



**Visionary
power.
Wherever
you want.**

**Global
Hydro**

This is GLOBAL Hydro

Product & Service

Electromechanics, automation and refurbishment for hydropower plants

Export

>95% 

Employees worldwide

290



185

Employees in Austria



>60

Turbines per year

12



Subsidiaries
worldwide

Agenda

- Digitization
- Climate change impact to Hydropower
- Technology Innovations



Digitalization meets conservative business

Digitization is becoming an integral part of the conservative hydro power business

The advantage of **digitalization** is the possible improve of efficiency along the whole chain of economic value added during the whole lifecycle of a hydro power plant.



Business Communication



Design and Engineering



Production



Erection and Commissioning



Operation and Maintenance



Refurbishment

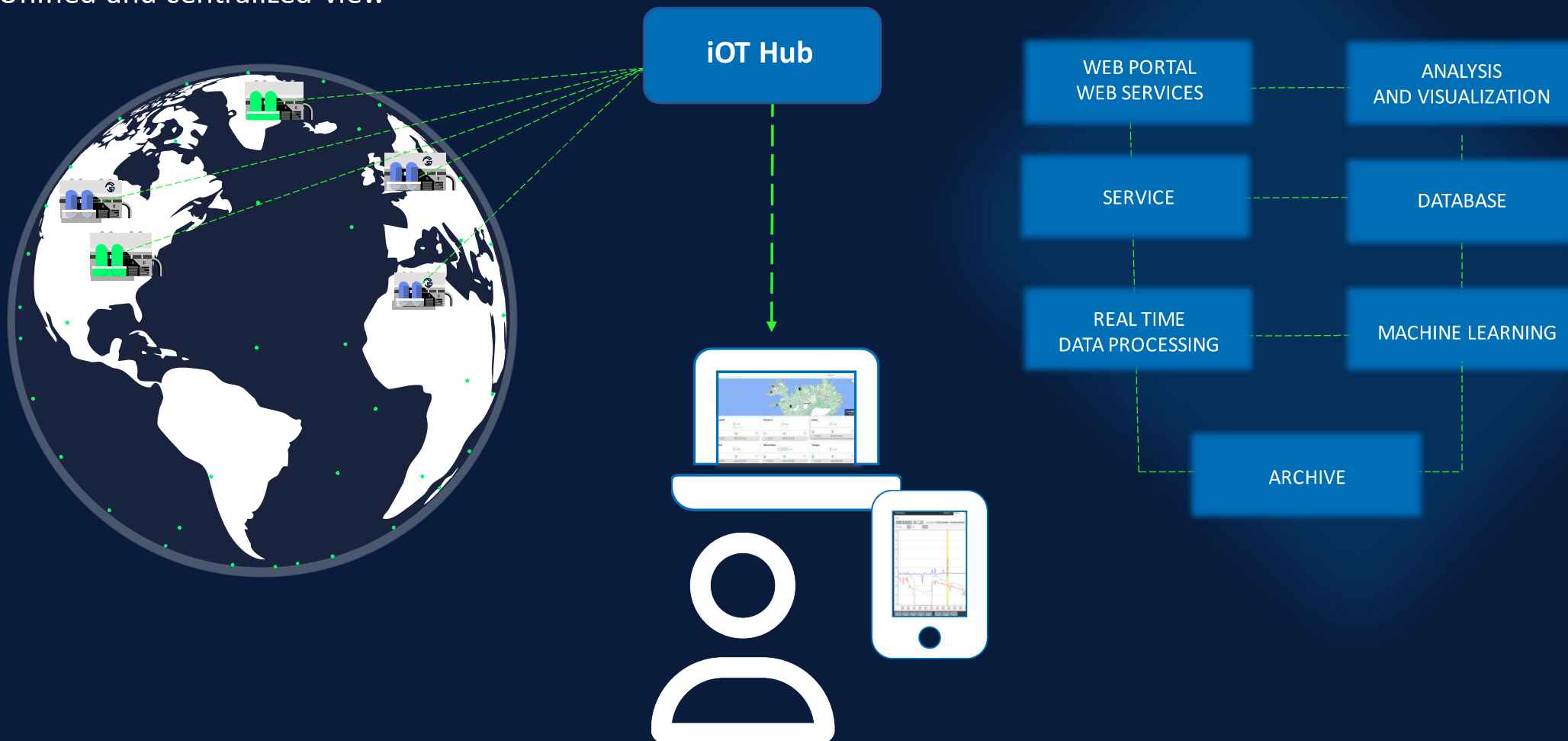
HEROS.

