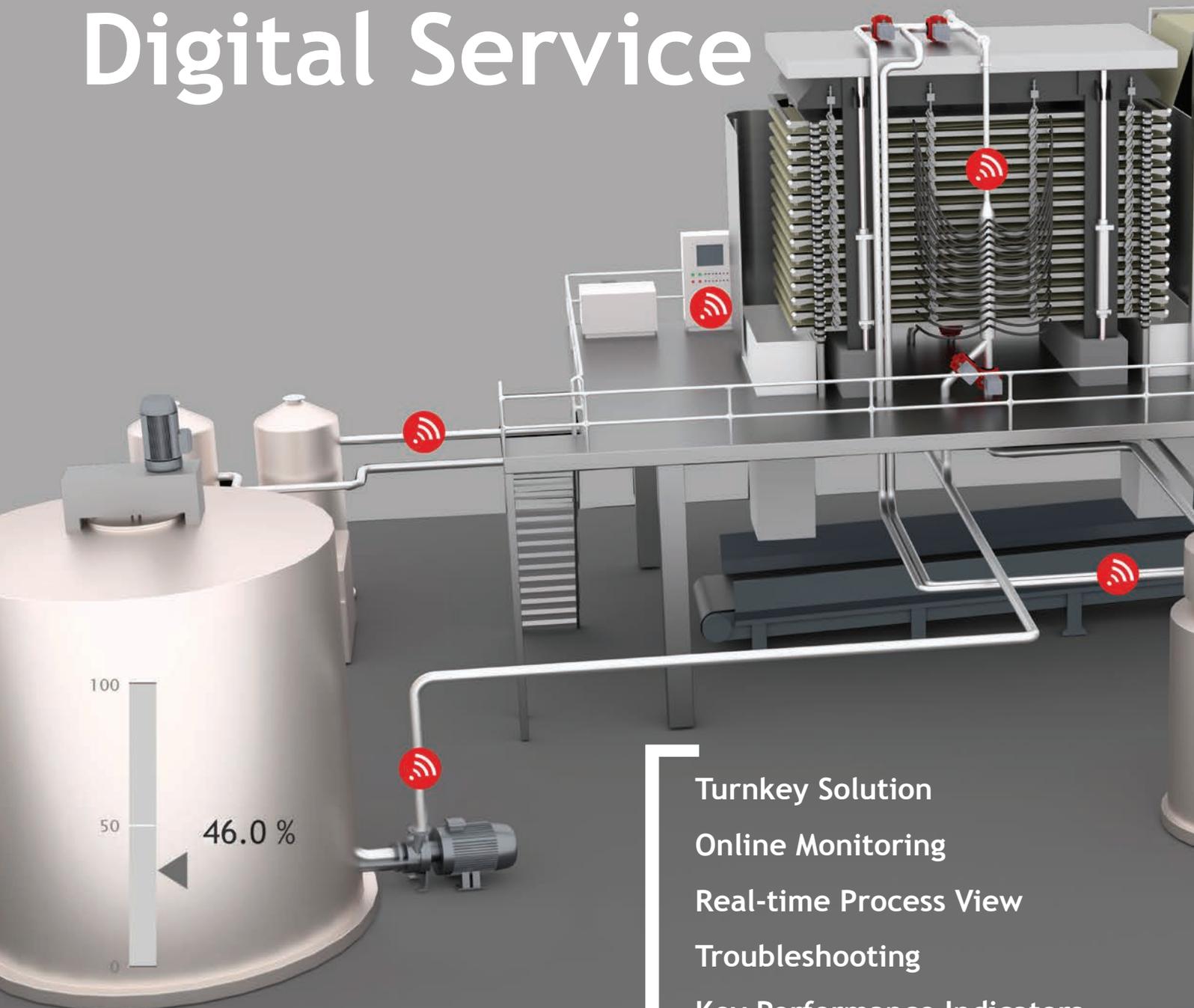# FLOWROX
Proven Performance

Smart Filtration Digital Service

Turnkey Solution

Online Monitoring

Real-time Process View

Troubleshooting

Key Performance Indicators

Filtration Optimization Support

Smart Filtration Digital Service

Flowrox Smart Filtration Digital Service is a turnkey solution. It enables remote, real-time insight into the filtration process and helps to troubleshoot and significantly optimize production. Smart Filtration utilizes existing control system and sensors and connects the filters to the Flowrox Malibu™ online portal.

