GIHMM GmbH


# GIHMM Cloud

## Software for data-storage and visualization

**OUR PRECISION FOR YOUR SAFETY.**

We measure radioactivity & radon
and calibrate your measurement system.

www.gihmm.com

# GIHMM Cloud Software for data-storage and visualization

is a software package for an Environmental Radiation Monitoring System & Early Warning Network (ERMS&EWN). The basic functionality of Gihmm Cloud is supervisory control and data acquisition SCADA). It acquires data from measuring stations and provides visualization as well as control of the stations.
In addition, it offers a freely configurable alarm and reporting system. Integration of measuring devices from 3rd-party manufactures is user-configurable.
We also offer Gihmm Cloud as a private cloud for your IT infrastructure.
Standard Export formats (EURDEP) are available.

Main features:

- Data can be acquired from any measuring station developed by GIHMM (or 3rd-party manufacturers). These are mainly:
  - Gamma-detectors (GAMMO products, COMO, autonomous measuring station)
  - WEBDL-Datalogger (Datalogger for gamma probes),
  - Aerosol Measuring Stations
- The acquired data is stored in a SQL database including time series functions and visualized through a web server.
- FTP- and MQTT communication-protocols between Centre and Stations.
- Optional data import and export in EURDEP format 1.3 and 2.0
- Every Browser can act as a client.
- Modular structure, so the system is easily upgradeable and adaptable
- Alerting Tool can be used to send alerts via SMS or E-MAIL. Alerts are generated depending on user defined trigger (rule-based).
- Supports alerting hardware (lamp tower, hooter or something similar)
- Multi-User and Multi-Client Application
- Access rights for all objects
- Configurable Reports (Spectrum, charts, tables, map)
- Evaluation of the data with external programs
- Validation of the data

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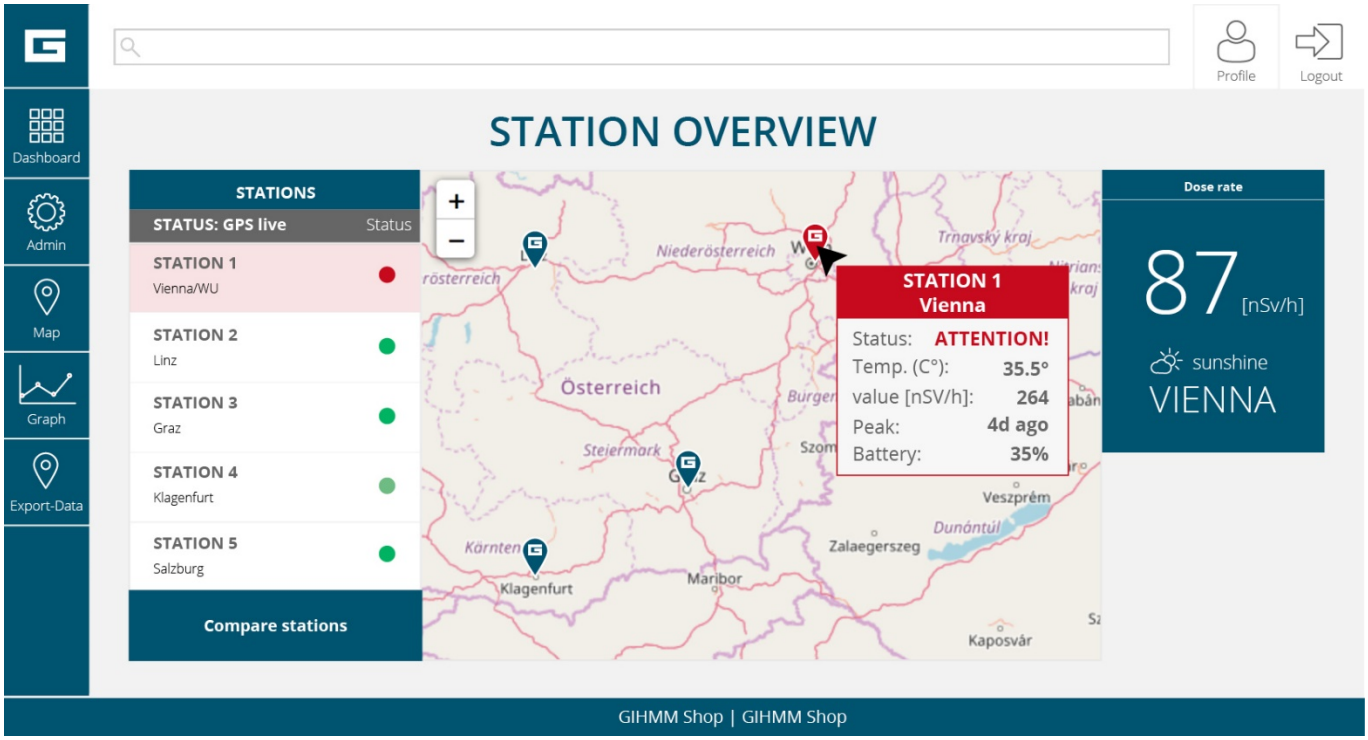
Overview map




