

Applus⁺

SOLAR TECHNOLOGIES



A-PAA



Using **ARTIFICIAL INTELLIGENCE** models, the Enertis Arplus+ Advanced Performance Analytics Application (A-PAA) performs a faster, more detailed analysis of the long-term **PERFORMANCE** of PV plants

KEY FEATURES

- underperformance detection
- long-term average annual degradation calculation
- site-specific soiling rate calculation

BENEFITS

- fast and detailed analysis of PV assets' performance
- performance comparison
- interactive visualisation
- identification of recoverable unavailability and systemic underperformance

DATA INTEGRATION

- it can process any type of data format, allowing the integration of multiple PV plants with different SCADA systems



TESSA



Based on the Kimber and Townsend models, the Enertis Applus+ Soiling and Snow Application (TESSA) estimates the annual **LOSS IN SOLAR ENERGY** production due to **DIRT** and **SNOW** accumulation

KEY FEATURES

- annual, monthly, and daily soiling rates
- clients' own weather data can be uploaded
- connection to US and Spanish meteorological agencies
- map view for easy asset comparison

BENEFITS

- accurate estimation of soiling rate to optimise cleaning schedules
- ability to run scenarios for cleaning schedules, including automated solutions

USEFUL FOR PLANNING PHASE

- it uses historical data to calculate soiling accumulation profiles



SMART PV INSPECTION TOOL **Applus⁺**



Combining **DRONES** and **AI MODELS** with **INFRARED (IR) THERMOGRAPHY**, the Enertis Applus+ Smart PV inspection tool can quickly **IDENTIFY DEFECTS** in installed PV modules

KEY FEATURES

- processes thousands of images in minutes
- identifies and geolocates defects
- comprehensive report within days for quick response

BENEFITS

- high-detail PV module analysis
- single asset reports or comprehensive portfolio overviews
- ability to track faulty modules over time with subsequent inspections

COMPREHENSIVE TECHNICAL INSPECTION

- it is used on PV modules at operating solar PV assets to ensure proper maintenance



PV MOBILE LAB



Enertis Applus+ **PV MOBILE LABORATORY** brings the most accurate solar testing and solar inspection techniques **ON-SITE** at solar plants

KEY FEATURES

- it enables on-site testing of PV modules under stationary laboratory conditions
- it can perform testing of bifacial and large solar PV modules
- equipped to perform electroluminescence and maximum power point tests
- available in Chile, Mexico and Europe. Soon available in Australia and Brazil

BENEFITS

- it avoids risks associated to module shipping and handling
- it reduces module downtime



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beyond
standards