the beating heart of our customer-oriented digitalization



Keep the overview – HEROS Connect

Unified and centralized view



Remote Commissioning

Global Hydro Offices

- Lead is always in our commissioning centres
- Higher flexibility and parallel commissioning of more projects
- Improvement of documentation
- Secure same commissioning standards



Powerplant

EM equipment

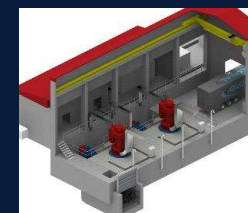


IO Link Sensors



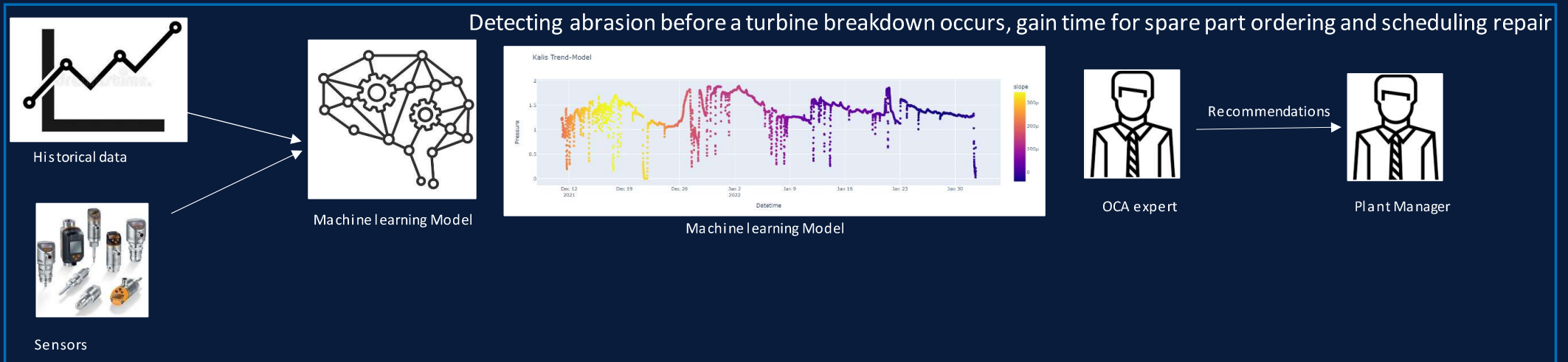
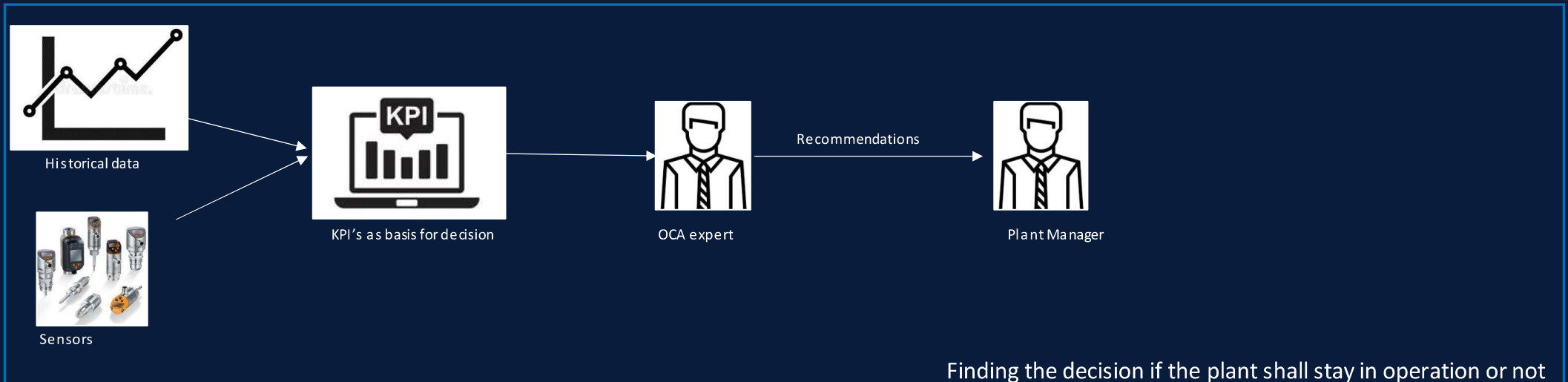
Powerplant management system
HEROS 4.0

