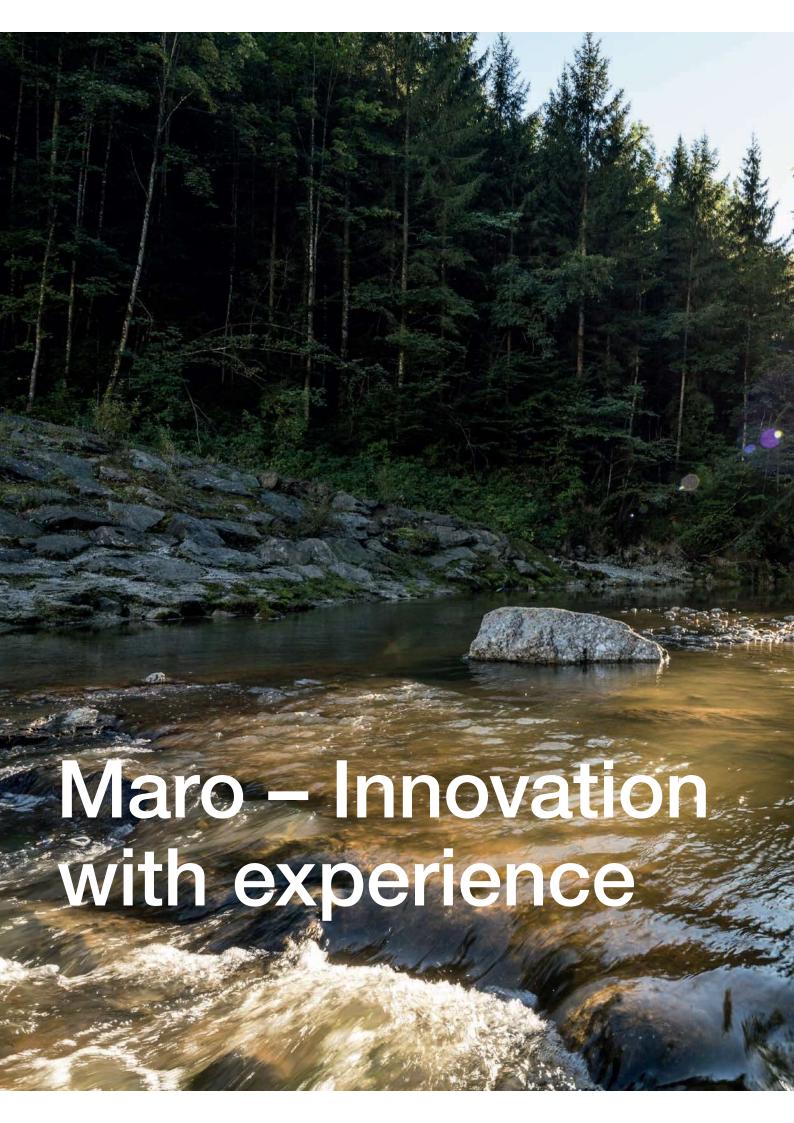


# Small Hydro solutions from one single source







The application of renewable energies for eco-friendly power generation is a key concern of worldwide energy-political strategies. In this context, small hydropower plants are gaining more and more importance. With our experience and know-how we can help you to unlock the potential that lies in the development of this form of energy generation economically and, at the same time, with minimum impact on the environment.

#### Maro World in Toronto

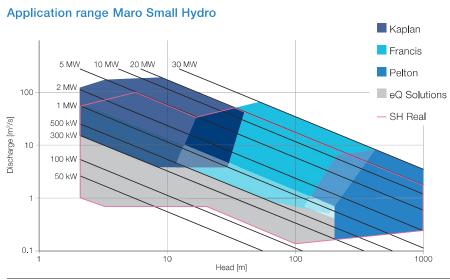
The location in Totonto was founded in 2021 as a design and repair workshop for machines and generators. Shortly afterwards, the company began to build its own turbines and controllers for small hydroelectric power plants and to expand its worldwide market position. Today the company is part of the small hydro division and operates under the name MARO WORLD INC.

The competence center for small hydro complements the portfolio in the range up to 15 MW and combines turbine and model development, design and manufacturing expertise and comprehensive services for small hydropower plants under one roof.

