

Quick start guide



Login:

The user must enter his/her credentials in order to enter the insolar portal.



*Insolar can be used with all web browsers, but for performance reasons, Google Chrome is the preferred choice. Multimode optical fiber (optional)

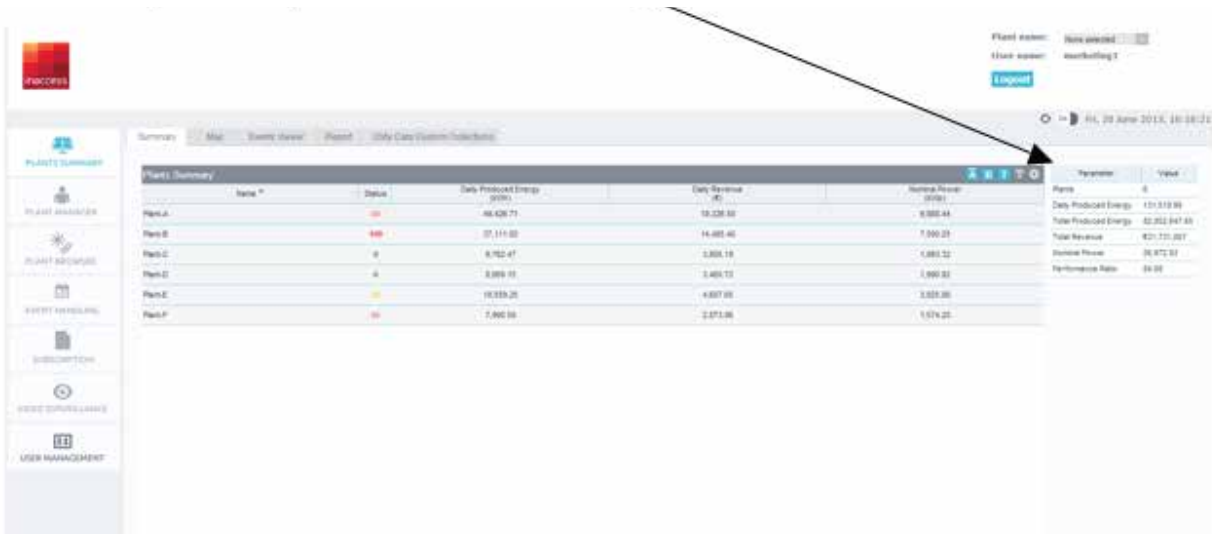
Plants Summary page

• In the summary tab, the user can see the list of all the PV plants which have been made available to his account.



- Current status of PV plants, Daily produced energy, Daily revenue, Nominal power and daily performance ratio are by default visible in the summary tab. Click the "T" button on the upper-right corner of the table to change the display to Total values.
- The status is a number ranging from 0 to 100 expressing the severity of the most critical event currently present at the respective PV plant. A severity equal to zero signifies a normal condition. Higher severities encode more critical situations that require the user's attention.
- The user can double click to select a specific plant or chose the PV plant from the drop-down list at the right top corner
- In the **summary table**, found in the right part of the screen, total numbers for all the PV plants are presented

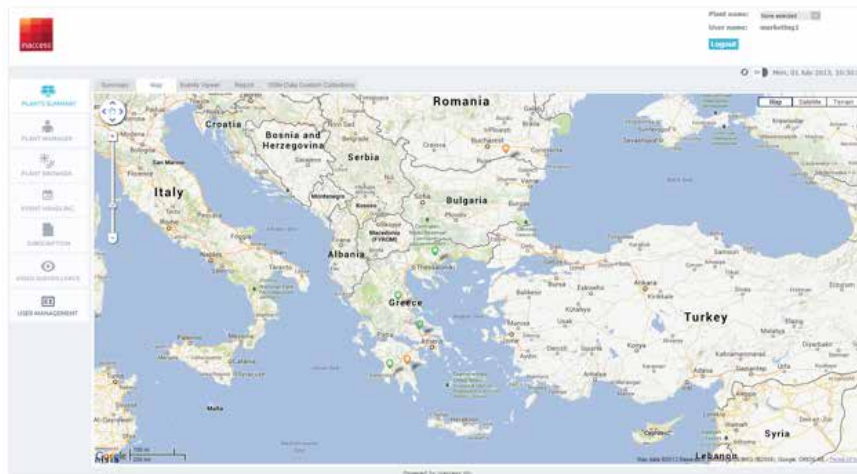
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- By right-clicking anywhere on screen, the user can change between the default and a maximized view of the main screen.



In the **map tab**, the user can see all the PV plants open to his account depicted in a map



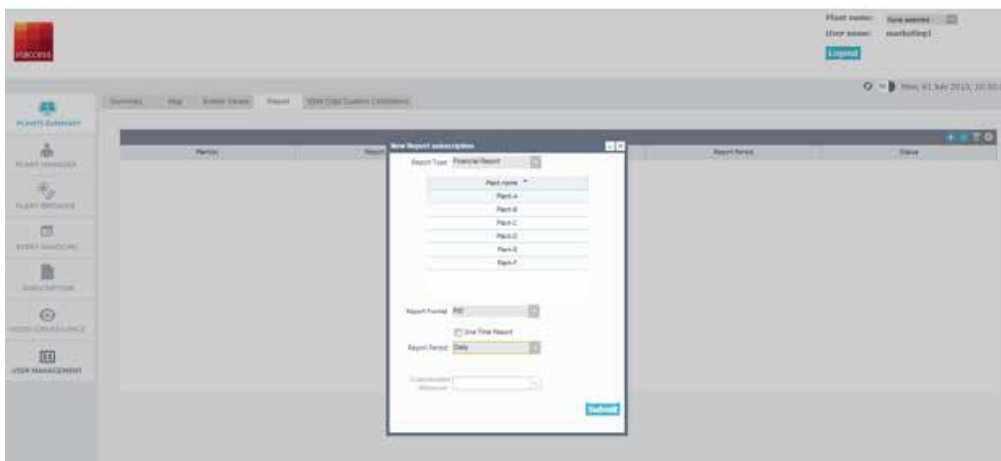
- The color of each plant indicates the highest severity of any current issue of the PV plant
- By clicking on a plant, the most important information considering the specific plant is presented



