



AXPO HYDRO DIGITAL

The Digital Power Plant of the Future

Enlit 2024



From this to..



...this



Even this to..



...this



Or... this to...



...this



OR ! This to ..









First digital hydropower-plant



25 Employees

working digitally



2 Drones

autonomous inspections



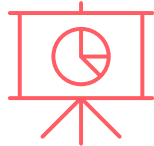
Data analysis

machine learning



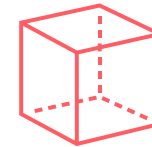
17'000
Documents

available at any point



Monitoring

intelligent monitoring
predictive maintenance



3D modeling
and BIM

in progress

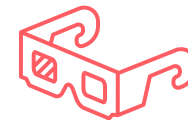


Infrastructure

4G everywhere

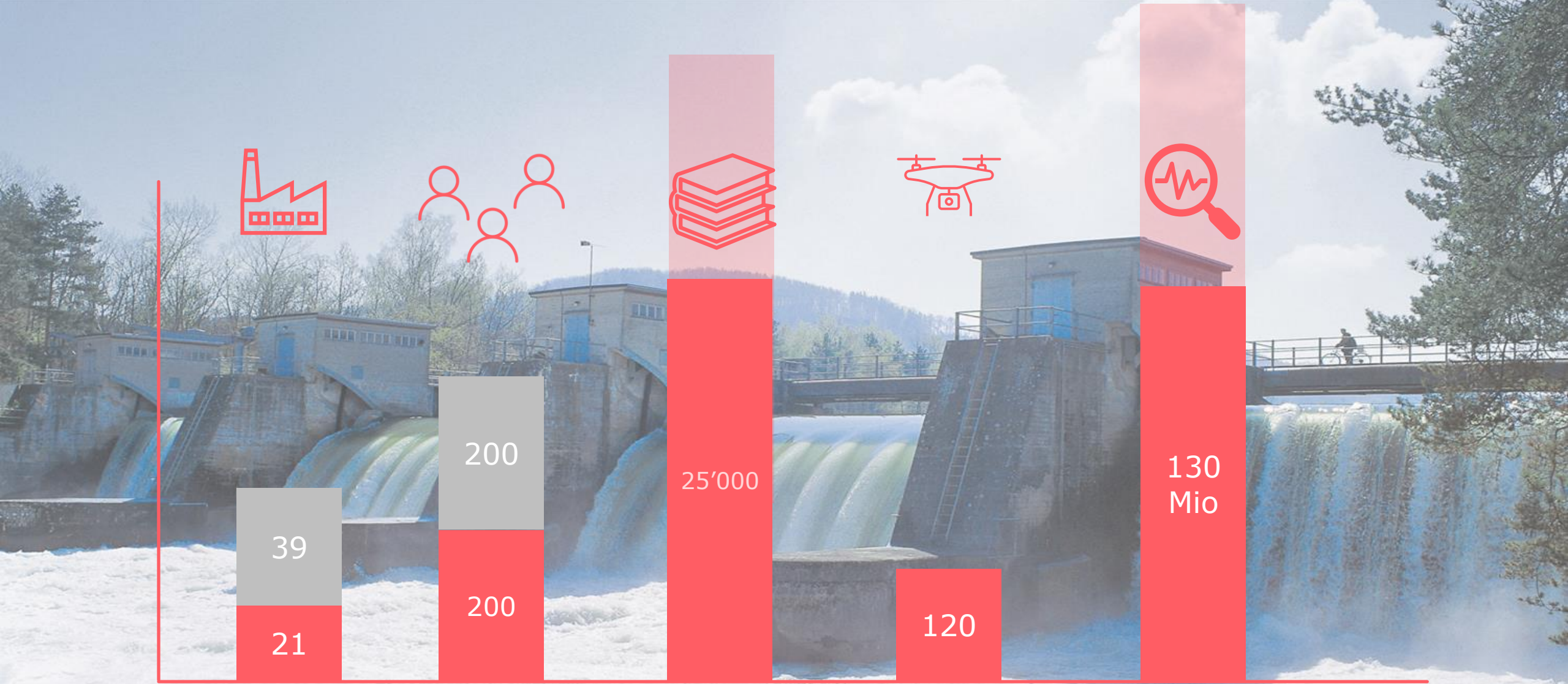


Safety for
lone workers



VR / AR

next



Infrastructure expanded in 21 plants, ensuring network coverage for employees

200 plant employees use our workforce solution

25'000 technical documents digitized and available online

120 employees licensed to use drones in their daily work

130 million data points from control systems transmitted to the cloud daily

Challenges



Technical

- Integration of old and new systems
- Data management
- Acquisition, storage and processing of large amounts of data from sensors
- Poor or no reception in some places
- Lack of standards
- Adaptation due to climate change



Financial

- High investment costs
- Long-term profitability and amortisation periods for investments
- Uncertainty regarding energy prices and regulation



Social and cultural

- Acceptance of the digital way of working
- Lack of skilled labour
- Training of staff who do not like using digital technologies
- Migration from mountain areas
- Retirement wave

BENEFITS FOR OPERATORS

Digitalisation strengthens competitiveness



Increased efficiency and flexibility



Optimisation of operation and maintenance



Knowledge transfer between employees



Prerequisite for providing services in the third-party market



BENEFITS FOR EMPLOYEES

Digitalisation relieves and supports employees in the factories



Paperless working and easy online access to all the information you need



Elimination of administrative activities and thus more time for the facilities and structures of the hydropower plants



Rapid assistance in work processes through support from colleagues and experts



Support (e.g. for dangerous work) through modern technological aids



Motivation through a modern, sustainable working environment



Our expertise



Expertise hydro

109 years



1 Team Hydro 4.0

Consulting, implementation,
operation and support



Employees

approx. 6000



Experience Hydro 4.0

5 years

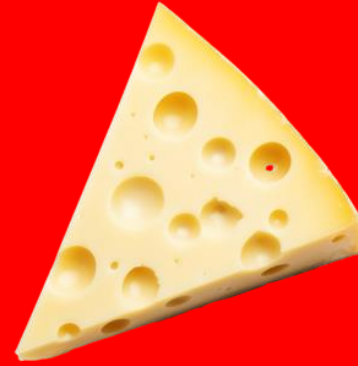
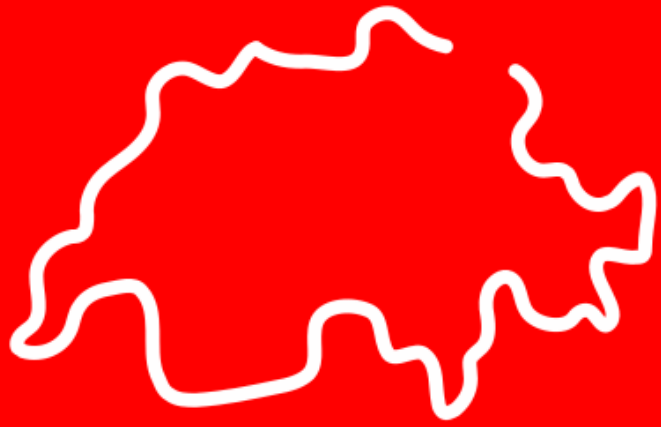


Generated energy

~ 11 TWh



From the industry,
for the industry



We are the largest producer of sustainable energy in Switzerland



MANY THANKS FOR YOUR ATTENTION



axpo