

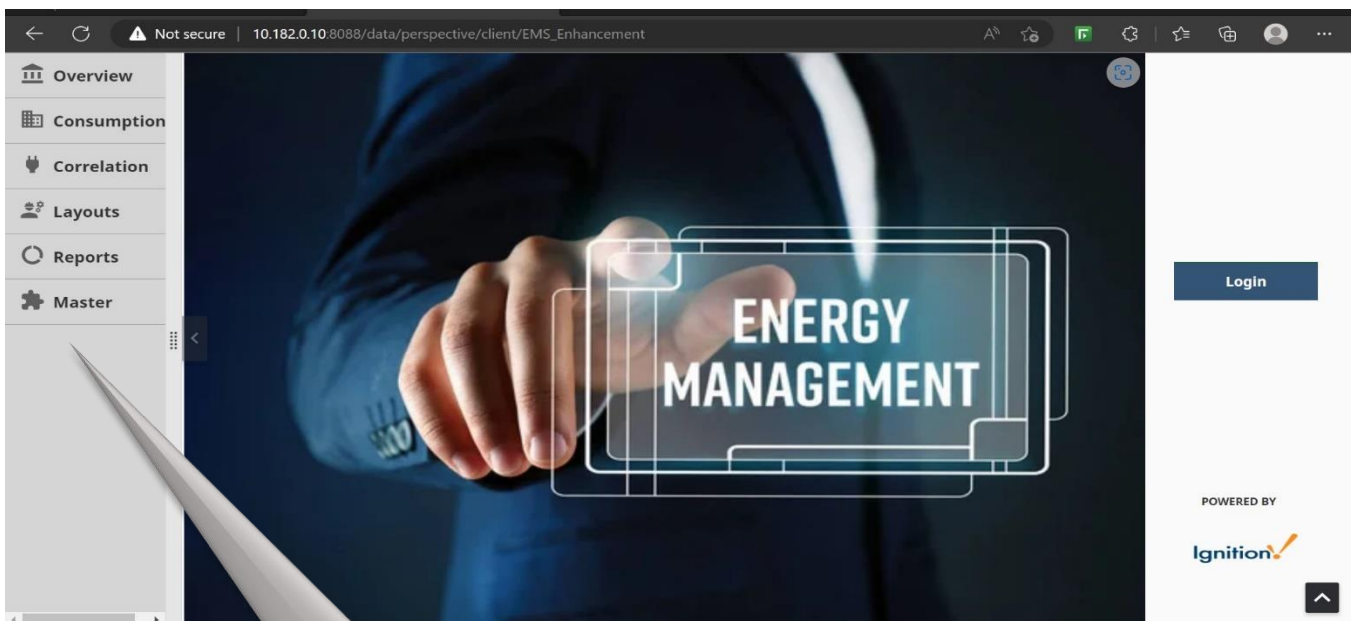
ENERGY MANAGEMENT SYSTEM

1.Login Page:



By clicking Login Button, It will Navigate to Overview Page

2.Menu:

