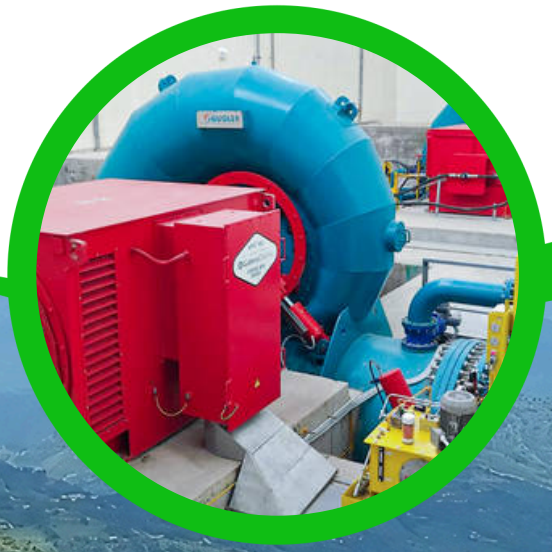
Nelumbo

GUGLER
TECHNOLOGY FOR HYDROPOWER PLANTS

HYDRO
POWER SOLUTIONS



Energy...
Engineering...
Excellence...

ABOUT US

Nelumbo Technologies Pvt Ltd, an ISO9001, ISO14001 & ISO45001 certified company, provides end to end solutions for design & development of electro-mechanical systems for small and medium sized Hydropower projects. We also provide state of the art Automation solutions for various power plants, transmission & distribution systems and industrial applications.

A Brief Story About The Company

Nelumbo Technologies Pvt Ltd is a leading provider of intelligent, modular, and digitally optimized Power Management Solutions for the Hydropower sector. With a strong foundation in engineering, manufacturing, and commissioning, we deliver complete water to wire solutions including cutting-edge automation, control and protection systems. We have strong portfolio of works executed for Hydropower projects.

We are the Authorized Partner of **Gugler Water Turbines GmbH, Austria,** who are global leaders in Hydropower technology with more than 100 years of experience and over 1000 installations worldwide.

Together we deliver high quality Hydropower projects up to medium range capacity.

Our expertise includes, the **rehabilitation**, **modernization** and **uprating** of existing Hydropower plants. Backed by an experienced team, we ensure efficiency, sustainability, and long-term performance in every project.

Vision

We develop transformative technologies through cutting-edge research and pursue operational excellence through continuous improvement. Together, we foster smarter products, solutions and services for tomorrow.

Mission

We empower our stakeholders in Hydropower generation through innovative products and best-in-class service for the complete water-to-wire scope.

By implementing robust solutions together with focus on optimum maintenance, we enable our customers derive sustained value from their investments.

Values

Innovation

We embrace the power of imagination and encourage creative thinking to improve

Excellence

We are dedicated to delivering nothing less than excellence in we do

Integrity

Honesty, Transparency and ethical conducts are the cornerstones of the actions

Nelumbo

Core Values

Customer Centric

We listen to customers needs, anticipate challenges and tailor our solutions

Positive Impact

Our actions, Solutions & partnerships aim to contribute to a better future to all

Adaptibility

We embrace adaptability as a critical strength in a rapidly changing world

Sustainability

We strive to minimize our ecological footprints and contribute positively to the communities

FULL-LINER FOR HYDROPOWER

Nelumbo – Gugler Strategic Partnership

Our collaboration brings together local expertise and global engineering excellence to deliver reliable, high- quality, robust and efficient Hydropower solutions.

About Gugler Water Turbines GmbH :

- Over 100 years of engineering excellence in Hydropower
- Turbine capacities ranging up to 40 MW
- More than 1,000 Hydropower units installed worldwide
- Strong presence in the Indian subcontinent

Gugler's proven track record demonstrates high credibility world -wide and strong presence in the region.

