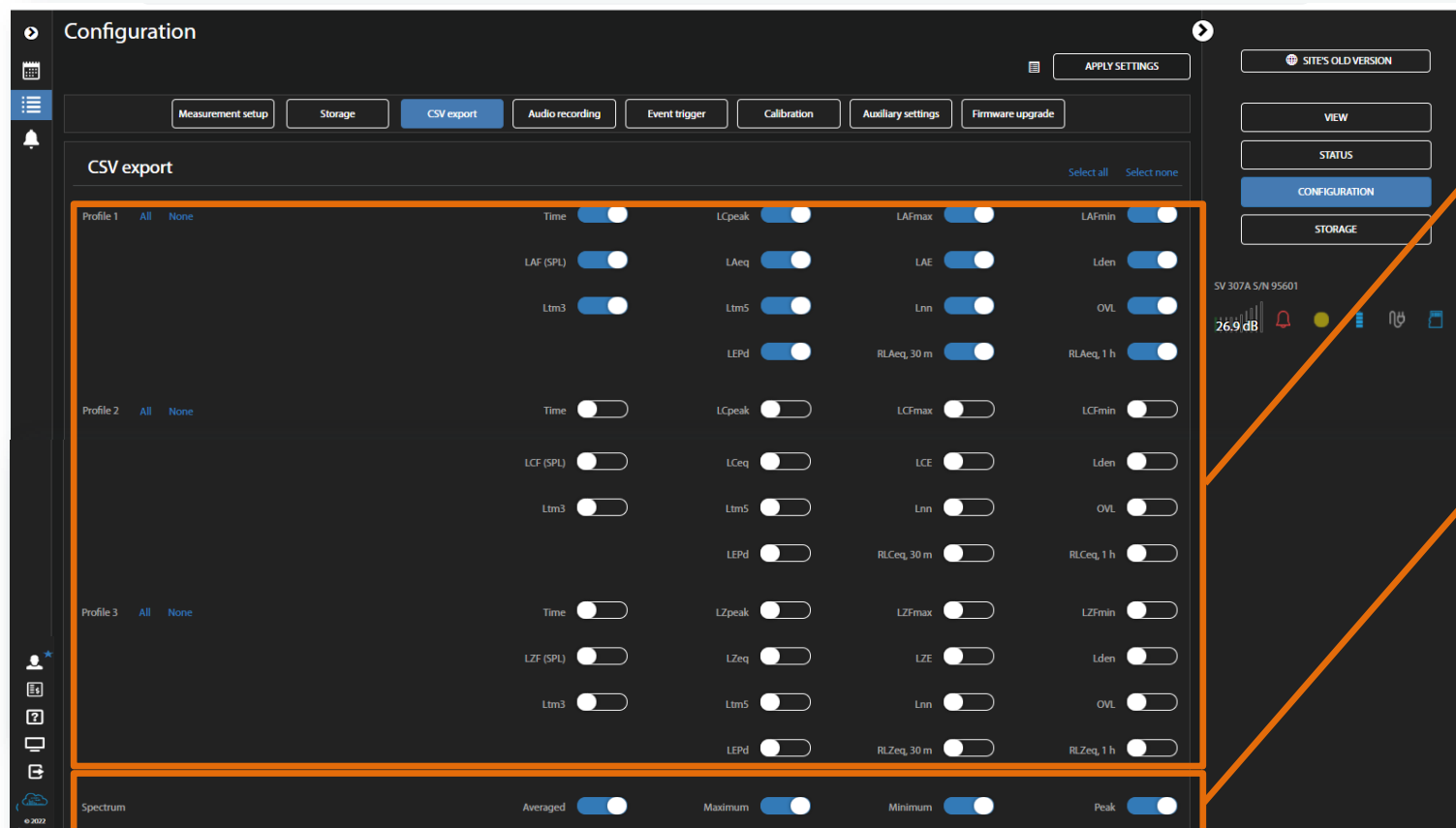
- You can select results to be exported for each profile individually.

- If the **Octave 1/1** or **Octave 1/3** function is enabled, **Averaged**, **Maximum**, **Minimum** and **Peak** spectra for each Integration period can also be exported in the CSV format.

Note: CSV files can be quite large, and it is advised to use this feature when absolutely necessary.

Audio recording

In the **Audio recording** section, you can configure an audio signal recording in a separate *.wav type file.
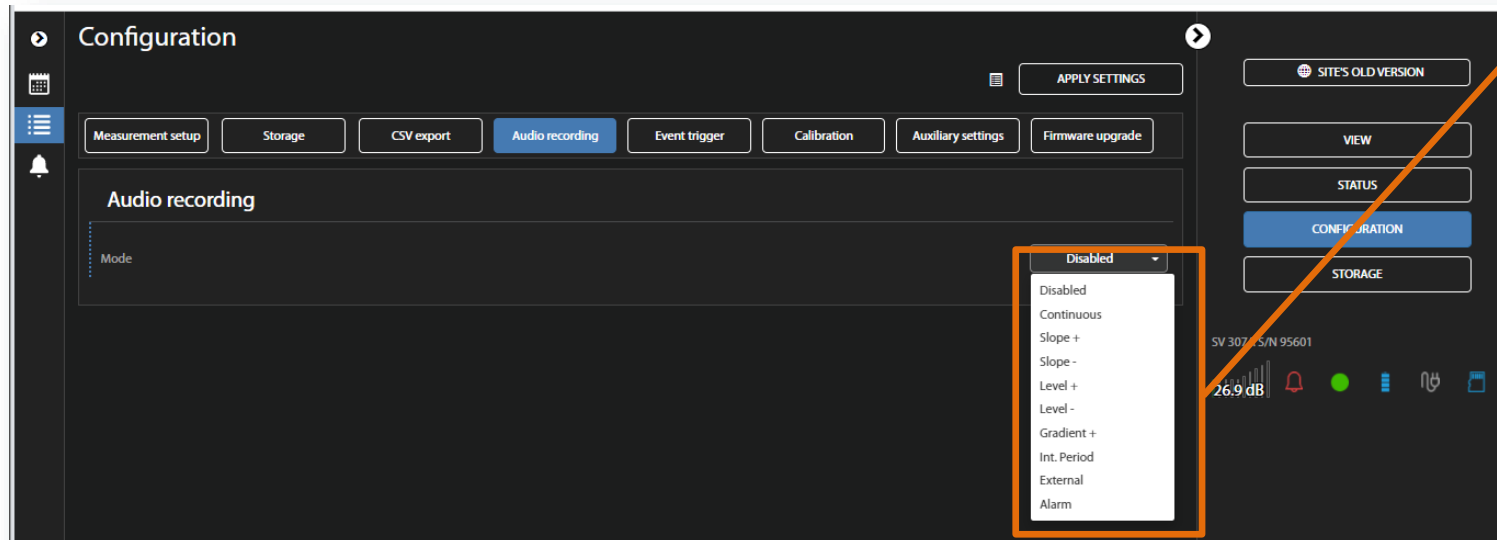
- To enable the audio recording, select the type of audio recording trigger (**Mode**): *Continuous, Slope+, Slope-, Level+, Level-, Gradient+, Int. Period* or *External*.

In the *Continuous* mode, the recording starts with the measurement start and stops with the measurement stop.

In the *External* mode, the recording starts from the external signal on the I/O socket of the instrument.

In other modes some trigger condition should be fulfilled.
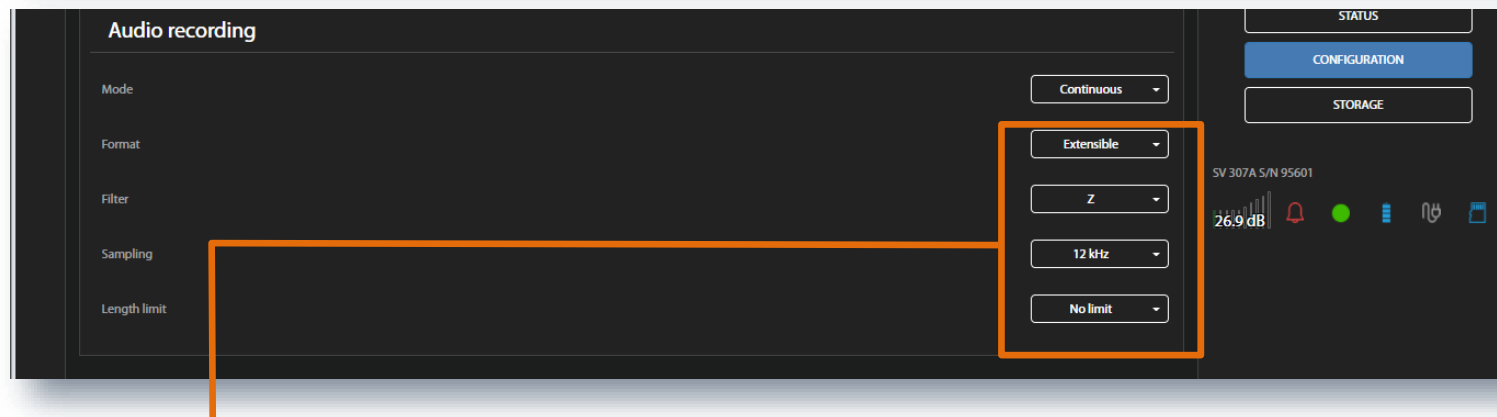
- General recording settings: **Format** (*PCM, Extensible* or *A-law compression*), **Filter** (*Z, A, C, B*), **Sampling** frequency (*12kHz, 24kHz* or *48kHz*) and **Length limit** (*No limit, 1m .. 8h*).
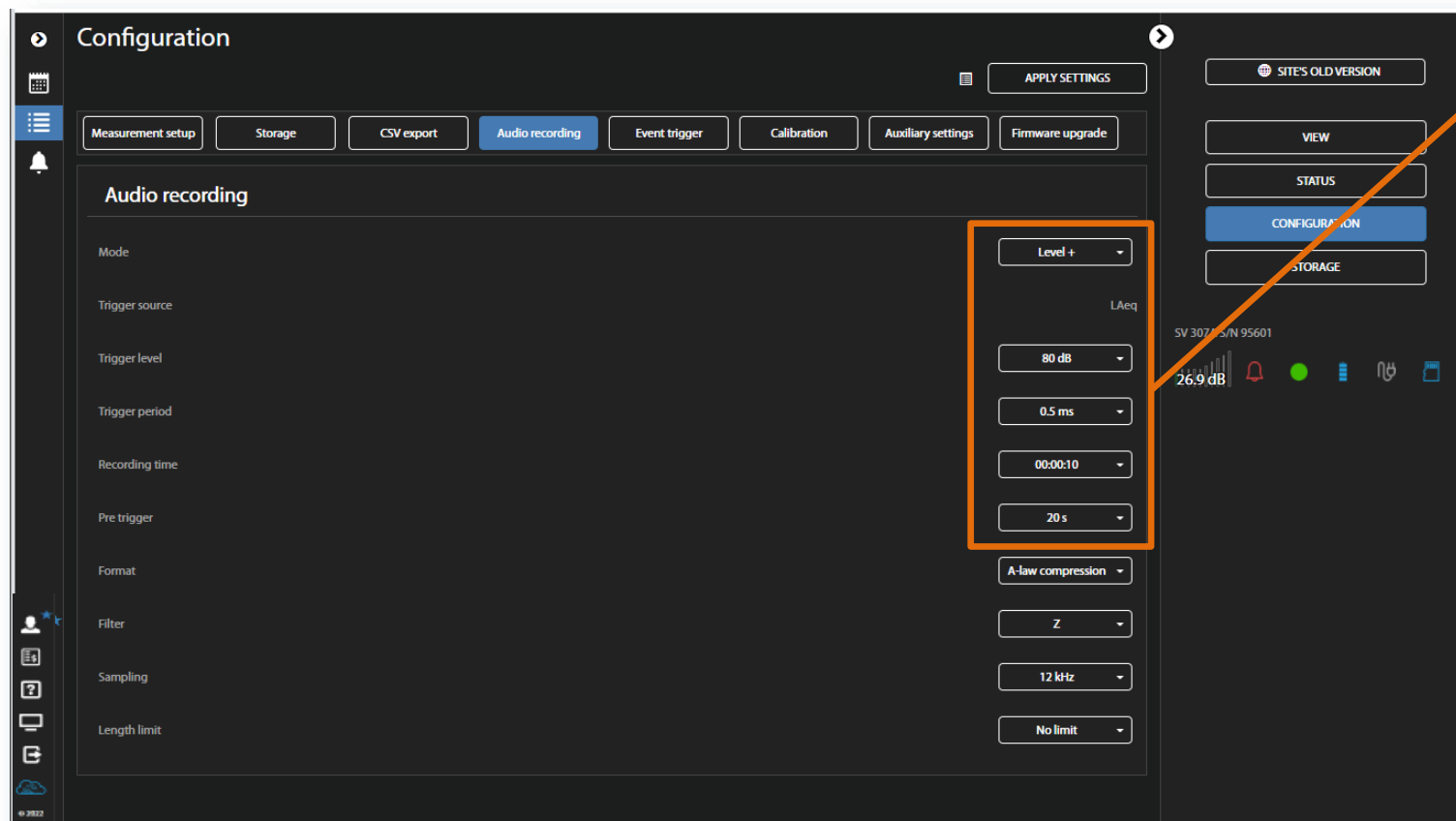
For example,

- *Level + / Level –* modes mean that the audio recording starts when the value of the **Trigger source** (*LAeq*) measured in the first profile by **Trigger period** (*Logger step*, *0.5 ms*, *0.1 s* or *1 s*) is greater/ lower than **Trigger level**. In other cases, the recording doesn't start, but if it has already been started, it can be continued during the **Recording time**.

If during the **Recording time** a trigger condition appears, the recording will be prolonged for another **Recording time** from the moment of that trigger condition and so on. If during next recording time there are no triggers, the recording will be stopped after the last trigger plus **Recording time**.

For modes *Slope*, *Level*, *Gradient* and *Int. Period* you can start recording prior the trigger condition. To do this set **Pre trigger** to 1 s, 2 s up to 8 s.