overview map with the location of the sensors

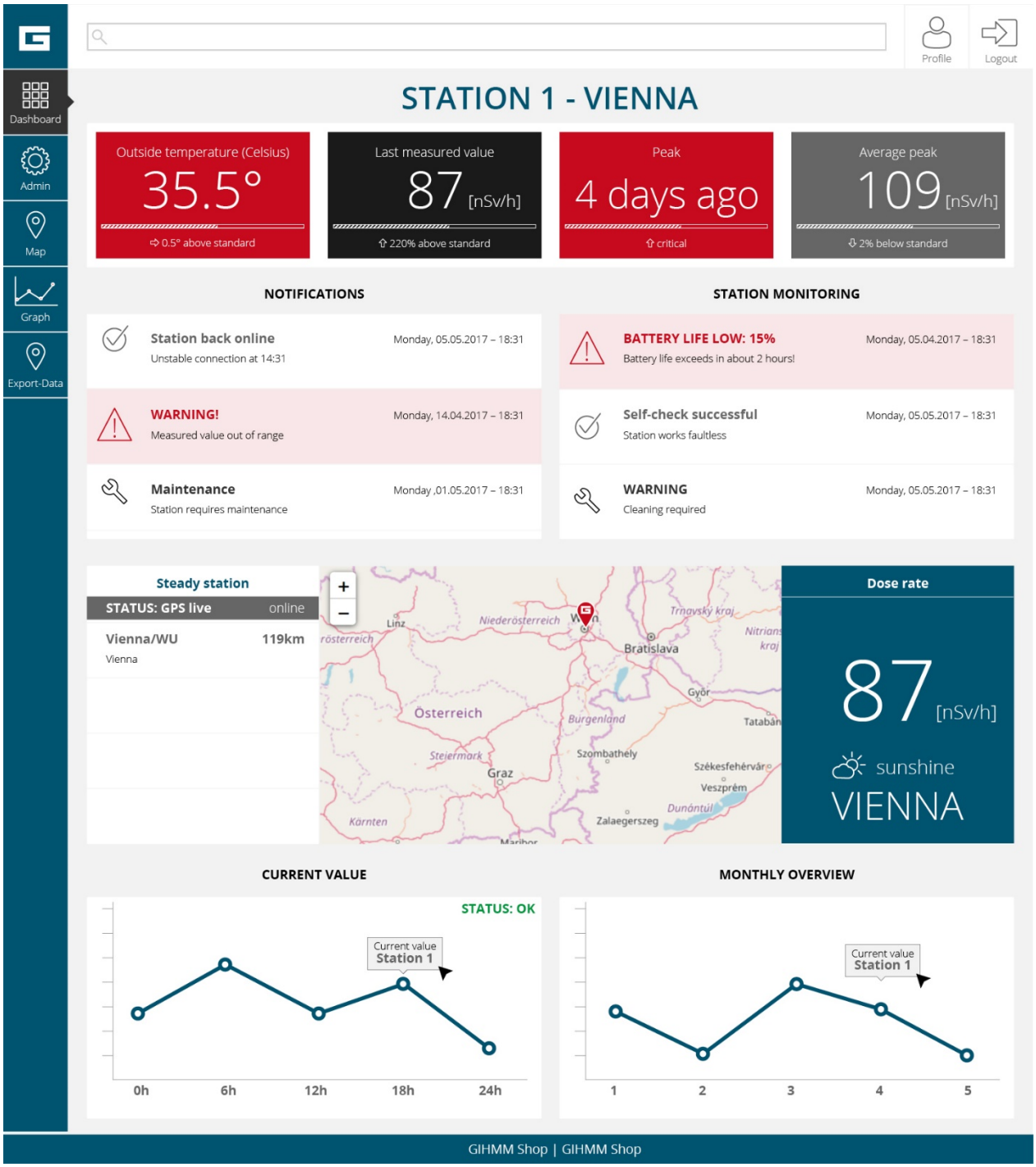
- real-time status visualization of the sensor (green: OK / red: alarm / violet: technical fault)
- real-time visualization
- warning level status (3 levels) only for dose rate in this view

with a mouse click on the station icon a small window shows a graph of last 8 hours (dose rate)

Note: technical fault: active after 1 minute of lost 10sec dose rate value

User management that consists of different user types and different users where the user types have different privileges.