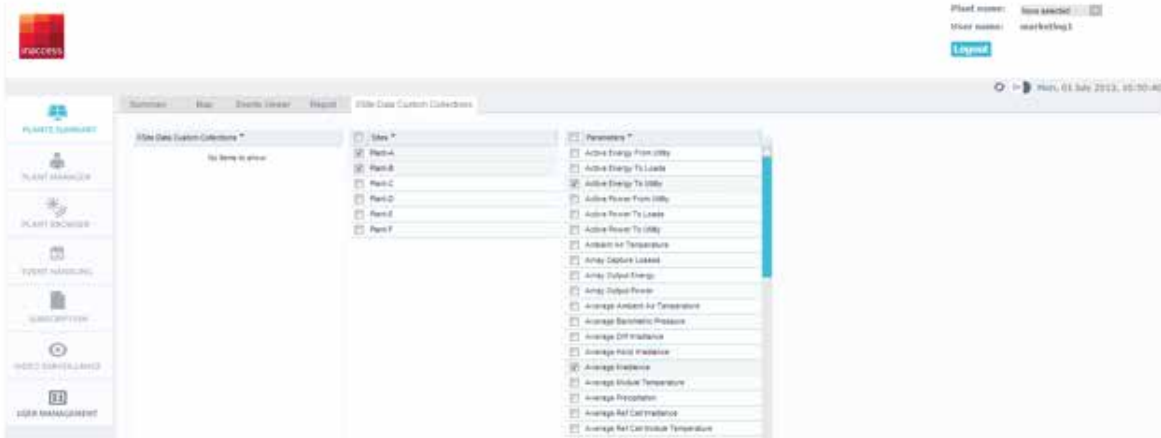
- In the events viewer tab, all active alarms of the PV plants are presented



- Useful information about every alarm as well as the link to the source data describing the problem are shown as different columns of the table.
- The bar with the empty frames on the upper side of the table is a useful filter for each column of elements. Make an entry in any of the cells to filter the column below these characters.
- In the **report tab**, the user can create reports of various information of customizable period of time, in various type of files.



- Simply by clicking on the green “+” button, a new report can be added with the characteristics of the report defined by the user. Accordingly, the user can delete any reports he/she no longer needs by clicking the “-” button.
- In the X-sites Data Custom Collection tab, various parameters of different PV plants can be compared via a CSV export of the requested values. The cross site feature is available for any values common to the selected plants.



- Each choice (Specific parameters for specific PV plants) can be saved in order to be used in future actions or in reports

Plant manager

- Double-clicking on a PV plant on the summary page will open the plant manager. Each of these icons will open a separate tab, which remains available until it is explicitly closed.



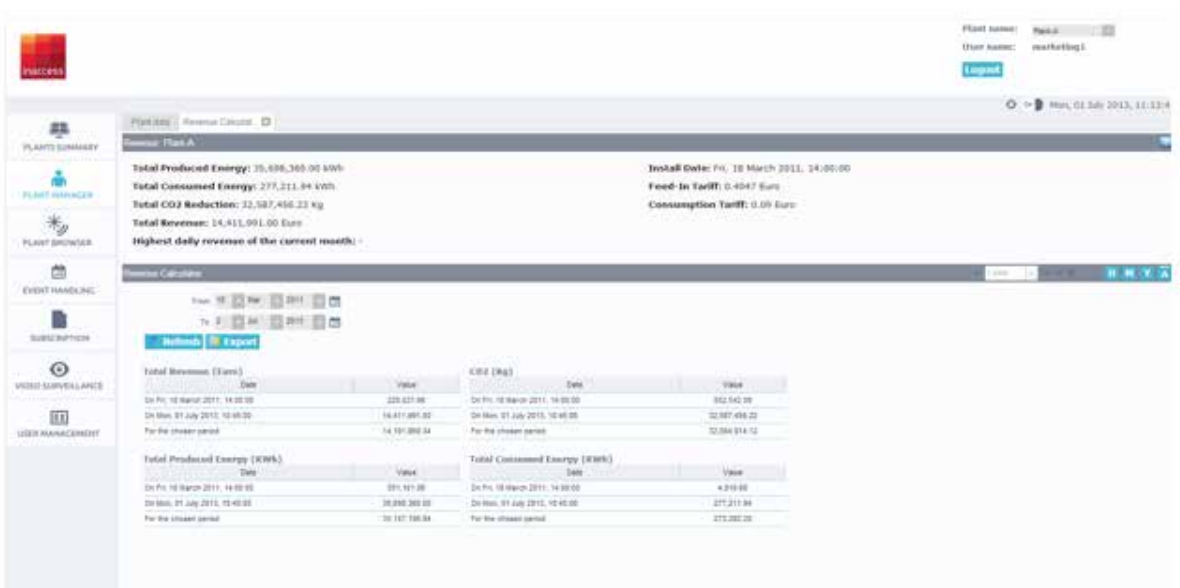
- Clicking on the **general data** icon, the user can have access to general information concerning the PV plant such as longitude, latitude and insolar monitoring start date. "Total" values begin at this time.



