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The EPC and O&M Partnership in New Emerging PV Markets

A Bankable Formula to Build and Internationalize in a Sustainable Way

Renewable Energy Days

Global PVDay | Asset Management Day

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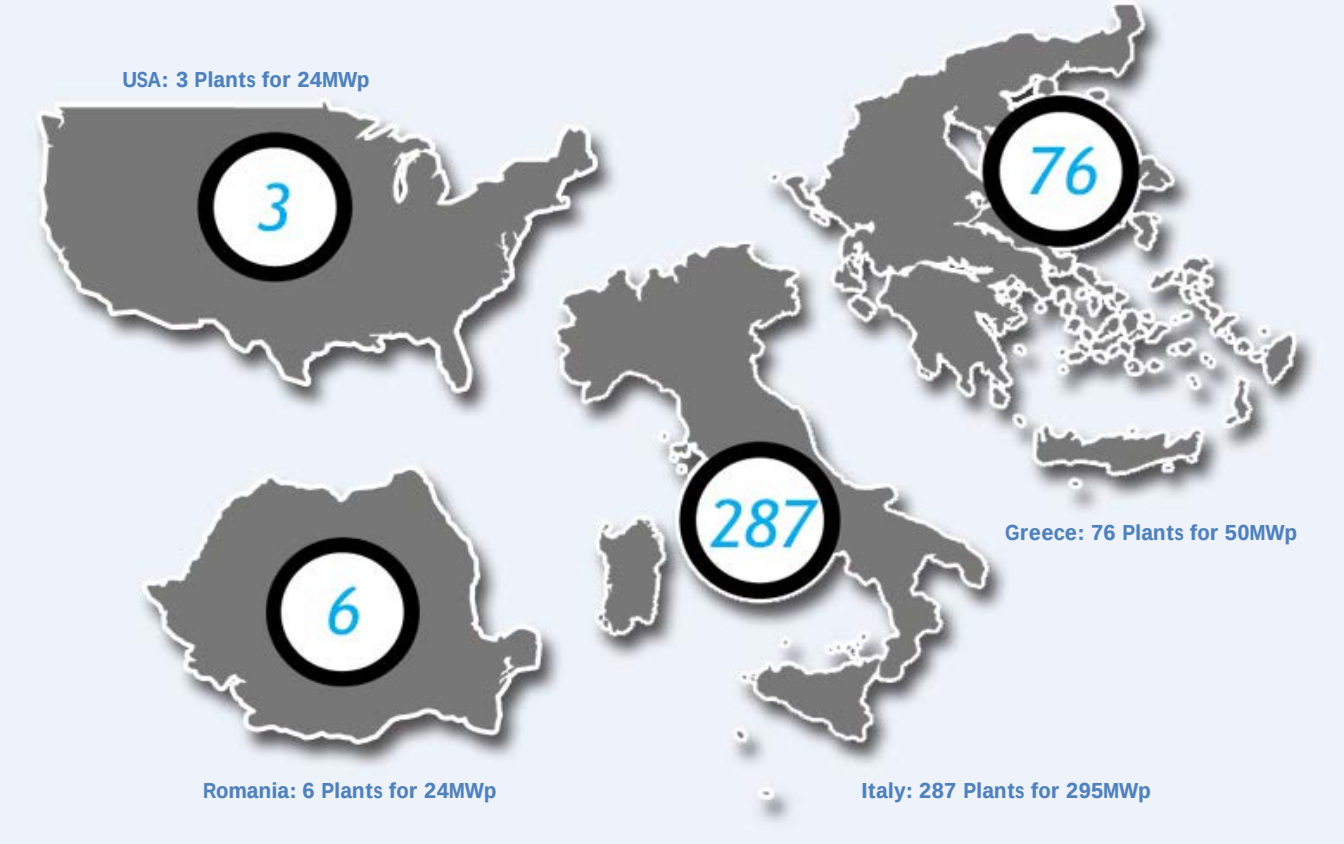
Georgia Power 24 MWp – Alectris

Integrated Global PV Service Provider: O&M, Engineering, Monitoring and Asset Management



PV Plants under management: Technical/Asset Management e/o Monitoring (May 2015, number of Plants and MW per country)

