



ENERGY SOLUTIONS FOR THE GREEN TRANSITION

COMPANY PRESENTATION

MARCH 2025

ANDRITZ

GLOBAL MEGATRENDS IN A CHANGING WORLD



Climate Change



Energy Transition



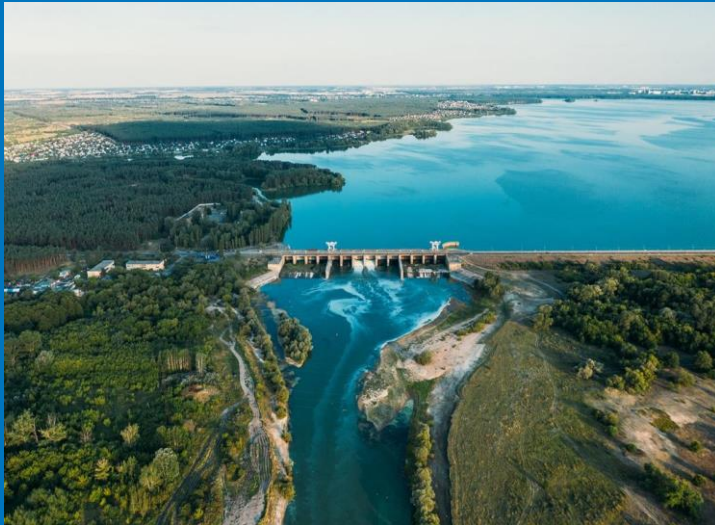
Digitalization



THE IMPORTANT ROLE OF HYDROPOWER



Water



Water storage, flood mitigation,
irrigation, water supply and navigation

Electricity



Industry, transportation,
heating, cooling, lighting

Storage



Energy balancing, stabilizing of the grid,
peak load generation

GLOBAL HYDROPOWER MARKET

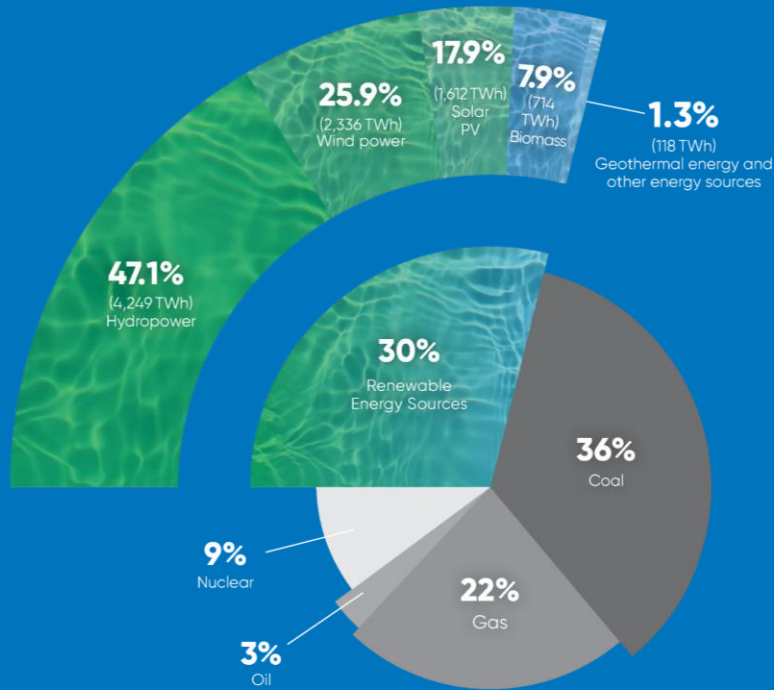


Hydropower generation

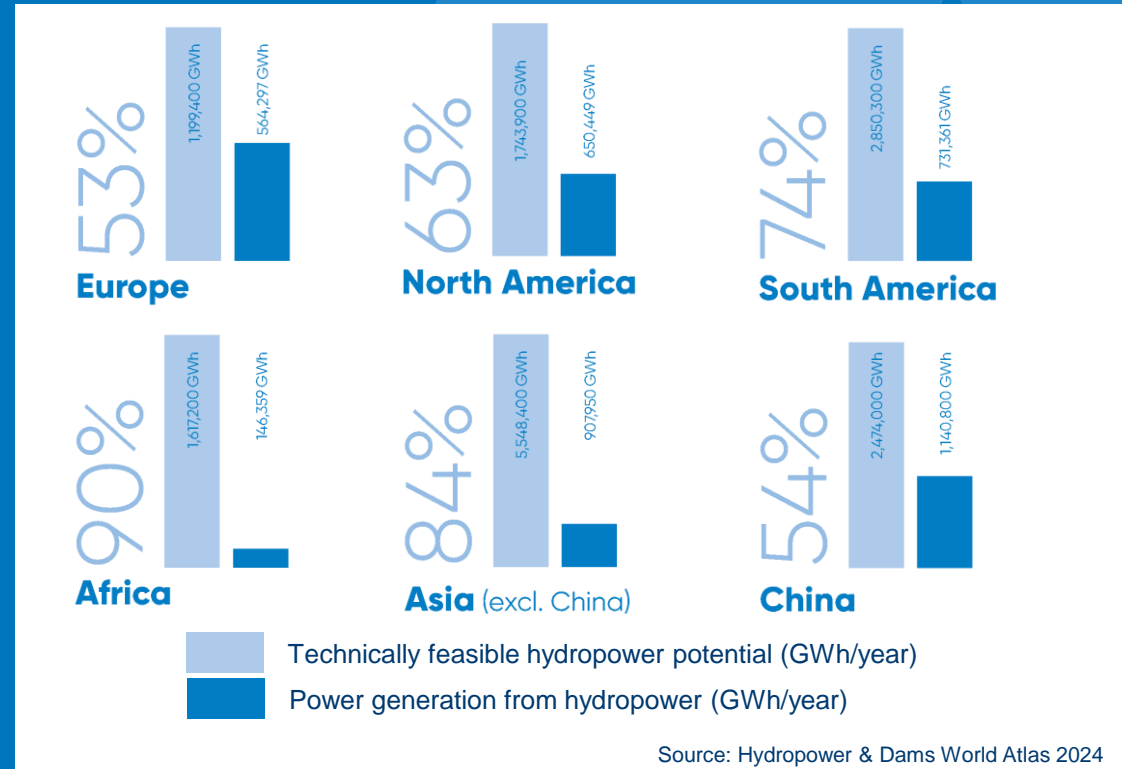
~4,161 TWh/year

Technically feasible potential

~15,161 TWh/year



Source: IEA World Energy Outlook 2024