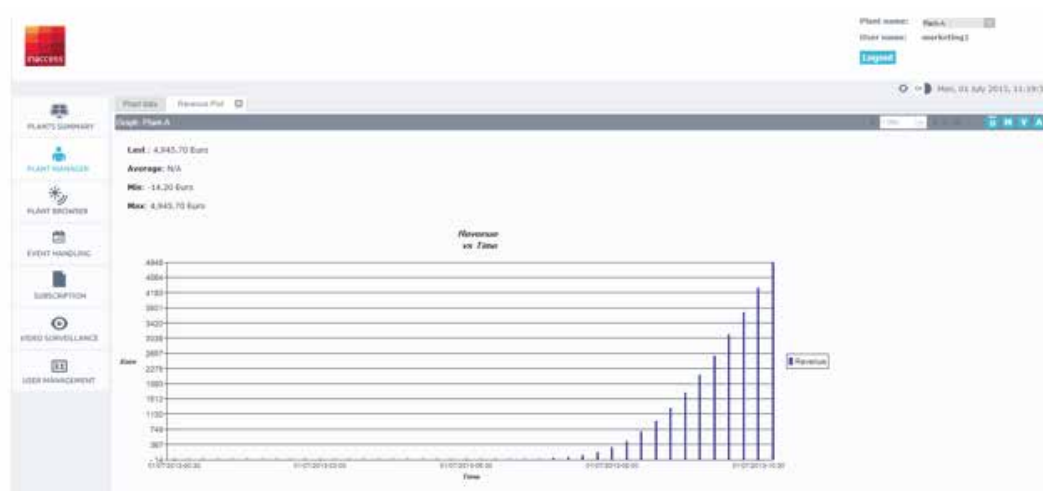
- Clicking on the power flow icon, the basic stages of the energy conversion from solar energy to electrical energy are presented (with the basic intermediate efficiencies – mean array efficiency & inverter efficiency). All values are daily averages of the previous day.



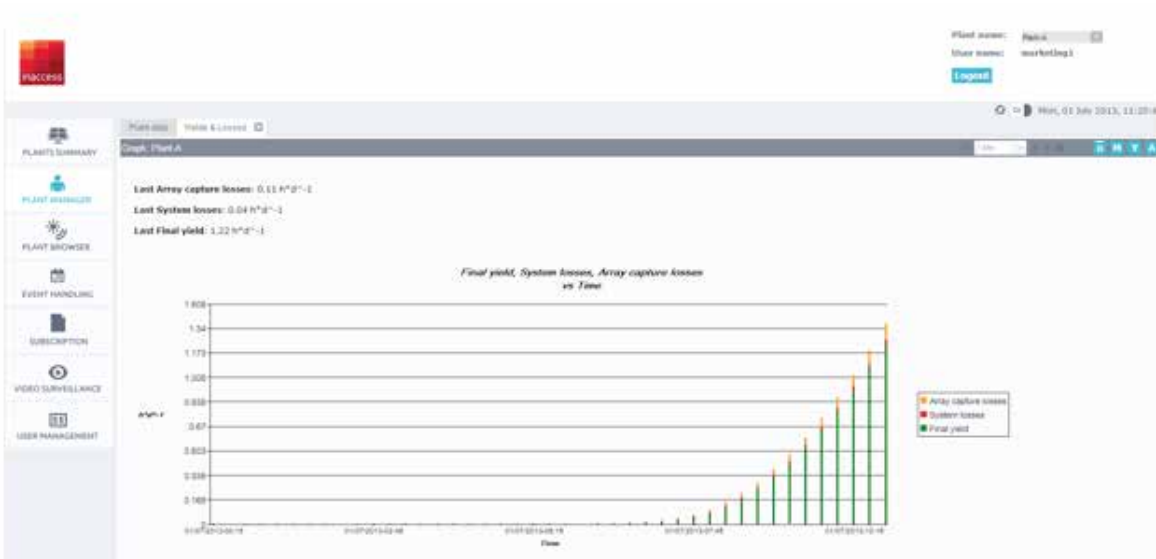
- Clicking on the **revenue** icon, data concerning the financial parameters of the PV plant are presented along with a tool for calculating the revenue of a specific period of time (**revenue calculator**)



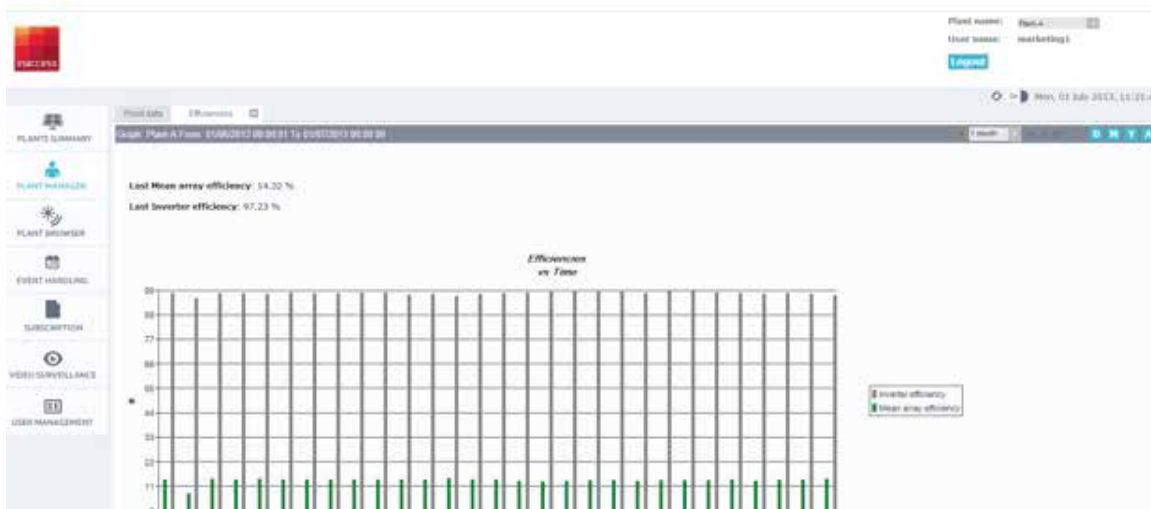
- Clicking on the revenue plot icon, the daily graph of the revenue is shown while the user has the ability to choose the monthly, yearly or PV plant's lifetime graph accordingly by clicking on one of the buttons on the upper-right corner (D, M, Y, A) or specify the period by using the calendar tool. Step back one period with the back arrow, and return with the forward arrow.



