

CASE STUDY

Finding Disconnected Strings

Learn how our customer saved more than €10,000 every year in half a day's work!



Analysis Date
March 2020



Strings
6,683



Recovered Income
€10,000/year



Combiner Boxes
57



Power
12.7MWp



Location
Germany

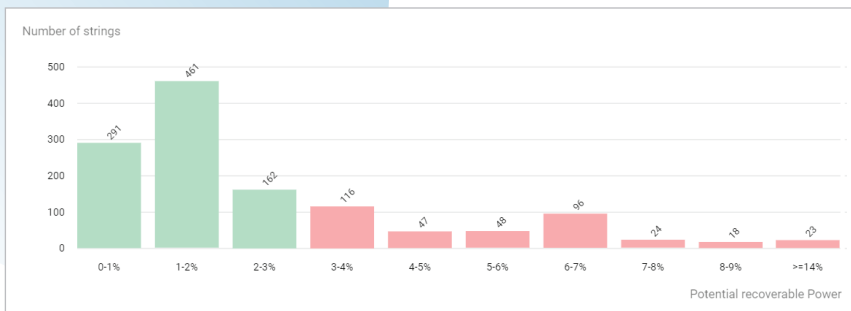
The Challenge

A large (2GWp) European PV plants owner and constructor has asked Raycatch to analyze one of its plants with its DeepSolar™ digital asset management system, and provide it with relevant insights regarding its string performance.

String Analysis

DeepSolar gathered the existing raw data from the plant's monitoring system and analyzed it using its proprietary AI algorithms.

According to the system insights, 11 of the combiner boxes had performance losses that are equivalent to a full string, which indicates they contain disconnected strings. As the plant doesn't have string-level monitoring, its existing monitoring system could not detect these issues.



Raycatch provided the customer with a list of these 11 combiner boxes with their exact location and respective losses.

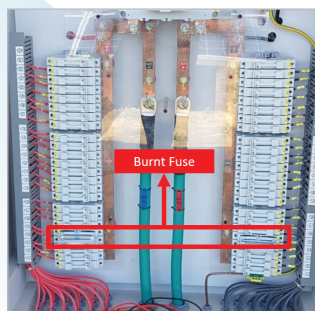
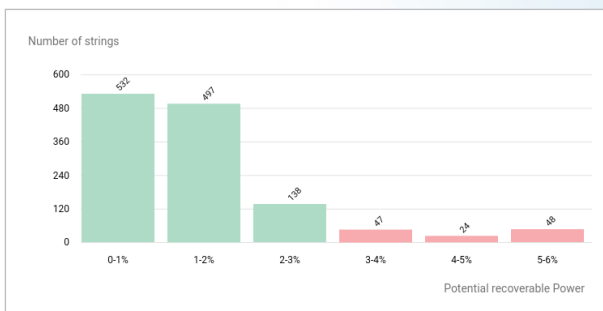
The diagram to the left, taken directly from DeepSolar, shows the strings recoverable energy.

The Results

Raycatch engineers accompanied the O&M team to physically verify the insights accuracy in the plant itself. Not surprisingly, the actual issues in the plant were identical to the issues found by DeepSolar.

The 11 “suspected” combiner boxes contained one burnt fuse each, and each of them represented the loss of full a string’s energy. The O&M team replaced all the fuses, and the whole process took several hours overall.

The diagram below, taken from DeepSolar, shows the recoverable energy of the strings after the repairs.



The total annual extra income recovered was more than €10,000. Not bad for half a day's work!