Event trigger

In this section you can configure events for triggering audio recording and different alarms. Events are specified as a combination of superimposed **CONDITIONS** (logical AND) such as specific time intervals (**TIME CONDITION**) in which measurement threshold levels are exceed or system events occur in logical OR (**TRIGGER**) taking into consideration minimum period of break between SMS and/or E-mail notifications (**TIME LIMITS**). Each Event may be connected with special actions (**Actions**) such as: block marker recording to the logger file (**MARKER**), audio signal recording to the wave file (**AUDIO**), generation of an alarm signal on the I/O socket (**I/O ALARM**), sending SMS with alarm notification (**SMS ALARM**) or sending e-mail with alarm notification (**E-MAIL ALARM**).
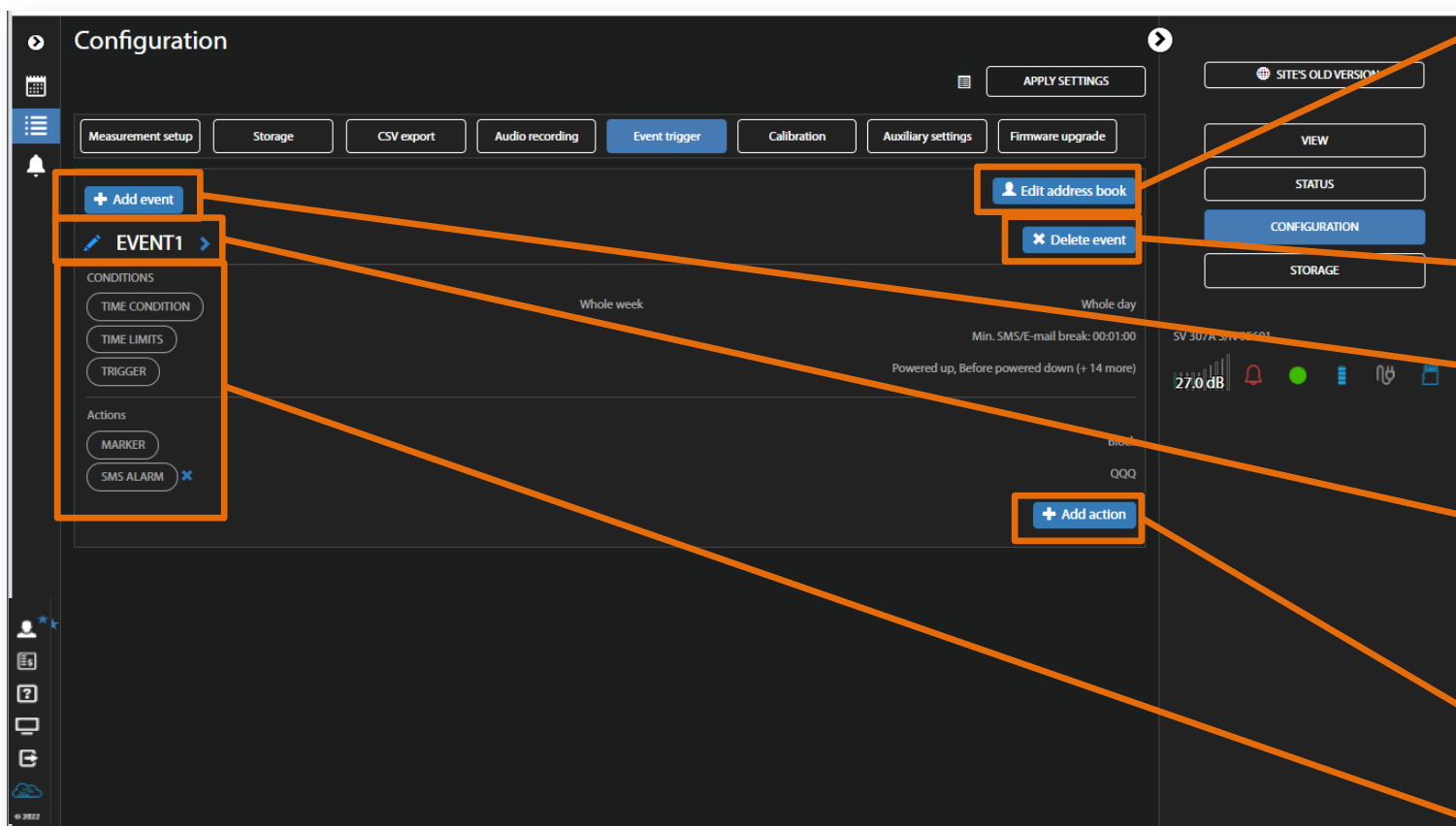
- Click **Edit address book** to edit or add new contacts for sending alarm notifications,

- click **x Delete event** to delete the event,

- click **+Add event** to add new event section,

- click ■ to rename the event and click ■,to hide the event settings,

- click **+Add action**, to add new action,

- edit **CONDITIONS** and **Actions** in this section.

TIME CONDITION

Monday	⬤	Whole day	○
Tuesday	⬤	Start (hh:mm)	00:00
Wednesday	⬤	Stop (hh:mm)	00:00
Thursday	⬤		
Friday	⬤		
Saturday	⬤		
Sunday	⬤		

OK   CANCEL

TIME LIMITS

Min. SMS/E-mail break (hh:mm:ss)

00:01:00

OK   CANCEL

TRIGGER CONDITIONS

No conditions

Add

+ Threshold   + Meteo   + System

OK   CANCEL

SYSTEM CONDITION

Title		Type	
Measurement start, Low storage space (+ 2 more)		System	
Powered up	☐	Before powered down	☐
Measurement start	☑	Measurement stop	☐
Mains connected	☐	Mains disconnected	☐
Low battery	☐	Battery OK	☐
Low ext. battery	☐	Ext. battery OK	☑
Low storage space	☑	Storage OK	☐
System check	☐	Live check	☐
Instr. error	☐		
Meteo on	☑	Meteo off	☐
Device Tilt	☐	Device Vertical	☐
Vibration	☐		
Location change	☐		

OK   CANCEL

Configuring Conditions

If you click the **TIME CONDITION** button the TIME CONDITION configuration box will pop-up. In this box, you can select days and periods for events registration.

If you click the **TIME LIMITS** button the TIME LIMITS configuration box will pop-up. In this box, you can select minimum period of break between SMS and E-mail notifications. This enables to avoid hail of alarms in case of frequently recurring events.

Press OK to confirm settings.

If you click the **TRIGGER** button, the TRIGGER CONDITIONS configuration box will pop-up. In this box, you can add the condition type: **+Threshold**, **+Meteo** or **+System**. These conditions are mutually exclusive for the same event.

The System type trigger activates the event when some of the system conditions appear.

You can select several or all conditions presented in the SYSTEM CONDITION configuration box

The Threshold type trigger activates the event when some result (**Source**) exceeds the **Threshold** level under **Trigger count** condition: if Trigger count is **Continuous**, exceeding the threshold level must last longer than **Min. duration** or such exceeding will be repeated at least several times (1 time, 2 times, … 10 times).

The selected result will be compared with the threshold level, defined in the **Threshold** position.

Creating Actions

To create new action, click **+Add action** and in the ADD EVENT ACTION box, click the action you wish to add and to configure: **Audio** (audio signal recording), **I/O alarm** (generation of the positive voltage at the instrument I/O socket), **SMS alarm** or **E-mail alarm**. SMS and E-mail alarms require selecting the recipients from the ADDRESS BOOK.

After occurrence of the event, an **Audio** action will be performed during the time the event is active, other actions - at the event's beginning.

Calibration
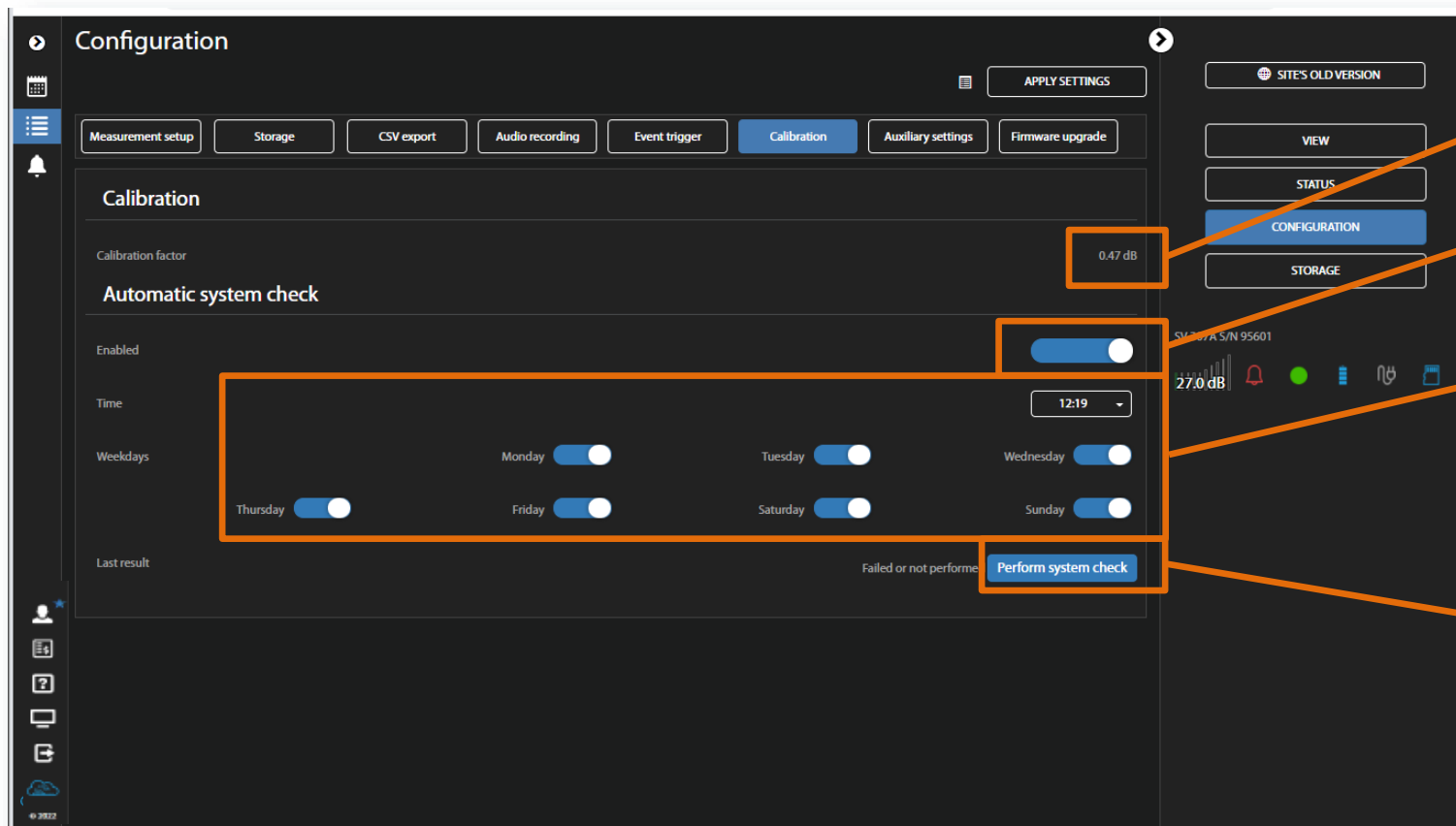
In the **Calibration** section, you can:

- check the current calibration factor,

- switch on the **Automatic system check** and

- set time and days of the week when the system check will be performed automatically,

- manually **Perform system check**.

When **Automatic system check** is enabled the calibration factor of the instrument will be periodically verified using the built-in speaker.

⚠️ ***Note***: *The system check is not a calibration. During Automatic system check procedure, a calibration factor is not updated.*

Auxiliary settings

In the **Auxiliary settings** section, you can:

- enter **Station description**: **Station name**, **Project name** and **Location name**,

- enter the instrument's geographical location in Latitude and Longitude coordinates (if GPS is enabled),

- select the **External device**: *None*, *Meteo-SP 275* or *Meteo-ES 642*,

- enable/disable GPS,

- configure power mode: enable/disable **External battery** and set **Battery charging mode** (*Full capacity* or *Optimized*).

Firmware upgrade

In the **Firmware upgrade** section, you can upload new firmware on the instrument's SD-card and perform upgrade process remotely.
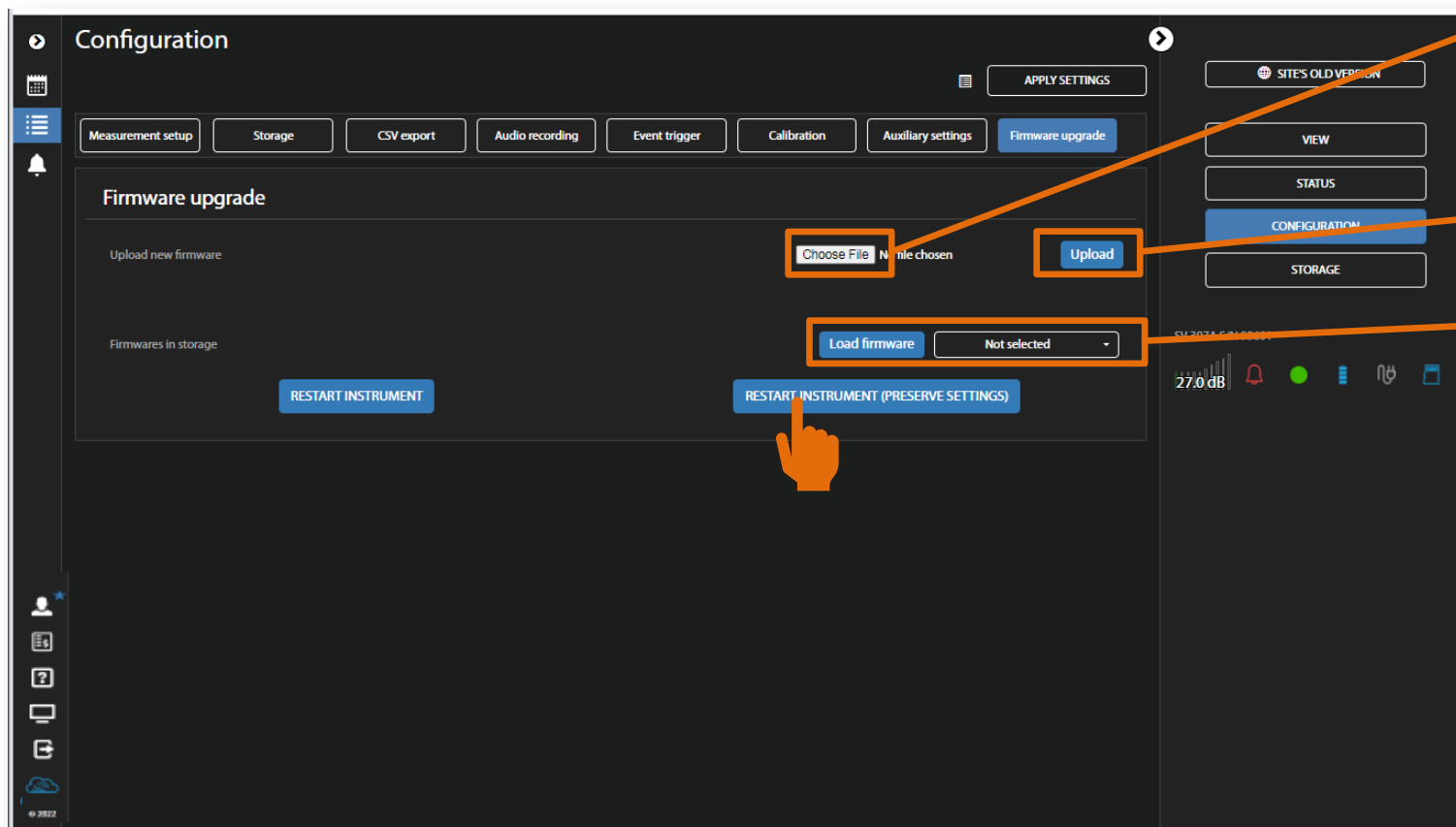
- Click **Choose file** and select the new firmware *.bin file on the PC.

- Click **Upload** to upload the selected file.

- After the upload is finished select new firmware package in the firmware selector and click **Load firmware**.

- Click **RESTART INSTRUMENT** or **RESTART INSTRUMENT (PRESERVE SETTINGS)** to finalize the process and wait 60 seconds for the connection to renew. The measurements will restart automatically.