- Clicking on the **yields** and losses icon launches the graph showing the array capture losses, the system losses and the final yield. The period covered by this graph can also be specified with the time tools.



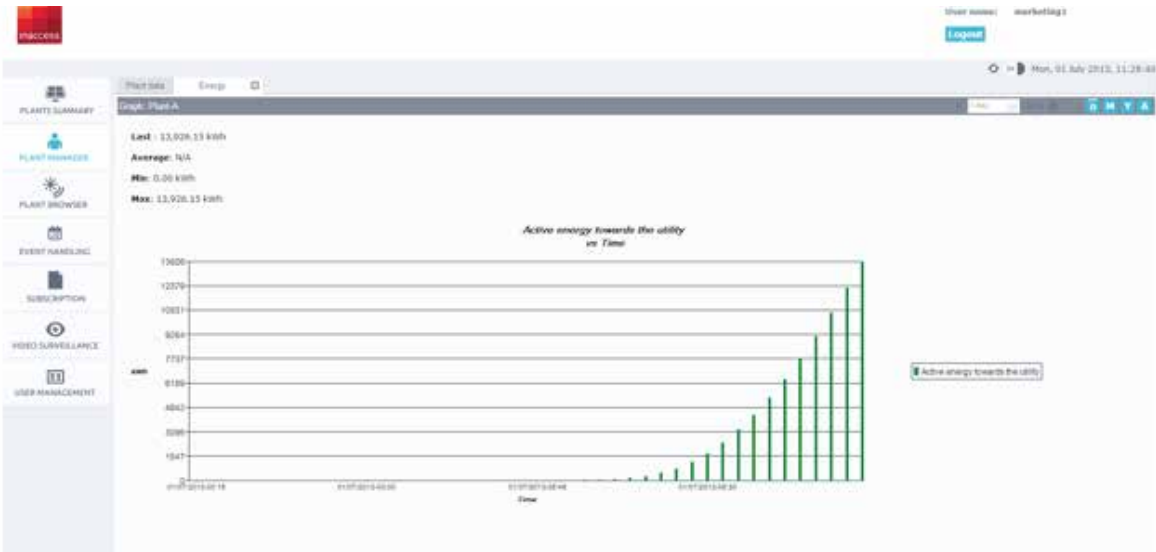
- Clicking on the **efficiencies** icon, Inverters and Mean Array efficiencies are shown



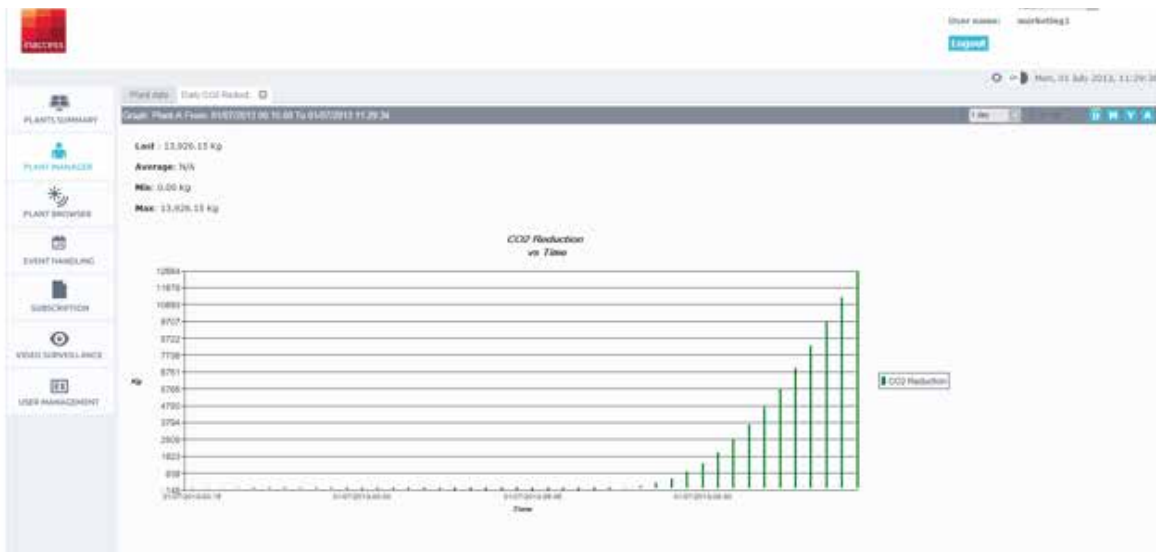
- Clicking on the **performance** icon displays the fluctuation of Performance Ratio over time along with the minimum, maximum, average and last recorded value. The time period controls function here also.



- Clicking on the **energy** icon presents the most typical plant view, showing the active energy towards the grid versus time. Use time tools here too.