Source: Hydropower & Dams World Atlas 2024

HYDROPOWER ENERGY SCENARIO 2050



1 Pumped storage

2 Run-of-river

3 Small hydropower

4 Low head

5 Very low head

6 Hybrid (hydro and wind)

7 Tidal current array

8 Hybrid (hydro and solar)

ANDRITZ HYDROPOWER



Overview

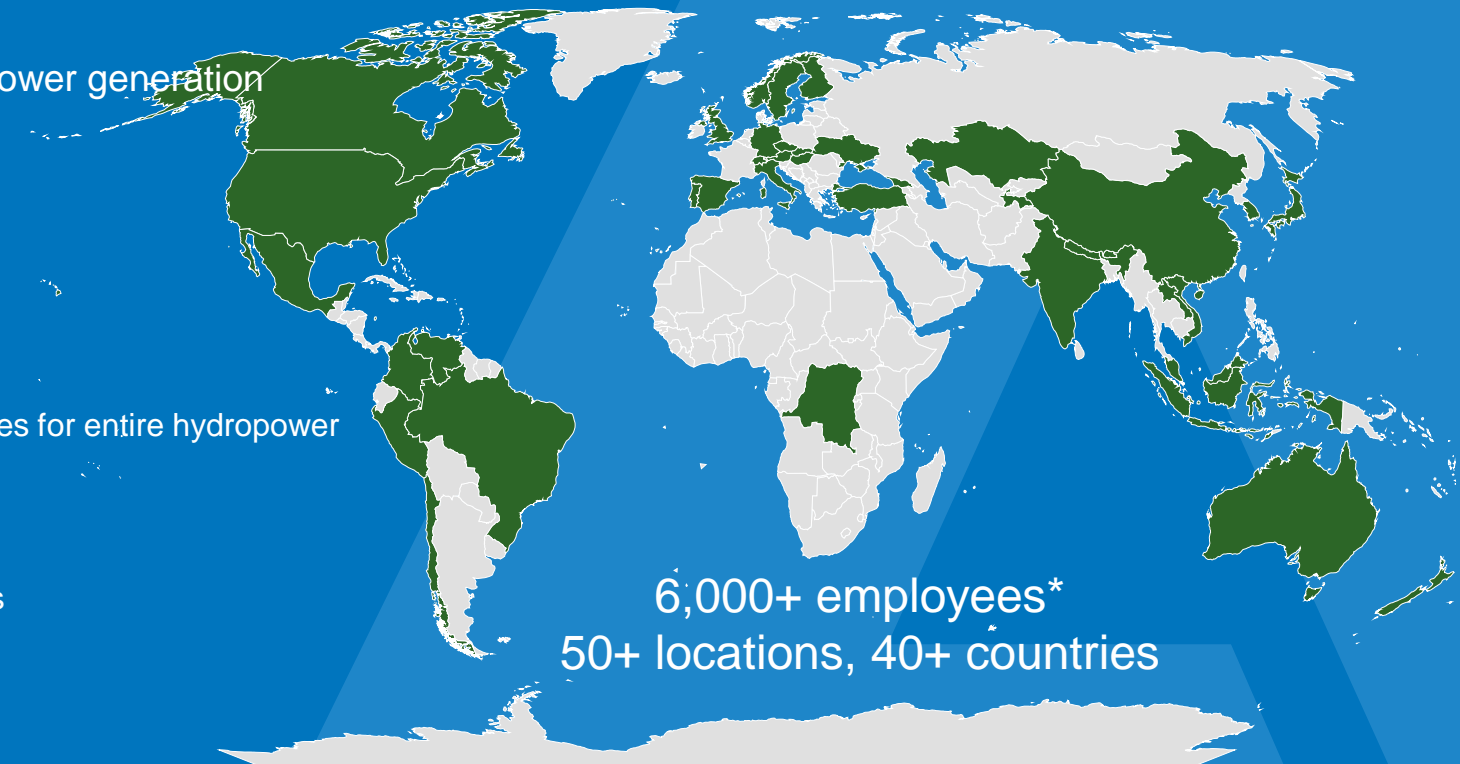
World market leader in equipment for hydraulic power generation

Complete range up to more than 800 MW

- >185 years of turbine experiences
 - 33,300+ turbines (492,000+ MW) installed
 - >20% of all operational turbines worldwide
- >135 years of electrical equipment experiences
- comprehensive operation and maintenance services for entire hydropower plants

Highlights

- Power grid solutions and synchronous condensers
- State-of-the-art digital solutions
- Turbo generators for the thermal industry
- Ocean energy solutions and controllable pitch propellers



* Figures as of end of 2024

Powered by Bing
© Australian Bureau of Statistics, GeoNames, Microsoft, Navinfo, Open Places, OpenStreetMap, Overture Maps Foundation, TomTom, Zenrin

ISO 9001:2015 Quality Management	ISO 14001:2015 Environmental Management	ISO 45001:2018 Occupational H&S Management	ISO 19600:2014 Compliance Management	ISO 27001:2013 Information Security Management	ISO 37001:2016 Anti-bribery Management	ISO 55001:2014 Asset Management
-------------------------------------	--	---	---	---	---	------------------------------------

