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Digitalization: Reducing the LCOE of your PV Assets with efficient Lifecycle Management

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Who are we?

ISOTRON, S.A. was established in 1989, been part of the ISASTUR holding since 2007.

Its activities focus on the execution engineering, manufacture, erection, commissioning and maintenance projects concerning electrical installations in different fields such as:

- Industrial electrical and instrumentation projects.
- Substations and power lines.
- Automation and control
- Traditional power plants
- Renewable energy: wind farms and **solar plants**

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Market Evolution

Project name	ALBALA LA CHICA
Location	Badajoz, Spain
Total installed power	1 MWp
Start Date	2008
Execution period	9 months

Project name	TROMPEZÓN
Location	Aguascalientes, Mexico
Total installed power	158 MWp
Start Date	2018
Execution period	11 months

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Observed Problems

- Emphasis on unitary cost/time reduction
- More complex electrical optimization
- Higher earthworks requirements
- Decentralization of the execution process
- Difficult and costly progress control
- Higher deviation risks
- Less capability to absorb said deviations

Digitalization Opportunities

- New tools available:
  - Drones
  - Digital platforms
  - AI Analytics
- Optimization opportunities:
  - Direct task execution
  - Project Management
  - O&M

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Direct Task Execution

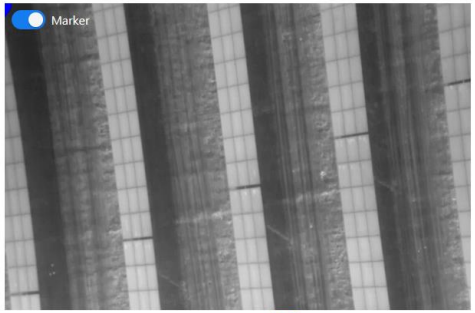
- Topographic surveys
- Thermographic tests
- Inspections or small interventions in difficult to access zones
- Saving in time, cost and improved safety

Issue | Raw Images

UID	g33ilF8u7e-12:66~3
Issue Type	Hotspot
String Number	NA
Issue Description	An area of elevated temperature affecting only a cell/portion of a module.
Status	Not Verified
Coordinates	-6.121923451659484,36.51852744984188
Comment	Not Available
Δ Temperature	1.8 °C

Create ticket

Issue | Raw Images



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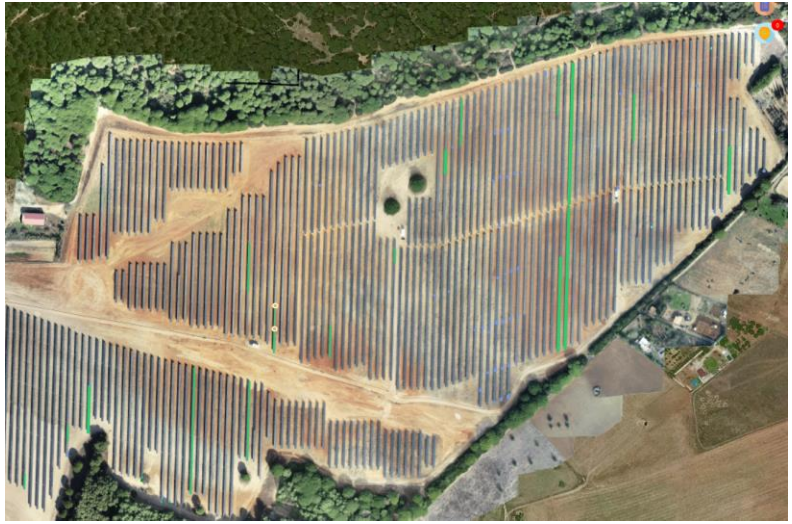
Project Management



- Live image of the plant
- Verification of design and progress
- Centralized, easy to access information
- Early/automatic detection of deviations
- Avoidance and/or mitigation of their impact
- Saving time and resources

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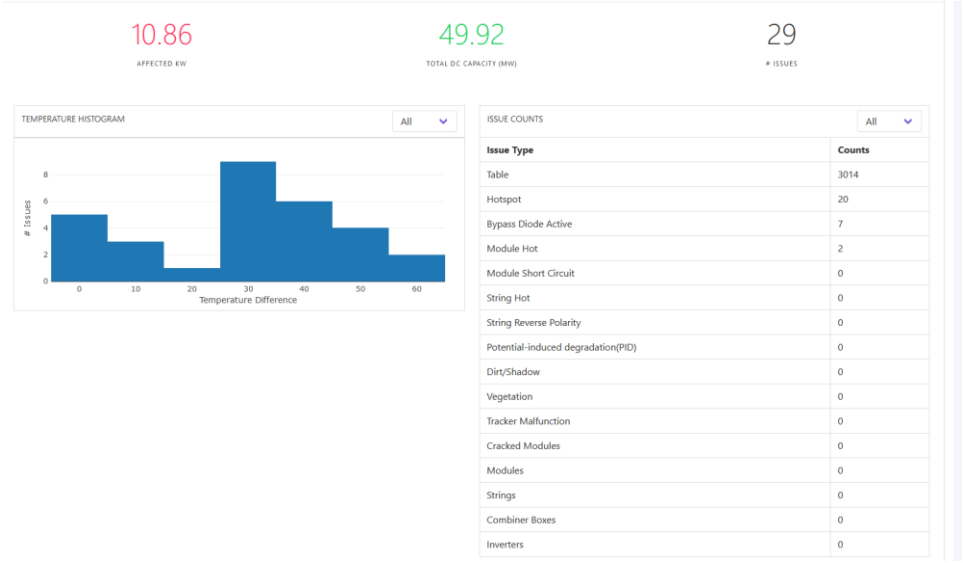
O&M

- Sophistication of monitorization
- Predictive fault detection
- Lower necessity of preventive actions
- Simplified and minimized corrective actions



Issue Type	Counts
Table	3014
Hotspot	20
Bypass Diode Active	7
Module Hot	2
Module Short Circuit	0
String Hot	0
String Reverse Polarity	0
Potential-induced degradation(PID)	0
Dirt/Shadow	0
Vegetation	0
Tracker Malfunction	0
Cracked Modules	0
Modules	0
Strings	0
Combiner Boxes	0
Inverters	0

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Thanks for your attention

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