Powerplant facility



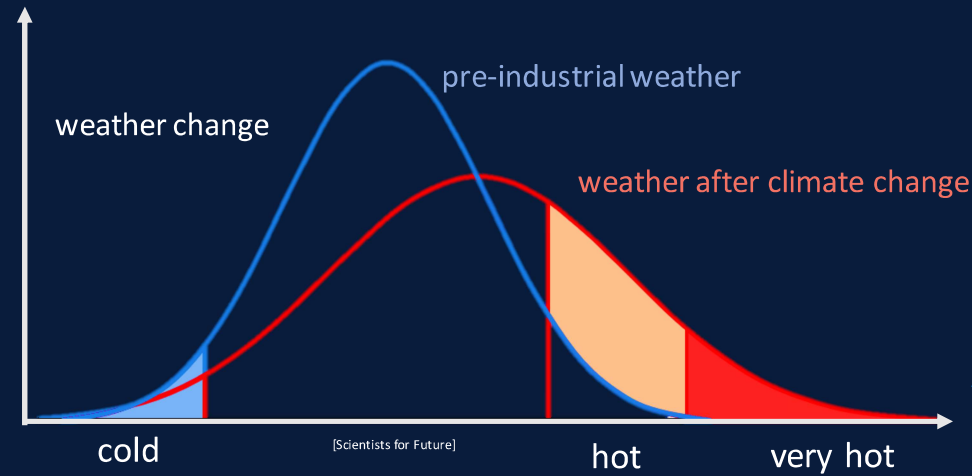
Local Technician guided by mixed reality