ANDRITZ HYDROPOWER



Facts and figures*

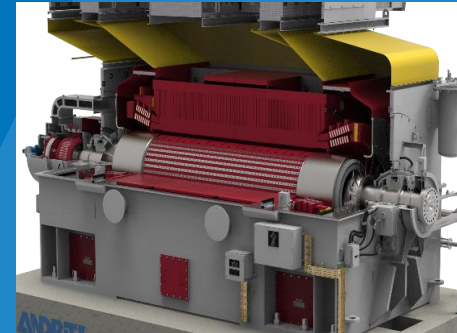
Order intake
2,170.5 MEUR

Order backlog
3,933.7 MEUR

Revenue (Sales)
1,537.9 MEUR

EBITA
96.3 MEUR

Global employees
6,000+



Large Hydro

Greenfield and large rehabilitations/upgrades
Turnkey electromechanical equipment
Power grid solutions and synchronous condensers

Compact Hydro

Modular system design for small hydropower
Turnkey solutions up to 30 MW / unit
Off-grid design

Service and Rehab

Brownfield and modernization, upgrade, and uprate
Automation and digitalization
Operation & Maintenance
Asset Management

Turbo Generator

Generators up to 350 MVA / unit
Service and maintenance

Other products

Ocean energy solutions for:
Tidal power and Tidal current power plants
Controllable pitch propellers

* as of end of 2024

FROM THE PIONEERS OF TECHNOLOGY TO A MODERN MARKET LEADER

THE PIONEERS CREATED THE FOUNDATION

Project and technology highlights

- 2023** Inauguration of new test rig (world record)
- 2022** Hybrid energy solution (Gandhi Sagar, India)
- 2021** Co-located energy plant (Kidston, Australia; PSP, Solar, Wind)
- 2016** First commercial tidal current array unit (Meygen, Scotland)
- 2012** World largest Hydromatrix plant (Ashta, Albania)
- 2011** World largest Bulb turbine (Jirau and St. Antonio, Brazil)
- 2008** World largest tidal power plant (Sihwa, South Korea)
- 2008** 770 MW Francis turbine (Simon Bolivar, Venezuela)
- 2002** First var speed motor-generator outside Japan (Goldisthal, Germany)
- 1991** World largest manifold (Tarbela, Pakistan; world record)
- 1896** First large commercial hydropower plant
- 1892** Foundation of Pichlerwerke, Austria
- 1839** First turbine supplied
- 1805** Foundation of Escher Wyss & Cie, Switzerland

Our Pioneers

AFI - ANDRITZ – Ateliers des Charmilles –
Ateliers de Constructions Mécaniques de Vevey (ACMV) –
Baldwin-Lima-Hamilton – Bell – Bouvier – Boving – C.E.G.B. –
Dominion Engineering – ELIN – English Electric - Escher Wyss –
Finnshyttan – GE Hydro – GE Hydro Inepar – General Electric –
Hammerfest Strom – Hemi Controls - HMI Construction –
Hydro Vevey – I.P.Morris - KAMEWA KMW – Kvaerner –
Moeller – NOHAB – Pelton Water Wheel – Pichlerwerke –
Precision Machines – SAT - Sulzer Hydro – Tampella –
VA TECH HYDRO – VOEST – Voest MCE – Waplan

(alphabetical order)

“FROM WATER-TO-WIRE”

