

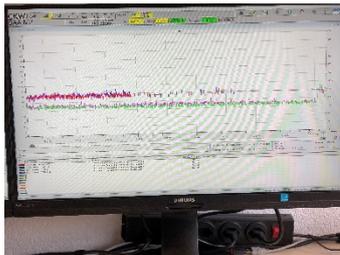
### Success Story

## Automatic hydro monitoring - Without a CMS

This case story demonstrates a cost-effective continuous condition monitoring solution that is fast to install and doesn't require installing monitoring hardware or software

#### MACHINE/INDUSTRY/PROCESS

Machine	Two vertical Kaplan hydro units, 1.2 MW each
Company/process	Sarneraa run-of-river hydropower station, located at the Wichelsee lake in Switzerland, operated by CKW
Monitoring system	B&K Vibro DT-121 integrated loop powered displacement transmitters, X-Y connected to the control system PLC for alarming and notification
Monitoring strategy	Detection: Operator informed by SMS by PLC when limits exceeded Diagnosis: Operator reads data from buffered outputs with analyzer



Shaft vibration as seen by the PLC and by a handheld connected to the sensor's buffered outputs.

Photos showing the sensor installation (top) and a handheld connected for diagnostics.

#### MONITORING CONCEPT AND IMPLEMENTATION

The DT-121 is a fully integrated transmitter, which means the driver (oscillator) and signal conditioning electronics (vibration monitor) are built directly into the sensor. Therefore there is no need for a driver, vibration monitor or protective housing. Moreover the DT-121 is loop-powered, so its 4-20 mA signal is not affected by long wiring distances, voltage drops or noise. Only two wires have to be connected in the current loop.

Maagtechnik installed and commissioned the transmitters within one day. They are also a service provider to the end-user, so if alarm limits are exceeded, they can be called to do diagnostics, balancing or other services.

#### BENEFITS

The end-user saved over 71% by not buying the vibration monitoring system offered by another supplier. Moreover, the DT-121 installation and commissioning time is faster and occupies much less space. The cost-effective DT-12x series of transmitters represent a simple yet powerful monitoring solution that fulfill customer's needs for these types of applications.

**CONTACT**

Mail: [info@bkvibro.com](mailto:info@bkvibro.com)

Brüel & Kjær Vibro GmbH  
Leydheckerstrasse 10  
64293 Darmstadt  
Germany

Phone: +49 6151 428 0

[www.bkvibro.com](http://www.bkvibro.com)