

Photon Energy

Lauru Badita – Country Manager

5 May 2020

WHO WE ARE

We develop, build, own and operate PV power plants worldwide



Founded
2008



Headquartered in
Amsterdam



120+
Employees



Active in
10+ countries



Shares traded
in PL and CZ



80+ MWp
PV plants installed



Own portfolio
57.1 MWp



43.8 GWh
produced in 2019



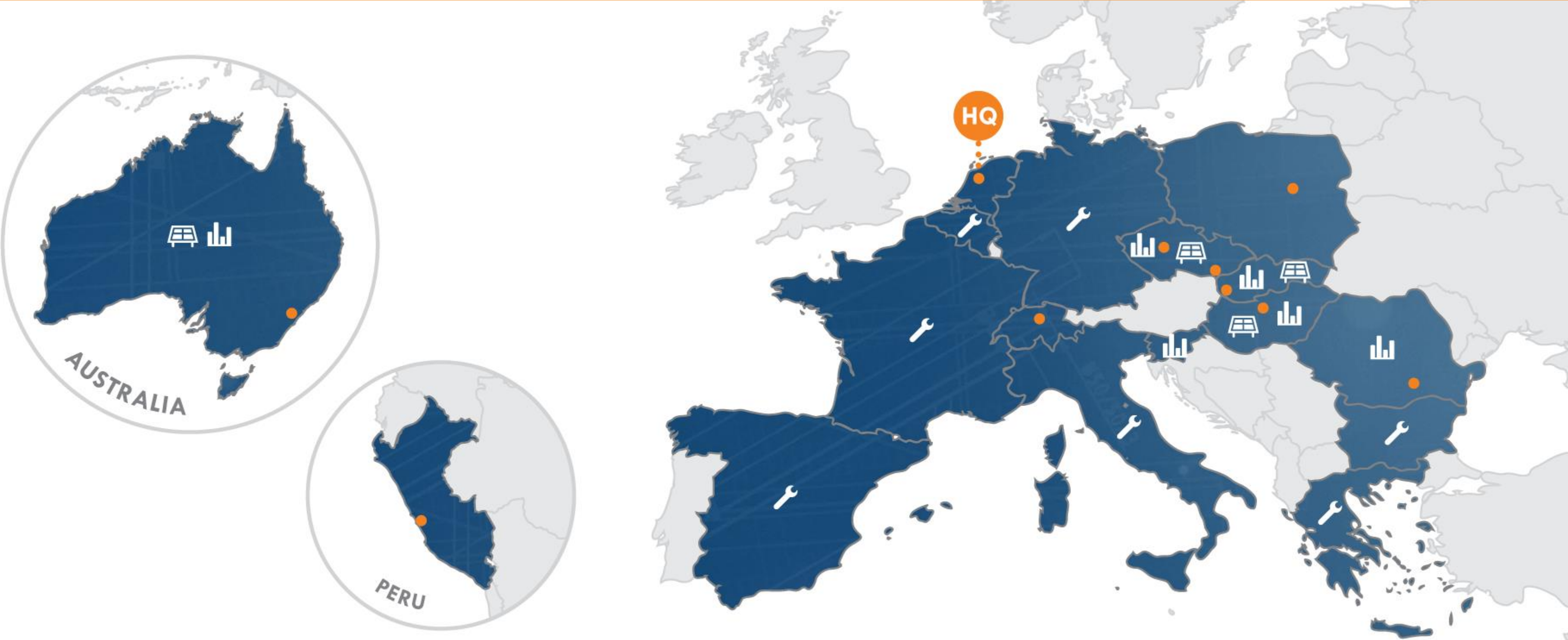
O&M services
300 MWp



Separate business line
Water treatment



GLOBAL PRESENCE



-  Power plants owned by Photon Energy
-  Power plants under O&M
-  Other O&M services
-  Offices

