



## MONITORING VIETNAM'S LARGEST PV PLANT

# Distributed Energy Optimization for PV

The Trungnam Group, an independent power producer in Vietnam, operates the country's largest photovoltaic plant with a capacity of 450 MW. Monitoring energy production, performance and economic KPIs is achieved with DEOP, a cloud-based offering used to optimize the operation of distributed energy resources (DER).

Vietnam's largest PV plant covers an area of 300 hectares and has an energy generation capacity of 3 GWh per day – that equals the annual energy consumption of 5,000 households<sup>1</sup>. In comparison to conventionally generated energy from non-renewable resources, 2,445 tons of CO<sub>2</sub> can be saved per day<sup>2</sup>.

### Customer requirements

Solar energy is on the rise in Vietnam: While the country had less than 10 MW of PV capacity in 2018, this jumped to 6,314 MW by 2020.

The country's biggest solar power plant is the Trungnam Thuan Nam solar farm, built by the Trungnam Group and monitored with the Siemens software DEOP for optimization of distributed energy resources. It helps the plant operator to monitor the energy production of the photovoltaic plant as well as the performance and economic KPIs. Moreover, they benefit from data visualization as well as being able to log in from anywhere.

<sup>1</sup> taking 600 kWh as mean annual energy consumption of Vietnamese    <sup>2</sup> taking 0.815 tCO<sub>2</sub>/MWh as Vietnamese grid carbon intensity factor

# Monitoring photovoltaic

## DEOP features and benefits

DEOP is integrated with the photovoltaic plant controller (PPC; read more about the specific details of the PPC in this project [here](#)) and acts as the single source of truth for all the data that comes from the PV plant and is used for monitoring and transparency purposes. DEOP visualizes the performance data of the renewable generation plant as well as the economic KPIs. Furthermore, Trungnam is able to take a deep dive into its data by doing KPI calculations directly in DEOP. The user interface and the DEOP gateways have been customized to suit the needs of the power plant operator. DEOP monitors the point of common coupling (PCC), photovoltaic plant measurements relating to inverters, as well as overall measurements and status acquiring measurements from the PPC.

## Conclusion

Thanks to DEOP, Trungnam Group is able to monitor its energy production, the energy emission into the grid, and the performance and economic revenues generated by its PV plant. Moreover, it has easy visualization and automatic evaluation of its KPIs. All data is available in the cloud at any time and can be accessed from anywhere.

## About Trungnam Group

Trungnam Group is a professional organization investing in energy, infrastructure, construction and real estate. The company has developed its own brand in business management, production management, and exploration leading to breakthroughs and development. "Sustainable Investment - Building Up the Future" is the slogan that helps Trungnam Group to define its goal efficiently and commit to quality and sustainability in every investment project.



Vietnam's need for energy is rapidly growing. To cover this demand, we must increase the share of renewables, among other things. The government is aiming to develop 18 gigawatts of generating capacity by 2030. Siemens is supporting us with our solar project so that we can reach the government targets for developing renewable energy in Vietnam.

**Nguyen Tam Tien**  
General Director at Trungnam Group

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100 Technology Drive  
Alpharetta, GA 30005  
United States

E-mail: [deop.si@siemens.com](mailto:deop.si@siemens.com)

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