

Digitalisation in Hydropower 2023

Experiences with implemented
digital measures



Information about
Kraftwerke Sarganserland



Information about Axpo
Division Hydropower



Safety information



Timetable



Guided tours plan



Station Guide

In cooperation with

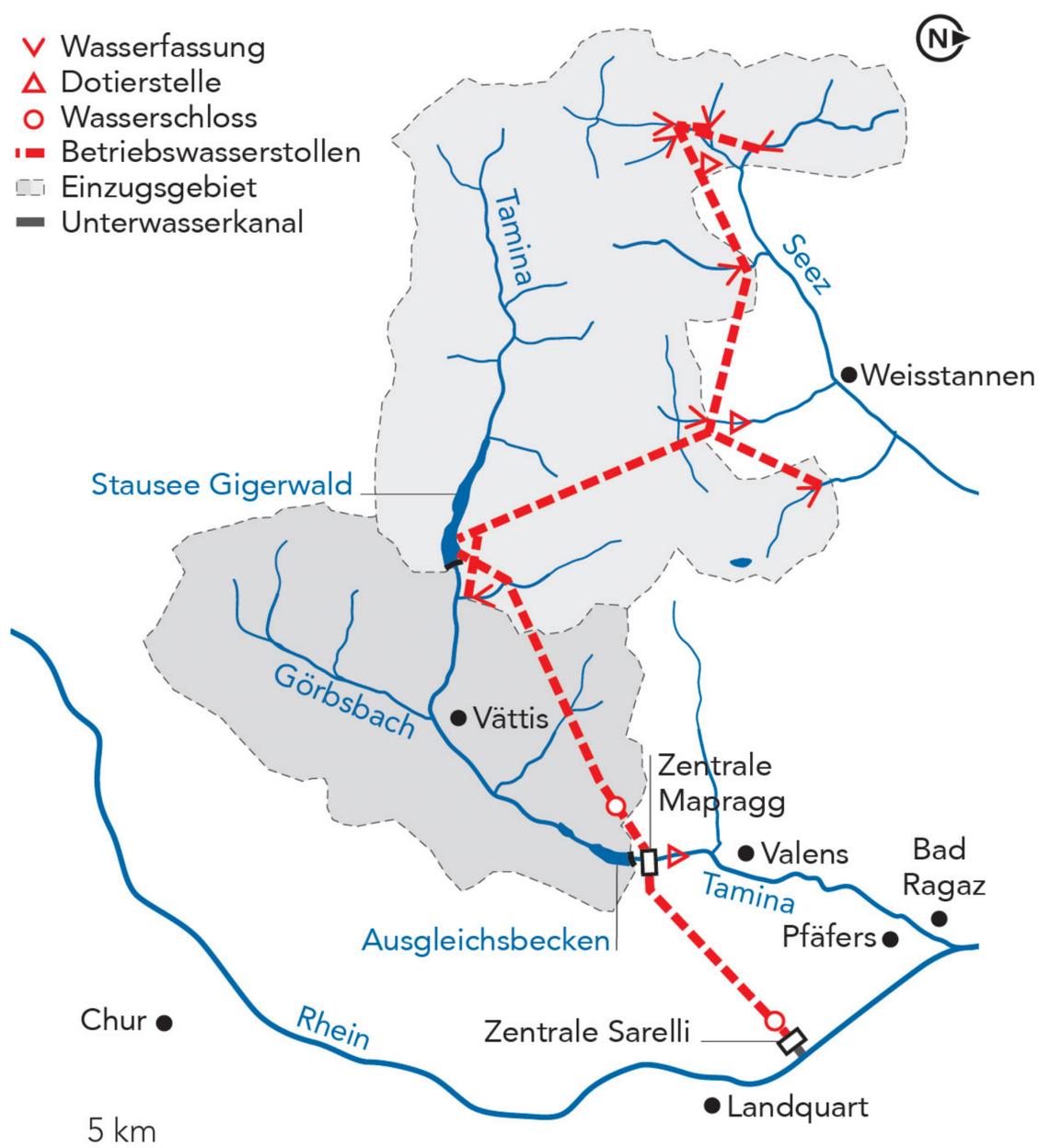


Information about Kraftwerke Sarganserland

Kraftwerke Sarganserland AG (KSL) comprises a high-pressure hydroelectric power plant with pumped storage operation. The facilities were established in 1961 by the former Nordostschweizerische Kraftwerke AG (now Axpo) and the St. Gallisch-Appenzellische Kraftwerke AG (SAK).

Currently, the Canton of St. Gallen owns 1.5% and Axpo 98.5% of the KSL share capital. The power plant facilities, constructed between 1971 and 1977, are located at the southwestern end of the Canton of St. Gallen, in the Tamina, Calfeisen, and Weisstannen Valley, as well as between Bad Ragaz and Landquart.