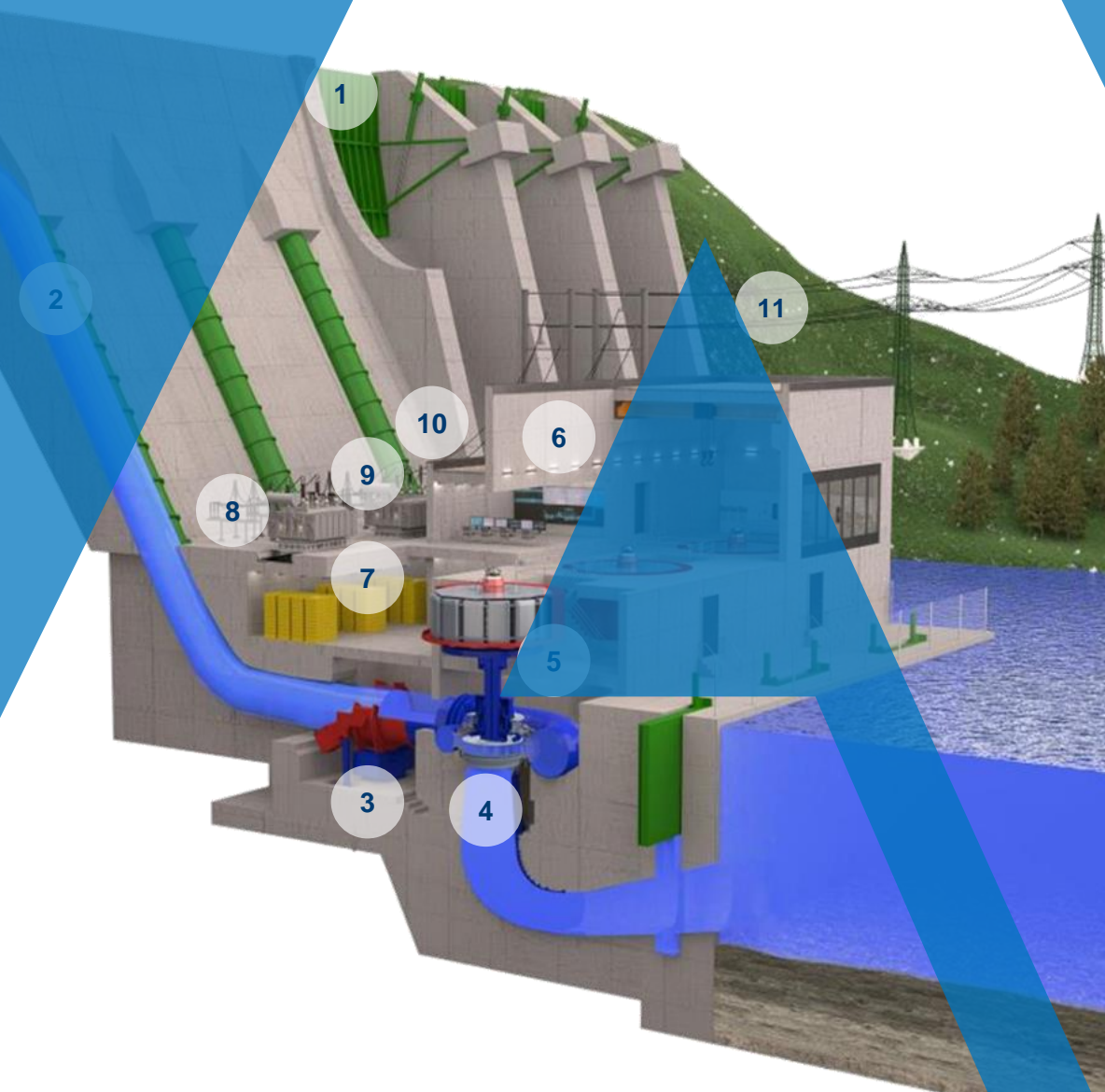
Support for the whole life cycle of a hydropower plant

Products and solutions

- 1 Gates
- 2 Penstocks
- 3 Inlet valve
- 4 Turbine
- 5 Generator
- 6 Automation, control and protection
- 7 Medium voltage switchgear
- 8 Power transformer
- 9 Large battery storage
- 10 High voltage switchgear
- 11 Transmission line

