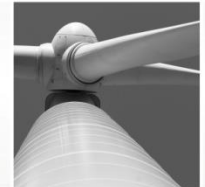
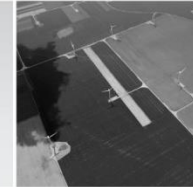


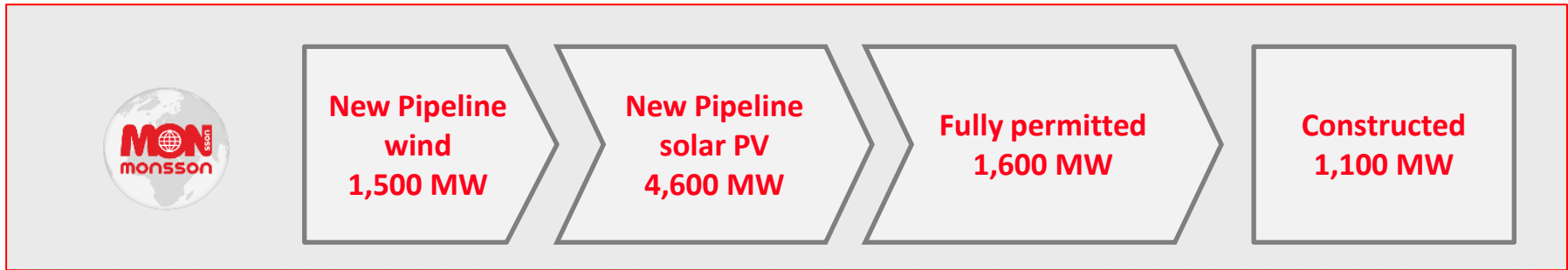


Nature, the only solution!

MONSSON

**Renewable Energy
Integrator**





Independent developer and operator of renewable energy power plants.

Family owned company established 1997 and very active on the renewable energy market.

Successful cooperation with investors from various countries.

Comprehensive service provider for investments in renewable energy.

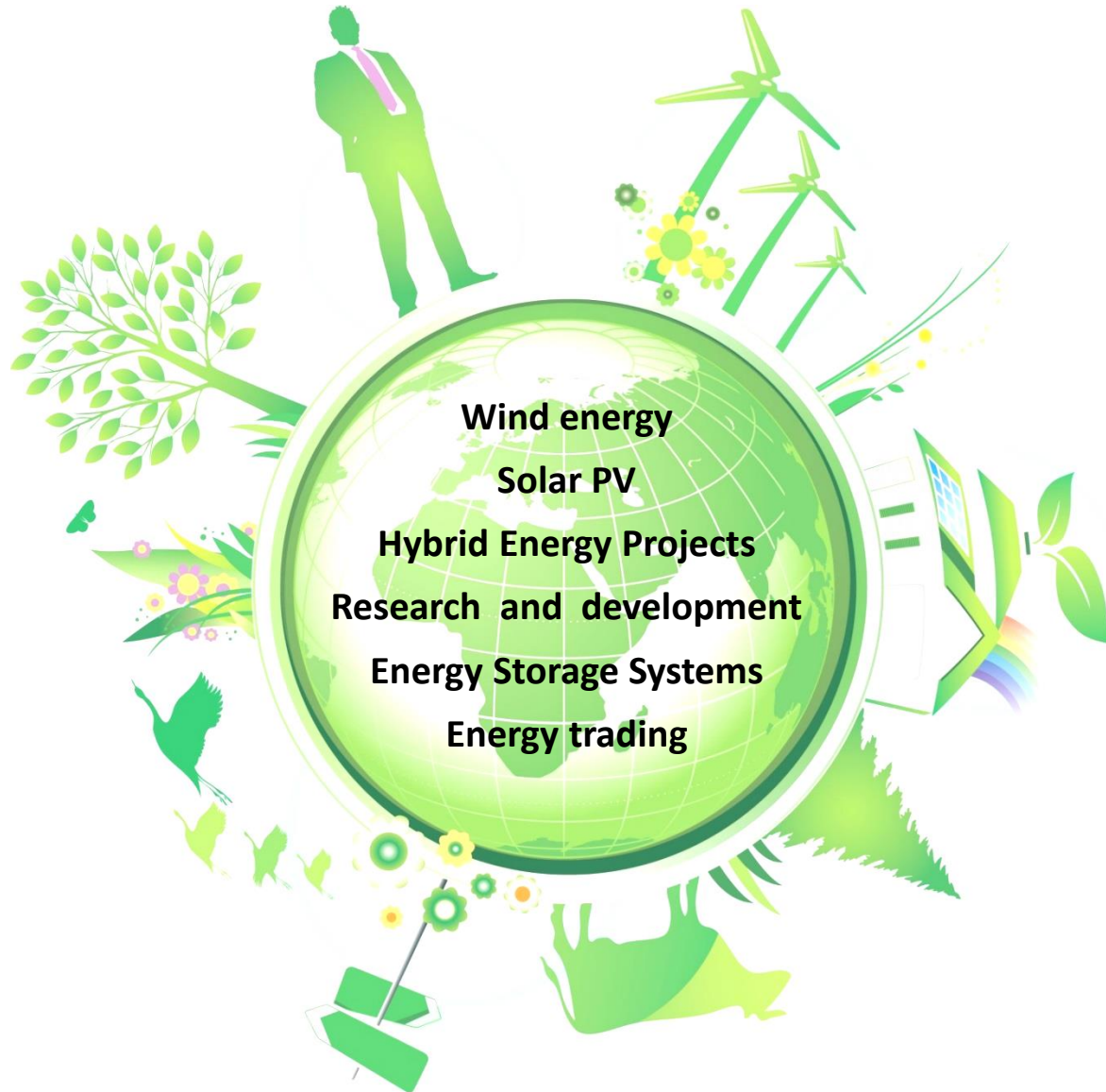
Development pipeline of above 6,000 MW.

