

Media Release

Voith Group

Mailing address
Voith GmbH & Co. KGaA
Group Communications
St. Poeltener Strasse 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2209
Fax +49 7321 37-7000
www.voith.com

Voith participates in EU research project FiThydro: Sustainable use of renewable energy resource hydropower

2020-12-02

- Voith is engaged in the Europe-wide "FiThydro" project as part of the European Union's Horizon 2020 research and innovation program.
- Under the direction of the Technical University of Munich (TUM) and together with 25 other cooperation partners, the four-year project will comprehensively investigate ecological aspects of hydropower.
- Voith is developing individual assessment methods and technologies for more sustainable and fish-friendly hydropower utilization.

HEIDENHEIM/MUNICH, GERMANY. In the European research project "Fish Friendly Innovative Technologies for Hydropower (FiThydro)", experts are investigating existing hydropower plants at 17 locations in eight countries in cooperation with industrial partners, including Voith. The four-year EU project studies the impact of hydropower plants on ecosystems, especially on fish. A total of 13 research institutes and 13 companies in Germany, Austria, Belgium, Estonia, France, Great Britain, Norway, Portugal, Switzerland and Spain are participating. The chair of Hydraulic Engineering and Water Management at the Technical University of Munich (TUM) coordinates and manages the EU project. The project received 7.2 million euros in funding from the European Union's Horizon 2020 research and innovation program under Grant Agreement No. 727830 and the Swiss National Fund for Scientific Research (SNF).

Studies on power plants in Europe

First, the project partners analyzed and extended existing methods, technologies and approaches to assess the various impacts of hydropower plants and possible protective measures on fish populations. For this purpose, measurements were carried out at the test sites and in laboratories.

In the second part of the project, possible measures for power plant modernization as well as new tools for decision support for hydropower operators and planners were tested.

"It was important to us to adapt existing solutions to the site-specific conditions of each power plant," explains Prof. Peter Rutschmann, chair of Hydraulic Engineering and Water Management at the TUM and coordinator of the project. "We therefore attached great importance to ensuring that these sites reflect the diversity of geographical, hydromorphological and climatic conditions. Thus, our results are applicable to different hydroelectric power plants in Europe."

Advanced evaluation methods

As a project partner, Voith Hydro, in cooperation with the TUM, contributed to the further development of simple and innovative methods for assessing the fish passage through water turbines.

"Influences such as power plant operation and aspects of fish behavior were investigated using evaluation methods based on numerical flow simulation," explains Ulli Stoltz, development engineer at Voith Hydro and contributor to the project. "In cooperation with the project partners, these methods were then applied to selected test cases and compared with the measurement data from fish-like sensors sent through the turbines at these locations."

These and other new solutions, evaluation methods and technologies – such as a hazard index for fish populations, fish migration simulations and an open-access decision support tool for hydropower planning – can provide hydropower operators with important support in assessing and planning protection measures. Furthermore, these assessment methods can be applied during the design phase of water turbines for new and modernization projects. The knowledge gained enables an optimized hydraulic design for improved fish passage.

In addition, the improved turbine design can be combined with other measures such as fish passage systems. Thus, environmentally friendly energy can be generated while at the same time considering the river ecology.

Voith Group

Mailing address
Voith GmbH & Co. KGaA
Group Communications
St. Poeltener Strasse 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2209
Fax +49 7321 37-7000
www.voith.com

Seite 2 von 4

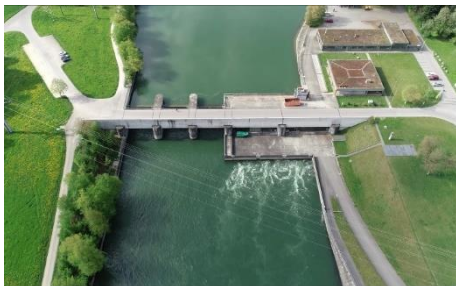
Renewable energy source hydropower

Hydropower is one of the most important and widespread renewable energy sources worldwide. Its great advantage, unlike wind and solar power, is that it is only subject to minor weather-related fluctuations. In order to investigate the influence on fish populations at hydropower plants, topics such as fish passage at the turbine and weirs as well as changes in the habitats for fish are moving into focus. To minimize negative ecological effects as much as possible, the European Water Framework Directive, among others, was developed. Further information can be found at: <https://www.fithydro.eu/>

About the Voith Group

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, the company today has more than 19,000 employees, sales of € 4.3 billion and locations in over 60 countries worldwide and is thus one of the larger family-owned companies in Europe.

The Group Division Voith Hydro is part of the Voith Group and a leading full-line supplier as well as trusted partner for equipping hydropower plants. Voith develops customized, long-term solutions and services for large and small hydro plants all over the world. Its portfolio of products and services covers the entire life cycle and all major components for large and small hydro plants, from generators, turbines, pumps and automation systems, right through to spare parts, maintenance and training services, and digital solutions for intelligent hydropower.



As part of the FiThydro project, studies were conducted at several locations in cooperation with Voith, such as the Bannwil hydropower plant.

Copyright: ETH Zurich Laboratory of Hydraulics, Hydrology and Glaciology VAW.

Voith Group

Mailing address
Voith GmbH & Co. KGaA
Group Communications
St. Poeltener Strasse 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2209
Fax +49 7321 37-7000
www.voith.com

Seite 3 von 4

Contact

Naomi Keitel
Junior Market Communication Manager EMEA
Voith GmbH & Co. KGaA
Tel. +49 7321 37-2209
Naomi.Keitel@voith.com

Voith Group

Mailing address
Voith GmbH & Co. KGaA
Group Communications
St. Poeltener Strasse 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2209
Fax +49 7321 37-7000
www.voith.com

Seite 4 von 4

Twitter

<https://twitter.com/voithgroup>
https://twitter.com/voith_hydro
https://twitter.com/voith_paper
https://twitter.com/voith_turbo
https://twitter.com/Voith_Digital
https://twitter.com/Voith_Career

LinkedIn

<https://www.linkedin.com/company/voithgroup>
<https://www.linkedin.com/company/voith-hydro>
<https://www.linkedin.com/company/voith-turbo>
<https://www.linkedin.com/company/voith-paper>
<https://www.linkedin.com/company/voith-digital>
<https://www.linkedin.com/company/voith-robotics>

YouTube

<https://www.youtube.com/VoithGroup>

Instagram

<https://www.instagram.com/voithgroup/>