OUR KEY MARKETS



CZECH REPUBLIC & SLOVAKIA

EPC

44 MW_p

O&M

146.2 MW_p

Own portfolio

25.4 MW_p

ROMANIA

O&M

16 MW_p

HUNGARY

EPC

31.5 MW_p

O&M

70.6 MW_p

Own portfolio

31.5 MW_p

AUSTRALIA

EPC

5.9 MW_p

O&M

5.9 MW_p

Own portfolio

0.1 MW_p

We manage projects from start to finish

PROJECTS

Project development for rooftop and green-field installations from 300 kWp to 300 MWp

OPERATIONS

Operations and maintenance of PV power plants, including own control room and monitoring platform

INVESTMENTS

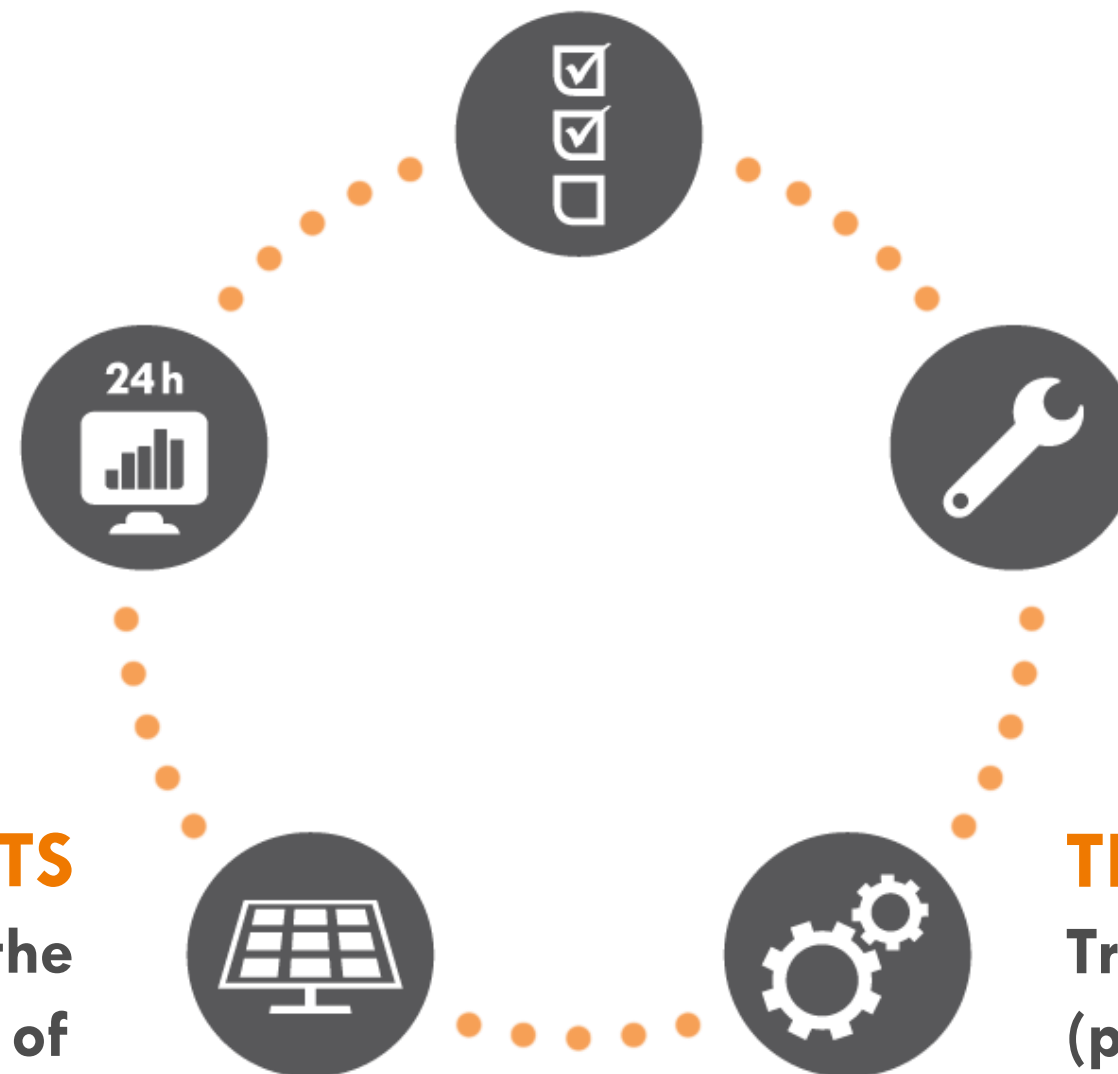
Investments in PV power plants for the sustainable production and sale of solar energy