Personal Dashboard-view




One view with real-time graph (only dose rate) for each sensor and a small location pic or map

graph for 1h and 10sec values

Or graph for 8h and 10sec values

other solutions can be tried during the factory acceptance test

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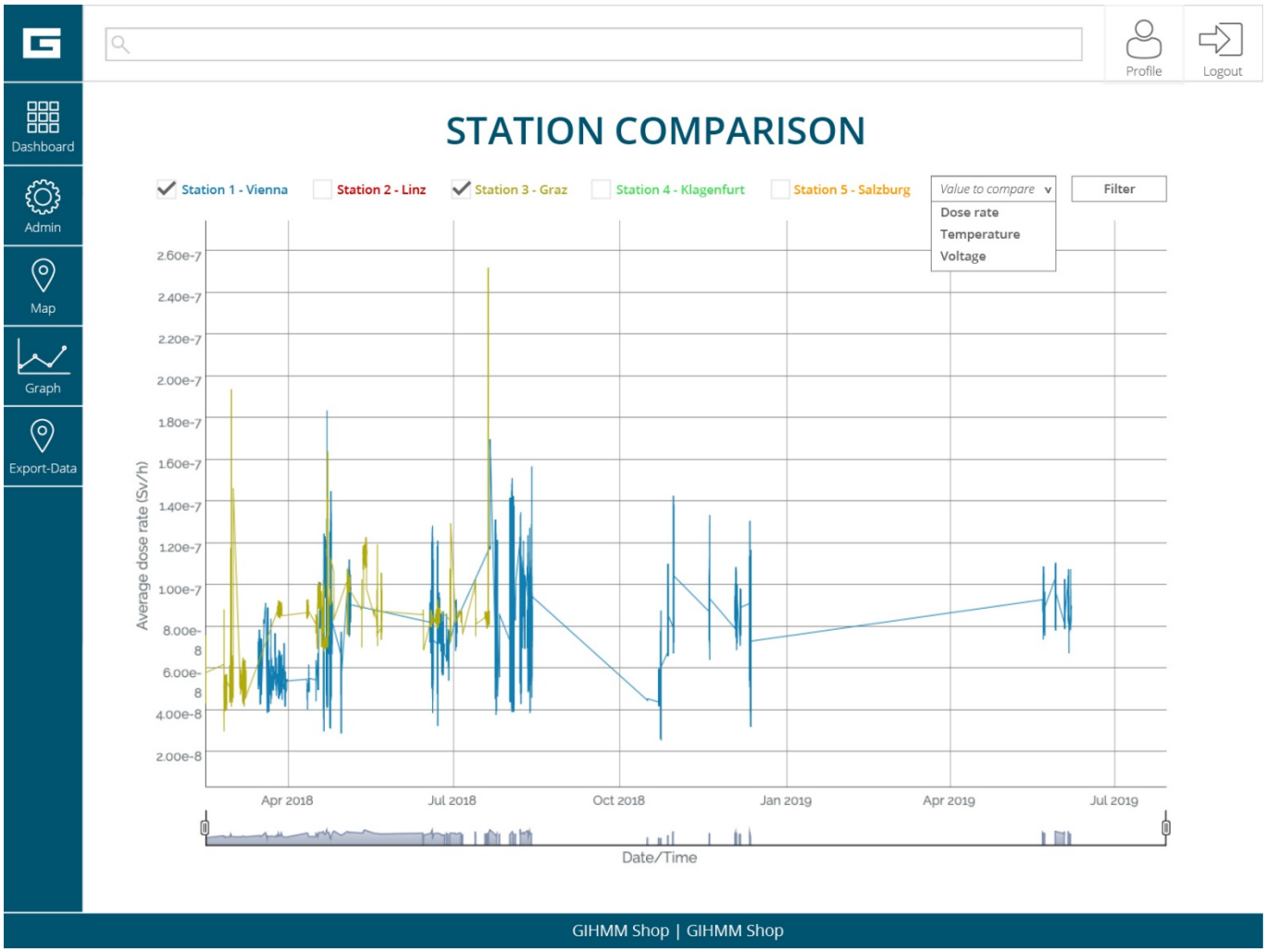
## Graph view