⚠️ *Note: Before upgrading the instruments firmware, make sure the measurement is stopped.*

2.4.4. STORAGE view

The **Storage** view presents a list of files saved in the instrument's memory. The list includes only files from a single directory on the memory card and it initially shows the content of the current working directory.
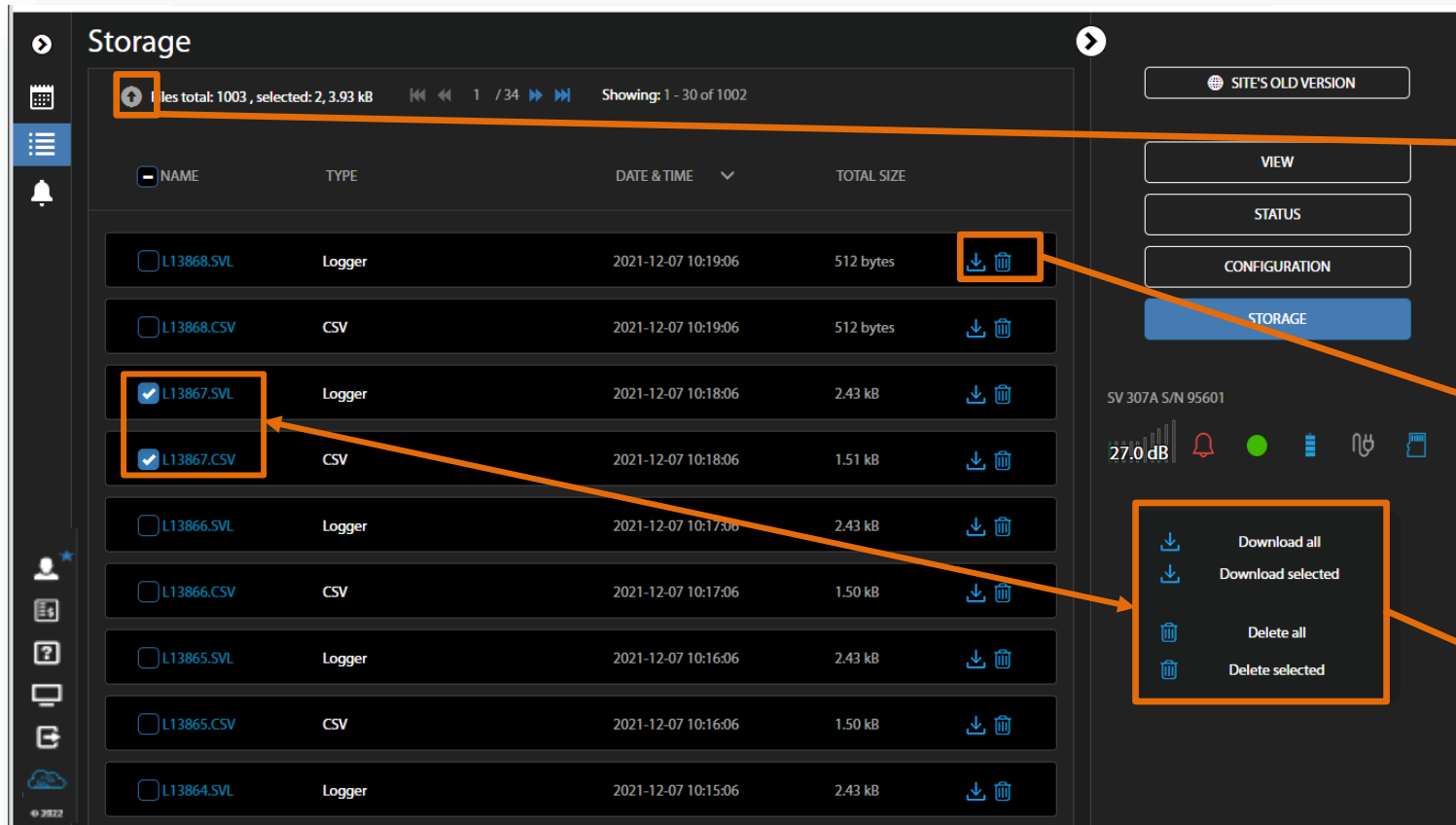
In this view, you can:

- navigate through the folder structure by clicking the "folder up" button .

- download or delete individual files by clicking the icons on the file line,

- select several or all files and download or delete selected files or all files,

Note: In the case the **AUTOMATIC DOWNLOAD** function is <u>switched on</u> the **Storage** view becomes inactive.

3 SVANNET AUTOMATIC MONITORING SERVICES

Automatic Monitoring Service offers fully automated management of multi-point noise, vibration and dust monitoring tasks with the use of **Project list** tools such as Automatic Files Download, Data Storage, Advanced Alarms, Data Sharing and Reporting enable unattended monitoring.

Automated functions include threshold alarms, status reports, maintenance of remote connection and measurement runs, devices memory management, data files download and export, periodical reporting and more.

Automatic Monitoring Services enables creation of websites with either public or restricted access. The website can be customised with a logo and individual name. The preview content such as map and measurement results is fully configurable in SvanNET. Access to the website can be either open to the public or protected by a password.

The Audio steaming function that works with new generation noise monitoring stations independently of the WAV audio recording can be activated via a SvanNET license.

Access levels

SvanNET allows users to create different Projects each with a different Location and Level of Security that prevents users from getting access to information they're not authorized to see. Multiple levels of security (MLS) for different users account offers next levels: Administrator, Manager, Guest and Token.

When you purchase Svantek device that communicates with the Internet, you automatically become the Owner and then you can manage them as Administrator. As an Owner you can create and delete projects, assign Administrator, Manager, Guest or Token rights for the projects. You can also create new share access and define permissions for it.

Data Storage

The main advantage of Data Storage is a quick access to the measurement data that can be conveniently browsed and downloaded automatically in specified time points. The data is stored on the Microsoft Azure™ cloud platform ensuring reliable connection on the global scale.

Automatic Files Download (AFD)

Automatic Files Download maintains the remote connection with monitoring stations and downloads the measurement data for each project point separately. AFD ensures that data is safely downloaded and shared before clearing the memory in the monitoring stations. AFD can be integrated as the content provided for customized websites - it can export data to FTP server both in the original Svantek format or converted to the CSV text format. The uploaded data can be easily used as the user's website content.

Advanced Alarms

SvanNET Projects tools are capable to analyse data files downloaded by AFD in order to generate E-mail Alarms based on exceeding threshold levels during specified time periods (e.g. Leq for the day and at night). System is flexible enough to alert different people depending on the day of the week or time of day.

Reporting

The functionality of WYSIWYG (What You See Is What You Get) report templates allow the configuration and saving of the view of measurement data in a printable form. Users can create several templates consisting of texts, charts and tables for each measurement project, which in practice allows the creation of different reports based on the same measurement data.

Automatic Reporting

This function allows users to create reports automatically based on previously configured templates and sending them to the specified recipients periodically.

Data Sharing
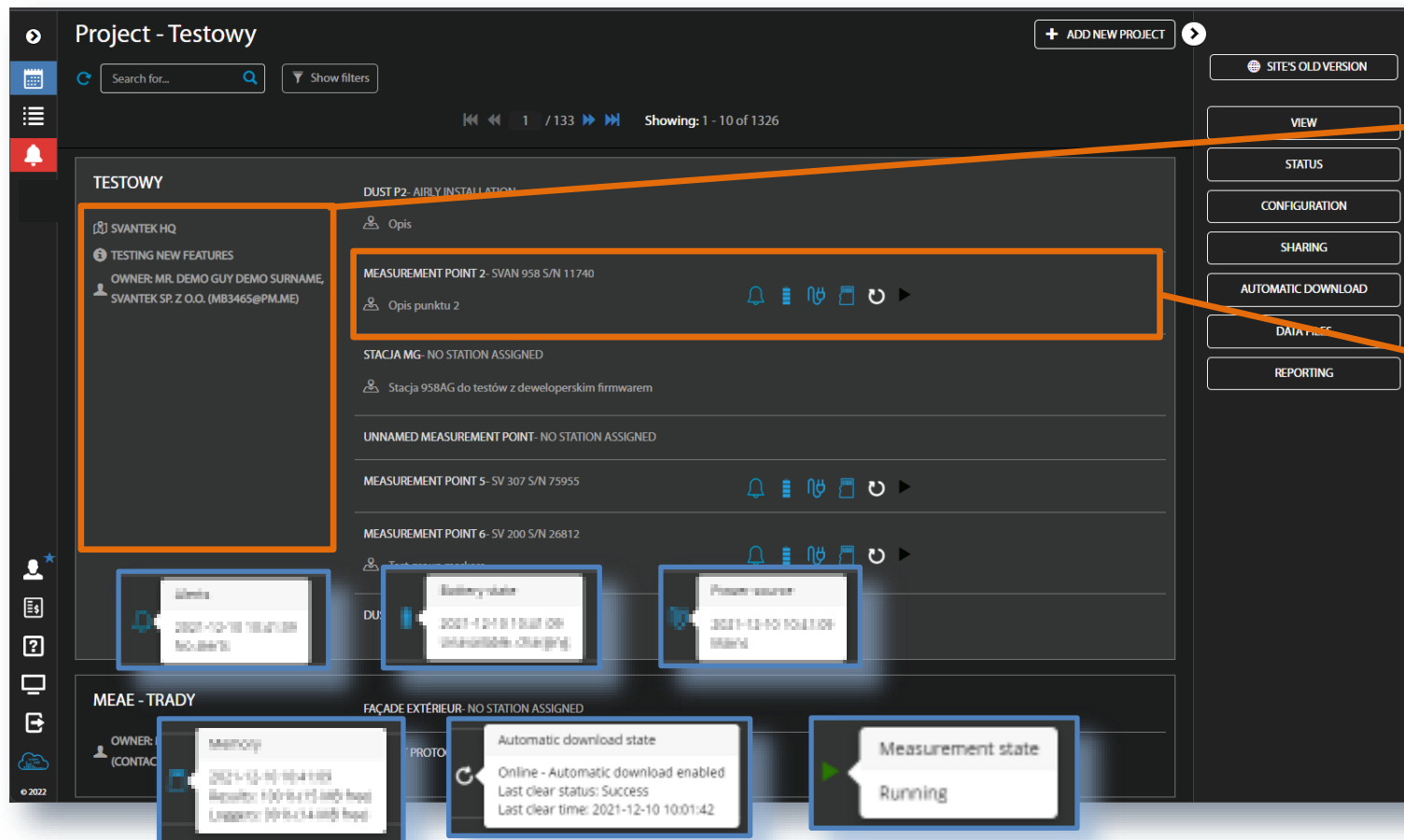
Data Sharing allows other SvanNET users access to selected Projects. Multiple levels of security (MLS) for different user accounts offers the option to limit access to three levels: Administrator, Manager and User.

> ⚠️ *Note: To browse results in Project VIEW, generate reports, alarms, share data within the Automatic Monitoring Service module, the Automatic Files Download function must be enabled and properly configured – see example in Appendix C.*

3.1. Project list

To open the **Project list**, click [icon] on the Main Panel. In this list you can view the basic information about the project and measurement points as well as statuses of measuring devices included in the project. Here you can create a new project or use tools dedicated to the selected project. The tool panel at the right side is associated with the selected Project. The content of the toll panel depends on the Access level.

Each project section includes:

- Project credentials: project name, place of measurement, short description and user access level.

- Description of measurement points: point name, instrument type, other information and instrument status icons: alarms, internal battery, external power, memory, automatic download and measurement run.
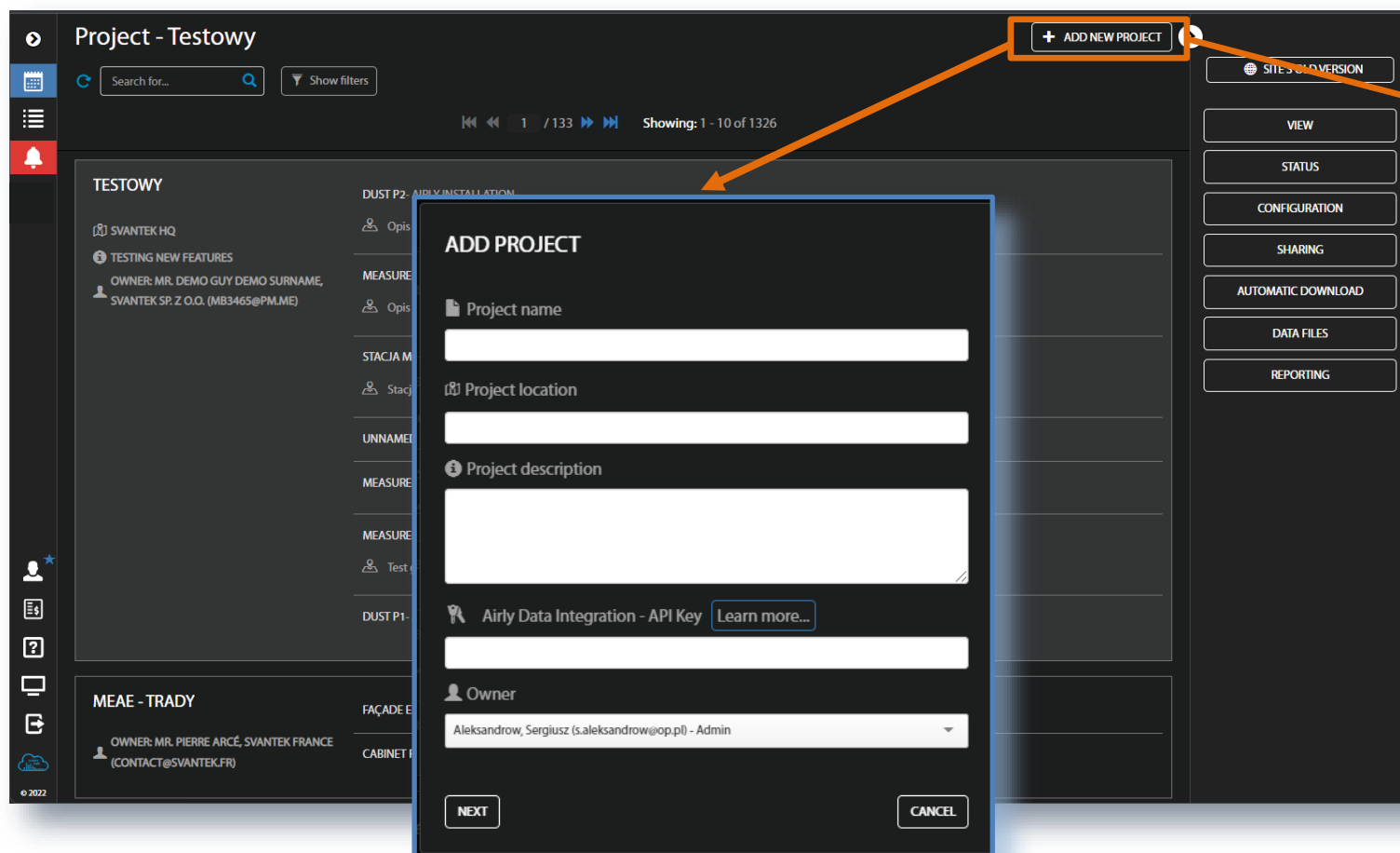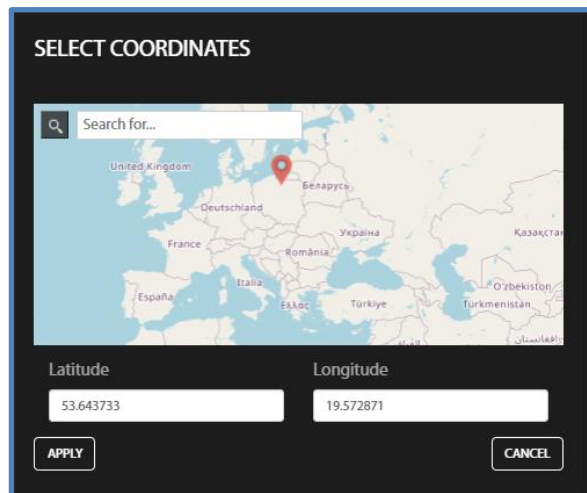
To add new project:
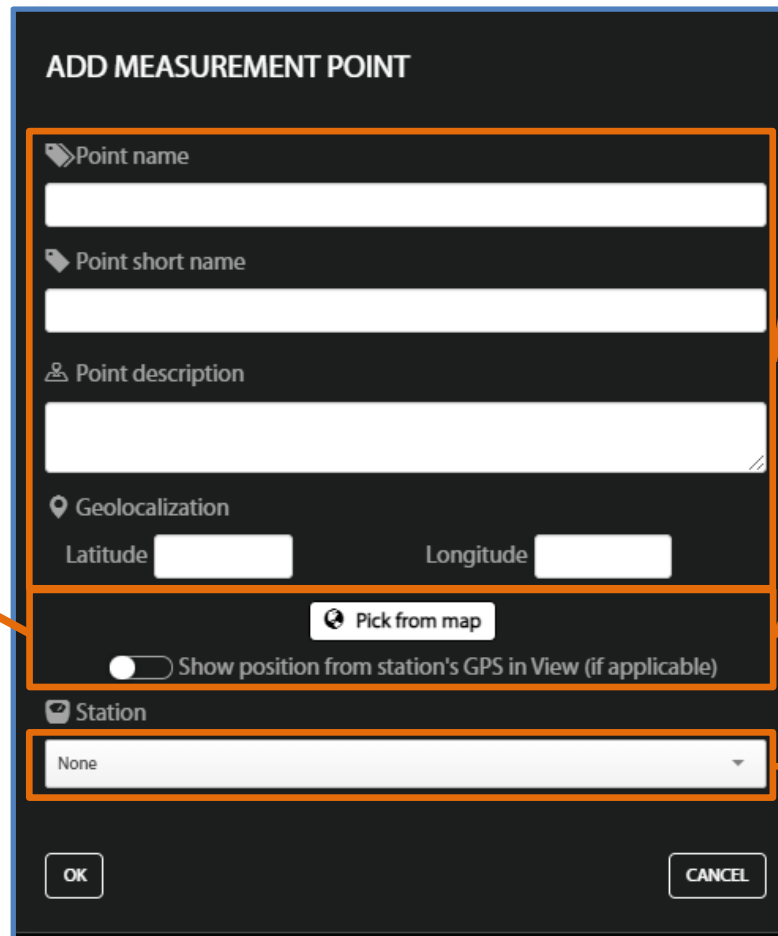
- Click **+ ADD NEW PROJECT** and in the ADD PROJECT dialog box, enter **Project name** and **Project location**, give a project description, enter an Airly Data Integration - API Key and select the Owner.