This two-stage hydropower plant utilizes the water from the upper Weisstannen, Calfeisen and Tamina Valley.



Information about Axpo Division Hydropower

The Division «Hydropower & Biomass» manages a portfolio of 89 hydropower plants across Switzerland. With a combined installed capacity of 4.9 GW, these plants generate approximately 10.7 TWh annually.

Our team of over 360 dedicated professionals ensures the secure and reliable operation of 254 hydropower units and 79 water reservoirs.

Kraftwerke Sarganserland



- Hydropower plant managed by Axpo
- Hydropower plant with Axpo participation

Hydropower plants of Axpo in Switzerland

Safety information



Please wear your safety vest



Stay within the dedicated areas



Do not touch any equipment



Please pay attention to all signs

Timetable

09:30

Arrival at Kraftwerke Sarganserland
and grouping of participants

Guided visit to the demonstration stations:

10:00

Round 1

10:30

Round 2

11:00

Round 3

11:30

Round 4

12:00

Round 5

12:30

Lunch & Networking

Self-guided visit to
demonstration stations

15:00

End of visit



14:00

Departure via bus shuttle 1 to Zurich airport

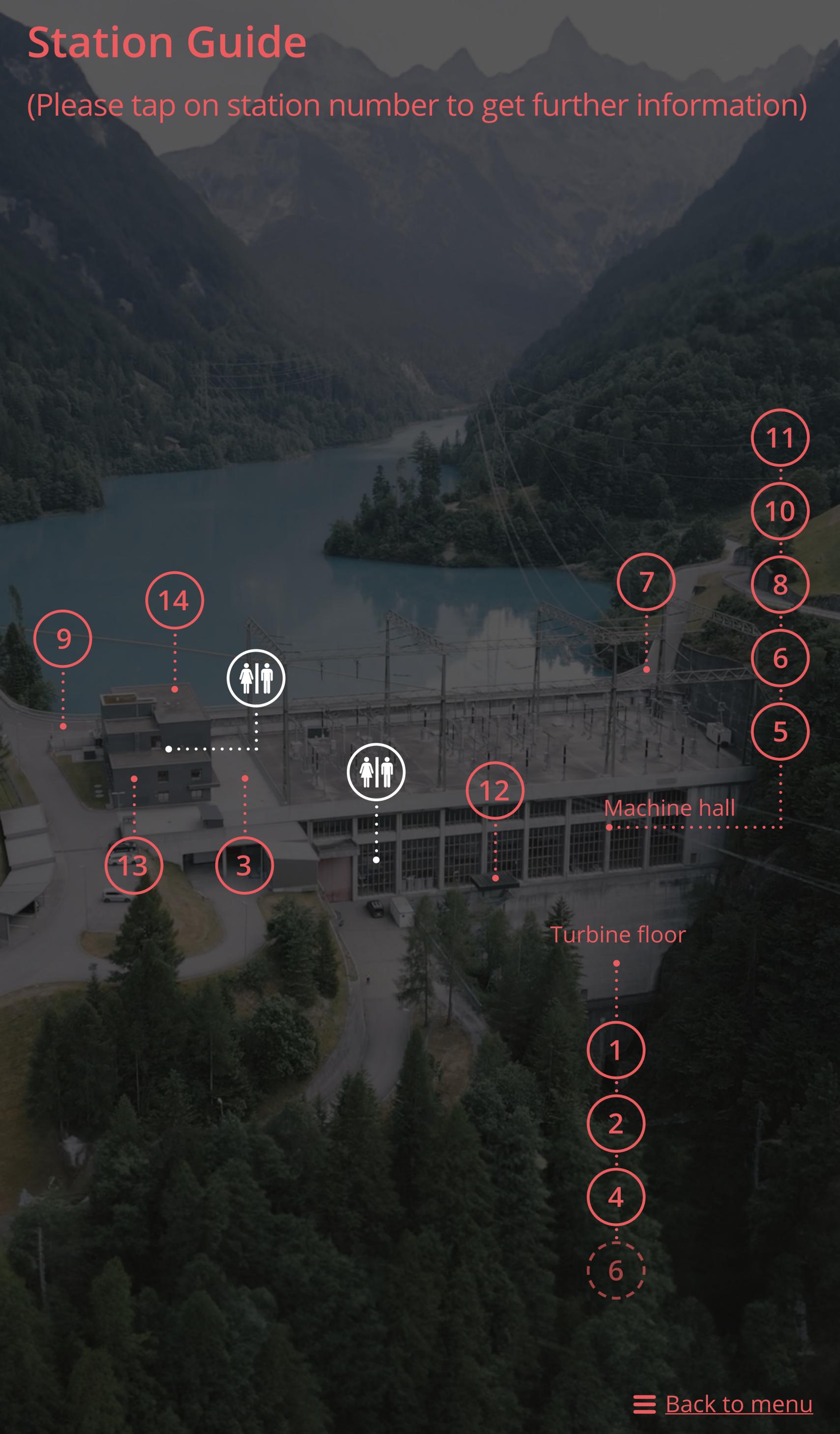
15:00

Departure via bus shuttle 2 to Zurich airport

Group No.	Round 1 10:00	Round 2 10:30	Round 3 11:00	Round 4 11:30	Round 5 12:00
1	Station 3	Station 13	Station 9	Station 14	Station 7
2	Station 13	Station 9	Station 14	Station 7	Station 11
3	Station 9	Station 14	Station 7	Station 11	Station 10
4	Station 14	Station 7	Station 11	Station 10	Station 8
5	Station 7	Station 11	Station 10	Station 8	Station 5
6	Station 11	Station 10	Station 8	Station 5	Station 6
7	Station 10	Station 8	Station 5	Station 6	Station 12
8	Station 8	Station 5	Station 6	Station 12	Station 1
9	Station 5	Station 6	Station 12	Station 1	Station 2
10	Station 6	Station 12	Station 1	Station 2	Station 4
11	Station 12	Station 1	Station 2	Station 4	Station 3
12	Station 1	Station 2	Station 4	Station 3	Station 13
13	Station 2	Station 4	Station 3	Station 13	Station 9
14	Station 4	Station 3	Station 13	Station 9	Station 14

Station Guide

(Please tap on station number to get further information)





Station 1

Access Asset Documentation
with eDoc

- › Live Demo and User Story (operational)

Axpo, Voith

- 📍 Station 1 is located at the turbine floor. Please follow the signs and use the elevator.



Station 2

Digital Workforce Management
in HPP

- › Live Demo and User Story (operational)

Axpo, sogema software

- 📍 Station 2 is located at the turbine floor. Please follow the signs and use the elevator.



Station 3

Useful Frontline Apps

- Demo of various digital tools (operational)
Axpo, autosense, QBIC, uepaa
- 📍 Station 3 is located in the main building at the car garage. Please follow the signs and use the staircase.



Station 4

Asset Identification
with PowerOwl

- Live Demo and User Story (PoC system)
Axpo