For all values and all stations

- Combination of max. 10 probes with 5 measured parameters in one view
- 10sec values available for the last 8 hours, after 8 hours 10min average values available.
- Each combination can be created by the users and stored as a bookmark

Note: 10sec values stored in the database only for 8 hours

## Eventlog (notifications)

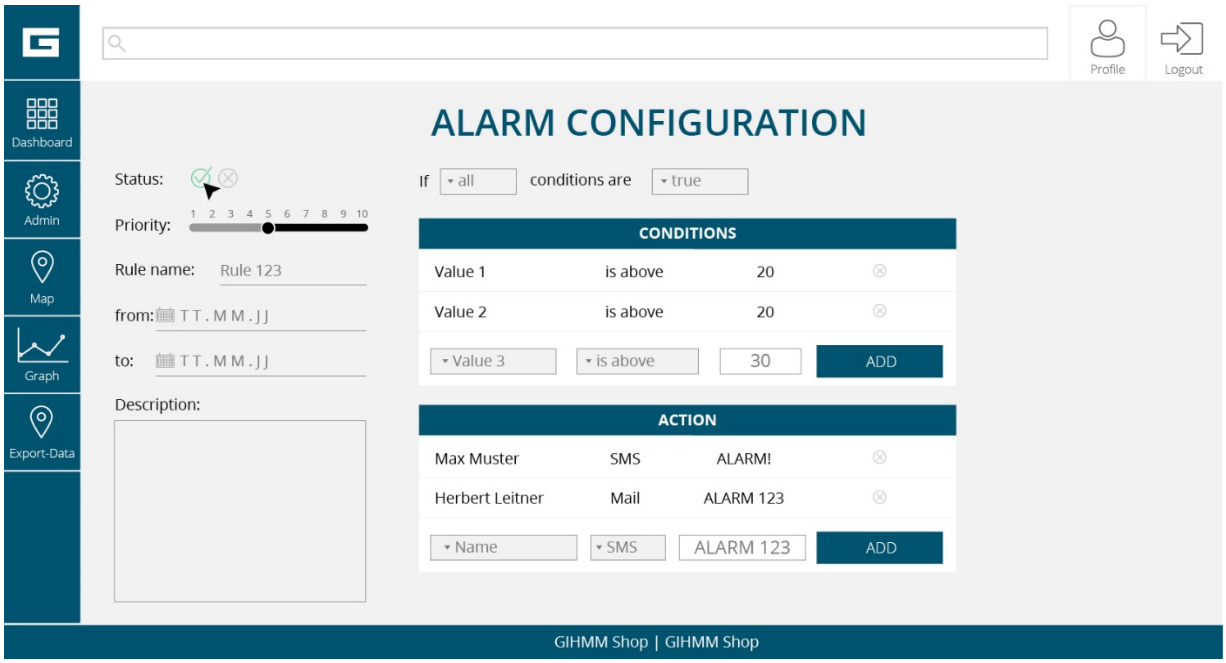
Electronic maintenance book included. Each service worker can add service reports. Therefore, no extra software is needed.

Each alarm or other event (generated by the alarm tool) is recorded
Each alarm (dose rate) must be confirmed by an authorized user
Technical events do not require confirmation

## Alarm tool

Freely configurable warning thresholds for each measurement parameter

This software module is an optional feature. Users can generate alarm triggers via web-based visualization. These triggers can target all kinds of measuring quantities and other data stored in the database. Users can also specify that notifications be received by e-mail or SMS for each trigger. In order to send notifications by e-mail, a mail server (SMTP) must be available. The SMS notification uses additional hardware.