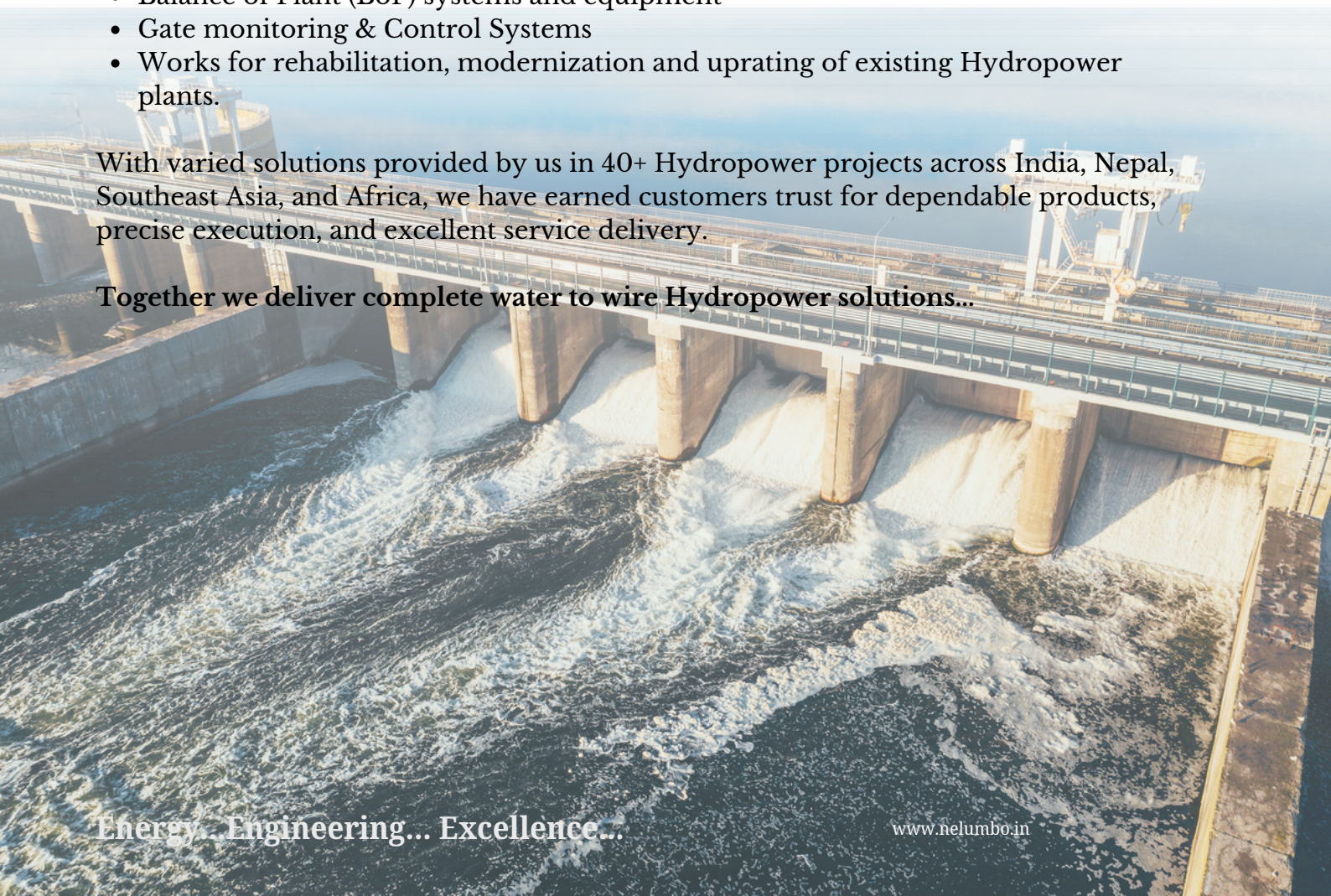
About Nelumbo Technologies Pvt Ltd:

The company's state of the art offerings include:

- Plant SCADA systems
- Digital Governing & Excitation control and Protection systems
- Balance of Plant (BoP) systems and equipment
- Gate monitoring & Control Systems
- Works for rehabilitation, modernization and uprating of existing Hydropower plants.

With varied solutions provided by us in 40+ Hydropower projects across India, Nepal, Southeast Asia, and Africa, we have earned customers trust for dependable products, precise execution, and excellent service delivery.

Together we deliver complete water to wire Hydropower solutions...