- Click **NEXT** to go to the measurement point settings in the ADD MEASUREMENT POINT box.

Airly is an external platform that offers weather & dust data from network of Airly sensors. This data can be connected to SvanNET project to provide weather and air pollution information to nearby measurement points. To use it, an Airly account must be created and API key provided as means for the system to exchange data. More information can be obtained on http://airly.eu

Measurement point settings

ADD MEASUREMENT POINT

Point name

Point short name

Point description

Geolocalization

Latitude   Longitude

Pick from map

Show position from station's GPS in View (if applicable)

Station

None

OK   CANCEL

SELECT COORDINATES

Search for...

Latitude
53.643733

Longitude
19.572871

APPLY   CANCEL

- In the ADD MEASUREMENT POINT box, enter: **Point name**, **Point short name**, **Point description**, **Geolocalization** of the monitoring station (**Latitude** and **Longitude**).

- Click **Pick from map**, find localization of your station on the map and click **APPLY**.

- Assign the station from the list of your stations and click OK to confirm the measurement point settings.

- Click the **OK** button to create the measurement point.

Project tools

The Tool panel structure depends on the access type. The Tool panel for the OWNER enables all available functions and associated views. To switch the function, point cursor on the appropriate button (it will change its colour to blue) and click it.

- Tool buttons allow you to:

  - **VIEW** - view measurement results and make reports (Chapter 3.2).

  - **STATUS** - check Project and instruments status, start/stop measurements (Chapter 3.3).

  - **CONFIGURATION** - add/delete and configure measurement points (Chapter 3.4).

  - **SHARING** - add new users with specific access rights (Chapter 3.5).

  - **AUTOMATIC DOWNLOAD** - configure automatic download (Chapter 3.6).

  - **DATA FILES** - manually download files (Chapter 3.7).
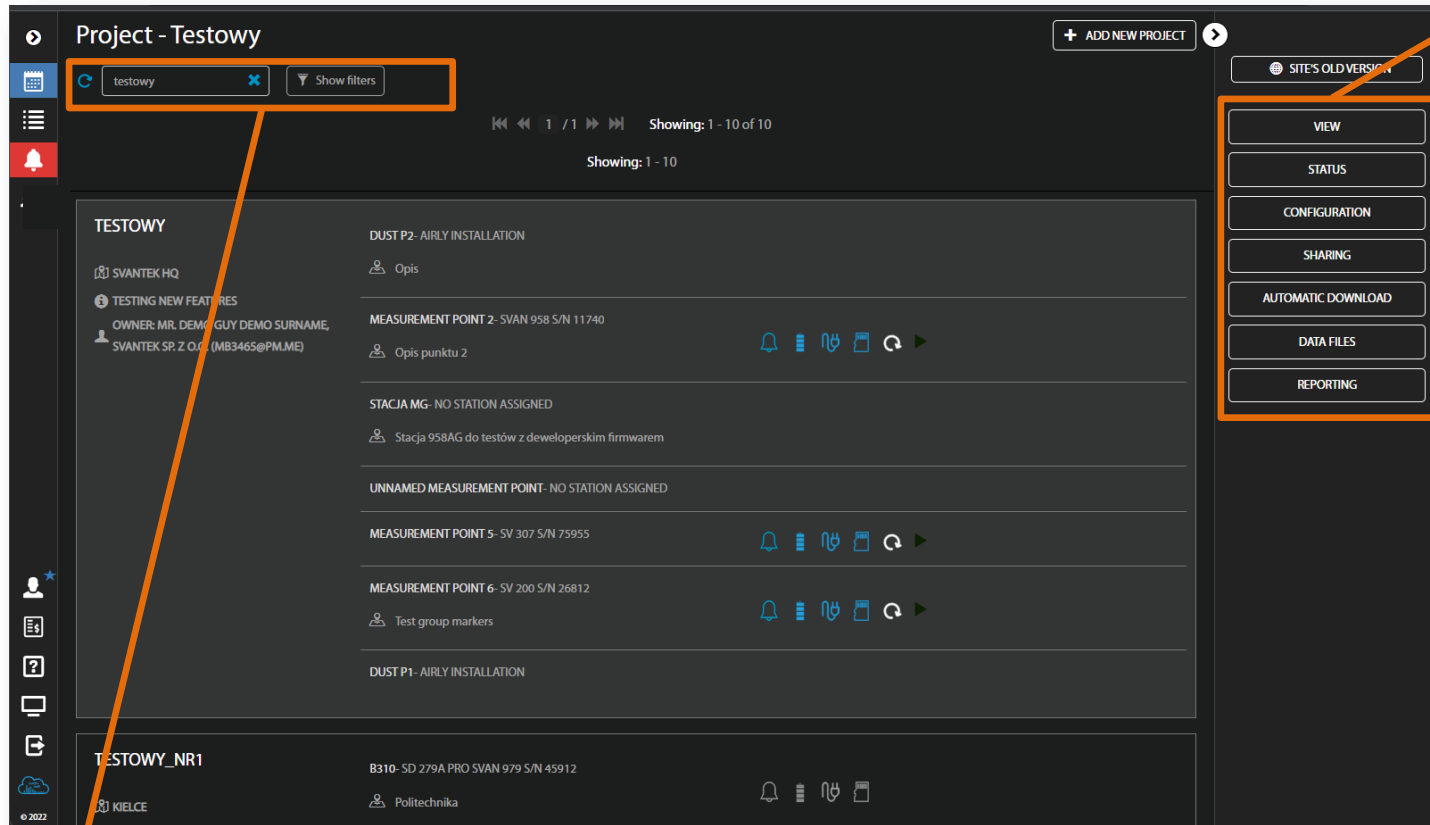
- If you have more than 10 projects, the project browser and project filter appear.

  - **REPORTING** – automatically create reports (Chapter 3.8).

3.2. Project VIEW (all access levels)

The VIEW tool enables viewing of all measurement results for all measurement points of the project and creating a report. You can view data in several panels: *Project description*, *Configuration Info*, *Live data*, *Map*, *Charts*, *Tables*, *Events*, *Heatmaps*, *Weather/Dust* and *Text*. You can also use a template to create a view with freely chosen and arranged panels. All panels are customizable so you can create a report based on this view using functionality of WYSIWYG (What You See Is What You Get).
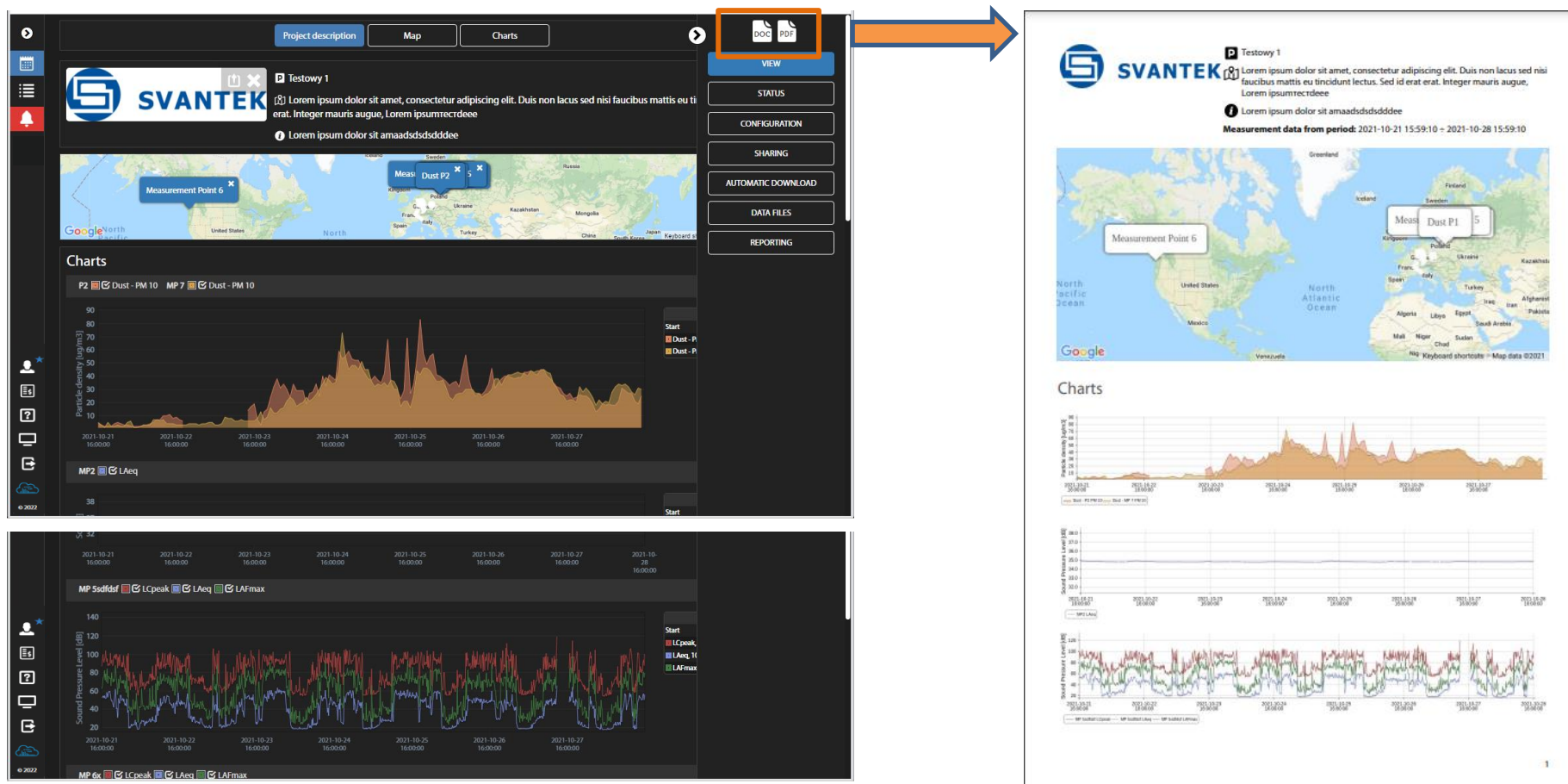
You can switch between active panels using buttons, located at the top of the VIEW window.
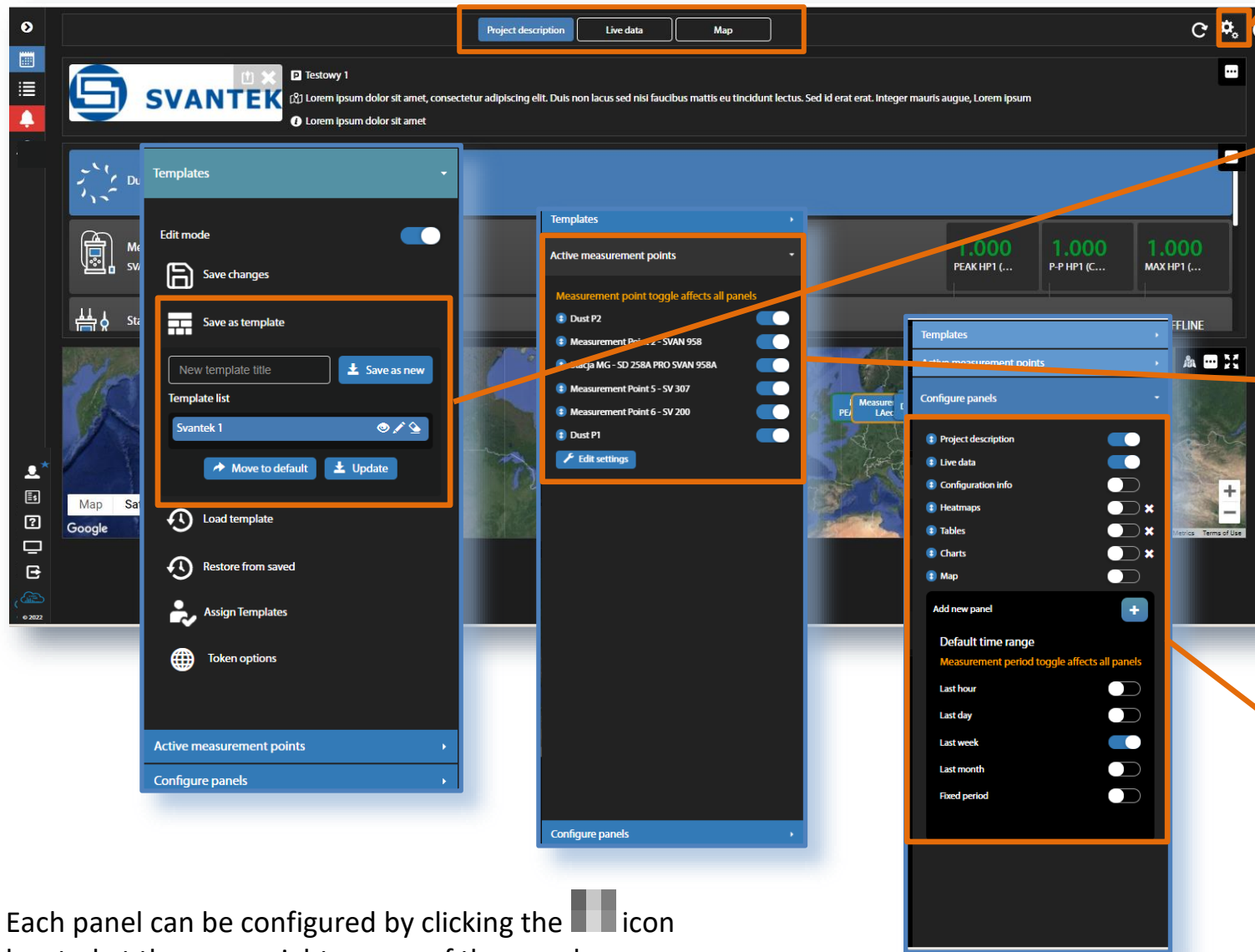
- Click here to configure Templates, Measurement points, Panels.

