Energy Solutions Inc.

Demonstration project of smart security (Drones & AI) to achieve carbon neutrality

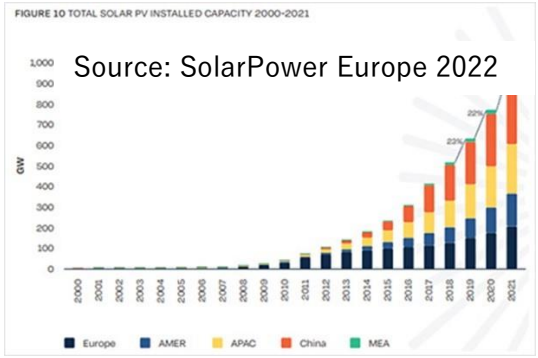
Objective of the project

The Malaysian government has declared that Malaysia will achieve carbon neutrality by 2050 and is moving ahead with the construction of large-scale solar power generation (LSS) facilities, but efficient maintenance and inspection has become an urgent issue.
By developing the drone & AI solar module infrared inspection service "DroneEye" for Malaysia, which is a powerful method for smart maintenance, we will verify the reduction of solar O&M costs, conduct the local training for solar O&M operators and develop the DroneEye Partner system.

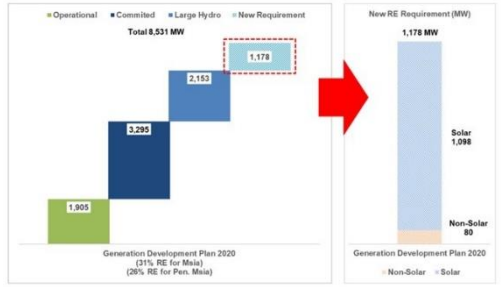
Cooperation with local companies/governments

Targeted economic/social issues

Renewable energy is becoming more popular worldwide in order to prevent global warming. In particular, solar power generation is rapidly expanding, with the cumulative installed capacity exceeding 1 TW by 2022. O&M is extremely important for solar power generation to generate power properly over a long period of time, and inspections using drones and infrared cameras are being adopted to efficiently inspect solar panels spread out over vast areas. In Japan, it is also recommended in the "smart maintenance" proposed by METI.
The Malaysian government is planning to increase the renewable energy ratio from 23% in 2020 to 31% in 2025 to 40% in 2035. An additional 1,098 MW will be introduced by 2025 in the Malay Peninsula. Therefore, the implementation of maintenance and inspection, as well as "human resource development" and "DX" toward the formation of a renewable energy-centered society, have become urgent issues.



Energy Development Plan in Malaysia till 2025



Source: REPORT ON PENINSULAR MALAYSIA GENERATION DEVELOPMENT PLAN 2020 (2021–2039), KeTSA

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Demonstration Period

September 2022 – January 2024

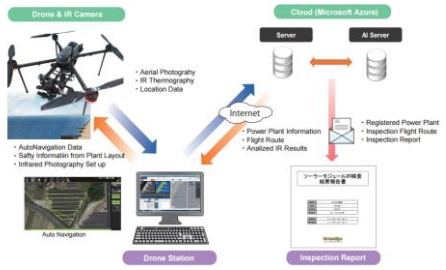
Details of demonstration

■Development of "DroneEye for Malaysia"
Translate AI analysis/reporting tools and management system into English to enable operation and utilization by local operators in Malaysia

■Verification of O&M cost reduction using "DroneEye"
Compare the actual time and costs involved in ground inspection and "DroneEye" inspection, and verify the cost reduction effect of "DroneEye" inspection.

■Training for Malaysian solar O&M operators
A new "DroneEye" training course will be established at the local training institution (SHRDC). Training for trainers will also be conducted for training institution staff.

■Development of DroneEye partner system
Through a partnership agreement with a local O&M company, we aim to build an ecosystem that allows them to conduct "DroneEye inspections" in-house, and monetize through our cloud service usage fees.



Project outcome / Future Plans

Through this project, we were able to carry out all of the demonstration contents and launch a mechanism to deploy "DroneEye in Malaysia." We plan to implement DroneEye training at SHRDC and to certify the completion of the training.
Our company partnered with companies that had completed DroneEye's training and plans to commercialize the service using the revenue from cloud usage fees. Additionally we aim to inspect 100 power plants over three years and generate sales of approximately 40 million yen.
MPiA is a solar power generation industry association in Malaysia, and has collaborations and networks with neighboring countries, the Philippines and Indonesia. Therefore, we hope and expect that the project in Malaysia can be used as a success story for horizontal expansion in cooperation with MPiA.