

## Cover Story

Work is underway to refurbish the Ryburg Schwörstadt run-of-river hydropower plant on the River Rhine in Switzerland

## 5 World News

NHPC launches early warning system for hydro projects; Bechtel to work on Big-T pumped storage facility in Australia

## 8 Spotlight

The Nant de Drance pumped storage power plant in Valais, Switzerland, was put into operation on 1 July, with official inauguration in September

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## features

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## Europe

### 10 Hydropower leads the way

Larger pumped storage projects and hydro refurbishments are underway in mainland Europe

### 18 No barrier to success

Momentum is growing to remove dams and weirs that no longer fulfil their original purpose, helping to restore natural ecosystems, and strengthen climate resilience.

### 22 Celebrating European achievements

Finnish energy company Fortum gives an insight into different hydropower projects it has worked on in Sweden and Finland over recent years.

### 26 Snow monitoring and Italian hydropower

Enel and ESA launch new Snow Water Equivalent feasibility study in Italy with Wegaw's satellite-based snow monitoring solution

## Small hydro

### 28 Small steps to sustain

Untapped small hydropower resources have a key role to play in fulfilling renewable energy potential but, as recent research appears to highlight, sustainable development is still of utmost importance.

## Operations & maintenance

### 30 New tools

Robots, satellite developments and air gap measuring tools are helping operation and maintenance activities in the hydro industry

### 34 Algae treatments evolve - from chemicals to next-gen ultrasonics

The rise in global temperatures is creating a new problem in the area of water management -- out of control algae growth in water supplies. Increasing temperatures are resulting in widespread algae blooms that are negatively affecting

reservoirs of all types. George Hutchinson of WaterIQ Technologies discusses some of the top algae management problems that managers are dealing with and some of the approaches that will be used in 2022 to counter this challenge

## Renewable integration

### 36 Hydro can help

Hydropower is working in partnership with other renewables across the grid.

## Design

### 38 Geomorphic designs inform tailings dam sustainability

Civil engineer Justin Walls of SRK Consulting considers how geomorphic designs are being applied to tailings dams, emulating natural landforms to render these structures more stable, economic and sustainable.

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