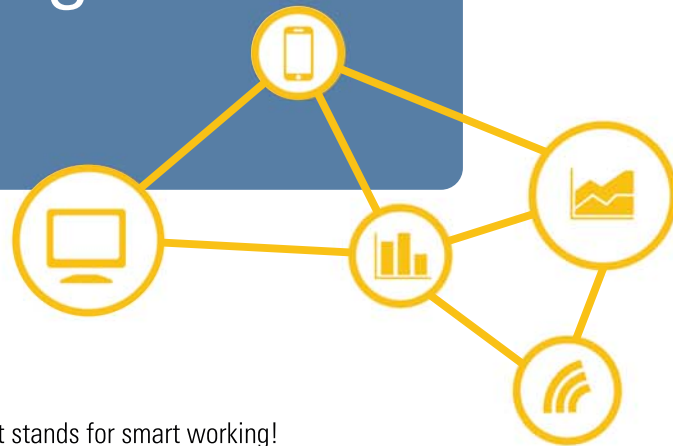# AQASYS 10
Smart Working

AQASYS 10 - a process control technology that stands for smart working!

When developing AQASYS 10, we focused on making your daily work with the system more efficient, creating an optimal system overview and making the monitoring and control of your system even faster, more error-free and clearer. The new features in AQASYS 10 start with an intuitive **menu navigation** and consistently redesigned, reader-friendly **icons.**

As a **smart cockpit** you use **dashboards**, that can be created individually, in which all important information comes together. This gives you a full overview of your system, including weather, video webcams, map tools and heat maps.

The new **line charts** in AQASYS 10 provide a high informative value for an optimal analysis of all data at a glance.

AQASYS 10 is now available with a new **Webclient** and a new **App**. Use your AQASYS with the "mobile Look and Feel".

Smart project planning - Now structure the process variables using a system tree and configure control commands in the control system without PLC programming.

AQASYS 10 provides additional **IT security** for example through new password allocation rules, database backup in the control system and clear user and rights management.

The dashboard -
everything under control

1 Create **as many dashboards as you like** and select your favorites for the menu bar. The layout of your dashboards is based on tiles which you can individually design and fill with content.

2 You can display individual values such as fill levels, pump performance, etc. as a **radial display, status display with text, in digital value representation, with a vertical or horizontal scale**.
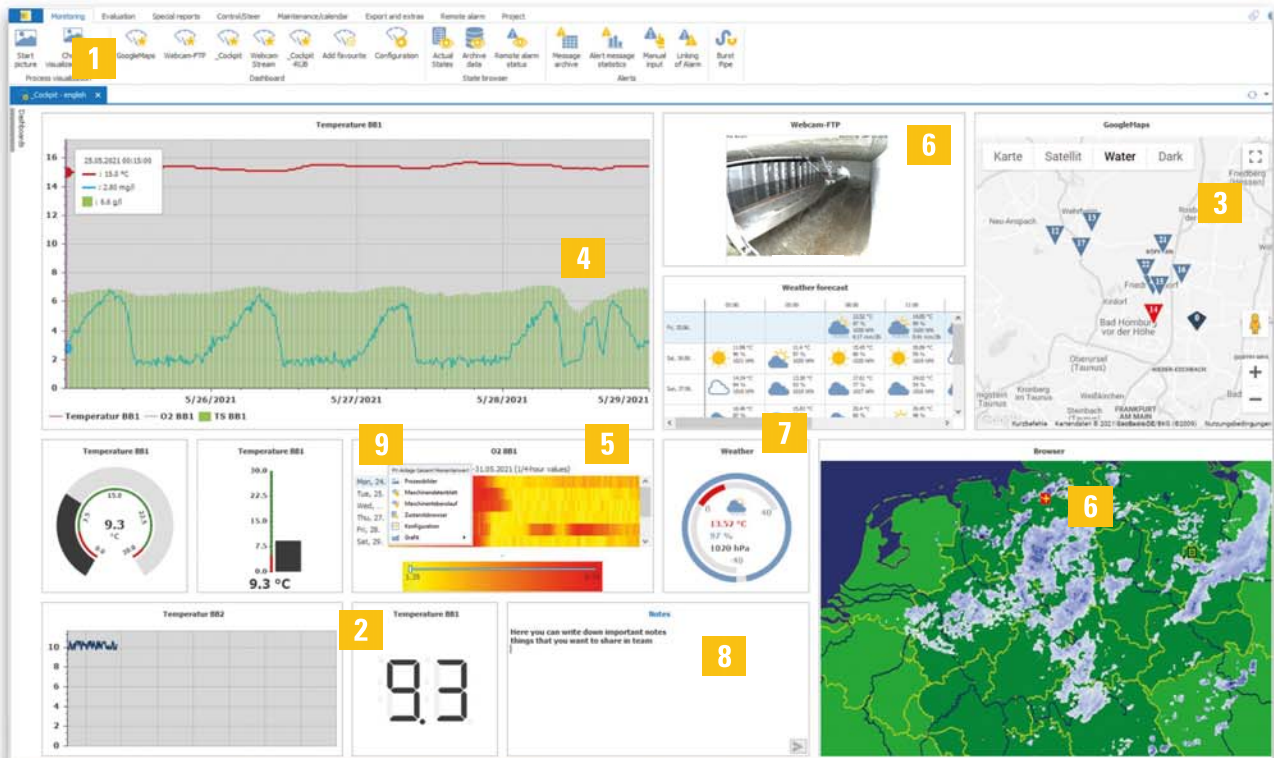
3 **Google Maps integration**: Display the positions of your remote stations and the control centre on Google Maps as a dashboard tile. Alerts are marked in red and displayed with a fault message text.