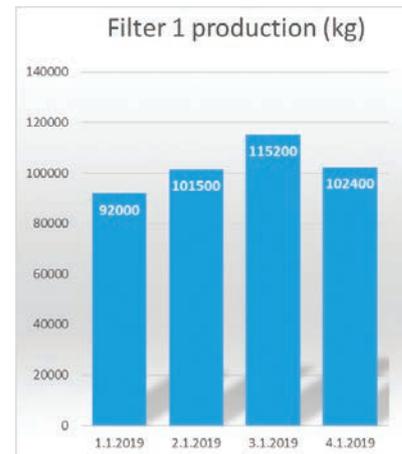## Flowrox Smart Filtration Digital Service for All Filters

Flowrox Smart Filtration Digital Service can be installed on any filter. Monitoring the filtration process online through Flowrox Malibu portal is easy and user-friendly. Access is possible when- and wherever with any computer, smart phone or other handheld device connected to the internet. Malibu also automatically generates user defined reports which are easy to read. Data analysis provided by Smart Filtration can be used for comparing filter's productivity, quality changes, energy consumption, production output, to determine reasons for its waiting time, alarms and more. DCS (Distributed Control System) integration is not necessary, but it can be arranged upon request.

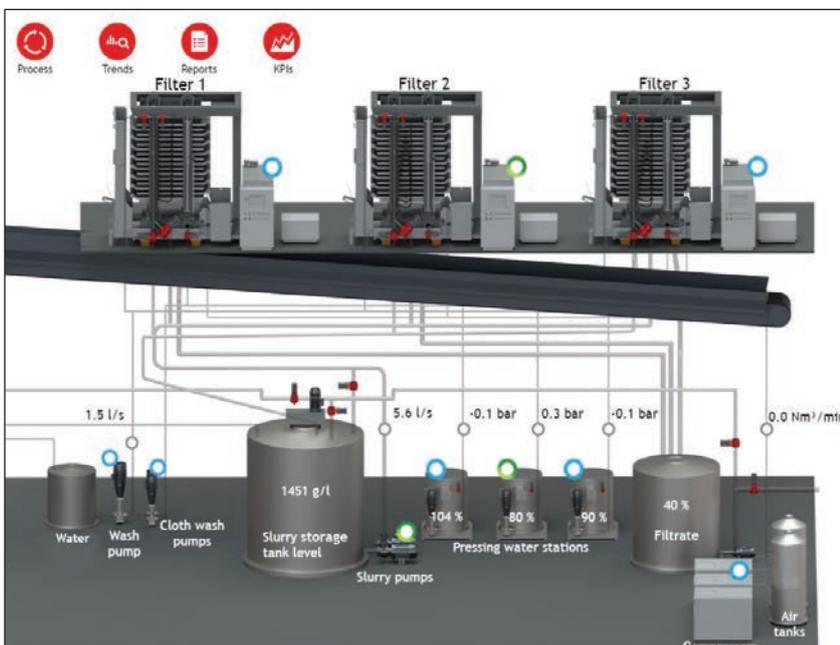### Production Volume and Process Results Information

- Fast analysis of production volume and process results
- Performance comparison between multiple filters
- Utilities comparison and OPEX reporting

Runtime Monitoring

- Generates utilization timeline
- Extracts most common alarms and reasons for downtime
- Reports of chosen time periods and measurements

Clear comparison of production is one of the most useful KPI's for everyday use.

Live and detailed online view of the filter process plant shown on Flowrox Malibu portal.

YOUR BENEFITS

Improved performance

Less unplanned downtime

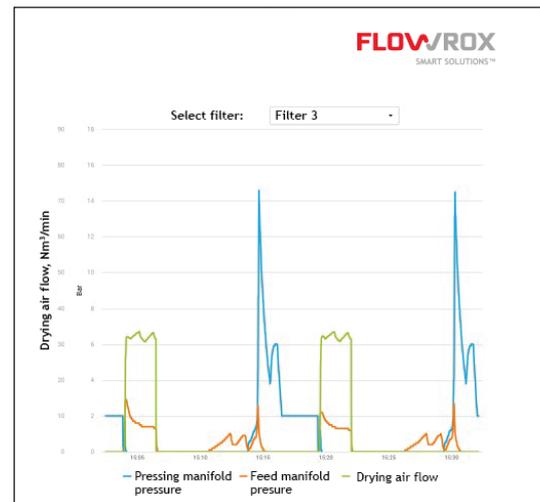**Quick troubleshooting**

Failure analysis

Optimize Your Filtration Process

Flowrox Smart Filtration Digital Service includes complete evaluation of your filtration process. Flowrox professionals will help you optimize the entire filtration process to reach targeted process results and maximize filter performance.