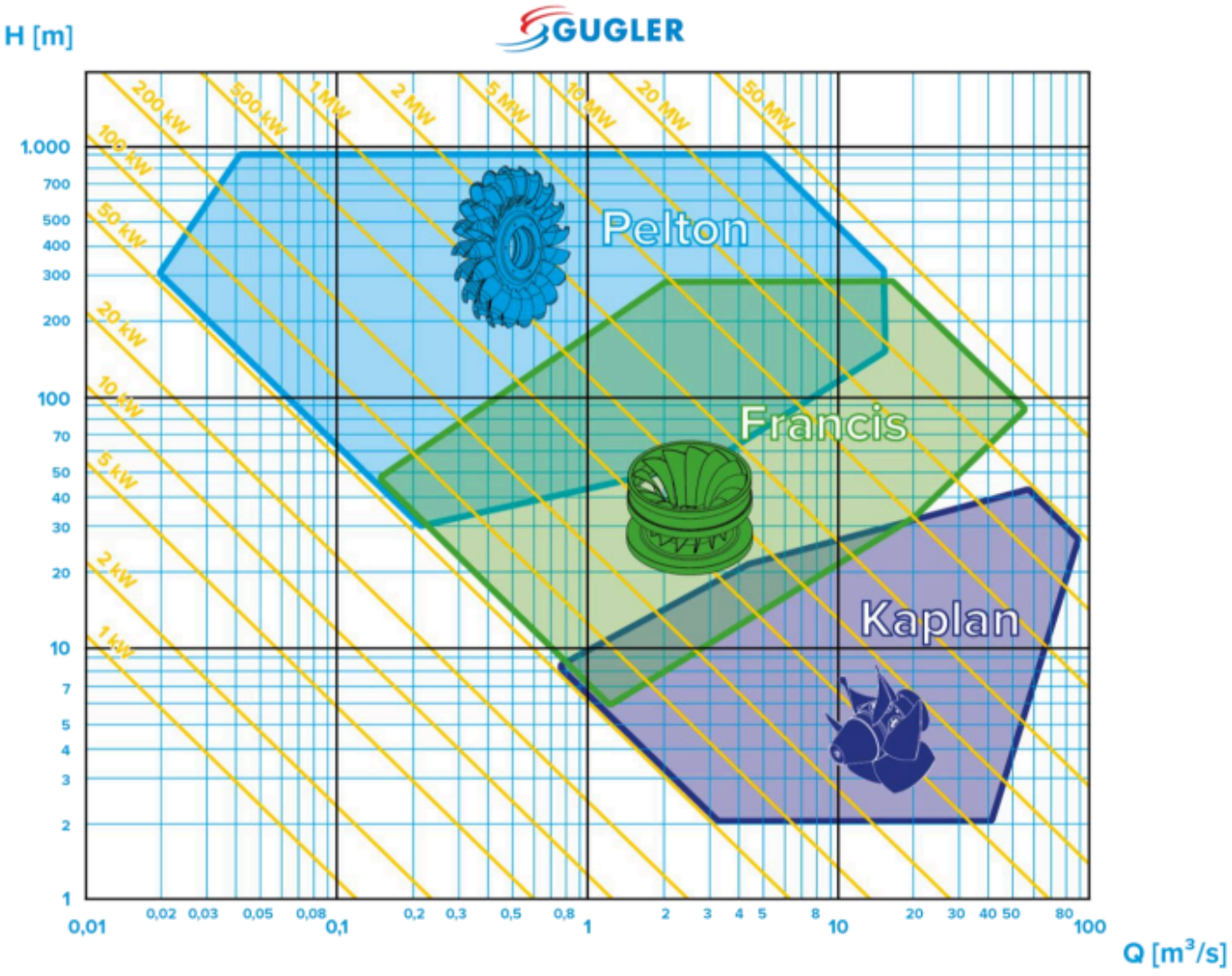


TAILORED SOLUTIONS FOR HYDROPOWER :

Hydropower demands unique solutions. Every project is different —shaped by water flow, head, terrain, and specific operational goals. That's why our approach begins with a deep understanding of each Customer's needs.

Backed by decades of hands-on experience and proven technical expertise, we deliver systems that combine economy and reliability with operational flexibility.

Our product range and system configurations are designed to provide long-term value —ensuring your plant runs efficiently, sustainably, and with minimal downtime.



Smart design... Strong performance... Sustainable results...