- In the **Templates** tab, you can save changes, save or load the template and assign templates to a Sharing or Token.

- In the **Active measurement point** tab, you can select measurements point to be displayed, edit project and points settings and rearrange point order in the report.

- In the **Configure panels** tab, you can activate, deactivate, add, remove panels and set period for data presentation.

Each panel can be configured by clicking the ▓ icon located at the upper right corner of the panel.
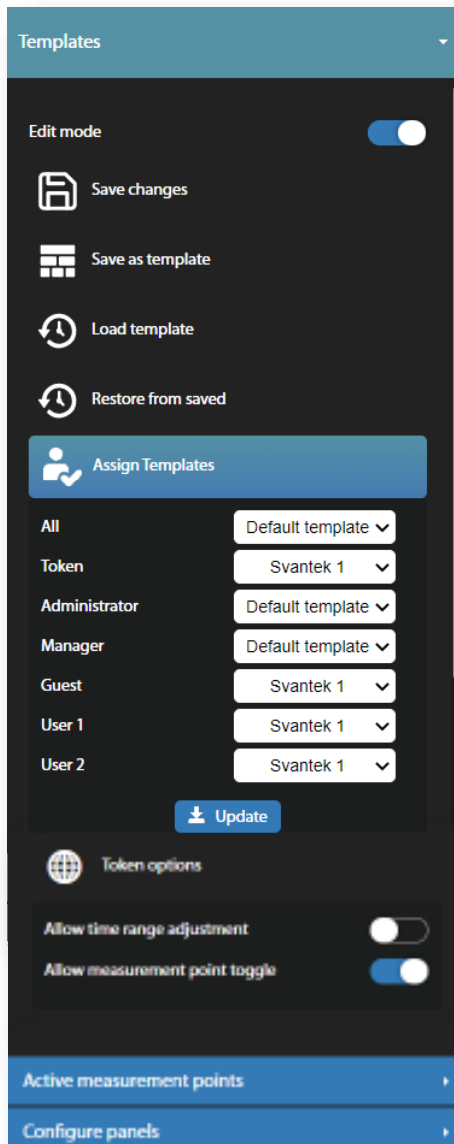
Assigning templates

There is a default template that the user can always return to. Changes made by the user in the VIEW mode are saved in his own view and current backup copy (Save changes) to which he can always return to (Restore from saved). He can save the current state as a template (Save as template) to use it later (Load template).

Templates can be assigned to individual SHARING levels (**Assign Templates**).

Assigning templates works in such a way that the user receives the View window layout as prepared in the template assigned to him. For example, based on the presented screenshot, Manager, after entering this project, will get the layout from the 'Default' template, while others will get the layout from the 'Svantek 1' template'.

As a rule, the parameterization of the panels is editable only by the project Owner and those who have the 'Change Project Configuration' permission granted under SHARING (i.e. Administrator). Administrators can edit any element of the template and, although they get the layout from the template assigned to their sharing, when they make changes, they create their own working copy, which they later read automatically (change of components does not change the template, only the Administrator's working copy - only 'Save as template' updates the template).

Not administrators are limited only to modifying general options: active measurement points and default time range (these are displayed by default according to the template). Users who have access via a Token do not have this option by default, but they can be switched on in **Token Options**.

The **Project description** panel presents the project image and project description. The **Configuration info** panel presents instruments selected settings for all measurement points. The **Text** panel allows you to edit and insert text fragments between other panels for report purposes.

- Click ▮▮ to check or edit **Project descriptions**.

- Icons allow you to add new text sections and extend the panel to the full screen.

- Icons allow you to add/remove formatted text and images to the view.

- Icons allow you to prepare an Excel report in CSV format, select the configuration information to be displayed and extend the panel to the full screen.

- Click here to upload or delete the Project Logo.

The **Map** panel presents the location of the measurement points. The **Live data** panel presents current values of selected results for project's measurement points and description of the selected measurement point.

- Three icons allow you to control the map, edit the panel and extend the map to the full screen.

- Click ▦ to check or edit **Project point descriptions** (Point name, Point short name, Point description) and **Live data** presentation settings (Number of viewed results and thresholds for result's colours).

- Move mouse cursor over the result box and select the result to be displayed.

The **Charts** panel presents time-histories of selected results for selected measurement points in the form of a graph. Current pointer and cursor data are presented at the right chart side. To adjust the colour of graphs, click to the result boxes at the left corner.
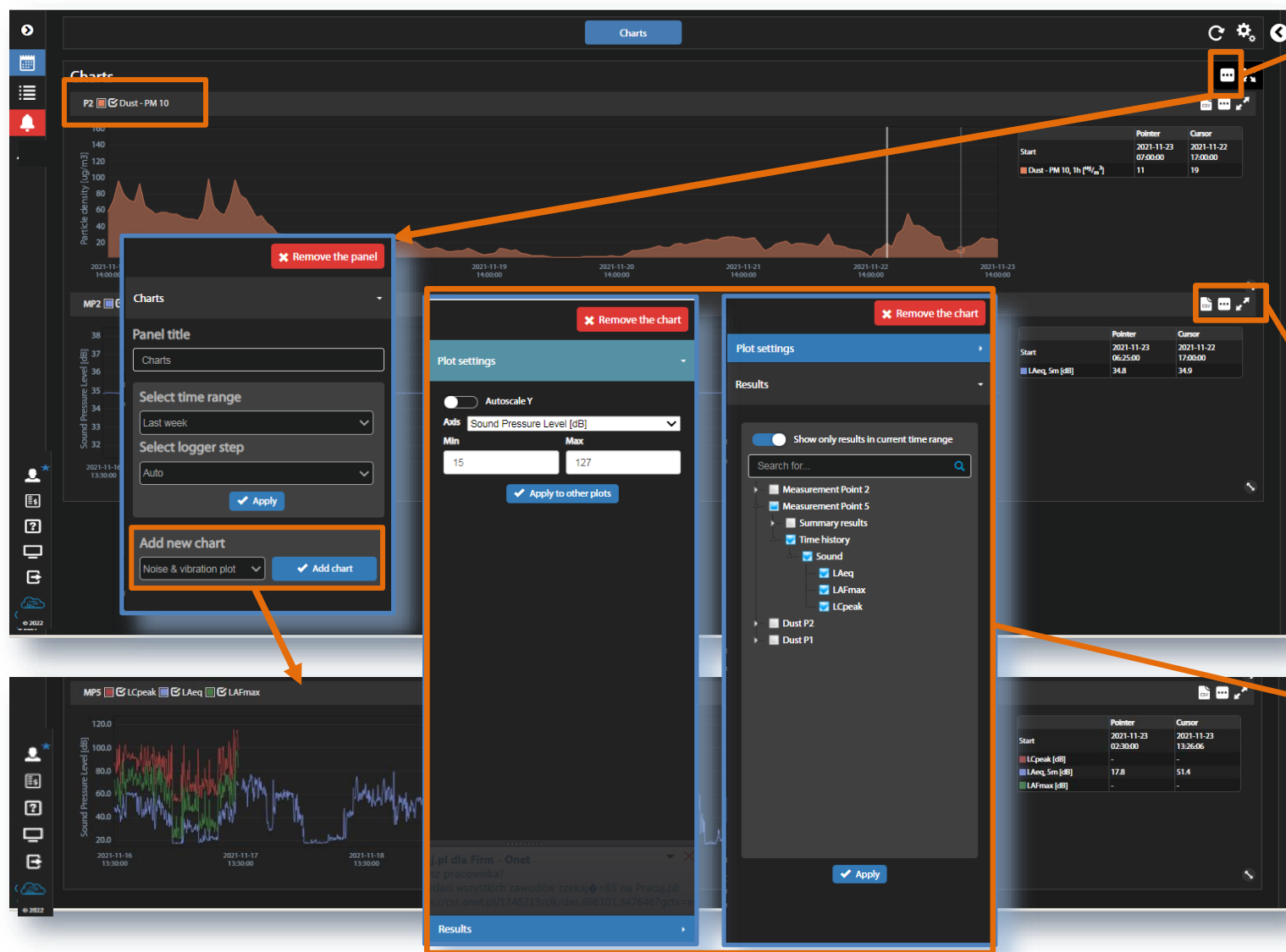
- Click ⬛⬛ on the panel to check or edit the general configurations of the Charts panel (Panel title, time range, logger step) and to add new charts.

- Three icons allow you to export to CSV, edit individual chart's configuration and extend the chart area.

- Click ⬛⬛ on each chart section to edit **Plot settings** and **Results** selection for all points (**Summary results** and **Time history** results).

The **Tables** panel presents time-histories of selected results for selected measurement points in the form of a table.

- Click ▣▣ on the Tables panel to add the new table with settings (title, time range, logger step, result types).

- Three icons at each table section allow you to export to CSV, edit individual table's configuration and extend the table section.

- Click ▣▣ on each table section to edit table settings (time range, logger step, result types). You can choose Filters for the selected results.

The **Heatmaps** panel presents time-histories of selected results for selected measurement points in the form of a table in which cells are coloured according to the defined thresholds.
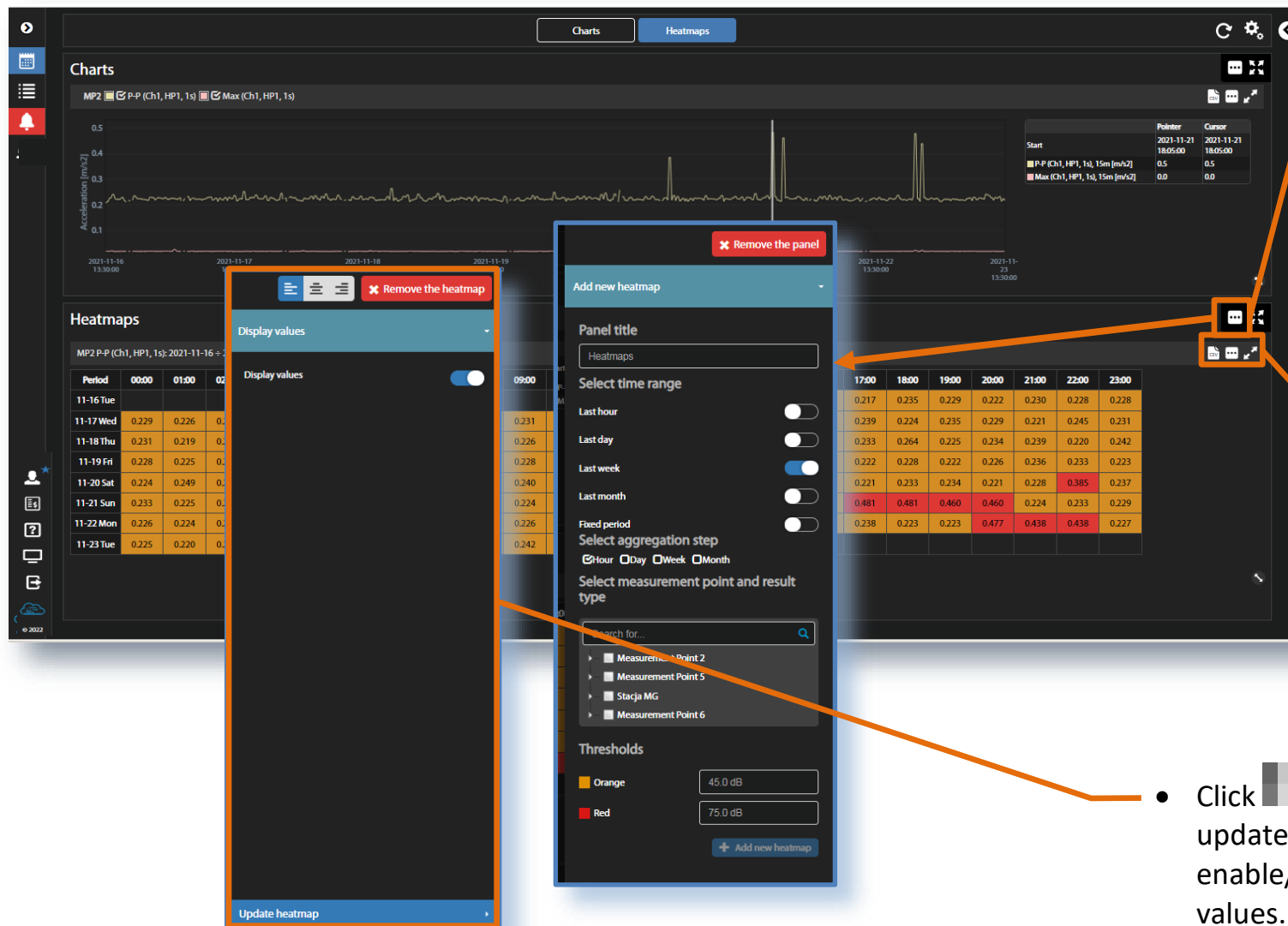

- Click ▦ on the Heatmap panel to add the new heatmap with settings (title, time range, aggregation step, point, one result type and thresholds).

- Three icons at each heatmap section allow you to export to CSV, edit individual heatmap's configuration and extend the heatmap section.

- Click ▦ on each table section to update heatmap settings and enable/disable displaying result's values.