#### Our corporate philosophy

Investment in research and development are the foundations of the success of our company – now and in the future. Our activities are firmly oriented on the existing and future requirements of our customers.

Flexibility when dealing with individual customer demands, on-schedule delivery and services across the entire service life of any power plant equipped by Maro are our highest priority. Therefore, we make an active contribution to eco-friendly generation from hydropower.



## Competence in Small Hydro

We develop solutions that allow for high economy in the generation of electricity from hydropower for our customers.

#### Everything from one single source

Our innovative, standardized concepts ensure the highest possible degree of economy of the delivered plants. Our optimum price-performance ratio results from the application of state-of-the-art technologies and our targeted orientation on the specific requirements of the operators of small hydropower plants:

- · Clearly defined scope of delivery
- · High availability
- Trouble-free operation
- · Low operating costs
- · Fast pay-back period

#### Our range of products and services:

- Standardized turbine concepts up to individual solutions
- Economical, constructive solutions with high operating safety
- Integrated designs with optimized interfaces
- Solutions that keep construction costs at the lowest possible level
- Concepts with high efficiencies and corresponding performance guarantees
- · Maximum reliability due to strict quality controls
- · Eco-compliant solutions
- · Pre-assembly and therefore short erection times
- · Competent commissioning of all systems
- · Training of operating and service personnel
- · After sales service

#### Our solutions combine all requirements on:

- · Maximum safety and high availability
- Long service life and continuous further development
- · Proven solutions and innovative technology
- · Clear standards and maximum flexibility



### Research and development

The name MARO WORLD has always been synonymous with comprehensive research and development activities in the small hydro market.

The Maro research and development department has been developing solutions for hydropower for more than 100 years as a pioneering institution in this particular field.

The solutions and expert know-how of this research laboratory are available to all units as "Central Technology" within a global network.

Since 2022 the Kragujevac has been Maro's worldwide research and development center for hydropower. The Kragujevac applies the highest standards to all model tests carried out on its premises. It is considered a guarantor for the development of state-of-the-art research and development tools and processes — not just for large turbines but also for small hydro.





As far as generators and electrical engineering are concerned, we closely cooperate with reliable companies whose product portfolio provides an ideal supplement to our complete solutions and who have proven themselves as competent project partners on numerous occasions.

#### Range of turn-key solutions

- · Support during the concept phase
- Development, design, production and assembly of electro-mechanical systems including accessories
- Quality assurance and works control
- · Complete project management
- · HyService: Service, maintenance and upgrades



## Service, maintenance and upgrades HyService

For Maro, customer service does not end with the handover of the plant. We accompany you with our service specialists – across the entire life cycle of your power station.

HyService covers the full service of everyday operation, annual maintenance, provision of original spare parts and fast assistance in the event of failures. We know that standstill of a hydropower station means financial loss. Therefore, we react promptly, flexibly and efficiently whenever required in order to keep downtimes as low as possible.

The latest control systems from Maro allow remote diagnosis of your power station. For older plants we recommend retrofitting a remote maintenance module. If failures cannot be externally eliminated despite these facilities, our service technicians are quickly on site, in order to ensure that operation can be resumed as soon as possible.

Depending on their construction and operating conditions, power stations have life cycles spanning many decades. Therefore, Maro also offers individual service for general overhauls of older plants. A conversion to lubrication-free bearings, the restoration of the original hydraulic contours and special coatings, for example, can significantly increase life cycles and efficiencies.

A performance and efficiency analysis by Maro will point out existing potentials and improvement possibilities.



- 1 Automation of Francis spiral turbine
- 2 Power station modernization
- 3 Spare runner

We are regularly informed about the latest developments in the field of hydropower. And of course we utilize this expertise also for small hydropower plants.

Maro service offers comprehensive solutions from maintenance in current operation to emergency services and upgrades . With our range of services , we ensure productivity for your small hydropower plant.

#### Historic display instruments



Maro World Inc 27 Glenstroke Drive M1S 3A1, Toronto, ON, CANADA Contact: office@maroworldinc.com www.maroworldinc.com