Ownership of 78 MW wind and solar PV in operation.

Ownership of 408 MW wind and solar projects under development.

Group turnover – over 300 mill Euro.





Largest on-shore Wind farm in the world outside the USA - Fantanele and Cogealac - 600 MW (In operation since 2012).

Largest Solar PV plant in Europe - Arad 1 - 1044 MW (under construction).

First Romanian company operating as an ISP (2008).

First Private Dispatch Center in Romania (2007), with 30% of the market RES.

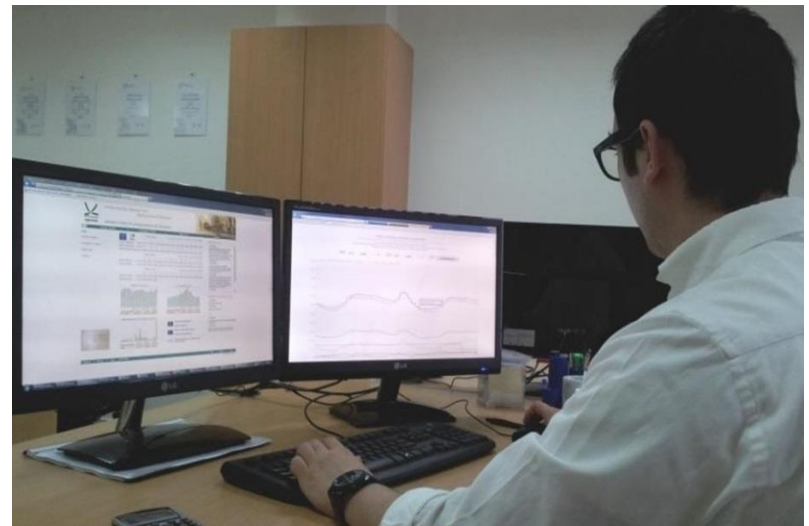
First Renewable Energy Training Center in Romania (2010).

First European company providing water desalination powered by renewable energy in Qatar (2016).

First Romanian company which developed a PV panels dry cleaning robot (2017).



- Energy storage
- Virtual power plants
- Software for optimization the high rate integration of renewables in the national grid





Dry-type cleaning system (no water).

Does not require installation of pipes \ water tanks.

Improves production of the park up to 20-25%.

It is suitable for arid areas where water is difficult or expensive to be obtained and deserted areas where energy loss due to dust or sandstorms can reach up to 35%.

Fully independent and controlled via SCADA or a mobile app (iOS / Android).