Services

- Design
- Model test
- Manufacturing
- Installation
- Commissioning
- Training
- Spare part service
- Maintenance



PUMPED STORAGE - ENABLER OF THE GREEN ENERGY TRANSITION

Facilitating the integration of larger shares of variable renewables

Our Scope:

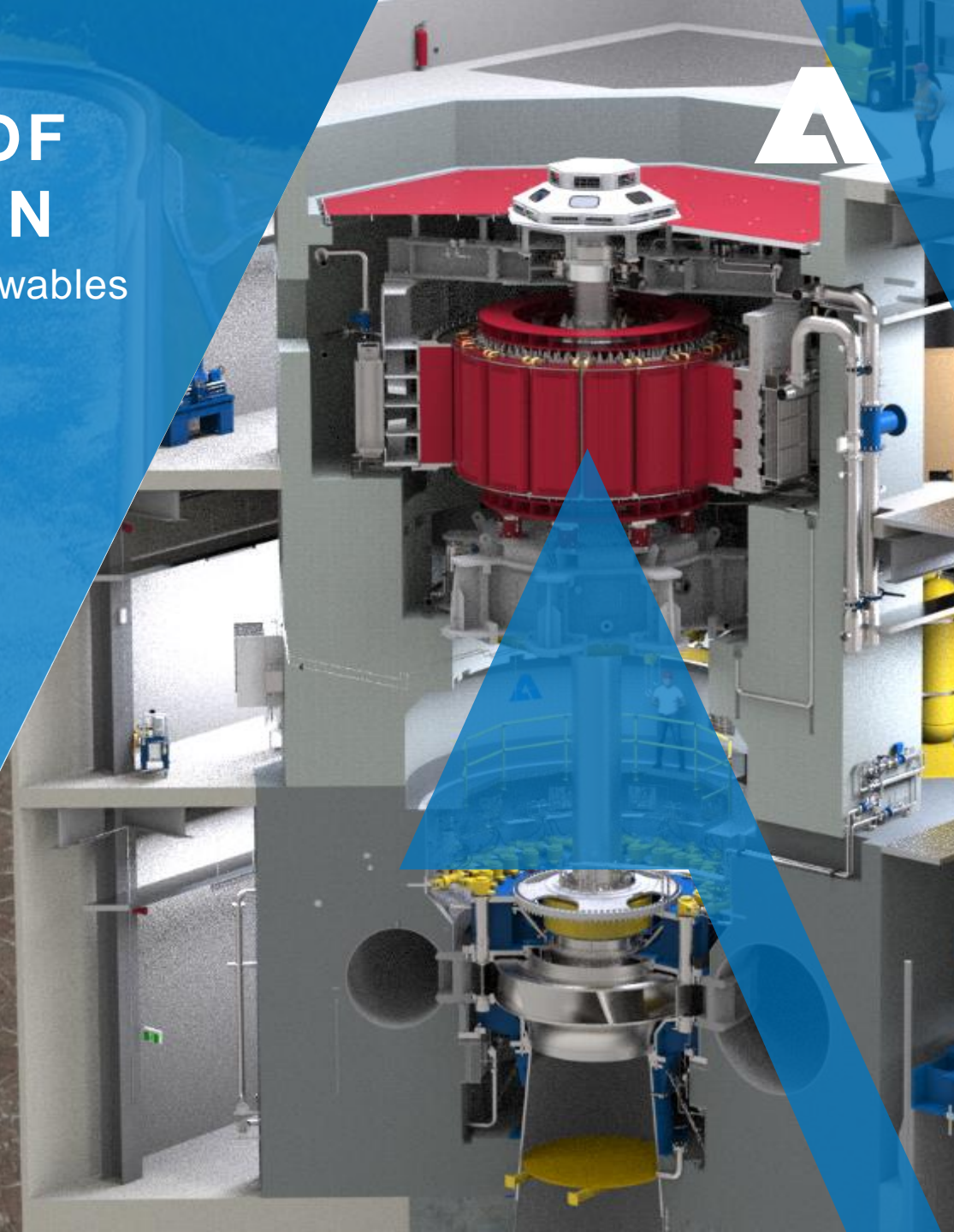
- Pumped storage solution "from water-to-wire"