4 Embed **line charts** of any plant parts or process variables directly in the dashboard.

5 Have the measured values displayed as a **heat map** in the dashboard. The heat map is a visualisation of large amounts of data which, based on the colour intensity, enables a quick and intuitive detection of distinctive values and outliers.

6 Tiles can display any **website content**. For example, you can display your system webcams or online services such as water level or precipitation radar websites in your dashboard.

7 Use the display of the current **weather data** and the **weather forecast** for your region.

8 Store important **messages and notes** for yourself and your colleagues in a note field, such as information on alerts, etc.

9 With the right mouse button you can go directly from the dashboard tile to the **intelligent context menu** for all detailed information.

The new line charts - smart working!

In AQASYS 10, we have enriched the line charts with a lot of important information and simplified operation across the board. As a result, the new hydrographs have become much more meaningful and are very easy to interpret. All available measured values can be displayed in a single trend line, regardless of their resolution (seconds, minutes, quarter hours, hours, day, annual values), i.e. it is no longer necessary to differentiate between time curves for different archive data.
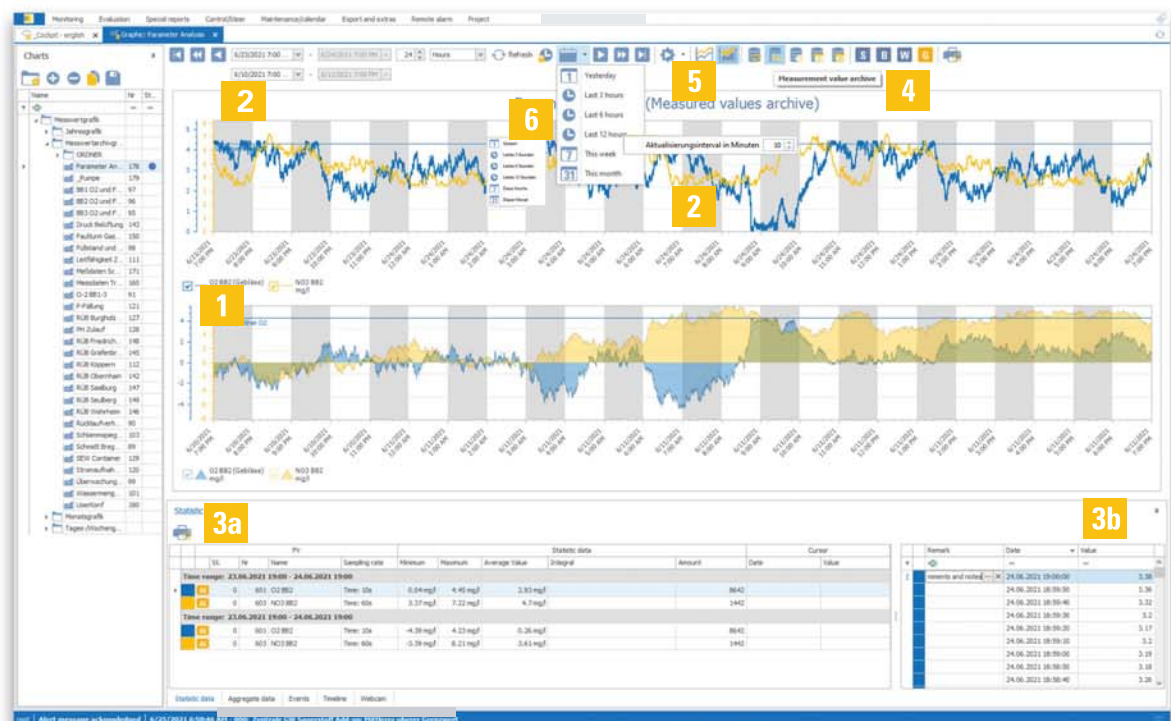
1 **Time comparison** with clear comparison value display or automatically calculated difference value display