The **Weather / dust** panel presents last results measured by weather stations or dust monitors in the selected measurement point.
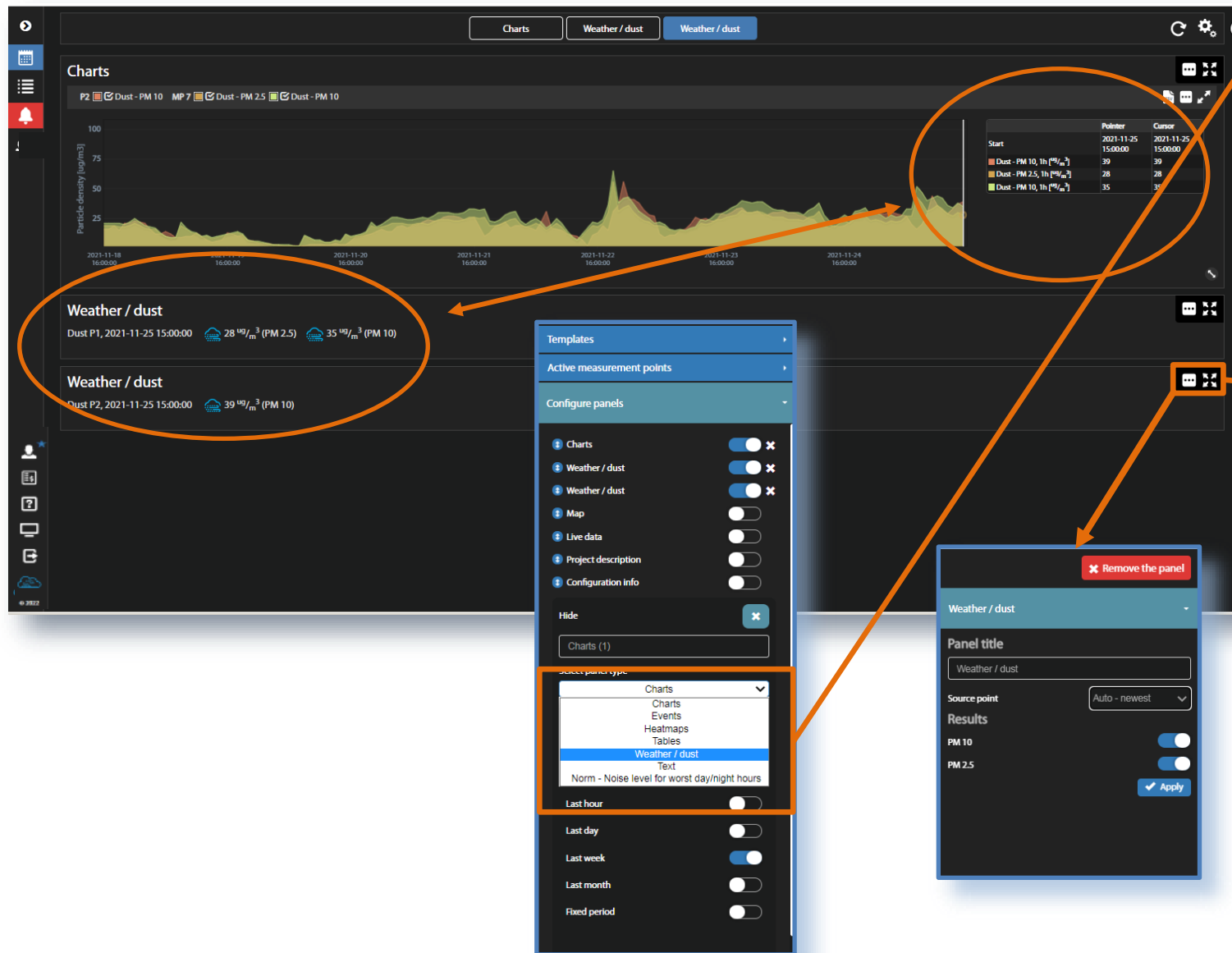
- To add the Weather / Dust panel, click [icon]. In the **Configuration panels** tab click **Add new panel** and select this panel type.

- Click [icon] on each Weather / Dust panel to select measurement point and enable/disable displaying results values.

The **Events** panel presents events occurred during the selected period. Events can be configured at the project or device levels. The presented example shows events caused by exceeding 90 dB Leq Alarm threshold level during time-history (TH) measurements.
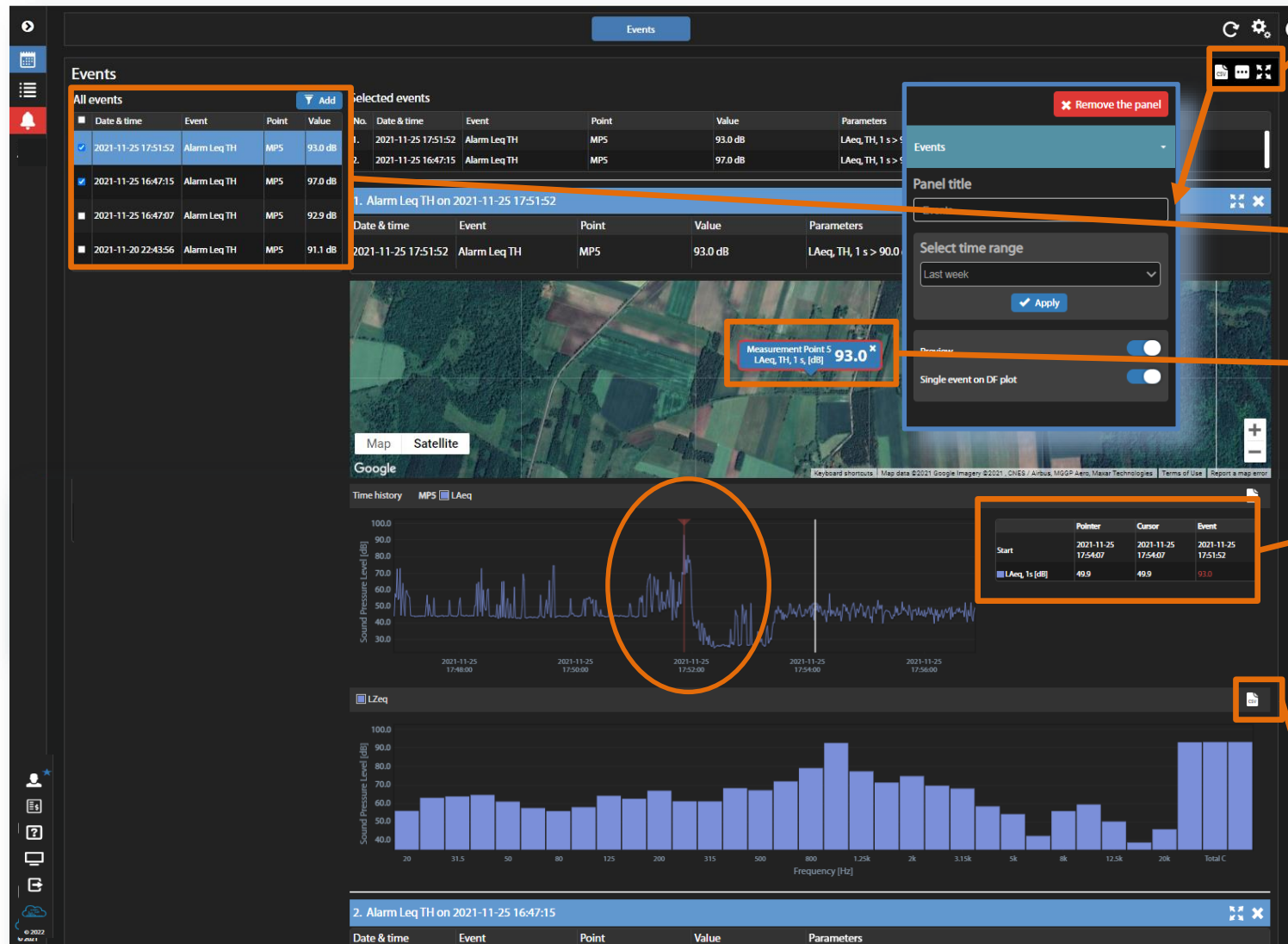
- Three icons allow you to export to CSV, edit Events Panel configuration and extend the panel.

- Filter and check event in the events table to show their details.

- Location of the point where the event has occurred is shown on the map.

- Event point is marked on the graph and its value is displayed in the table together with the pointer and cursor values. The spectrum is presented for the event point.

- The Time-history and Spectrum can be exported as CSV.

3.3. STATUS view (all access levels)
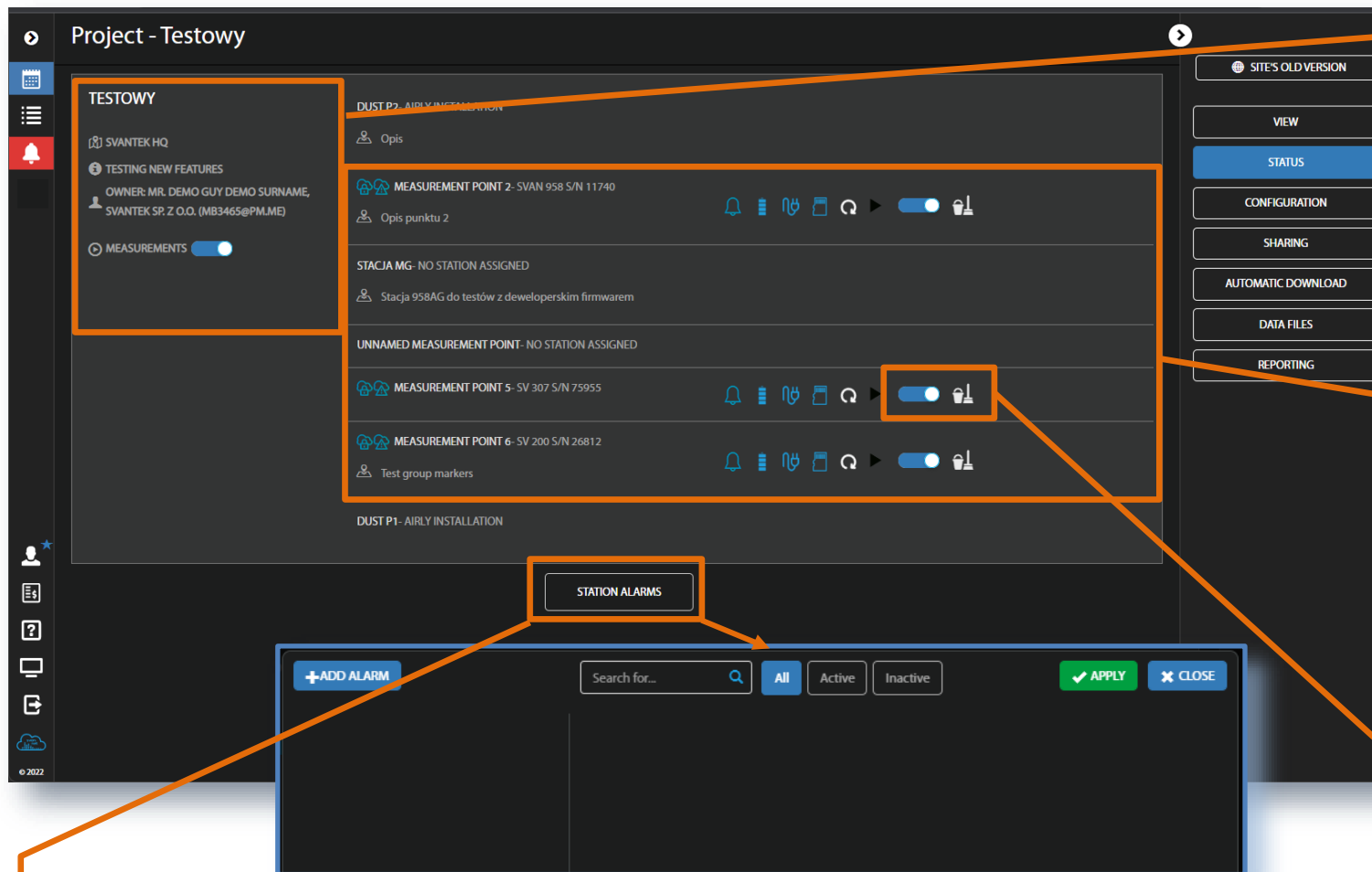
- This section presents the Project related information. You can also start/stop measurements for all measurement points simultaneously.

- This section presents measurement points related information – names, serial numbers of the instruments and their status with the help of icons.

- You can also start/stop measurements for each measurement point individually and clear instrument's memory.

- You can configure the STATION ALARMS related to the system conditions of the monitoring stations, such as battery status, connection status, memory status, measurement status, etc. Alarms are based on Conditions and relate to Actions, that are default e-mails to the specified recipients, and refer to Measurement points.

Click **+ADD ALARM**, to configure CONDITIONS, ACTIONS and MEASUREMENT POINTS settings. Alarm CONDITIONS can be defined in the EDIT CONDITION box, opened when you click the **Status** button.

- In this line you can rename, switch on/off or delete the Alarm.

- Click **Status source** and select: *Mains, External voltage, Battery charge, Storage memory, System check, Measurement stopped, Storage error, Instrument clock is incorrect, or Station is disconnected*.

- Click **Trigger value** and choose the required threshold level for the selected **Status source**.

- Click **OK** and new CONDITION will be displayed in the CONDITIONS area.

ALARMS relate to ACTIONS, that are default e-mails to the specified recipients, and refer to MEASUREMENT POINTS.

- Click the **E-mail** button to enter/edit e-mail recipients.

  ACTIONS may have additional options depending on the selected Status source, e.g. **Start Measurement** for the *Measurement Stopped* Status source.

- Click the **Assign** button to assign alarm to the station(s).

- Made selections are displayed in the ACTIONS and MEASUREMENT POINTS sections.

Station Alarms description is given in Appendix A.

3.4. CONFIGURATION view (Owner/Administrator access level)

- Click **EDIT PARAMETERS** to modify project parameters or delete the project.

- Click **Edit settings** to modify measurement point parameters or delete the point.

- Click **Edit station configuration** to configure the monitoring station (Chapter 2).

- You can also add new measurement point clicking the +Add measurement point button.

3.5. SHARING view (Owner/Administrator access level)

In this view, you can configure access parameters of the project, among others - Project sharing.

- Click **+Add user** to add new access to the project. The new user field will appear for entering e-mail address, selecting access level.

- Click **Edit** to edit this user's access to the project. The line will be changed enabling changing access level or deleting the user.

- Click **+Manage share access** to add new or edit existing Access level.

- Click **Get link** to copy the visitor token link.

⚠️ *Note: User e-mail is his SvanNET account and LOGIN. If an account with a given email address exists, the user will be invited to the Project; if not - an invitation to create an account on SvanNET will be sent to the given e-mail and the invitation to the Project will be attached after creating the account.*

In the USER SHARE ACCESS box, you can add new share access or edit existing ones and assign a template to a specific Access level.

- Click the selector box and assign a template to this access level Rank.

- Click **+Add new share access** and in the additional section which will appear in the bottom of the USER SHARE ACCESS box, give a '*Customer Sharing Rank*' to the new access and give **Permissions**: *Brose Project View*, **Br***ose Data Files*, *Change Station Configuration*, *Change Project Configuration*, *Change Project Sharing* and *Change Project Automatic Download*.