- 📍 Station 4 is located at the turbine floor. Please follow the signs and use the elevator.



Station 5

Hydro Insights - Analyze
Operational Data

- > Live Demo and User Story (operational)

Axpo

- 📍 Station 5 is located at the machine hall. Please follow the signs and use the elevator.



Station 6

etahydro - Online Efficiency
Monitoring

- > Presentation of optimization in HPP Filisur

Axpo, etaeval

- 📍 Station 6 is located at the machine hall. Please follow the signs and use the elevator.

In addition the inflow instrumentation required for etahydro is on display at the spherical valve gallery on the turbine floor.



Station 7

Underwater Inspection

- Live Demo at HPP Mapragg
Axpo, Schuck Consulting, Verbund
- 📍 Station 7 is located outside on the right side of the dam (looking at the reservoir). Please follow the signs.



Station 8

Drone Indoor Inspection

- Live Demo at HPP Mapragg
Axpo, Kernkraftwerk Gösgen,
Kernkraftwerk Leibstadt, Flyability
- 📍 Station 8 is located in the transformer hall behind the machine hall on the right side of the building (looking to the reservoir). Please follow the signs and use the elevator.



Station 9

hydrone -Drone Outdoor
Inspection

- > Live Demo at HPP Mapragg (operational)

Axpo

- 📍 Station 9 is located outside the main building on the parking area next to the site entrance. Please follow the signs.



Station 10

State of the art
Dam Monitoring

- > SmartMeasure, DATAL, WATAL (operational)

Axpo

- 📍 Station 10 is located in the dam access gallery behind the machine hall on the left side of the building (looking to the reservoir). Please follow the signs and use the elevator.



Station 11

Automated Real Time Fish Detection

- Presentation of test case HPP Stroppel (PoC)

Axpo

- 📍 Station 11 is located on the balcony accessible from the machine hall. Please follow the signs, go to the machine hall and use the staircase to access the balcony.



Station 12

Hydropeaking Modeling

- Methods to verify hydropeaking impacts

Axpo

- 📍 Station 12 is located outside the machine hall. Please follow the signs, go to the machine room and use the door to get outside.



Station 13

Digital Transformation
& Projects

- Data coverage, mobile devices, consulting

Axpo, Axpo Systems

- 📍 Station 13 is located at the main building in two rooms on the groundfloor («Sitzungsraum» & «Apparate-raum»). Please follow the signs.



Station 14

Asset Optimization
with RevOpt

- Live Demo and User Story

Axpo

- 📍 Station 14 is located at the main building on the first floor in room «Präsentationsraum». Please follow the signs and use the staircase.

Contact information

We sincerely thank you for your visit and hope that we were able to provide you with interesting insights. If you have any questions during or after your visit, please do not hesitate to contact us.

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