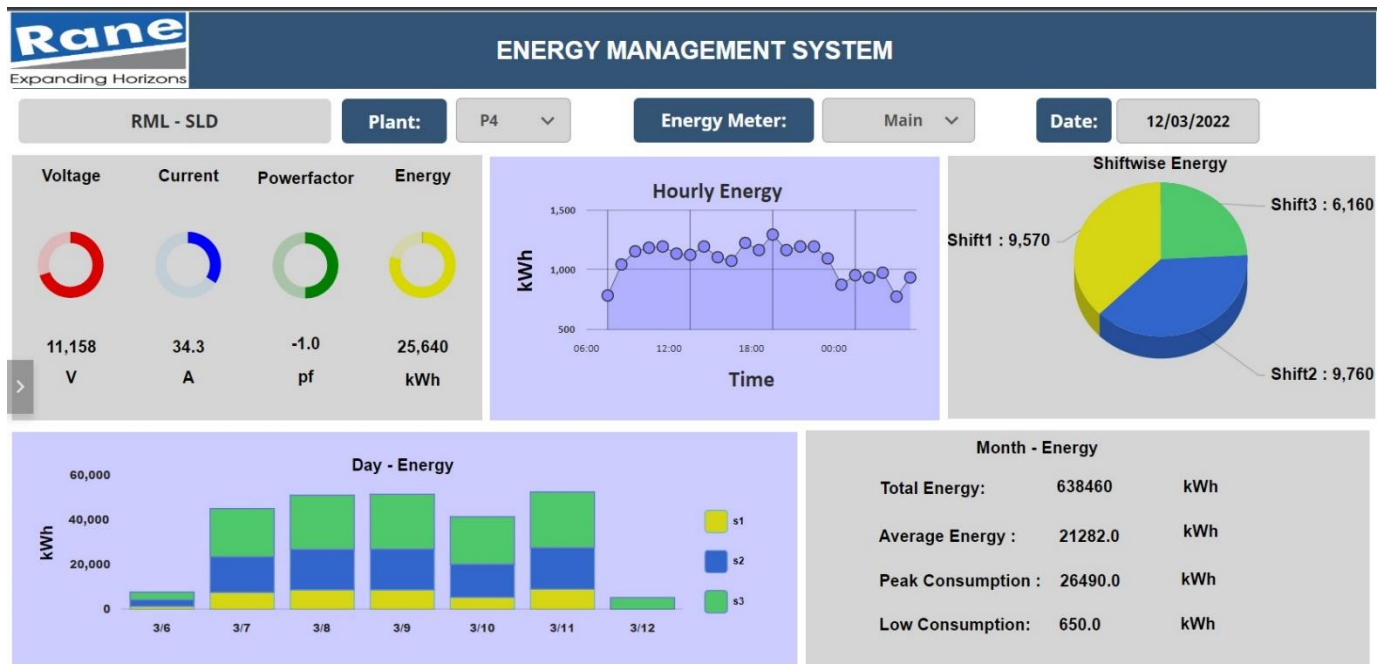


This Menu will show the list of Different Pages

ENERGY MANAGEMENT SYSTEM

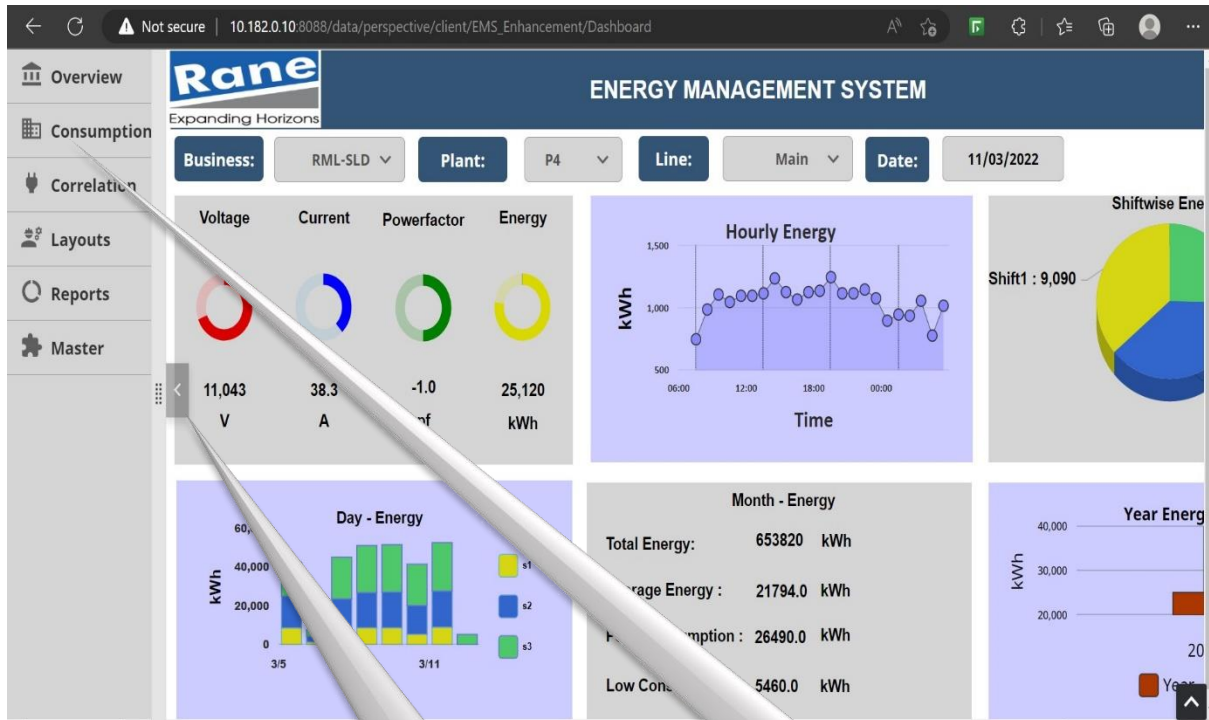
Page – 1 Overview

http://10.182.0.10:8088/data/perspective/client/EMS_Enhancement/Dashboard



1. In Overview Page we need to select the Business, Plant, Line and Machine to see the Energy consumption of the Device for the chosen Date.
2. It will show the live values of Current, Voltage, Power factor and Energy of the selected Device
3. Along with that we can able to see:
 - ✓ Hourly Energy consumption in XY trends(X- time, Y-kWh)
