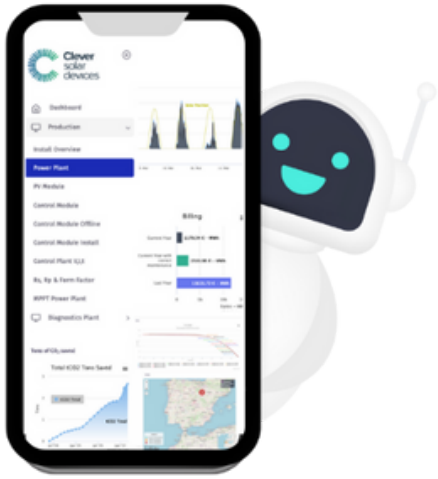
Clever solar devices

Why Clever?



PHOTOVOLTAICS 4.0

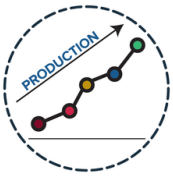
www.cleversd.com

info@cleversd.com

Immediate **benefits**

Photovoltaics 4.0: Intelligent Digital Twin for Photovoltaic (PV) plants. Boost energy, slash maintenance costs, reduce labor risks & CO2 emisions.

Our diagnostic platform improve buisness and operational effficiency through digitalization for solar PV plants. Remotely and real-time diagnostic of each PV module with our “plug-n-play” patented device, providing an overview of the health status of the installation.



Recover up to **12%** energy production

100% of the issues **detected**

Up to **70%** cost reduction

Contiously and in **real-time**

Without disrupting the production

Increase safety in the work place

Benefit from a **Worldwide Patented technology**

Audit PV Power Plant along with inverters, suntrackers, PV modules, etc

Contribute to **lower CO2 emissions**

Remotely from your phone

The future is **DIGITAL**

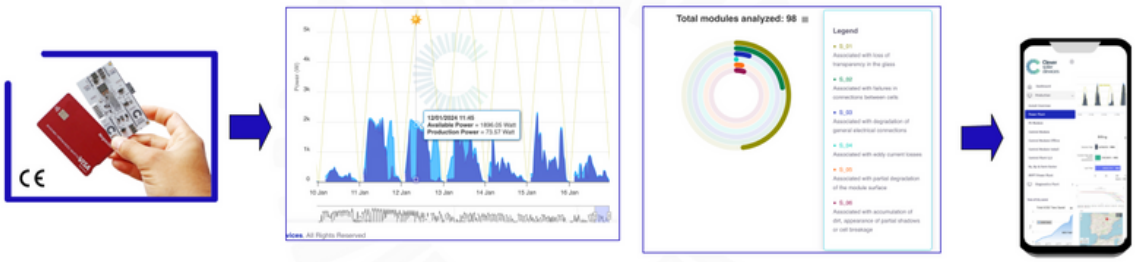
Current Photovoltaic plant maintenance relies on inefficient manual or indirect methods. With thousands of panels, complexity increases. **Manual** module-by-module inspections and "break & fix" procedures are **time-consuming and risky** due to the lack of precise, automated diagnosis at the PV module level. **Monitoring platforms** only summarise production, delivering **insufficient data for diagnosis** and **requiring human inspection to find and identify issues.**

We are NOT a Monitoring platform. We are a DIAGNOSTIC platform. KNOW WHAT IS HAPPENING, WHERE AND WHEN and the Level of Degradation of the PV modules.

We diagnose thru **IV curves** at PV module level: the most accurate data for **PREDICTIVE & PREVENTIVE** maintenance, and the best foundation for a **true Solar Plant Digital Twin.**

Our Solution: Clever Dx

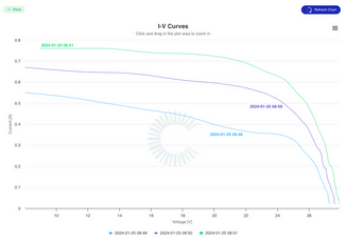
Our **patented** small plug-n-play data collection device, size of a credit card, **sends automatically to the cloud the diagnostic information** and Artificial Intelligence and Deep Learning make the work for you. It shows with simple graphics where and how are the modules and what is the specific issue.



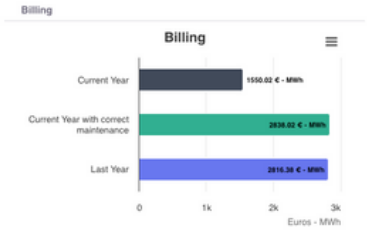
Clear and Complete Data, Alerts, and Maps to Keep You Informed of Operational Issues
We offer simplified and comprehensive information, reports, alarms, and maps to help you stay informed of what's happening in your installation, no matter where you are. Our system provides the exact location of problems, so you can **quickly identify and address them.**

Not only know WHICH modules have the issue, **we tell you WHAT is the issue in each one with our Unique Algorithm.**

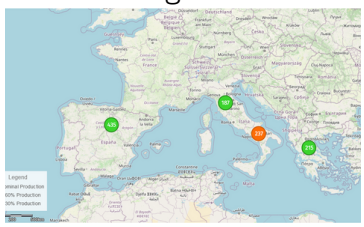
IV curves detail:



Business reports:



Fleet management:



CO2 emissions report:

Our Compromise

Contributing to a Sustainable Future: Our Impact on **6 Sustainable Development Goals**, helping operators improve their day-to-day operations and create an efficient energy system for everyone by digitalizing the photovoltaic (PV) industry. Through innovation, we are **working towards achieving the goals set for 2030 and 2050.**

SOLAR IMPULSE EFFICIENT SOLUTION NOVEMBER 2023

IMPACT FORECAST

Our solution has been validated as **VALID, POSITIVE and SIGNIFICANT** by the Impact forecast organization and **POSITIVE** impact on the environment and of **ECONOMIC PROFITABILITY** by **Solar Impulse.**

Why Us?

Drawing a Distinction Between Our Approach and Competitors:

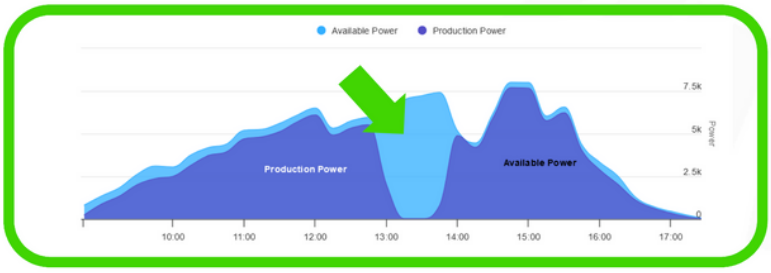
We make a clear distinction between our methodology and what our competitors offer. While they specialize in monitoring, our Photovoltaics 4.0 system provides a comprehensive diagnosis. Monitoring basing their output data only on production information that correspond with instant voltage and current values. Diagnostics are based on measuring the characteristic of the PV module by measuring the IV curve which is independent value from production.

Inverter's information:

Inverters and optimizers can give some information about the status of the plant automatically, but they only measure instant production, which is not enough or specific data for diagnosis.

Monitoring platforms, provide a scalable solution that provides more information than inverters or optimizers by adding artificial intelligence and machine learning, but **all their data is also based on production only and predictions with uncertainty,** which is insufficient for a conclusive diagnosis, it will **always require additional manual inspection to determine the underlying issue.**

Clever's information:



Because, as the per the inverter's data it may look like a production halt (eg. a cloud), the truth is that it's not that you have stopped producing, it's that you have a problem!

More about Us

Find more details and information brochures about us in our website: **www.cleversd.com**
Or contact us at : **info@cleversd.com - +34.644.677.311**