3.6. AUTOMATIC DOWNLOAD view (Owner/Administrator access level)

The Automatic download function allows you to download files created by instruments automatically to the set destination. You can also configure automatic clearing of the instrument's memory and the SvanNET memory.

- Enable/disable automatic download.
- Select download period and types of files for automatic download.
- Set the start day from which the data will be processed.
- Set files upload destination in the ENTER CUSTOM FTP DETAILS box.
- Configure automatic download and multi-point alarms.
- Set time zone.
- Set parameters of the SvanNET memory clearing – period of clearing and limit of memory used.

- If you switch on SCHEDULED MEMORY CLEANING, the special area will appear allowing you to configure automatic clearing the memories of project instruments.

In the ENTER CUSTOM FTP DETAILS section, you can define the parameters for connecting to the FTP / SFTP server and what results will be sent to it. In detail it is described in Appendix B.

ENTER CUSTOM FTP DETAILS

Type
FTP

Host name
ftp.svantek.com.pl

User name
svantek

Password
•••••••••

Remote folder
test_MB

File upload types
Results | Logger | Wave | CSV | Results CSV | Logger CSV

ⓘ Please note that the system only uploads files that are no longer modified by the instrument - it is strongly recommended to configure logger splitting or set up scheduled clearing to facilitate frequent FTP uploads. Auto Export is not a subject to this restriction.

☰ Configure Auto Export

☑ Test connection

OK | CANCEL

CONFIGURE AUTO EXPORT

Mode	Daily ▾	☰ Choose results
Start time	2021-11-01	- TH LAeq (Ch1,P1) - TH LAFmax (Ch1,P1)
Complete only	Off
Sorting	Asc
Empty columns	Off
Battery info	Off
Battery history	On
Time format	Date & time
Naming ⓘ	data_%s_%t.csv

Measurement Point 5 - Stacja Michała (SV 307 S/N 75955) ⬤
Measurement Point 6 - SV 200 S/N 26812 ⬤
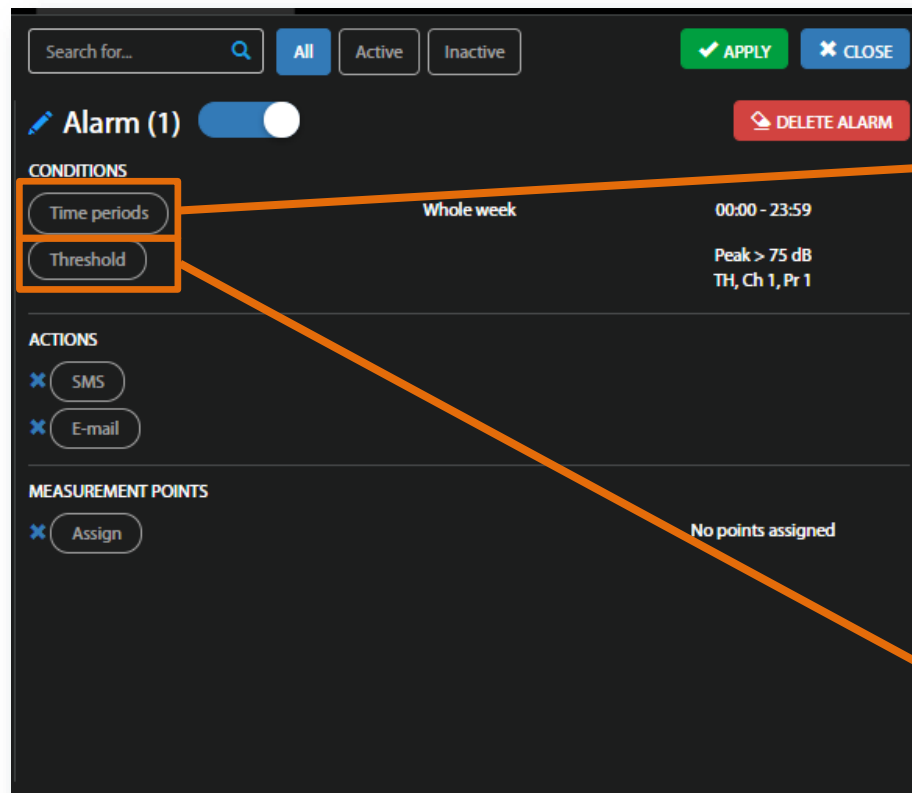
⬇ Export now | 2021-11-01 | Measurement Point 5...▾

➕ Add auto export

OK | CANCEL

Connection test - SUCCESS
Connection log

• Logging to ftp.svantek.com.pl:21 (SSL)
• Connected!
• Logged in!
• Creating subfolder test_MB/mp-test-957204
• SUCCESS - Subfolder created successfully!
• test_MB/mp-test-957204/upload-test-e05e4d - new file upload!
• Preparing upload test_file -> test_MB/mp-test-957204/upload-test-e05e4d
• SUCCESS - Upload successful!
• Deleting test file test_MB/mp-test-957204/upload-test-e05e4d
• SUCCESS - Successfully deleted file test_MB/mp-test-957204/upload-test-e05e4d
• Deleting created subfolder test_MB/mp-test-957204
• SUCCESS - Successfully deleted subfolder test_MB/mp-test-957204
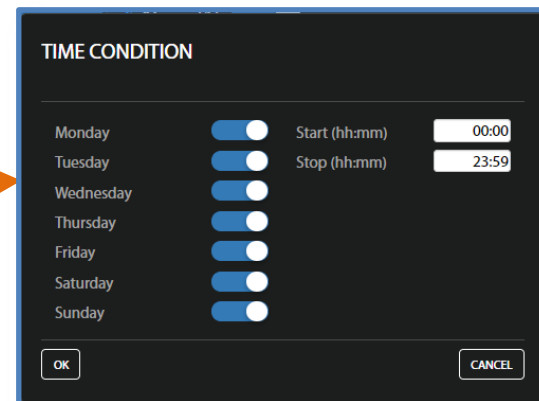
• Auto Export allows you to send data to the FTP / SFTP server in the form of CSV files in specified periods. The results source is the data exported to the SvanNET database from the downloaded files.

• Click **Test connection** to run the FTP / SFTP connection testing functionality. The procedure assumes: establishing a connection, logging in, creating a test folder, uploading a test file, and then deleting the test file and directory.
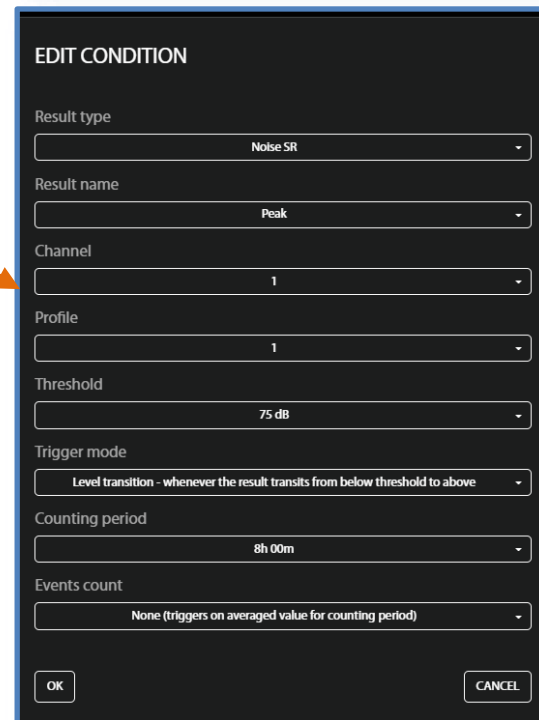
AUTOMATIC DOWNLOAD ALARMS are generated based on the information contained in the downloaded files (selected FILE TYPES).

- Click **Time periods** to defined times and days of the week when alarms will be considered

- Click **Threshold** to configure alarm conditions related to the measurements. In the EDIT CONDITIONS box, you can define: **Result type**, **Result name**, **Channel**, **Profile**, **Frequency**, **Exposure limit**, **Threshold**, **Trigger mode**, **Counting period**, **Events count**.

As type of the result that will be compared with the threshold level (**Result type**) you can select:

- time-history or summary results for noise measurements (*Noise TH, Noise SR*),
- time-history or summary results for acceleration vibration measurements (*Vib Acc TH, Vib Acc SR*),
- time-history or summary results for velocity vibration measurements (*Vib Vel TH, Vib Vel SR*),
- time-history or summary results for displacement vibration measurements (*Vib Dil TH, Vib Dil SR*).

The result selected in the **Result name** (measured in the selected **Channel** and **Profile**) will be compared with the **Threshold** level or **Exposure limit** depends on the selected **Result type**:

- Noise TH: *Peak, Max, Min, Leq, Spectrum-Peak, Spectrum-Max, Spectrum-Min* or *Spectrum-Leq*;
- Noise SR: *Peak, Max, Min, Spl, Leq, Lden, Ltm3, Ltm5, Spectrum-Peak, Spectrum-Max, Spectrum-Min* or *Spectrum-Leq*;
- Vib Acc TH/Vib Vel TH/Vib Dil TH: *Peak, P-P, Max, RMS, Spectrum-Peak, Spectrum-RMS;*
- Vib Acc SR/ Vib Vel SR/Vib Dil SR: *Peak, P-P, Max, RMS, VDV, Spectrum-Peak, Spectrum-RMS.*

When the Spectrum result is selected, additional position **Frequency** appears in the EDIT CONDITION box enabling setting the frequency (central octave/third octave or FFT) which will be considered while comparing the result with the threshold.

Trigger mode defines the way the threshold level is compared with the result:

- *Level transition – whenever the result transits from below threshold to above*,
- *Level trigger – whenever the result's value is higher that threshold*.

Counting period and **Events count** define additional conditions for triggering the event. Counting period is a timeframe during which it is possible to:

- average the result (**Counting period** is other than *None* and **Events count** is *None*) or
- fix the number of threshold level exceeding (**Counting period** is other than *None* and **Events count** is other than *None*).

Counting periods start at 00:00 of the local time. After finishing of the previous period, the next one starts.

- Click the **SMS** button to enter/edit phone numbers.

- Click the **E-mail** button to enter/edit e-mail recipients.

- Click the **Assign** button to assign alarm to the station(s).

- Made selections are displayed in the ALARM section.

Multi-point alarms are generated when several automatic download or instrument alarms occur within specified time interval.

MULTI-POINT ALARMS are being generated when several events also associated with different measurement points (also generated by some instruments, like SV 307 or SVAN 958AG) appear in the time interval (**Tolerance**) and relate to ACTIONS, like SMS or E-mail notifications.

- Click the **Tolerance** button to select in the EDIT TOLERANCE pop-up box the time interval during which multi-point events will be considered.

- Click the **+ADD TRIGGER** button to select in the ADD TRIGGER box the measurement point and the event definition for the selected point.

- Made selections are displayed in the ALARM section.

In the presented example the multipoint alarm will be generated if in the point 2 when RMS > 1.000 m/s^2 and in the point 5 when Leq > 90 dB within the time interval equal to 1 minute.

Instrument's MEMORY CLEARING is important feature of SvanNET especially when the wave recording is activated, or you use CSV files. By default, the automatic memory cleaning is disabled. Memory cleaning requires interrupting the measurement. If you enable the memory cleaning schedule you can also enable the instrument internal clock synchronization during this interruption.
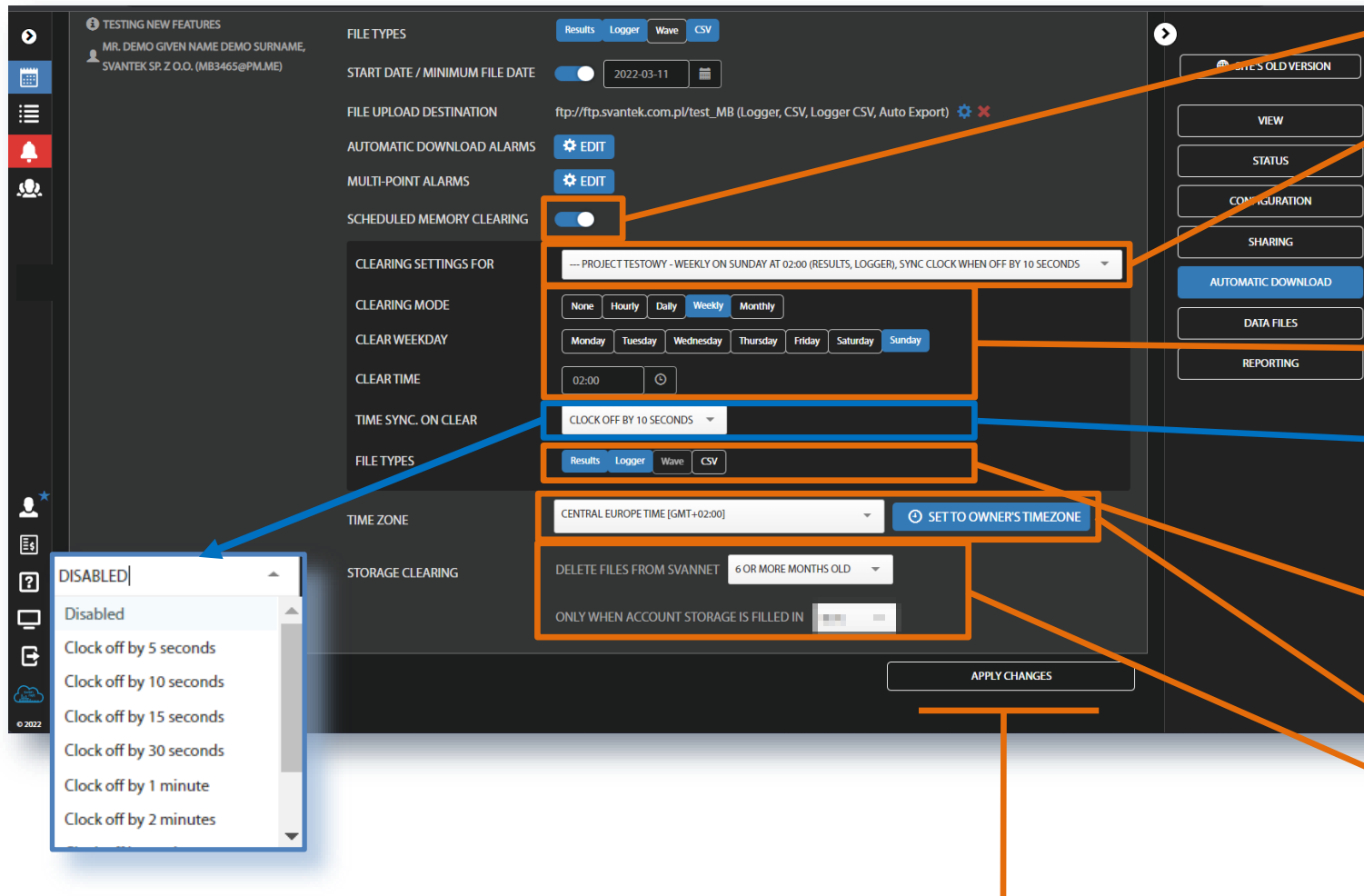
- Switch on automatic memory cleaning.
- Select the all instruments of the project or the one, located in the selected point.
- Set the clearing schedule.
- Select the minimum discrepancy in time which will initiate time synchronization.
- Select file types that will be cleared.
- Set the time zone.
- Set the clearing conditions for file age and memory used.
- Click **APPLY CHANGES** !