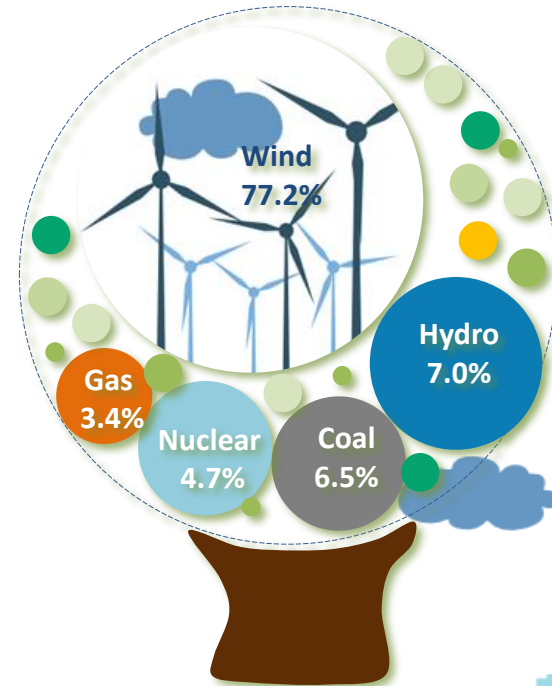
Meteorological sensors for process optimization (wind, humidity, solar radiation, temperature, etc.).

Fully flexible and programmable according to customer demand (start time, speed, direction of travel, starting conditions depending on the weather factors, etc.)

Does not use chemical cleaning agents or other products that might harm the environment.

Does not require human intervention during cleaning.

- Electricity trading
- Standard Power Purchase Agreements
- Corporate Power Purchase Agreements
- End-user power supply
- Portfolio management and optimization



Monsson specializes in combining component and sub-systems of energy storage ensuring these sub-systems function together as a whole.

The design is specific adapted for sensitive locations, as very hot and very cold climate, zonal air pollution, hard precipitations, etc.

Monsson, as system integrator, supplies the full battery energy storage system (BESS), ready to be used for all types of grid services, from peak shaving, delivery time shifting, ancillary system services, arbitrage and demand response.



Location: Constanta County, Romania Capacity: 24 MWh
(6 MW x 4h)

Built in 2023 – under final commissioning tests.

Pilot project, part of a future hybrid energy power plant:

- 50 MW wind farm (in operation since 2015).
- Extension of battery storage to 216 MWh (54 MW x 4h) – under construction COD 2024.
- 35 MW solar PV plant – under construction COD 2024.



Battery cooling system is composed of primary circuit filled with glycol and secondary circuit filled with water.

Cooling/heating of the batteries is done by a dry cooler, chiller and air-water heat pump with a low energy consumption logic configuration.

The batteries are cooled through well-balanced hydraulic circuits, maintaining the temperature of all modules in parameters, regardless of the C- Rate or D-rate or the outside temperature, whether it is summer or winter.

The monitoring and control of battery temperature is fully automatic done by an industrial PLC via a software developed by Monsson.

The entire BESS automation logic is concentrated on maintaining the batteries temperature in a very limited temperature range avoiding any potential temperature increasing during normal operation.



The main priority in Monsson BESS controlling system is prevention of potential dangerous operating ranges by having redundancy systems for temperatures and energy loads and potential hazardous situation occurrences.

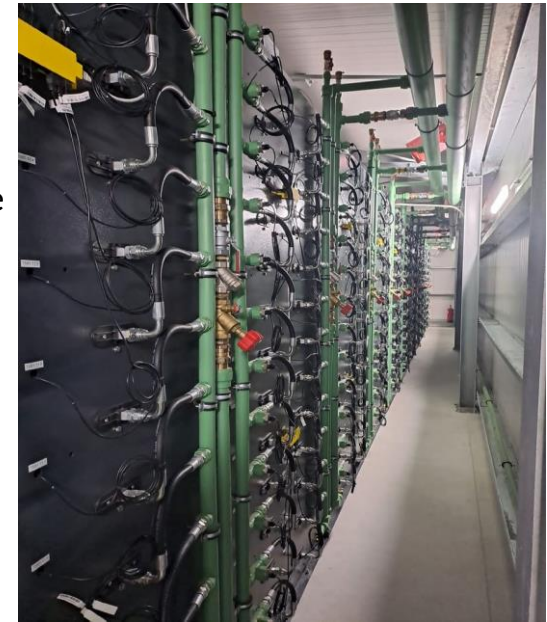
Increased redundancy of battery parameter monitoring installations is realized by the 4 temperature independent monitoring systems:

- Integrated in the battery management system (BMS).
- Water outlet temperature sensor on each battery module.
- Temperature Sensor on the casing of each module.
- Measurement with the thermal imaging cameras of the temperature of each module or place inside a battery room.