 - ✓ Shift wise Energy consumption in PIE Chart(shift1,2,3)
 - ✓ Day wise Energy consumption in Bar chart (X-day, Y- kWh)
 - ✓ Monthly Energy Consumption(Total Energy , Average Energy, Peak Consumption, Low Consumption)

ENERGY MANAGEMENT SYSTEM



Click the Arrow to
show the list of
pages

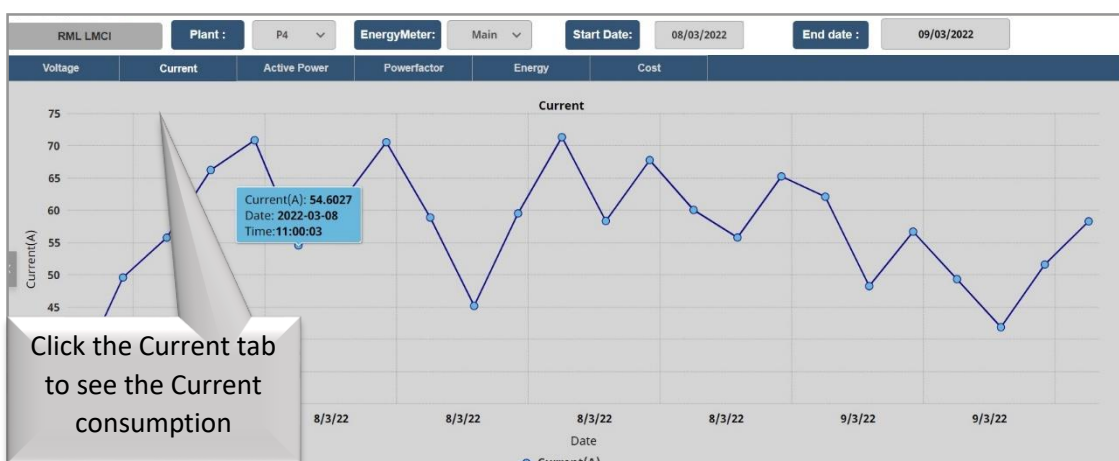
Click the
Consumption icon to
view the graphical
representation of
Energy Parameters

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Page – 2 Consumption



The graph shows the **VOLTAGE** Consumption of a selected Line/Machine between the chosen Dates(start date and End Date) [X - Date, Y - Volatge]