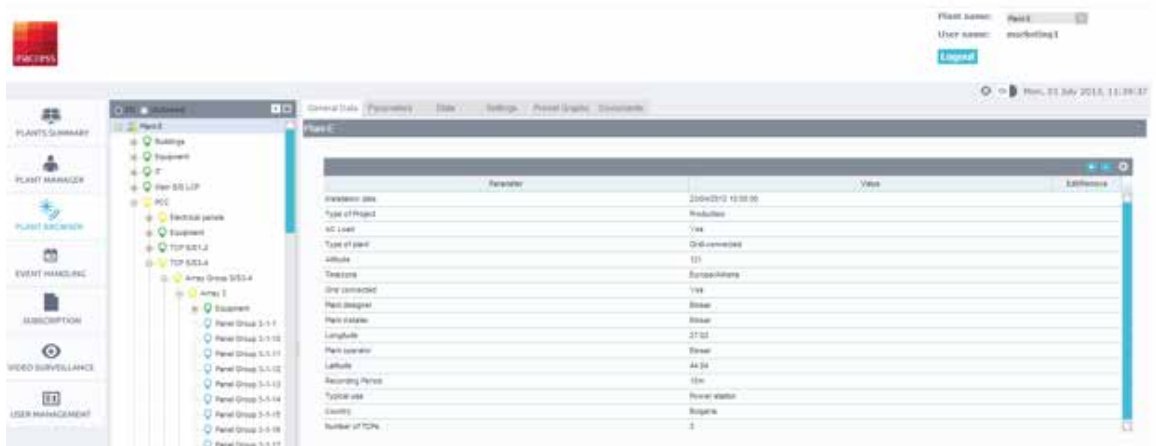


- Clicking on the **CO2 reduction plot icon**, a graph showing the CO2 reduction over time is generated with the time period chosen.

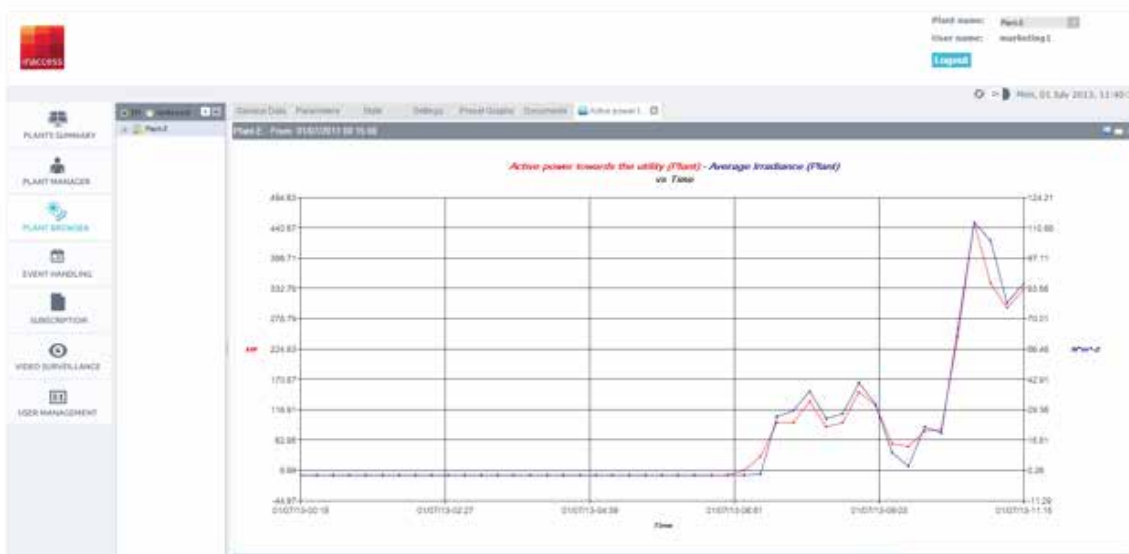


Plant browser

- In the **Plant Browser page**, at the left part of the screen, the PV plant is presented in a hierarchical “Tree” structure. Click on the “+” symbol in order to expand each level.



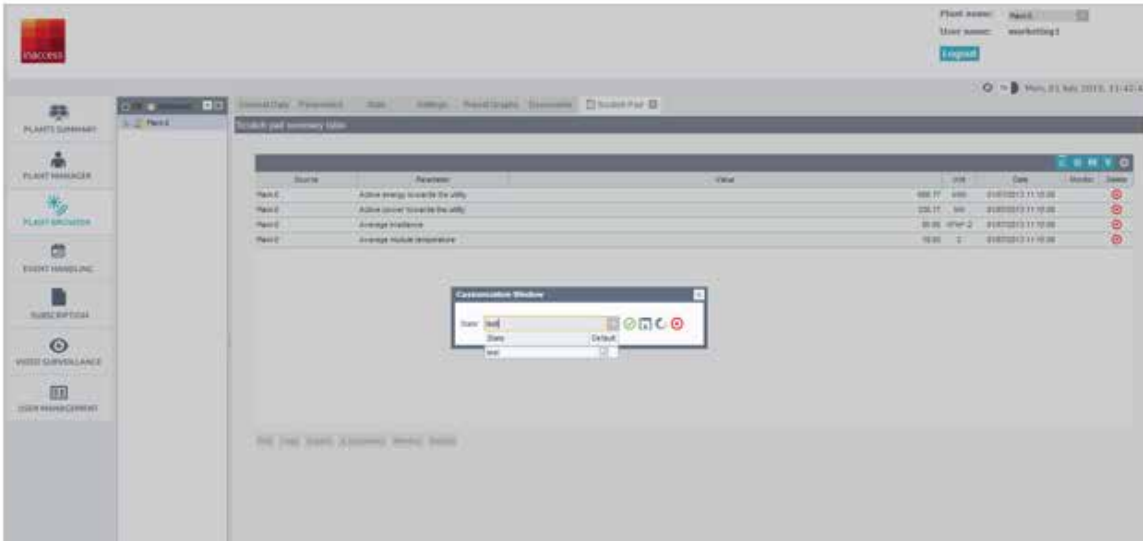
- By clicking on each node of the tree, and choosing the appropriate tab over the central screen, the user has relevant information regarding the components of each “active” level such as **General data, Parameters data, States, Settings, Preset** graphs and stored **Documents**.
- Using the “Filter” feature in the upper-right corner of the table, the user can find a specific parameter or a specific group of parameters by entering particular search criteria.
- The user can produce **Plots, Logs or Export** the data of one or more parameters by selecting them (multiple parameter selection is done with the ctrl key) and clicking on the relevant buttons under the Parameters table. Plots open as tabs in the display and are also available until explicitly closed.
- Multiple plots can be generated by choosing two or more parameters from the **Parameters** tab. Up to sixteen variables may be graphed on a single chart, with any two unit types among them.