SOLUTIONS

Design and construction of on-grid and off-grid installations, including battery storage solutions

TECHNOLOGY

Trading of PV components (panels, inverters and substructure)



Project development from concept to completion

We develop green fields from scratch and acquire PV projects at all stages of the project development process.

- Land acquisition
- Administration and legal landscape
- Permitting and implementation
- Joint ventures
- Partnerships with banks and investors



Australia

- Project pipeline of 738 MWp
- Rooftop installations, including an ongoing 4.6 MWp project for ALDI stores
- Co-development of 3 large-scale PV projects of 580 MWp with Canadian Solar

Hungary

- Project pipeline of 17.7 MWp
- 46 power plants built and connected with a total capacity of 31.5 MWp; goal of 75 MWp by 2021
- Cooperation with local developers and banks: long-term project financing secured for 11.5 MWp

We design and build power plants with quality and longevity in mind

- Consultancy and yield studies
- Concept design
- Project planning and management
- Counterparty negotiations and contracting
- Turn-key construction of PV projects
- Customised off-grid solutions

Czech Republic	30.4 MW _p
Slovakia	13.6 MW _p
Hungary	31.5 MW _p
Australia	5.9 MW _p
Germany	1.4 MW _p
Italy	1.3 MW _p
EPC DELIVERED	80.6 MW _p