Installation of multiple monitoring and alarm systems for emergency situations: emission of toxic gases: CO, CO₂, inflammable gas: H₂, smoke, fire, etc.

In a very low possibility of a hazardous situation to occur, there are multiple fire extinguishing systems:

- Aerosols - DSPA 8-1, 8-2.
- Continuous inert gas injection into each battery module for cooling and/or extinguishing (min 48 h).
- Flooding with inert gas of each battery room if needed.
- Mobile or portable extinguishing systems.
- Extinguishing system with pressurized water.



Converting the DC from the battery banks into AC is done by centralized inverters with power rating of 1 MW each.

One inverter is assigned to a row of batteries. The inverters are bidirectional

The inverters and the related battery row are monitored and controlled by a dedicated SCADA control system, which can be operated locally or remotely, being integrated into the process controller of the entire installation.



There are two Power Transformers of 3,230 kVA capacity each, hermetic mineral oil-insulated, each of the transformers have one primary winding and two secondary windings for invertors input.

The transformers are raising the LV output of the invertors (550 V AC) to the MV level (20 kV) of the grid, and vice versa establishing a bi-directional functionality.

The power transformers have standard monitoring and protection systems that are connected to the plant's global SCADA and communicating with Power distribution cells and Invertors protection system.



Monsson Operation is a trusted supplier in the international renewable energy business environment. The company started in 2007 in Romania and since then it is delivering its services to customers and assets located worldwide.

We are proud to say that **Monsson Operation** has been always a leading company on the Romanian **renewable** market. We had the first private renewable energy dispatch center, we were the first company to hire and train wind turbine technicians, we were the one to setup the first and now largest renewable energy training center in south-east Europe, RESS.

OUR SERVICES



WIND TURBINE SERVICES

We perform planned and corrective actions according to the specifications included in the maintenance manuals released by the OEMs



PV PLANT SERVICES

We are currently performing O&M services in the PV area for the majority of installed capacities in Romania



BOP SERVICES

WIND: Full BoP including civil (access roads, foundations, cable ducts and substations), electrical and electromechanical works.
Solar PV: full O&M scope of services. BESS: full battery storage systems operation and maintenance



ELECTRICAL MEASUREMENTS

Prophylactic specialized electric measurements based on IEC standards



DISPATCHING SERVICES

Authorized dispatching services according to ANRE, RED and RET legislation; 24/7 remote monitoring and troubleshooting; Contact partner for energy distribution and transport system operators; Production forecast and management; Data analyses and reporting

**RENEWABLE
ENERGY**
SCHOOL OF SKILLS

**TRAINING
FOR THE
RENEWABLE
INDUSTRY**



RESS is a certified BZEE and GWO partner in Romania, to offer skills development trainings for technicians working in the Renewable Industry for Wind and PV.



Renewable Energy School of Skills (RESS) is the leading consultancy, innovation and technology company for wind energy in South-East Europe, working with more than 75% of the market, RESS has acquired knowledge in turbine operation technique, now operating also the largest private dispatch center in Romania with more than 900MW under technical management. As a consultancy company, RESS learned how to train people in new areas.

Our Energy School of Skills aims to become the biggest training school in South -East Europe and together with BZEE's commitment to Real Turbine Learning our target is to improve Turbine Operation all over Europe.

In 2019 the training center was also certified to perform trainings in remote locations with the New GWO Mobile Training Facility certified in April.


GWO Basic Safety Training	GWO Basic Technical Training	Turbine Technician Training
First aid for working at height	Basic Technical Training Mechanical	Wind Turbine Basic
Working at heights and rescue training	Basic Technical Training Electrical	Technical English Basic
Fire awareness and fire-fighting	Basic Technical Training Hydraulic	Hazardous Handling – Online training
Manual handling	Basic Technical Training Installation	Basic Electric/Earthing Protection – Specific Training
Sea survival		Electrical Wrenches
GWO Slinger Signaller		Medium and High Voltage Switching up to 52kV
GWO Advanced Rescue Training		Hydraulic torquing & tension bolted connection techniques – Specific Training
GWO Enhanced First Aid		
GWO Blade Repair Training		



Inginer Dispecerat


Monsson · Constanța, Constanța, Romania · 6 days ago · **12 applicants**

 On-site · Full-time

 201-500 employees

 1 connection works here · 4 school alumni work here

 Skills: Microsoft Excel, Data Analysis, +5 more

 Applicant review time is typically 1 day [Learn more](#)

recrutare@monsson.eu

www.monssongroup.com

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