Our Product
And Solution Portfolio

Pelton Turbine

Pelton turbines are designed for sites where water head is high and flow is low. Water jets strike the buckets attached to the runner, converting kinetic energy into rotational energy.

These turbines are extremely efficient at high heads and are widely used in mountainous regions.

Key Features:

- Operates efficiently between 50 to 1000 meters head
- Suitable for small to large power stations
- Maintenance friendly design
- Wider operating range
- Long operational life

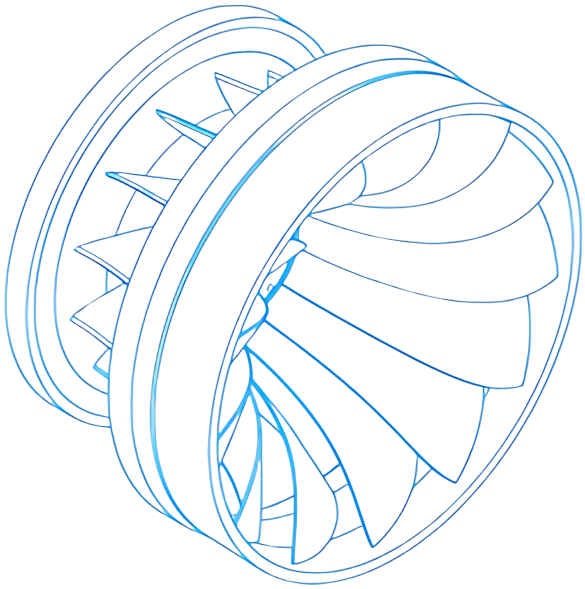
Vertical Design

Drum Design

Horizontal Design

Our Product
And Solution Portfolio

Francis Turbine



Francis turbines are the most widely used hydro turbines in the world. They are versatile and can operate efficiently under a wide range of heads and flows.

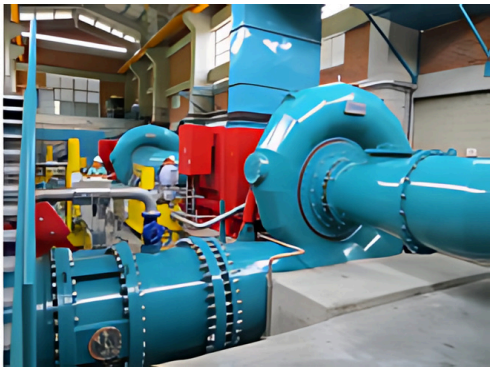
Water enters the turbine radially and exits axially, spinning the runner to generate power.

Key Features:

- Operates efficiently between 15 to 300 meters head
- Vertical or horizontal design
- Spiral casing (medium heads) or open flume (low heads)
- Compact design
- Reversible pump turbines

Vertical Design

Horizontal Design



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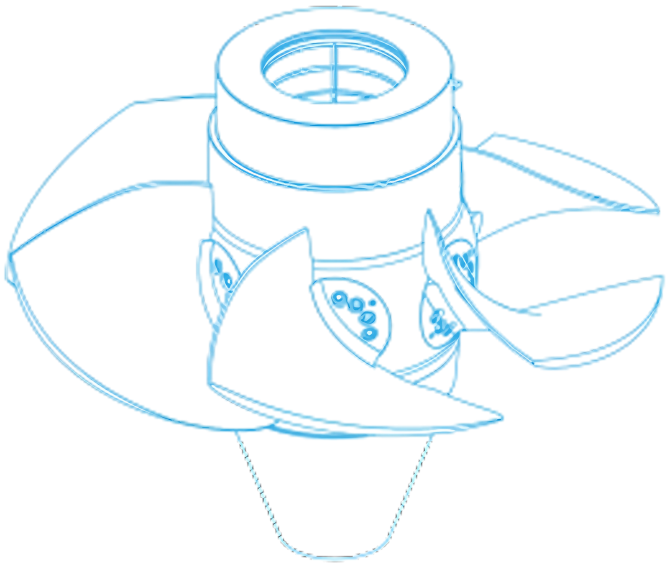
Our Product And Solution Portfolio

Kaplan Turbine

Kaplan turbines are turbines with adjustable blades, making them ideal for sites with low water head and large flow volumes, such as river or canal based installations.

The ability to adjust the blade angle allows them to maintain efficiency across variable flow conditions.