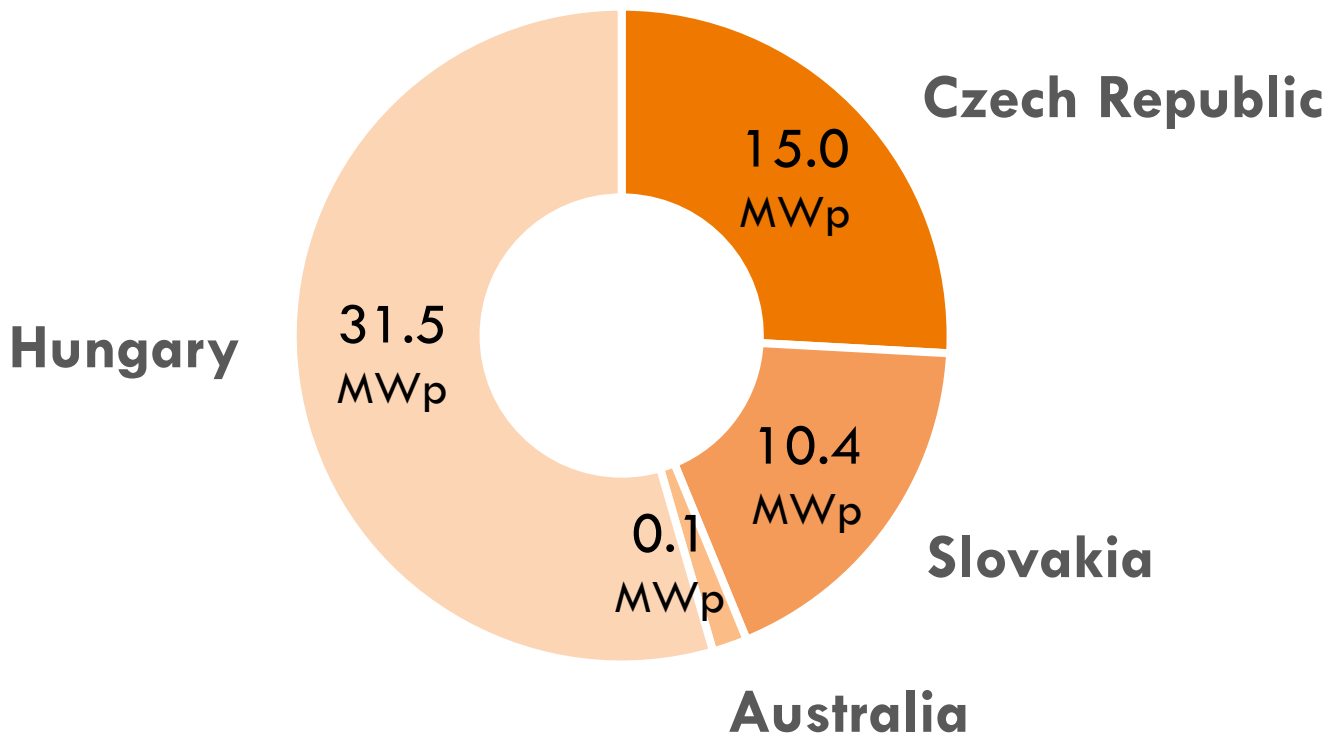


We procure Tier 1, world-class technology

- High-quality, bankable crystalline modules
- High-performance mono PERC modules from Longi Solar, JA Solar and Jinko Solar
- Powerful and robust inverters
- Integrated power storage and backup systems
- Monitoring and control devices



We own PV plants with 57.1 MWp in our proprietary portfolio



Expansion of proprietary portfolio
from 57.1 MWp to 115 MWp by 2022

Hungary	75 MWp
Australia	15 MWp
Czech Republic	15 MWp
Slovakia	10 MWp
Target portfolio by 2022	115 MWp



OPERATIONS & MAINTENANCE



We take care of 300 MWp of solar assets

Our O&M services are always set up to achieve the highest possible production and performance throughout its lifespan.



Preventive maintenance



Service interventions



Compliance & Reporting



Performance monitoring



Accounting services



Security support



MONITORING AND CONTROL

Maximise yield while minimising cost

We developed a fully-integrated solar monitoring solution with intelligent software that provides comprehensive monitoring and control of your PV power plants.

- Optimises installation and hardware costs
- Detects threats in a timely manner
- Used by industry-scale owners, operators and investors
- Connects to external systems free of charge
- Provides expert technical support available 24/7
- Delivers reporting and notifications