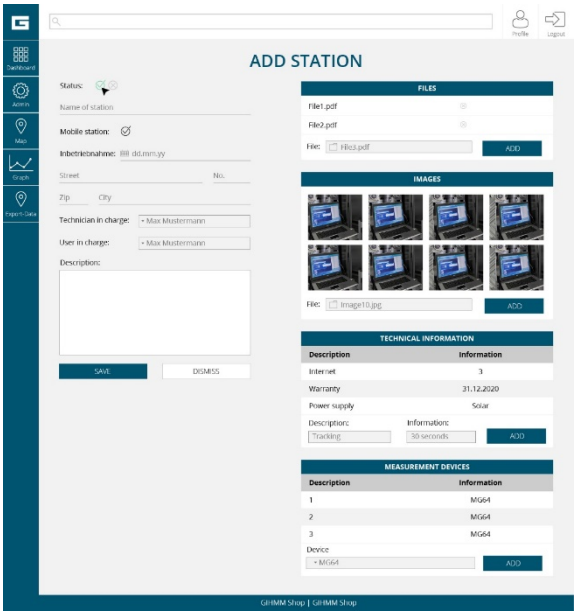



## Exports

Data export files via predefined queries or user-defined queries.
Direct generation of Adobe PDF files is possible.
Exports as: JSON; CSV; TXT; PDF; XML

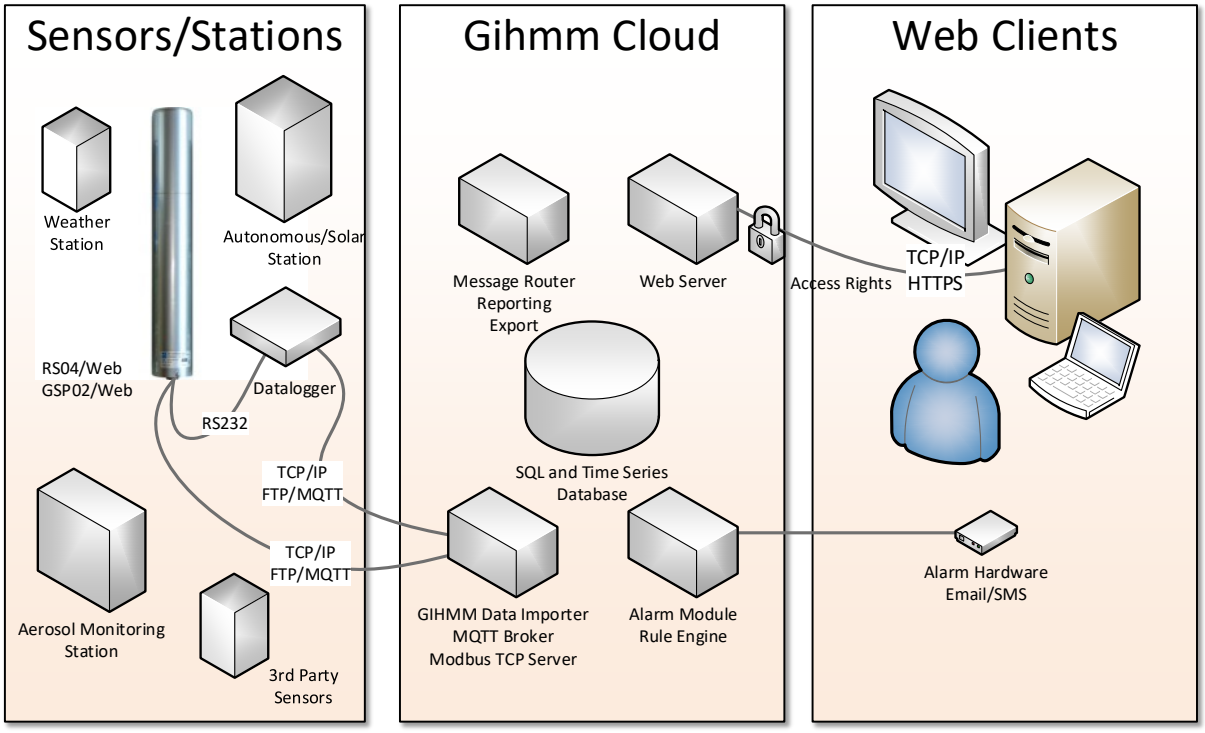
## Admin Portal

Adding new stations takes only some mouse clicks.



System architecture

The following figure shows the system architecture in its full scale!




Visualization features

- User management that consists of different user types and different users where the user types have different privileges.
- Charts and tables of every measurement type and comparison of different stations via predefined queries or user-defined queries.
- Tables of status data via predefined queries or user-defined queries.
- Visualization overview via configurable maps. Different maps can be added and the switching between them is as easy as one mouse click. For example, one can switch between a topology map and population density map.
- Adding and placement of static symbols on the map! (eg. nuclear powerplants, and other important static information)
- Control of the stations. In case of an AMS the user can do a filter change for example.

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GmbH


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