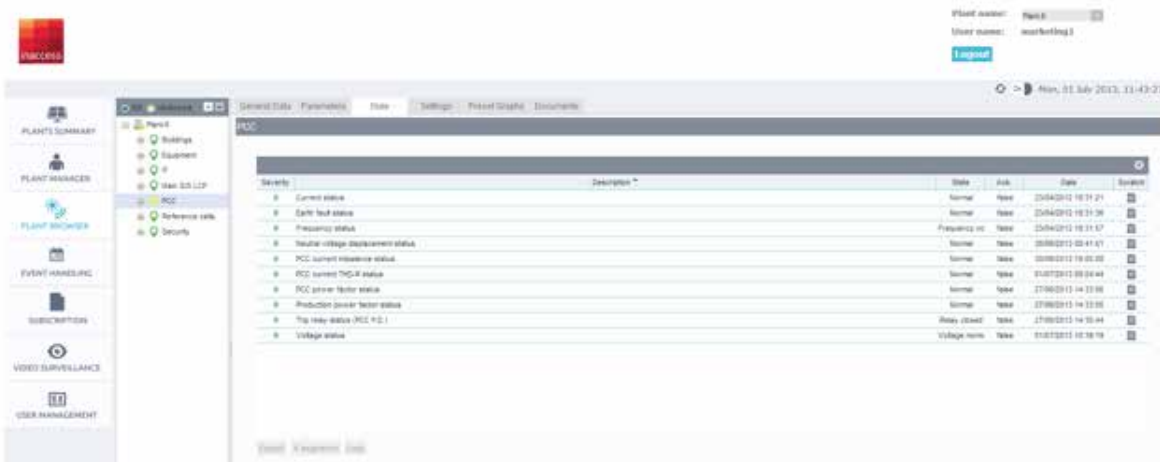
- By clicking the configuration tab in the bottom part of the screen, the user can define the period of the generated plot either by entering specific start and end dates or by using the calendar arrows and the D, M, Y, A buttons in the upper-right corner of the configuration window.
- By adding parameters to a **Scratch Pad** (by clicking the relevant icon in the last column of the Parameters screen), the user can collect multiple parameters belonging to different tree nodes within a given plant for graphing in a single display.

Source	Parameter	Value	Unit	Date	Status	Delete
Plant 0	Active energy towards the utility	486.77	kWh	2013-11-16 00:00	✓	✖
Plant 0	Active power towards the utility	339.17	kW	2013-11-16 00:00	✓	✖
Plant 0	Average Irradiance	85.86	kWh/m²	2013-11-16 00:00	✓	✖
Plant 0	Average node temperature	19.81	°C	2013-11-16 00:00	✓	✖

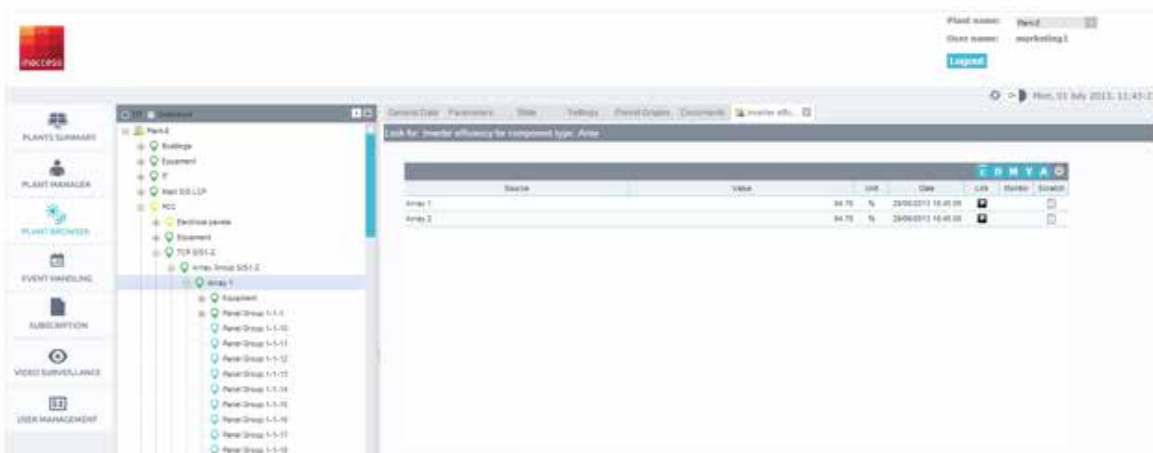
- Scratch pads can be saved for future use and creating reports. When the Scratch Pad tab is added, the user can save the specific scratch pad by clicking on the Configuration button, setting a name and clicking save. With the configuration button, the user has the ability to load saved scratch pads or delete the ones he/she doesn't need anymore.