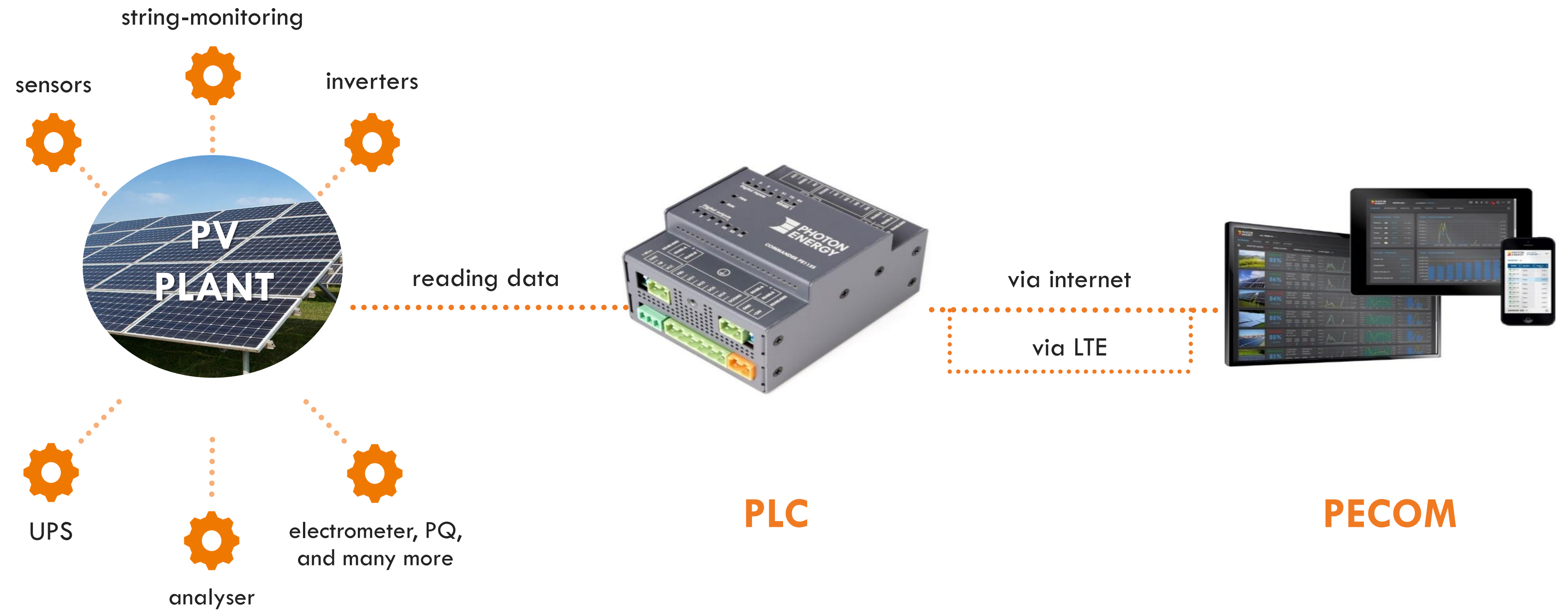


PLC PE115S

- Developed by Photon Energy
- Programmable for all industry sectors
- Compatible with different devices and technologies
- Connects up to 150 inverters
- Fully modular open platform
- Four digital and two analog inputs
- 1 GB of RAM and 8 GB internal memory



PVP COMMUNICATION & PLC



Applying our PV expertise to power our clean water solutions

PURIFICATION AND TREATMENT

Drinking water treatment using near-nature methods, emergency units, recycling of gray water

RESEARCH AND DEVELOPMENT

Close cooperation with leading academic institutions, participation in national and EU research programmes

WATER RESOURCES

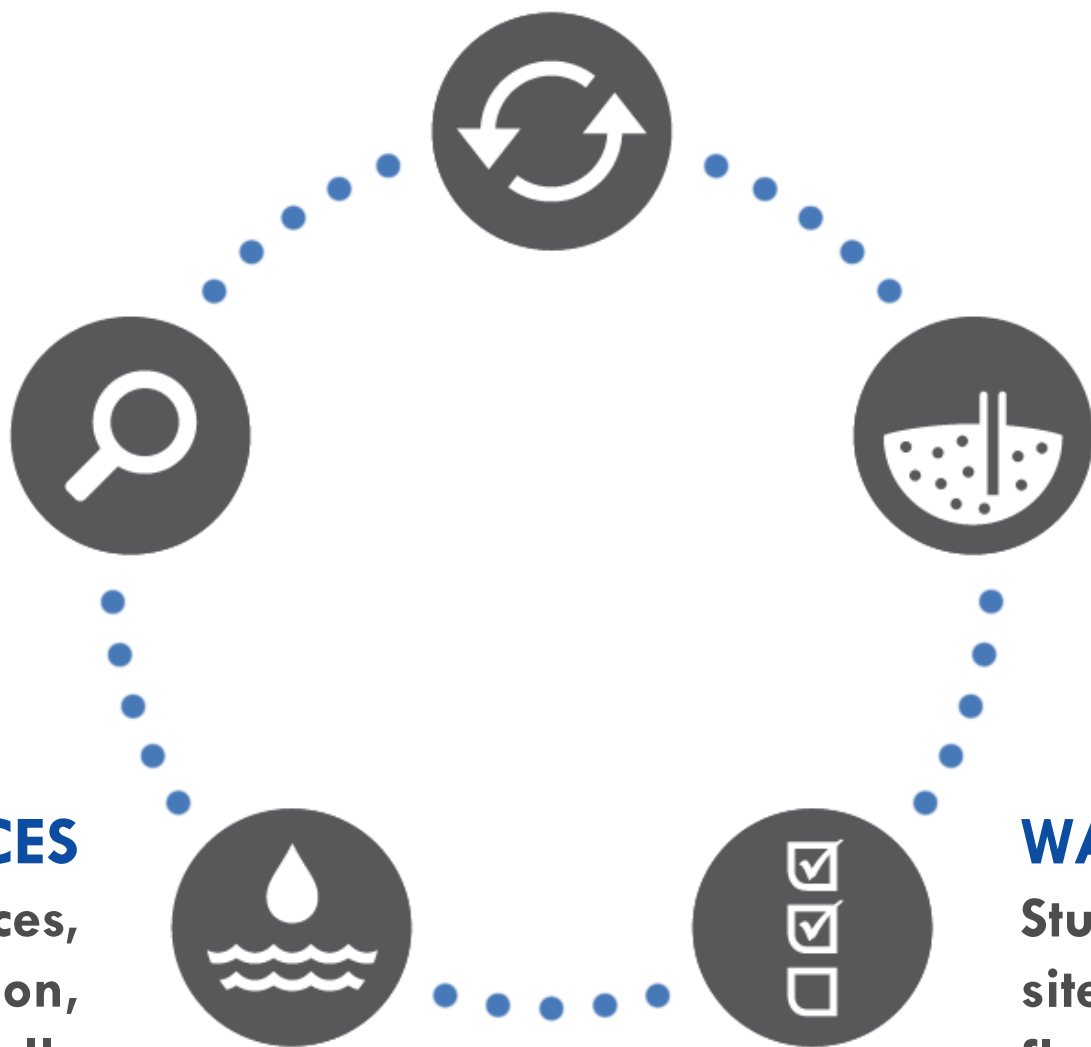
Complete services including new resources, pumping tests, well diagnostics, regeneration, remediation and decommissioning of wells