Different alarm limits can be set to automatically notify you via email about changes in the process. Optionally, additional sensors and equipment can be added for more comprehensive analytics, observations of spare part replacement intervals and assistance with auxiliary synchronizing. The tool can even detect problems originating from upstream and downstream of the filter.

Practical Examples of System Use:

- Discover problems in drying by following abnormalities in air pressure curves. Efficiency in drying phase can be estimated from changes in pressure. Even possible cake cracking can be detected.
- Detect cloth and membrane damages at early stage by analyzing water volume changes.
- Ensure product quality by analyzing cake moisture or filtrate opacity and conductivity.
- Discover indications of cloth damage and clogged grids and put a stop to decreased production, raised moisture and bending of the filter plates.
- Determine the reasons for waiting times. Get a real-time insight into the process: how long are the waiting times, what are the filters waiting for (slurry, air, conveyor). Discover the real reasons for delays and instantly improve the filtration process.

Smart Filtration Digital Service constantly analyses the filtration process. If the system detects any abnormalities, it automatically sends alarms to your email.
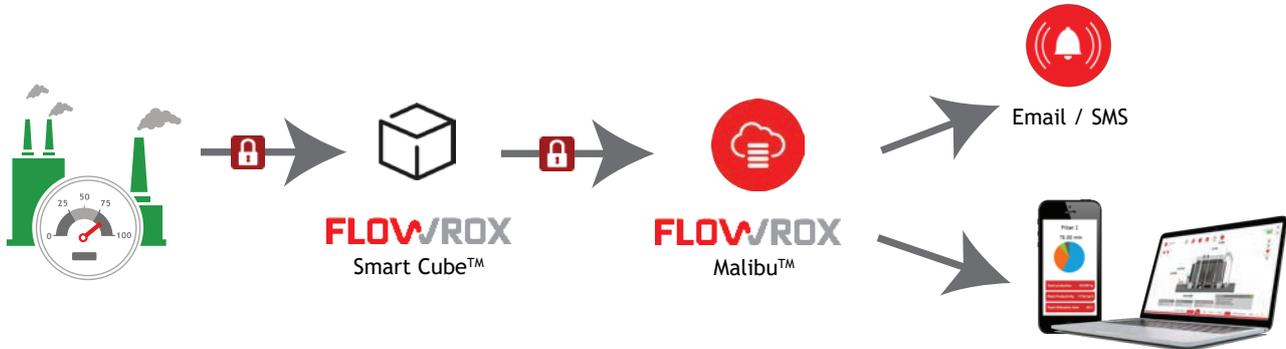

Most important KPI's (key performance indicators) are collected in one view. Check the status of your filtration process in only one glance.

Optimize your filtration and boost production. 🙸

Full Data Protection & No DCS Integration Is Required

Smart Filtration Digital Service is secured by SSL/TLS encryption – the same technology used in internet banking. Hardware based Virtual Private Network (VPN) and physical firewall isolate filter PLC from public network. Flowrox is using its own internet connection to send the data to the cloud. Flowrox Smart Cube™ is configured as a read-only system, so Smart Filtration tool cannot affect the filtration process in any way. DCS (Distributed Control System) integration is not necessary, but it can be arranged upon request.

FLOWROX Smart Cube™ → **FLOWROX Malibu™** → Email / SMS

CUSTOMER CASE: Filtration process in Finland
APPLICATION: Zinc sulphide dewatering

"Before, the information about filtration process was hard to access and read. I didn't have the time to try and get through big amount of data. There are three tower press filters operating in the zinc production and I could only see what the overall production rate was. Now, with Flowrox Smart Filtration Digital Service, I can open my laptop in the morning and from one screen instantly see, how the filtration process is going. Within a couple of minutes, I know what is happening at the moment: what is the utilization rate, productivity, cake weight, waiting times, average cycle duration, etc. If I wish, I can move the slider and observe the filtration process during the last 72 hours," explains the customer.

We Are Here to Help

Flowrox believes it is crucial to ensure reliable operations by fully understanding root causes behind production problems.

Flowrox experts provide you with the whole package: expert advice, on-site visits, product testing, process optimization and more. Flowrox offers you long-term solutions to maximize your production uptime and lower total costs.

Flowrox is headquartered in Finland and has subsidiaries in Australia, Chile, China, Republic of South Africa, Russia, Sweden and the United States. Additionally, over 230 Flowrox representatives offer local support in more than 80 countries.

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