Machine Learning Use Case – Detect Abrasion



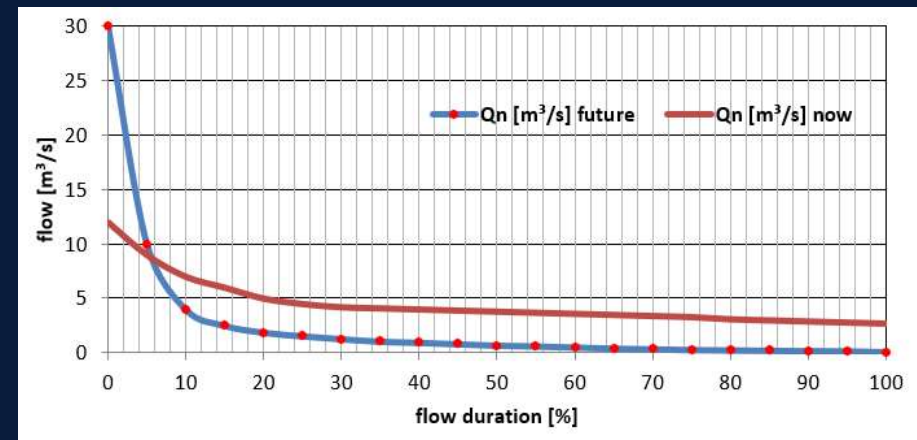
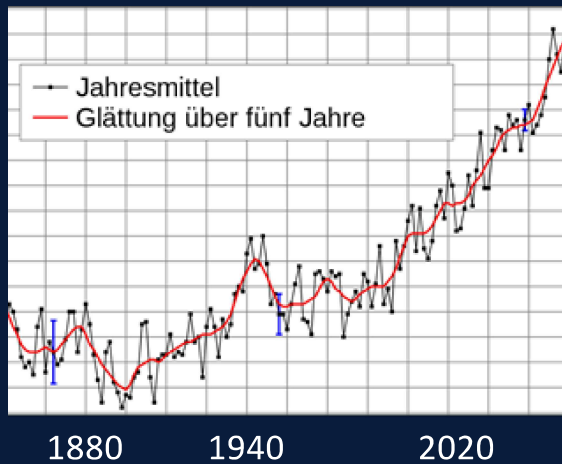
Climate Change impact to Hydropower

Climate Change



Tasks for Hydropower!