3.7. DATA FILES view (Owner/Administrator and Manager access levels)

All data is securely stored on the SvanNET server and access is secured using SSL encryption which ensures safety of transmission. With user login and password, you are assured that any user only has access to appropriate data (statuses, logs, files, configuration of owned stations). Downloading data from SvanNET is fast and easy. You can download all or just selected results.

This view presents list of files that were created by the instruments.

- Click here to activate filters for files.

- Click here to download this file.

- Download options are applied to all selected files.

- Delete option.

- If you select "Send files to FTP" or "Send files to FTP as CSV" option, you will be asked to enter customer FTP details.

3.8. REPORTING view (Owner/Administrator access levels)

The REPORTING view shows the list of all generated reports – manual and automatic. In this view, you can manage the report list – search, sort reports, repeat generating, download / delete reports and, in case of automatic reports, email them to all recipients.

- Click here to configure new automatic reports.

- Select reports by text string.

- Select reports for the defined period.

- These icons allow you to repeat generating a report, download / delete reports and, in case of automatic reports, email them to all recipients.

- Click here to display the list of automatic report configurations of this type.

- Click the Title of the automatic reports to see the list of the generated reports.

- These icons allow you to repeat generating a report, download / delete reports and email the report to all recipients.

To configure the new automatic reports, click **Configure automatic reports** in the REPORTING view and click **+Add new** in the *List of automatic report configuration's* view.

- Enter the **Title** of the reports.

- Select the **Period** of collecting data for the report (*Day*, *Week*, *Month*, *3Months*, *6Months*, *Year*).

- Enable **Relative period** if you want reports to be generated for the period from the **Start time + Period**.

- Select **Template** for reports. Templates are created in the VIEW section.

- Select format of the reports (*DOCX* or *PDF*).

- Enable **Wait untill period has complete data** and select **Max wait time** if you want to have always complete data for the period in the reports. If data are incomplete SvanNET will wait **Max wait time** and then send the report with available data.

APPENDIX A – STATION ALARMS DESCRIPTION

The SvanNET alarms have next meanings:

- **Mains**
  - Trigger Value: Off – alarm is generated when the system detects loss of power supply
  - Trigger Value: On – alarm is generated when the system detects appearance of power supply

- **External voltage**
  - Trigger Value: xx.xx V – alarm is generated when the system detects an external power drop below the selected value. In this case, external power means power supply and all various battery packs

- **Battery charge**
  - Trigger Value: xx % - alarm is generated when the system detects a decrease in the percentage of battery charge below the selected threshold.

- **Storage memory**
  - Trigger Value: xx MB/GB - alarm is generated when the system detects a decrease in the free storage memory below the selected threshold.

- **System check (if applicable)**
  - Alarm is generated when the system detects failure in execution of the system check procedure (not live check).

- **Measurement stopped**
  - Alarm is generated when the system detects luck of measurement. Applies only to stopped measurements - states such as start delay, waiting for synchronization and pause are treated as a running measurement
  - Instrument action: Start measurement

- **Storage error**

- o Alarm is generated when the system detects an SD-card error. The check assumes that a measurement is in progress and data are recorded; the writing of the logger file is checked by changing of the free space on the card (which means that the device is writing data).
- o Instrument action: Restart measurement

- **Instrument clock is incorrect**
  - o Trigger value: xx seconds / xx minutes – alarm is generated if the RTC indication of the device is inconsistent with the current system time (based on owner's time zone) by ± of the selected value
  - o Instrument action: Set instrument clock to server time (based on owner's time zone) –measurement is stopped, instrument clock is set (based on owner's time zone), measurement is resumed

- **Station is disconnected**
  - o Trigger value: xx minutes / xx hours – alarm is generated when the station remains disconnected from SvanNET for a time equal to the selected value.

Alarms are reported once after the occurrence of an alarm condition. The occurrence of an alarm condition will generate selected actions (e.g. e-mail) at the moment of changing the status compared to the previous check (i.e. if at 8:15 there is power supply, at 8:30 mains is off, at 8:45 mains is still off, the system will generate an alarm at 8:30 and will be still until mains is on and off again).

APPENDIX B – CUSTOM FTP DETAILS DESCRIPTION

In the **ENTER CUSTOM FTP DETAILS** setting box, you can define the parameters for connecting to the FTP / SFTP server and define what results will be sent to it. Following parameters can be set as:

- **Type**:
  - o FTP - File Transfer Protocol mode; the system will send data using the FTP protocol
  - o SFTP - Secure File Transfer Protocol mode; the system will send data using the SFTP protocol
- **Host name -** name of the server (or IP address) to which we send the data. The optional port number must be entered by separating the server's name and port value with a colon. By default, port 21 (for FTP mode) and 22 (for SFTP mode) are used.
- **User name** - username used to log into the FTP / SFTP server.
- **Password** - password used to log in with the entered username.
- **Remote folder** - directory path to which data is to be uploaded. It can take a relative value (e.g. test folder / svantek) or absolute value (/ home / mb / login1 / test folder / svantek), but the actual interpretation of this path depends on the FTP server with which we communicate. As a rule, SvanNET places files in subfolders corresponding to the measurement points (e.g. test folder / svantek / point-1), so the entered path represents the folder for the entire project.
- **File upload types** - enables uploading of data files downloaded directly from the device to the server. SvanNET only uploads complete files, i.e. files that the device has saved, closed and will no longer add new data to them. This often requires setting up logger splitting in the devices in order to obtain data on the server at specific intervals. The individual options should be interpreted as follows:
  - o *Results* - results files currently only written by the SVAN 958 and SVAN 958A instruments
  - o *Logger* - logger files (.SVL or Buffer.SVN)
  - o *Wave* - Wave type files (.WAV)
  - o *CSV* - CSV type files (.CSV)
  - o *Results CSV* - results files converted to CSV by SvanNET. The target file will have the name of the converted file + .CSV extension

o *CSV Logger* - logger files converted by SvanNET to CSV. The target file will have the name of the converted file + .CSV extension. The devices, at present, adopt the CSV file naming convention in line with the logger name (i.e., for example, the L123.SVL logger writing device also writes the L123.CSV file). So, if the CSV and CSV Logger options are selected here, the system will send loggers in the form of .CSV with an additional suffix of the name "*-exported*" (eg L123-exported.CSV).

Files are uploaded to the subfolders corresponding to the measurement points, assuming the name mp-{ordinal number}, i.e. e.g. test folder / svantek / mp-1 for the first point.

- **Test connection** - button allows you to run the FTP / SFTP connection functionality testing. The procedure assumes: establishing a connection, logging in, creating a test folder, uploading a test file, and then deleting the test file and directory. The result of the operation will be properly reported and, additionally, the displayed log of activities will allow you to direct the user in case of errors. In case of success, the procedure may make changes to the parameters defining the connections in order to optimize them for later use by the system.

Connection test - SUCCESS
Connection log

- Logging to ftp.test.com.pl:21 (SSL)
- Connected!
- Logged in!
- Creating subfolder test_MB/mp-test-f3171d
- SUCCESS - Subfolder created successfully!
- test_MB/mp-test-f3171d/upload-test-f408cf - new file upload!
- Preparing upload test_file -> test_MB/mp-test-f3171d/upload-test-f408cf
- SUCCESS - Upload successful!
- Deleting test file test_MB/mp-test-f3171d/upload-test-f408cf
- SUCCESS - Successfully deleted file test_MB/mp-test-f3171d/upload-test-f408cf
- Deleting created subfolder test_MB/mp-test-f3171d
- SUCCESS - Successfully deleted subfolder test_MB/mp-test-f3171d

☑ Test connection

- **Edit Auto Export** - button that allows you to configure the Auto Export functionality. Auto Export allows you to send data in the form of CSV files in specified periods. The source of the results is the data exported to the SvanNET database from the downloaded files. Unlike uploading files to FTP, this mode is independent of the splitting of files in the instruments and can send data as soon as they are downloaded from the instrument via SvanNET. To configure the functionality, set the parameters in the CONFIGURE AUTO EXPORT box:

o **Mode** - data grouping period: *Daily* - contains data for one day from midnight to midnight, *Hourly* - contains data for one clock hour counting from midnight (i.e. from 01:00:00 to 02:00:00), *5 minutes* - contains data for 5 minutes from midnight (e.g. from 01:05:00 to 01:10:00)

   Note: The file will contain results at least partially within the measured period, i.e. a 10-minute result marked with a 02:03:00 time stamp will be included in the file exported for the period 01:00:00 - 02:00:00.

o **Start time** - initial date of data processing. For example, setting August 1 in *Daily* mode will cause the system to start exporting data from August 1 (even if earlier data is available) and, after sending data from August 1 to August 23, it will wait for the next data and send them as soon as they are available.

o **Complete only** – if switched on enforces completeness of sent data. If enabled, the system will only send files that contain data for the complete period. For example: if we have the Daily mode, the files from August 23 will be sent only when the data for the entire day will appear in the SvanNET system.

o **Sorting** - data row sort direction: *Asc* – ascending, Desc – descending.

o **Empty columns** - if switched on enforces the CSV file structure to be preserved even if some data is not available. The format assumes that each data record is one row and each result is one column. If the selected result does not exist in the whole period, then, with this option enabled, an empty column will be inserted. If it is switched off - there will be no such column.

o **Battery info** - if switched on additionally adds information about the last known (in a given period) set of information about the station's power supply at the measuring point.

o **Battery history** - if switched on additionally adds information about the station's power supply for each record of the exported data.

o **Time format** - if switched on allows you to specify the formatting of the time stamp in each data record: *Date & time* - hour and time, *Time only* - only time.

o **Naming** - allows you to define the way of formatting the target file. The convention entails entering a file name (with a possible subfolder separated by "/") using certain functional codes:

```
%m - instrument type name
%n - instrument type number
%s - instrument serial number
%p - project name
%i - point index
%o - point name
%r - point short name
%t - date/time of exported period
%ty - year of exported period
%tm - month of exported period
%td - day of exported period
%th - hour of exported period
%ti - minute of exported period
%ts - second of exported period
```

If a subfolder name is defined, the system will automatically adopt a subfolder with the name corresponding to the measuring point name.

- o **Choose results** - button allows you to select a result set for data export.

  Note: there is a strong correlation with the choice of measuring points, which is presented below. The set of available results to choose from is the set of common results that exist for all selected stations, so some results and measurement points may not be shown for selection (e.g. the LAeq result was selected and point 3 does not have such a result in the database, this is 3 will not be shown on the selection list; consequently, if we have selected point 3, then if we enter the result selection option, the result of LAeq will not be shown).

APPENDIX C – EXAMPLE OF AUTOMATIC FILES DOWNLOAD CONFIGURATION

SvanNET features such as Project View, reporting, Auto Exports and Project Alarms rely on receiving data from Svantek instruments (stations). Stations measure results such as noise, vibration, dust or meteorological data and store them in their memory as files. These files can be uploaded to the SvanNET cloud and then processed to create viewable measurement data and alarms. To ensure that results are properly acquired by SvanNET system, two components need to be properly configured:

Station

The station must be properly configured to store measured data. To do this, data logging to files (for example, a logger) must be enabled and the logged results must be selected. The configuration depends on the type of station, but the basic concept remains the same. Using SV 307 as an example, the following steps must be taken (see Chapter 2.4.3):

1. Open the **WEB INTERFACE** view and go to the station **Configuration** section.
2. In the **Measurement Setup** tab, ensure that proper **Measurement Function** is selected for the required measurements.
3. (optional) In **Measurement Setup** tab, select **Start Sync** to start measurements at full clock intervals. For example, selecting 1 hour ensures that the measurement always starts from the full hour. Note that, depending on when the measurement is started, the instrument may remain idle until the selected period is reached (for example, starting a measurement with 1 hour synchronization at 11:43 will cause the instrument to wait 17 minutes before the actual start of measurements).
4. In the **Storage** tab, make sure that **Enable data logger** is ON.
5. (optional, but highly recommended) In the **Storage** tab, configure **Logger splitting**. Normally, once a measurement is started, the instrument will start logging data to the log file until the measurement is stopped, the memory runs out, or the file size exceeds 4 GB. However, especially in a remote communication environment, it is recommended to work with smaller files, both for performance and data integrity reasons. With **Logger splitting** enabled, the logger will be split according to the rule. For example, if you select *Every 1h*, a set of files will be created, each containing 1 hour of measurements. Smaller files may be preferable in some configurations, but even if there are no special requirements, it is recommended to set at least *Every day* with one split time setting (thus creating one file each day).
6. In the **Storage** tab, in the **Time History** section, select one or more results as required by the project. Time History results are recorded using integration periods ranging from 100 ms to 1 hour (may vary by instrument).

7. (optional) In the **Storage** tab, in the Summary Results section, set **Save summary results** to ON and select one or more results as required by the project. Summary Results are recorded independently of Time History results with their own integration period from 1 second to 24 hours and cover a wider range of result types than the Time History section.
8. complete the setting by clicking **Apply Settings**.

This will cause the instrument to start generating logger files (.SVL) in Svantek format. These files are the main source of measurement data for the SvanNET system.

Automatic Download

In order to retrieve data from instrument files, the Automatic Download function must be configured. Make sure the instruments are properly assigned to measurement points and navigate to the **Automatic Download** section of the Project. In this section, follow those steps to set up the system for data acquisition (see Chapter 3.6):

1. **Enable the AUTOMATIC DOWNLOAD option.**
2. Set the **DOWNLOAD PERIOD**. Depending on how often the data needs to be downloaded, select the appropriate download period. While choosing lower values will result in the system being updated more frequently with new measurement data, the downside is more data consumption. Because each download sequence sends its own set of requests, the more frequently the instrument polls the data, the more data will be used to download the data. This is especially important for remote communication using a GSM connection, where the amount of data used directly affects the cost of the SIM card. For most purposes, downloading every 15 minutes is the optimal setting. For more frequent downloads, it is not recommended to download with a frequency of less than 1 minute.
3. Select **FILE TYPES** to download. Select the **Logger** files as this is the primary data source for SvanNET. The **Results** files can be used as an additional source of data, but these files are created only by SVAN 958 and SVAN 958A and are considered a deprecated feature. The **CSV** files are not used for the main SvanNET data repository, while the **WAVE** files can be used for displaying events.
4. (optional) Set **START DATE / MINIMUM FILE DATE**. The instrument may contain old data (e.g. from an old project). Setting the project start date can be useful to prevent unnecessary files from being processed - files with dates earlier than the start date will not be downloaded.

5. (optional) Configure **SCHEDULED MEMORY CLEARING**. Depending on instrument and amount of recorded data, it may be useful to configure memory clearing. This function will erase data from the instrument memory (but only once the data has been first downloaded by SvanNET), thus creating a place to save new data.
6. Click **APPLY CHANGES**.

This will cause the system to automatically start downloading files from instrument based on the provided configuration. Once the file is downloaded (even if the instrument is still writing to it), it will be processed and results will be prepared for use with the project functions."