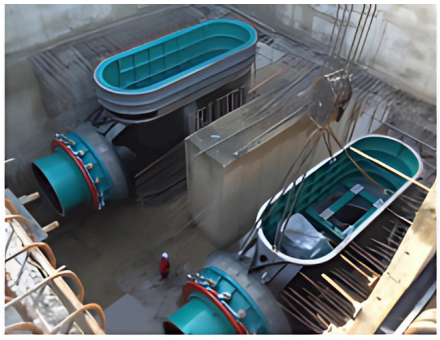
Key Features:

- Best suited for heads between 1 to 40 meters
- Adjustable runner blades for optimal performance
- High efficiency at variable flow conditions
- Ideal for low-head run-of-river projects

Tubular Design

Spiral Design

Pit Design



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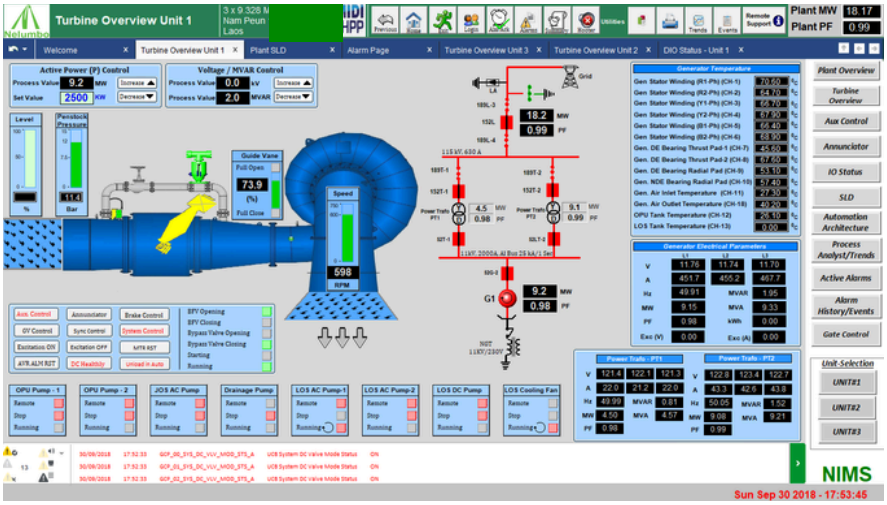
Our Product
And Solution Portfolio