Alectris is a Global Service Provider for the Integrated Care of Solar Photovoltaic (PV) Energy Assets

i. Strong expansion of O&M Activities

ii. Strong market interest in the Alectris proprietary Solar ERP system, ACTIS

iii. Several requests of partnership or technological transfer from local players active in new emerging markets (Latam, Middle East, Asia)

ACTIS, The World's First Solar ERP Platform for the Complete Management of PV Assets

EPC and O&M Model to Date

i. Who builds is who operates and maintains the plant

ii. Classic model for bankability reasons

iii. All project financing and contractual securities (construction bond, warranty period, bonds, performance warranties…) are in charge of the same entity

Disadvantages

i. Needs for the constructor to structure his operations and maintenance activities locally (with recurrent yearly costs for direct structure or with subcontractors)

ii. Difficult sustainability of this direct local structures and of the relevant O&M contract in case of market slow down or stop

iii. Difficult process control, reporting and subcontractors and quality management

iv. Bad quality of services, bankruptcy, and investors and lenders severely unsatisfied

→Construction /product business (to build a solar plant) is a completely different business from a service business (operation and maintenance)!

The Need

i. Investors and Lenders must rely as earlier as possible on players:

- Who are O&M long term business models (not market opportunists)
- Who are already structured to provide services compliant to their contractual obligations in an efficient, flexible and agile way
- Who daily chase the maximum productivity of PV Plants under management, because their customer s' satisfaction levels directly affect their business profitability and growth

→ The O&M servicer is the last Long Term Partner of the Investors or Lenders

EPC & OEM as Two Different Players

i. From «burst market»(like Italy, Spain) experience, it is a win/win formula to involve professional O&M players from the asset's beginning:

- Guarantee for investors and lenders to have a dedicated and committed servicer throughout all stages of the assets' lifecycle
- Business advantage for the EPC derived from avoiding care of local structures outside their core business leaving them free to move away with agility towards other markets in case of market stops
- Advantage for the O&M servicer to be involved from the beginning to inform supervising engineering and construction, to the benefit of longterm operations and provided guarantees and to reap references for new promising markets

Focus on Your Job!

i. EPC provides services within 2 year warranty period:
   - Engineering
   - Construction
   - Spare parts
   - Perfomance Ratio guarantee

ii. O&M provides in parallel:
   - Supervision of engineering
   - Supervision of construction
   - Preferred monitoring and management system
   - Operations, preventive & corrective maintenance and monitoring
   - Availability guarantee

Focus on Your Job!

i. O&M provides after the warranty period:

- Full O&M services and monitoring
- Availability and Performance Ratio warranties based on the level achieved by the EPC constructor at the FAC

Business Case: 12MWp in the Middle East

i. Alectris is involved as O&M servicer in a 12MWp project under construction in Middle East

ii. ACTIS (Solar ERP) shall be installed on the plant and Alectris shall provide O&M services from the beginning

iii. The EPC constructor is a primary Nasdaq listed player

iv. Contractual set up has been prepared by an international top level team of Legal and Technical Advisors

v. The structure EPC & O&M as two different players resulted in full bankability and eligibility for project financing from a primary global lender

→This new model can be replicated worldwide

i. Alectris shall perform also a technological transfer to a local subcontractor starting from the fourth year for the local company to operate and maintain the plant autonomously.

Performance Guarantees and KPI

i. **Availability**: How much the plant is on, how faults are managed → guarantees by **O&M Contractor, as dependent from O&M activities.**

ii. **Performance Ratio**: Efficiency of the plant when available → guarantees by **EPC contractor for all the warranty period, depends on quality of design and equipment used.** After warranty period PR guaranteed by the O&M Contractor.

iii. To grant O&M Contractor on plant quality, **commissioning, PAC and FAC shall be performed and documented** according to **IEC 62446**.

iv. To regulate impact of O&M activities on the PR have been defined precisely for maximum intervention time for specific faults and incidents and specific frequencies for module cleanings.

Sustainable Internationalization

i. PV has now reached global adoption

ii. Each Country, also if remote, could be the next new booming market

iii. No new market shall have local PV experts or professionals

→The EPC & OEM separated formula is applicable worldwide and grants to EPC players a sustainable internationalization without risks and limits, if they rely on appropriate O&M partners and the right contractual set up!

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