

## HIGH-LEIT XW

### New functions in Release 5.8

With Release 5.8, **HIGH-LEIT XW** has become future-proof.

Among other things, the latest **HIGH-LEIT** version uses the up-to-date and secure operating system Oracle® Solaris 11. Furthermore, we improved our own development environment and brought our software up to date with regard to compiler (Oracle Development Studio 12.6) and libraries.

You will also benefit from remarkably increased system performance.

## New Alarm and Event lists\*

Our new **Alarm** and **Event lists** provide many convenience functions to facilitate your daily work. You can move and scale columns using drag-and-drop. Furthermore, both lists provide uniform design, quick filters, complex filters and individual setting options.

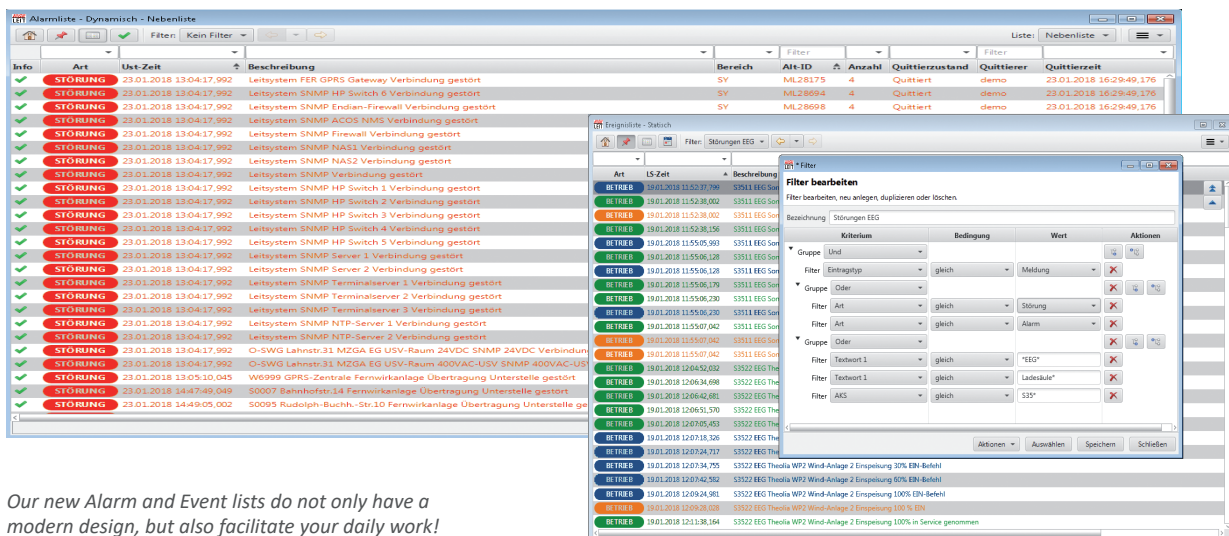
### Event list

The **Event list** offers additional functions to accelerate searching. The search thereby is not only restricted to the last 100,000 entries, but also considers almost every entry of the past when in static mode. You can add entries from the **Event list** directly to the shift book via drop-down menu.

### Alarm list

In order to recognize relevant alarms more easily, you can classify individual list entries manually or automatically with one of these statuses:

- seen
- follow up
- monitored
- requiring acknowledgement
- requiring individual acknowledgement



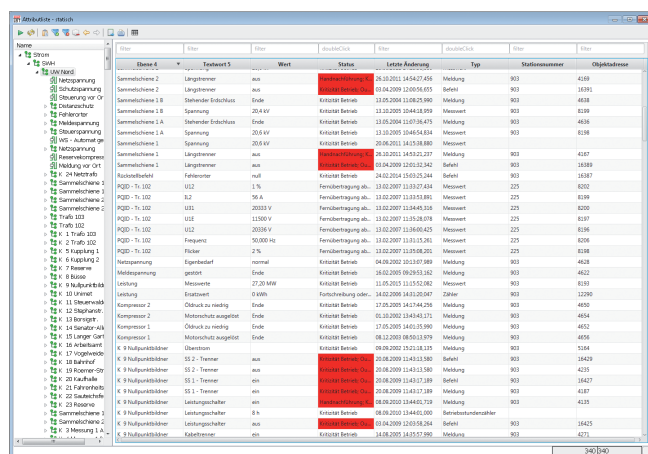
Our new Alarm and Event lists do not only have a modern design, but also facilitate your daily work!

You can move entries that do not require acknowledgement to a sublist via drop down menu and thus administer, for example, long-term, non-critical messages separately.

### Attribute list

The **Attribute list** serves as new evaluation function to display process variables including states and attributes in a clear tabular view.

The plant hierarchy displayed as tree structure serves for intuitive navigation. You can not only sort and filter the **Attribute list**, but also add values provided by plant images using copy and paste.



\* Available from release 5.8.1

## IT security

With an update to Release 5.8, you are going to improve protection of your grid control system against external attacks. We replaced the FTP protocol with the secure FTPS protocol for communication between:

- grid trainer and server;
- Microsoft Excel reports and server;
- client and server.

Failed logon attempts are logged in the **Event list** and trigger alarms if required. Moreover, the release provides additional security features:

- user authentication with Microsoft Active Directory and
- user authentication with secure hash procedure (in accordance with BSI requirements).

## Optional functions

### Switching request for pipe networks

Effective from Release 5.8, we provide suitable forms for pipe networks (liquids and gases). These forms are similar to those for the Electricity medium and facilitate daily work of utilities providing many services (eg water and gas supply).

Furthermore, operators and administrators can individually adjust access authorizations for colleagues in a way that they only see what matters for them.

Moreover, it is possible to specify work instructions for the grid area. These work instructions are simply added to the report when creating a switching order.