SCADA/DCS

- Turbine/Dam Monitoring
- Turbine/Dam Controls
- Power Management
- Reporting



Turbine Controls

- Starting Sequence
- Stopping Sequence
- Emergency Stop

Digital Excitation Controls

- Digital Excitation Controls
- Voltage Regulation
- Droop/PF Control

Digital Governing Controls

- Speed regulation
- Synchronization
- Droop/kW Control

Dam Monitoring & Controls

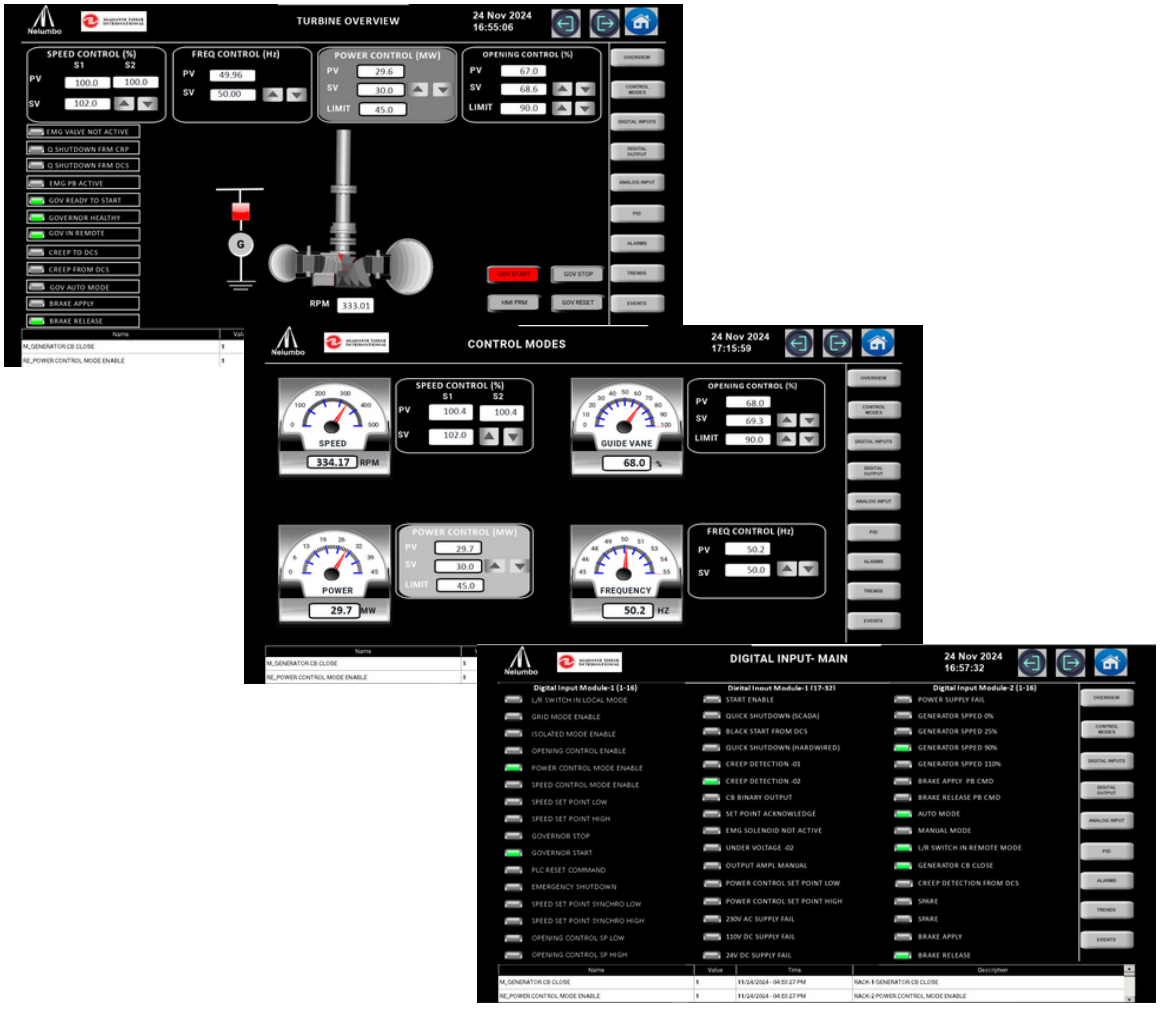
- Water level monitoring
- Gate controls

Our Product
And Solution Portfolio

Digital Governing Control

Digital governing control systems for various types of turbines for Hydropower plants (Francis, Pelton & Kaplan) optimize water flow and turbine speed, enhance performance, stability, and remote operability.

They also enable real-time monitoring and quick response to load changes, improving overall system reliability and efficiency.



Speed Regulation

Synchronizing

Load Control

Our Product
And Solution Portfolio

Digital Excitation Control

Digital excitation control systems for synchronous machines for various types of power plants i.e. Hydro, Thermal, Gas, Diesel etc...

01 **According to machine type:**

- Static Excitation System
- Brushless Excitation System

02 **According to application:**

- Single Channel
- Dual Channel

03 **According to the power supply:**

- AC auxiliary sourced
- DC auxiliary sourced
- Auto-powered from the machine

04 **Static Excitation System:**

- Redundant Hot Standby Controllers
- Redundant Thyristor Modules
- 10”/15” HMI, Capacitive Touch
- Temperature Monitoring
  - Generator Winding & Bearings
  - Thyristor Modules
- Rotor EF Protection Relay
- Field Flashing & Discharge Circuits
- Third party/Remote com port, Modbus TCP/IP

Our Footprints

Proven... Delivered... Still Counting...