HIGHLIGHTS:

- Fixed or variable speed

APPLICATIONS:

- Short-/mid-term storage, grid stabilization, integration of solar and wind energy, stabilizing of energy supply for hydrogen production



SYNCONS – SUPPLIER OF HIGH INERTIA FOR GRID STABILITY

Balancing grid volatility effected by wind and solar

Scope:

- Power grid solutions with stand-alone synchronous machine

HIGHLIGHTS:

- High rotating mass

APPLICATIONS:

- Power grid stability



**World's largest air-cooled
salient pole synchronous condenser**

CUSTOMER SERVICE – SAFEGUARD FOR YOUR EXISTING ASSETS

Extension of lifetime and improvement of performance

Scope:

- **Modernization, upgrade and uprate**
- **Operation & Maintenance**
- **Asset management**
- **Spare part management**

HIGHLIGHTS:

- **Three-phase-approach**
- **Emergency support**





DIGITALIZATION – ENABLER OF FUTURE SECURED OPERATION

Seamless and secure access with modern digital solutions

Scope:

- Automation solutions from unit level to full fleet control

HIGHLIGHTS:

- Digital Operation & Maintenance
- Cybersecurity

APPLICATIONS:

- Integrated automation for local/remote operation

HYBRID ENERGY SOLUTION – CO-LOCATED RENEWABLE ENERGY

Providing constant 24/7 energy to the grid

Scope:

- Combination of different co-located renewable energy technologies

HIGHLIGHTS:

- Pumped storage and joint operation

APPLICATIONS:

- Regulated power off-take to the grid





CREATING GROWTH THAT MATTERS

YOUR GLOBAL PARTNER FOR HYDROPOWER SOLUTIONS

Follow us:



andritz.com/hydropower



contact-hydro@andritz.com



linkedin.com/company/andritz-hydro



andritz.com/hydronews (online and APP)



LEGAL DISCLAIMER



© ANDRITZ AG 2025

This presentation contains valuable, proprietary property belonging to ANDRITZ AG or its affiliates (“the ANDRITZ GROUP”), and no licenses or other intellectual property rights are granted herein, nor shall the contents of this presentation form part of any sales contracts which may be concluded between the ANDRITZ GROUP companies and purchasers of any equipment and/or systems referenced herein. Please be aware that the ANDRITZ GROUP actively and aggressively enforces its intellectual property rights to the fullest extent of applicable law. Any information contained herein (other than publically available information) shall not be disclosed or reproduced, in whole or in part, electronically or in hard copy, to third parties. No information contained herein shall be used in any way either commercially or for any purpose other than internal viewing, reading, or evaluation of its contents by recipient and the ANDRITZ GROUP disclaims all liability arising from recipient’s use or reliance upon such information. Title in and to all intellectual property rights embodied in this presentation, and all information contained therein, is and shall remain with the ANDRITZ GROUP. None of the information contained herein shall be construed as legal, tax, or investment advice, and private counsel, accountants, or other professional advisers should be consulted and relied upon for any such advice.

All copyrightable text and graphics, the selection, arrangement, and presentation of all materials, and the overall design of this presentation are © ANDRITZ GROUP 2025. All rights reserved. No part of this information or materials may be reproduced, retransmitted, displayed, distributed, or modified without the prior written approval of Owner. All trademarks and other names, logos, and icons identifying Owner’s goods and services are proprietary marks belonging to the ANDRITZ GROUP. If recipient is in doubt whether permission is needed for any type of use of the contents of this presentation, please contact the ANDRITZ GROUP at welcome@andritz.com.