temperature anomaly

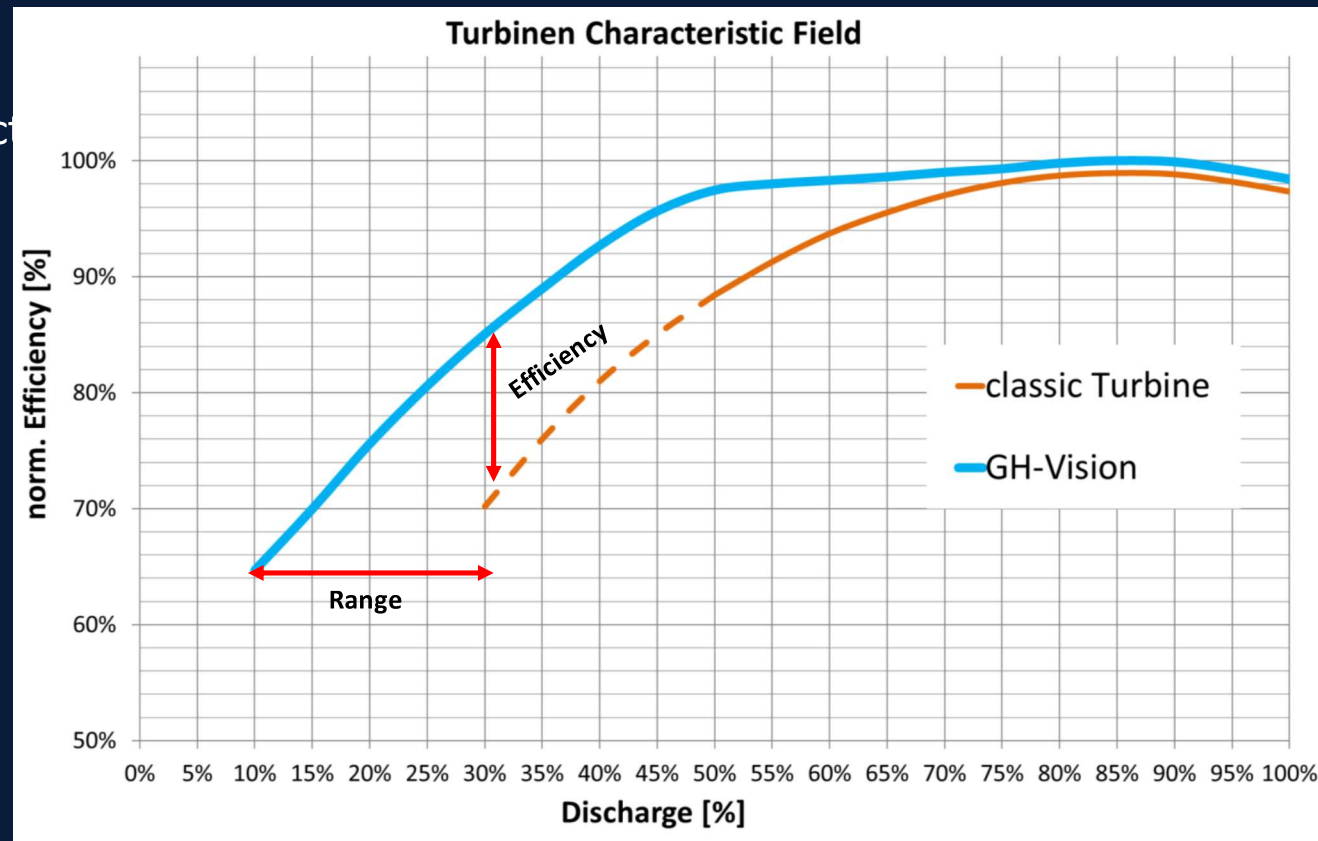


Climate Change impact to Hydropower

Global Hydro develops solutions for the energy - revolution

Extended turbine characteristics allow to react on unsteady and changed flow conditions!

- Better efficiency
- Wider operation range



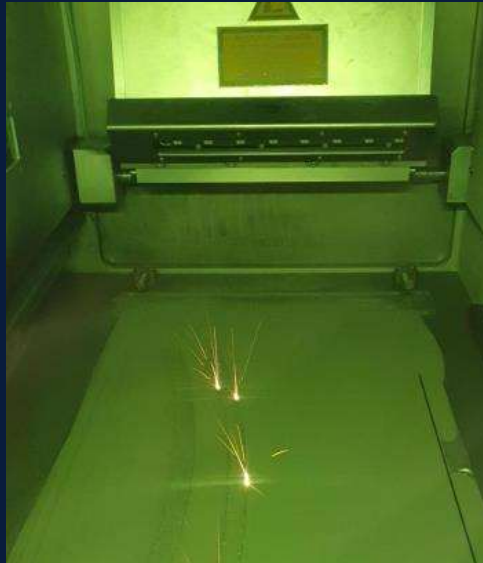
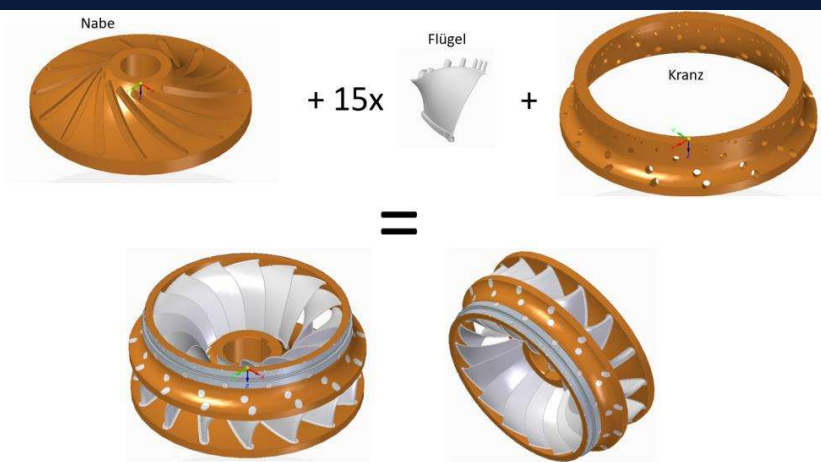
Technology **Innovations**

Global**Hydro**

Additive Manufacturing for Francis Turbines

Design for 3D Metal Print

Design → Print → Reality



Additive Manufacturing for Pelton Turbines

Metal printed Pelton buckets allow:

- Material combinations
- Changeable buckets
- Reduction of production time
- Cost reduction

Design



Reality