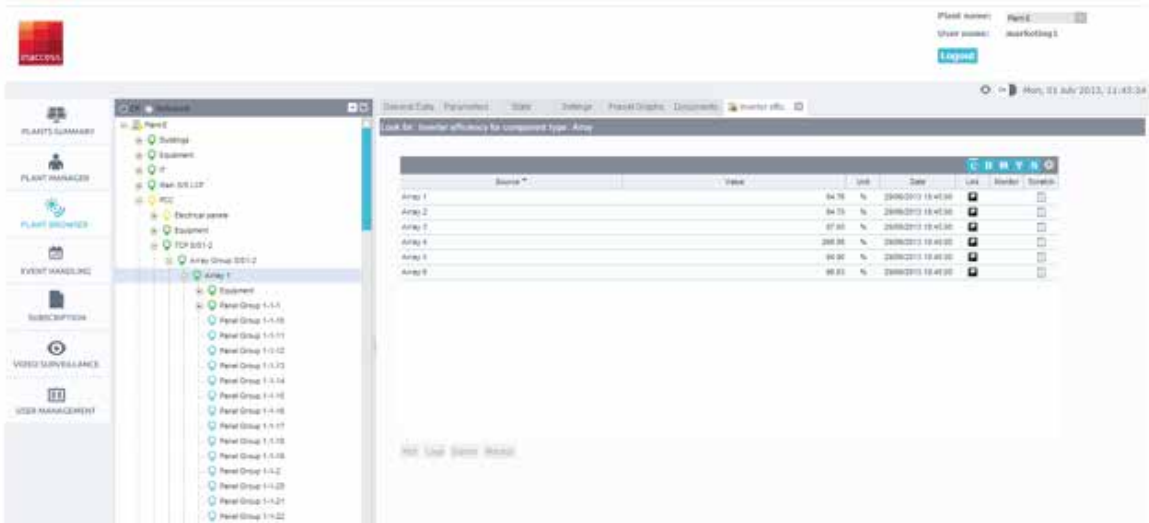
- The state-sets available for each tree node are presented in the **Status** tab with the following columns: **Field** (which contains the name of each state-set), **State** (which contains the current state for each state-set), **Severity** (which contains the severity related to the current state for each state-set), **Acknowledgement status** (which indicates if it has been acknowledged (true) or not (false) and **Date**, which contains the timestamp of the current state.



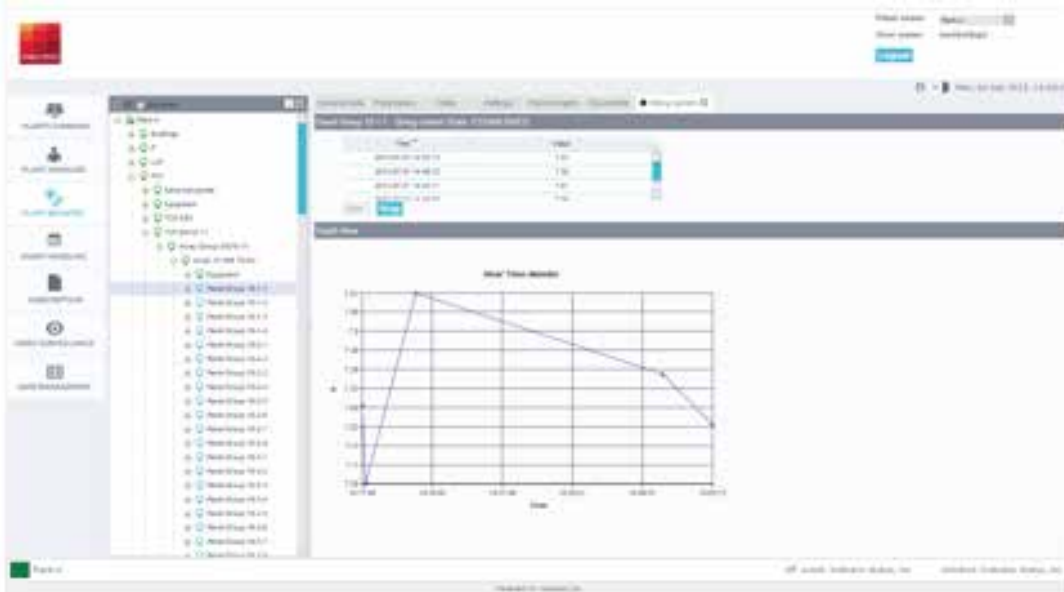
- By clicking the **X segments** button, the user can compare the values of the selected parameter for all parts of the PV plant where this parameter is monitored



- Once the x-segment is created, the user may click on the “A” button in the top right hand corner of the value table to access the values of the same selected parameter across all similar nodes in the plant and not just those with the same predecessor.