### Renewable feed-in management and cascade

Renewable energy feed-in management offers the following options:

- administration of all renewables-based generating plants;
- non-discriminatory regulation of plants;
- load-shedding;
- documentation of measures.

### Topology

We implemented the following additional interlocking checks in the topology:

- in case two busbars are coupled via circuit-breakers at the same outgoing feeder, the interlock message **Creating circuit-breaker bridge** is indicated (provided the busbars are not connected via cross coupling);
- the same applies if busbars are connected via circuit-breakers at the same outgoing feeder and the cross coupling between the busbars is opened.

In addition, we improved the condensed visualization of sectioning points of tripod stations.

### Outage risk assessment/(N-1) principle

In order to guarantee smooth system operation, it is mandatory to prevent any emergency condition that appears as a result of a combination of events (so-called (N-1) rule).

The control system helps you in assessing the risks of cascading outages as it calculates consequences of contingencies in the back.

You are thus able to prevent contingencies before they appear by setting up remedial actions eg switching operations. Significant disturbances are among others:

- overloading lines;
- overloading transformers;
- exceeding minimum or maximum voltage limits.

The outage risk assessment is based on the load flow calculation in **HIGH-LEIT**. You can visualize results of the risk assessment in a status image and consider them when processing alarms.

## New web server

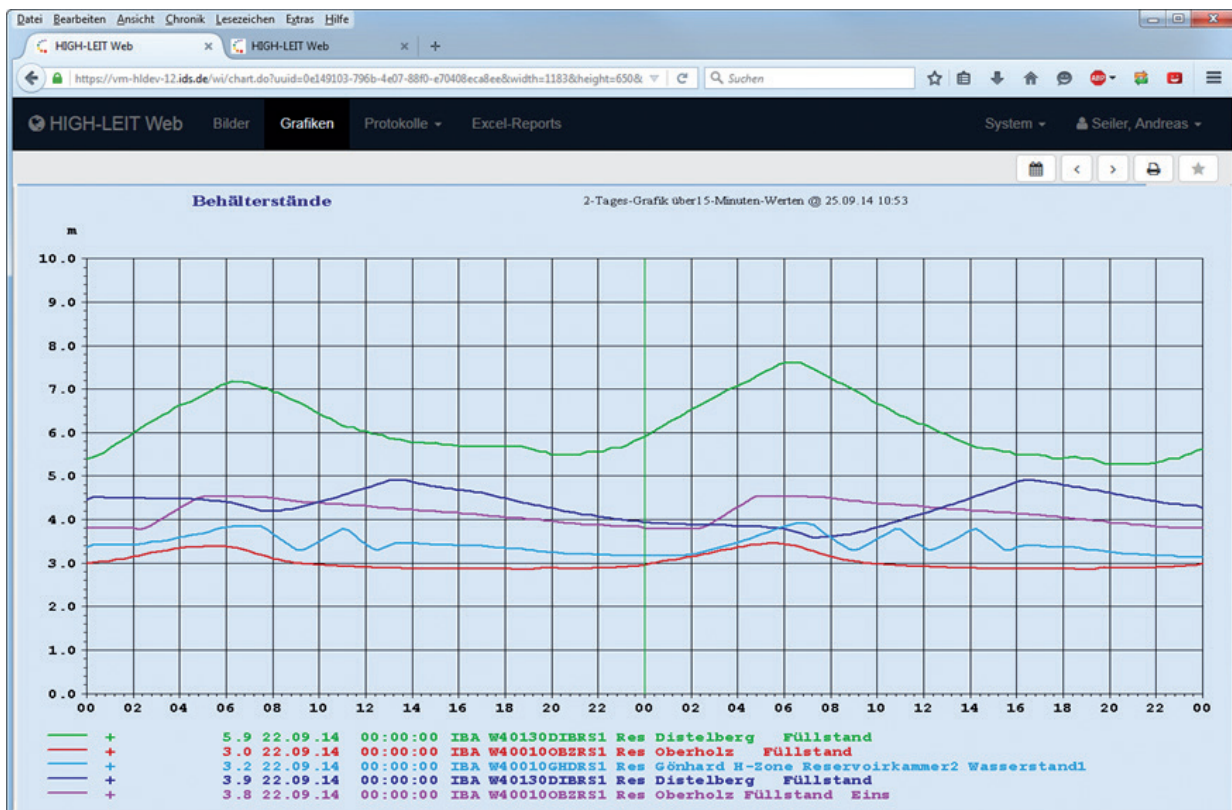
Web-based solutions suggest themselves in case information must be provided to many people.

Whether it is reporting, Microsoft Excel spreadsheets, logs, graphs or images: our web server for **HIGH-LEIT** now provides required and released information even to staff who is not involved in network operating without any risks for actually running operations.

The web server uses a secure connection via https without Java and may be used for controlling or for business partners as switching actions are not possible.

For easy and intuitive access to the system, our web server features a **Favourites** page that provides required information to every user. Reconfiguration of data is not necessary.

Our concept of rights and roles remarkably facilitates the administration of users. It only takes a few steps to unlock images, graphs or charts, Microsoft Excel reports and protocols (already configured in **HIGH-LEIT**) for individual users or user groups.



## TaT – Training and Tuition

We improved the **Training and Tuition** area for medium voltage and added some new scenarios:

- consideration of directional earth-fault indicators;
- simulation of double insulation earth fault/two-line-to-ground short circuit;
- simulation of double insulation earth fault with only one tripping;
- definition of excitation thresholds via dialogue;
- definition of fault location test values by trainer;
- simulation of electricity measured values;
- closing of specific ways when searching for short circuits in interconnected networks;
- simulation of fault throwing when power is restored (inrush current).