CONTAMINATED LAND REMEDIATION

Nanoremediation, steam enhanced extraction, reactive barriers, in-situ remediation, design services, monitoring

WATER MANAGEMENT

Studies and projects, storm water, self-operating sites, small water reservoirs and watercourses, flood protection and prevention, algae control



REFERENCES

Largest project to date

Tuřany Airport, Czech Republic

7.5 MW_p, 2010 (EPC)

21 MW_p, 2010 (Procurement provided for total capacity)



REFERENCES

Ground-mounted power plants

Monor, Hungary

5.6 MWp, 2019 (EPC, O&M)



Almásfüzitő, Hungary

5.5 MWp, 2019 (EPC, O&M)



Nagyecsed, Hungary

2.1 MWp, 2019 (EPC, O&M)



Fertőd II, Hungary

3.5 MWp, 2019 (EPC, O&M)



REFERENCES

Ground-mounted power plants

TiszaKéscké, Hungary

5.5 MWp, 2018 (EPC, O&M)



Les Mees, France

18 MWp, 2014 (O&M)



Ellrich, Germany

1 MWp, 2012 (EPC)



Ráztoka, Slovakia

1 MWp, 2011 (EPC)



REFERENCES

Rooftop installations

ALDI stores, Australia

4.6 MWp, 2019 (EPC, O&M)



Symonston, Australia

200 kWp, 2016 (EPC, O&M)



Biella, Italy

1 MWp, 2012 (EPC, O&M)



Sydney, Australia

283 kWp, 2012 (EPC, O&M)



REFERENCES

Solar storage

Muswellbrook, Australia

39 kWp / 216 kWh, 2014 (EPC, O&M)

Project designed in association with the German Energy Agency, Deutsche Energie-Agentur GmbH (dena), and the Australian communications infrastructure company BAI.



OUR VISION

Building a brighter future

- Contributing to major growth phase in the Australian PV market driven by large-scale and commercial-scale solar projects
- Building our proprietary portfolio in emerging markets
- Further solidifying our position as a leading O&M provider in the CEE region
- Continue developing innovative solar solutions
- Expanding our sustainable water treatment solutions



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EXPERTS FOR
THE SOLAR AGE