2 Perfect overall view: Switching between data from the measured value archive and standard resolution (1/4 hour day, month, annual values) **by simply scrolling with the mouse** directly in the trend line

3 For an optimal analysis, extensive **statistical data** with columns of values, minimum and maximum values, mean values and integral (3a) are located directly below the line chart.
The values can easily be exported directly from the table, e.g. in csv or Excel files, for further processing.
You can also enter explanatory comments here (3b).

4 Buttons for **displaying fault, operating and maintenance messages** as well as **limit value violations** directly in the line chart. Check the plausibility of the displayed values directly in the line chart: Details are displayed with the Mouse Over.
In AQASYS 10, **digital and analogue outputs can now also be included in the measured value archive** and thus displayed in the line chart.

5 Always up to date - set your desired update interval in minutes, in which the display of the trend line is **automatically updated**.
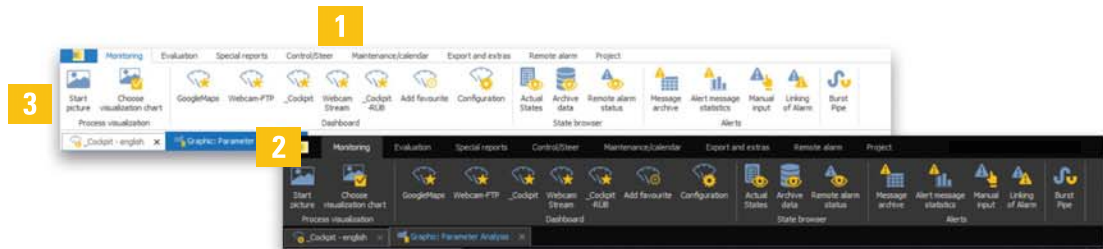
6 With practical preselection buttons, you can jump to **different time ranges** such as yesterday, last 3/6/12 hours, this week/month with one click of the mouse

New menus, system tree and colour coding

AQASYS 10 features a **new outfit** so that you can find your way around more easily and work through related work steps with as few jumps as possible in the system.
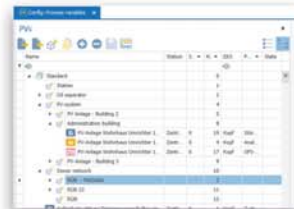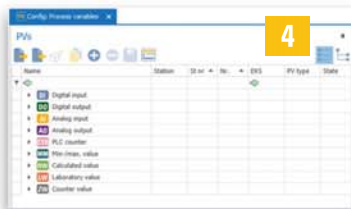
1 The **menu navigation** is now tidy and streamlined, the new menu structure is based on your main tasks, such as monitoring, evaluation and control.

2 In AQASYS 10 you can now switch between **light or dark skin** display as you wish.

3 AQASYS 10 has a new, clear, **two-colour icons** for easier system operation. New icons make it easier for you to identify functions quickly.