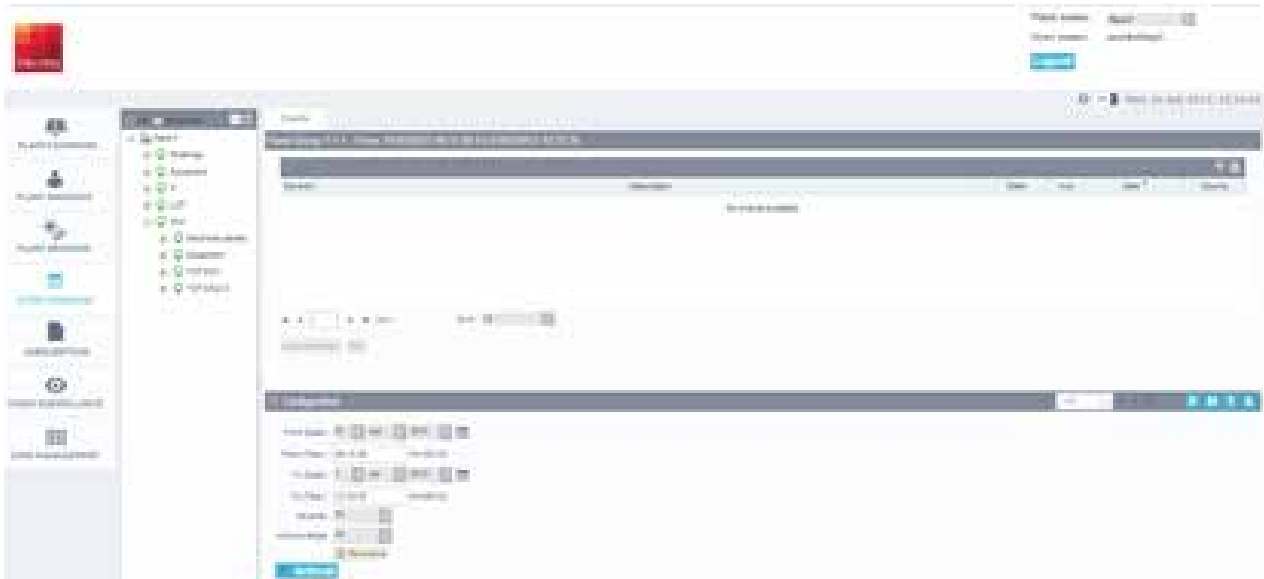


- By clicking on the header of each column, the user can sort the names or values in ascending or descending order.
- The letters **C, D, M and Y** on the upper-right corner of the screen, are useful in order for the user to see the current, last day's, last month's and last year's values.
- By clicking the **Monitor** button (wherever it is applicable), the user can watch real-time values as they are sampled by the controller in the field.



Event handling

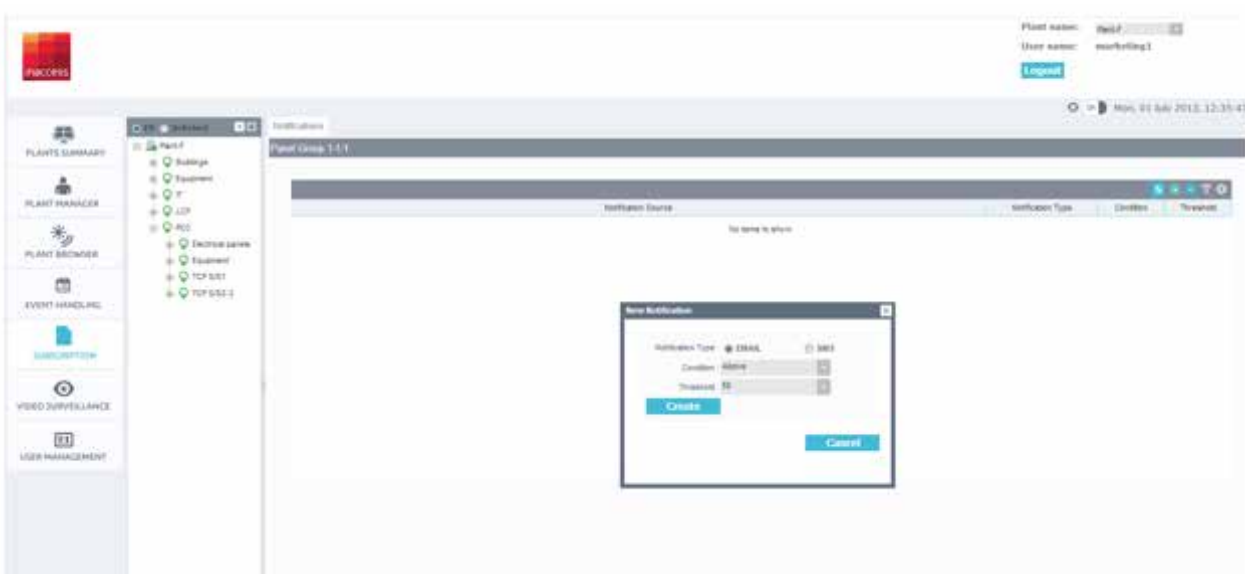
- In the **Event Handling page** active and historical events are presented.
- With the use of **configuration tool**, the user can specify the period of time, the severity level and the acknowledgment status of the events he/she wants to display.



- Ticking the recursive button enables the display of all events of the specific period that are relevant to the nodes of the PV plant tree of all levels below the selected one.
- For the specification of the time period there are also the tools existing in other pages, that is either the calendar or the buttons D, M, Y and A standing for daily, monthly, yearly and lifetime periods.

Subscription

- In the **Subscription page**, the user can create notifications for any alarm that may occur at any level of the PV plant (chosen from the tree node on the left of the screen).



- The user must click on the “+” symbol to create a new notification (or delete an old notification with the “-” button). Then, he/she must choose if the notification should be sent by e-mail or SMS and the severity level. The severity level indicates that when a status changes above or below the specified number, a notification will be sent.
- For example, if the user wants to receive only severe alarms, he/she could enter a value **above 80 (at the plant level since the events propagate up to the upper level)**. In this way, whenever the status of a component that is functioning normally (severity “0”) or is in a state with severity lower than 80 passes to a severity of 80 or higher, a notification is sent immediately.
- Notifications are sent only when the state change lasts longer than 10 minutes.

User's management

- In the User's management, the user can fill-in his/her log-in credentials and contact details that are used from insolar platform for reports, notifications and alarms
- Users with administrative privileges may configure which accounts have access to which PV plants.