Varied solutions delivered in different projects across the globe as below:

1. 4x3 MW HEP, MM Engineers
2. 4x2.5 MW HEP, MM Engineers
3. 2x5 MW Sion HEP, Voith Hydro Pvt Ltd, Noida, India
4. 2x2 MW Sardi Khola HEP, Mecamidi HPP India Pvt Ltd, Noida, India
5. 3x5 MW Magpie Hydel, Mecamidi HPP India Pvt Ltd, Noida, India
6. 1x7 MW CA NAN 1 HEP, Voith Hydro Pvt Ltd, Noida, India
7. 2x1 MW JKSPDC Karnah HEP, J&K State Power Development Corporation, Srinagar, India
8. 2x8 MW CA NAN 2 HEP, Voith Hydro Pvt Ltd, Noida, India
9. 2x5 MW Lower Modi HEP, United Modi Hydropower Ltd, Kathmandu, Nepal
10. 2x5 MW Lower Modi HEP, Hydro Magus Pvt Ltd, Noida, India
11. 2x6.0 MW Namarjun Madi HEP, Techup Constructions, Kathmandu, Nepal
12. 3x1.6 MW Ranijamra HEP, Mecamidi HPP India Pvt Ltd, Noida, India
13. 2x2 MW Sathya Sai Hydel Project, Contronics Switchgear Pvt Ltd, Noida, India
14. 2x5 MW NAM CHIM 1B HEP, Voith Hydro Pvt Ltd, Noida, India
15. 2x2.4 MW Dak Trua HEP, Voith Hydro Pvt Ltd, Noida, India
16. 3x5 MW Tomata HEP, Voith Hydro Pvt Ltd, Noida, India
17. 3x5 MW Tomata HEP, Voith Digital Solutions Pvt Ltd, Noida, India
18. 2x2.5 MW Sainj HEP, Balaji Operation & Maintenance Services Pvt Ltd, India
19. 2x11 MW Chilime HEP, Hydro Magus Pvt Ltd, Noida, India
20. 1x0.8 MW Tuglawal HEP, Mecamidi HPP India Pvt Ltd, Noida, India
21. 3x500 KW NEA Seti Phewa Hydro Power Project, Mahavir Shree International Pvt Ltd, Kathmandu, Nepal
22. 2x8 MW Patikari Hydro Electric Project, Patikari Power Pvt Ltd, Gurgaon, India
23. 2x250 KW HEP, Arunachal, Dhani Power Pvt Ltd, Saharanpur, India
24. 2x250 KW Pakhankha HEP, Hydro Magus Pvt Ltd, Noida, India
25. 2x6 MW Namarjun Madi HEP, Mecamidi HPP, India Pvt Ltd, Noida, India
26. 2x2.5 MW Waki HEP Uganda, Mecamidi HPP, India Pvt Ltd, Noida, India
27. 3x0.8 MW Urumi II HEP, Kerala State Electricty Board (KSEB), Kozikhode, India
28. 2x500 KW NEA Sundrijal HEP, B Fouress Ltd, Bangalore, India
29. 4x2 MW Upper Rongnichu HEP, Rongnichu Hydro Project Pvt Ltd, Gurgaon, India
30. 3x9.7 MW Nam Peun 1 HEP, Mecamidi HPP India Pvt Ltd, Noida, India
31. 3x1.25 MW Urumi I HEP, Kerala State Electricity Board (KSEB), Kozikhode, India
32. 5x4.66 MW JKSPDC Chenani HEP, Hydro Magus Pvt Ltd, Noida, India
33. 5x 4 MW PLTA TES HEP, Emerson Process Management Asia Pacific Private Limited, Singapore
34. 6x110 MW NHPC Salal HEP, Oasis Engineers Pvt Ltd
35. 7x3.1 MW NEA Trishuli Hydro Power Project, Mahavir Shree International Pvt Ltd, Kathmandu, Nepal
36. 2x32 MW NEA Kulekhani Hydro Power Project, Mahavir Shree International Pvt Ltd, Kathmandu, Nepal
37. 2x35 MW NEA Mdl Marsyngdi Hydro Power, Mahavir Shree International Pvt Ltd, Kathmandu, Nepal
38. 3x3.3 MW + 2x3 MW + 2x3 MW- SSNNL Kachch HEP, Mecamidi HPP India Pvt Ltd, Noida, India.
39. 3x750 kW + 2x750 kW + 2x750 kW- SSNNL Miyagam HEP, Mecamidi HPP India Pvt Ltd, Noida, India
40. 3x750 kW + 2x750 kW + 2x750 kW + 3x750 kW + 3x750 kW + 3x750 kW- SSNNL Miyagam, Mecamidi HPP India Pvt Ltd, Noida, India