System tree / object orientation: You can now display the process variables
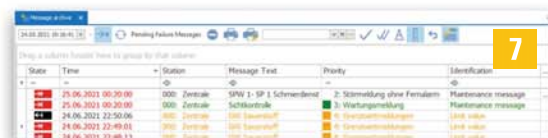
4 either in **list form** acc. to the type of PV

5 or object-oriented in a **system/tree structure**. Objects can, for example, represent system parts such as the control centre, individual works or outstations.
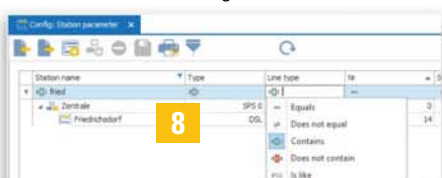

6 **Colour Coding** for quick identification and classification: Both the process variables and the fault messages are clearly colour-coded so that you can see at a glance which fault message, for example, has not yet been processed or whether it is an input or an output.

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7 Now assign **individually selectable colours and names for priorities**. This ensures a better overview in the fault message archive and thus faster responsiveness.

8 **Filter lines** for quickly finding search terms are now available in all table column displays, such as in the status overview, the station and PV configuration, in the maintenance messages, etc.

AQASYS App and new WebClient

The **AQASYS WebClient** also shines in the new version 10 in a completely new, modern and cleanly tidy look - and with the **AQASYS App** it has got a companion that is perfectly matched to smartphones and tablets. This makes working with the new WebClient and the App much clearer.
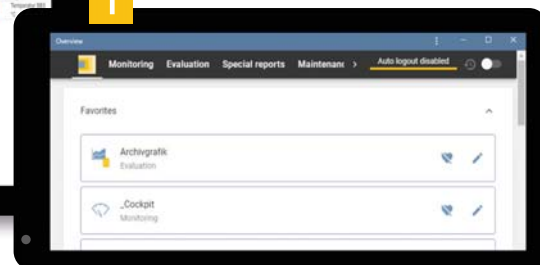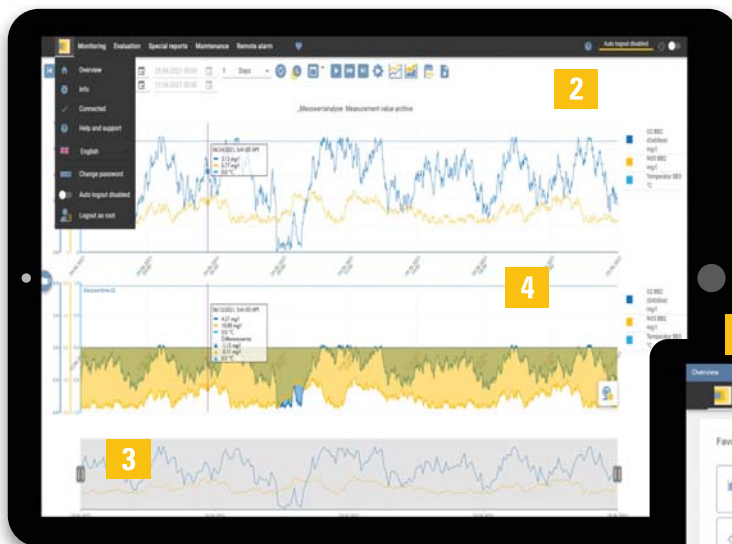
Of course, the new AQASYS WebClient and the AQASYS App meet the high **IT security requirements** of the water and wastewater industry for web-based systems, starting with security measures in the software design right through to multi-factor authentication.

1
Clearly arranged working with the AQASYS App:
All functions can be represented by **Responsive Design** in such a way that they are easy to read and operate even on small smartphone screens.

2
The new, clear **Icons** in AQASYS 10 are also continued in the WebClient and the App.

3
The desired target areas or time periods can be ideally displayed on small tablet or smartphone screens using the **Zoom function** darstellen.
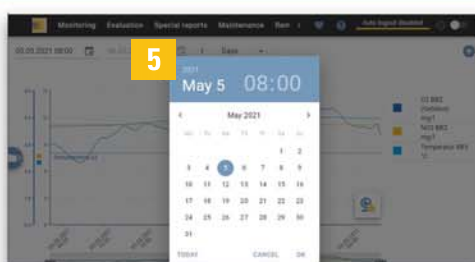
4
Overlays ensure quick identification of the values and variables shown.
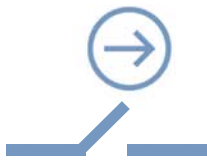
5
Integration of **large windows** makes it easier to enter data on small screens such as e.g. on the smartphone

6
Manual entries for report data are now also possible in the WebClient and in the App. They can be initiated directly in the report with a button and verified with a plausibility check based on defined value ranges.

Controlling / Regulating

We have made control and optimisation and the monitoring of control processes much easier and clearer in AQASYS10 with important new functions:

Graphic representation of control processes

In AQASYS 10 you can now record the values from **digital and analogue outputs in the measured value archive**.

This means that this important database for control processes is also

in the measured value graphics (line charts)

and as video / time-lapse in the process images.

You can use it to visualise very well how control impulses affect your system.

Configuration of cross controls directly in the control system (Input to Output)

Inputs	Input name	Type	Outputs	Output name	Comment text
S0:AI-Nr 83	Flow Outlet	AI → AO	S0:AO-Nr 91	RLS Ratio	
S0:DI-Nr 10	Remote Alarm ON	DI → DO	S0:DO-Nr 9	Alarm Test	

Really smart and networked: Configure control commands **directly in the AQASYS process control system, without any PLC programming.** Central and local PLCs and stations can easily be cross-controlled.

This is how it works: You can link analogue inputs with analogue outputs via an intuitive and simple input mask in the AQASYS control menu under "Input to Output" and have digital inputs switched to digital outputs - regardless of whether from the remote control station to the control centre, between different stations, etc.

If you use a **MIP security server** from SCHRAML, the control takes place from the MIP. It is therefore **fail-safe**, because it is independent of the availability of the process control computer.

The configuration of control commands directly in AQASYS can be **protected by user rights** and only released to selected users.

Further innovations

Synchronisation of the HMI visualisation with the control system

The proven AQASYS HMI visualisation includes two important additional functions in AQASYS 10:

The **users and user groups** created in the process control system are now automatically synchronised with the AQASYS HMI module.

Control processes initiated from the HMI module are also automatically documented in the AQASYS **control process archive**.

Flexible data export from AQASYS

In AQASYS 10, with the Export module, data can be exported in a **flexibly definable structure** in different data formats (e.g. CSV, XLS, TXT) for use in further systems.

This exported data can now also be stored on **FTP and SFTP / FTP (SSH) servers**.
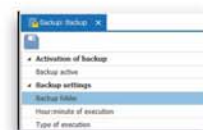
Free PV addressing of S7 PLCs for SCHRAML remote control stations

With the flexible TCP/IP driver for SCHRAML remote control stations for coupling S7 PLCs, the process variables can now also be **freely assigned** to the PLC addresses, (inputs, outputs, flags, data blocks) from outstations, which means that there is no block configuration of the PLC addresses required in AQASYS.

Security for your data

You can now set up the automatic backup of **your SQL database** directly and easily in the AQASYS configuration and check for success in the master forecast archive. Incorrect backup processes are indicated with an error message.
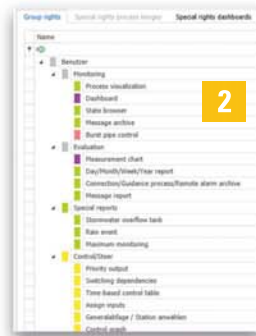
Further innovations

Easier user and rights management

1 The entire user and rights administration can now be found directly in the **"Project planning"** menu item. The individual functions have been grouped logically.

2 For faster configuration, user rights are now assigned according to **user groups**. A **colour scheme** makes it easier to identify different rights such as full access, reading, editing, etc. Special rights can now also be assigned specifically for visualisation / process images, line charts, reports and dashboards.

New IT security measures

The **acknowledgement password** for fault messages can now be between four and eight characters long in AQASYS 10.

The AQASYS **login password** is encrypted in AQASYS 10 (for desktop, WebClient, App, HMI) with the highly secure SHA-512 algorithm and is thus effectively protected against password cracking (Brute Force) attacks.

Remote alarm via SIP telephone system

Voice alarms can be routed directly to the phone with AQASYS 10 and a SIP-capable telephone system (requirement: MIP security server 58x). The integration of the voice alarm into the existing telephony infrastructure is thus easily possible.