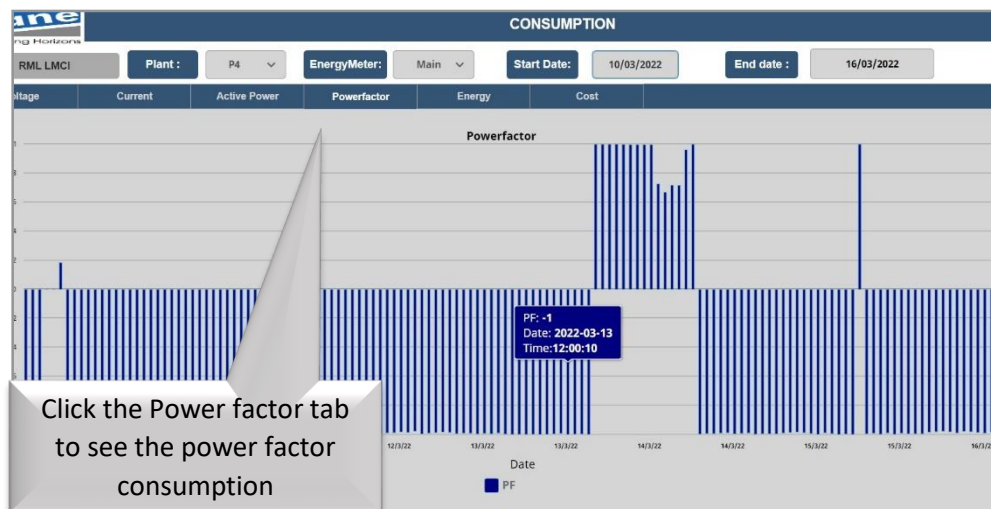


The graph shows the **CURRENT** Consumption of a selected Line/Machine between the chosen Dates(start date and End Date) [X - Date, Y - Current]



The graph shows the **ActivePower** Consumption of a selected Line/Machine between the chosen Dates(start date and End Date) [X - Date, Y - ActivePower(VA)]

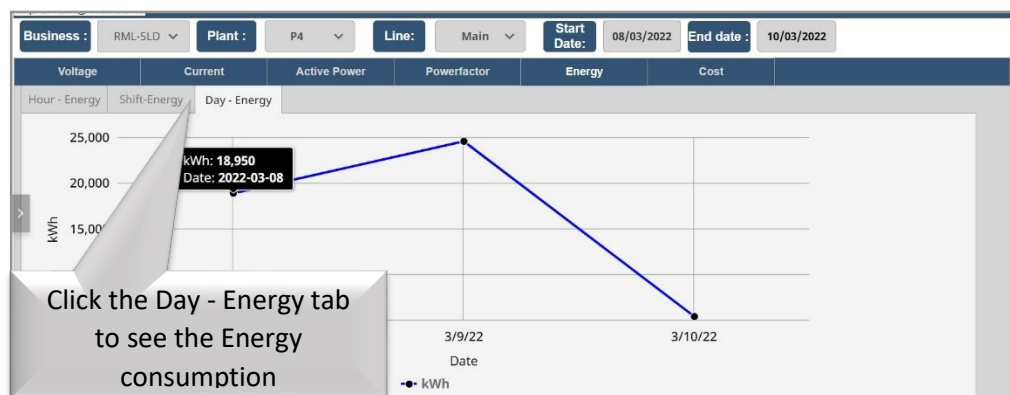
ENERGY MANAGEMENT SYSTEM



The graph shows the **Powerfactor** value of a selected Line/Machine between the chosen Dates(start date and End Date) [X - Date, Y - Powerfactor (pf)]

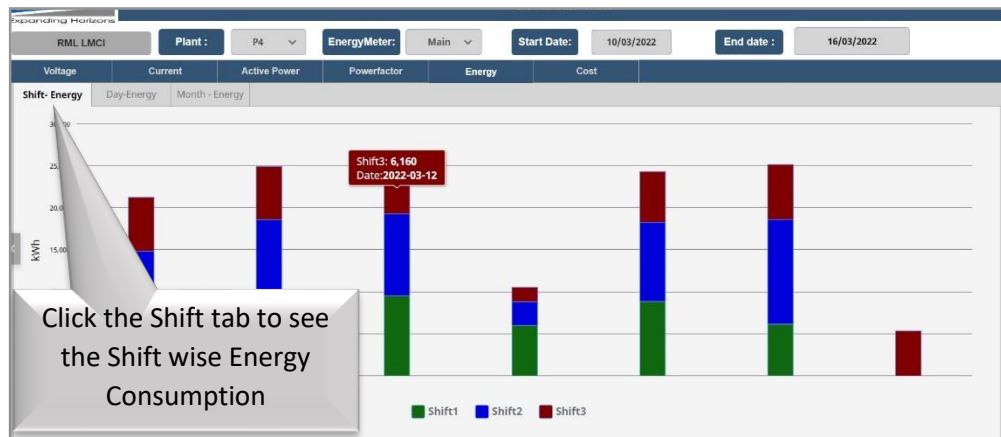


The graph shows the **Cost** of a selected Line/Machine between the chosen Dates w.r.t its predefined slab rates [X - Date, Y - Cost]

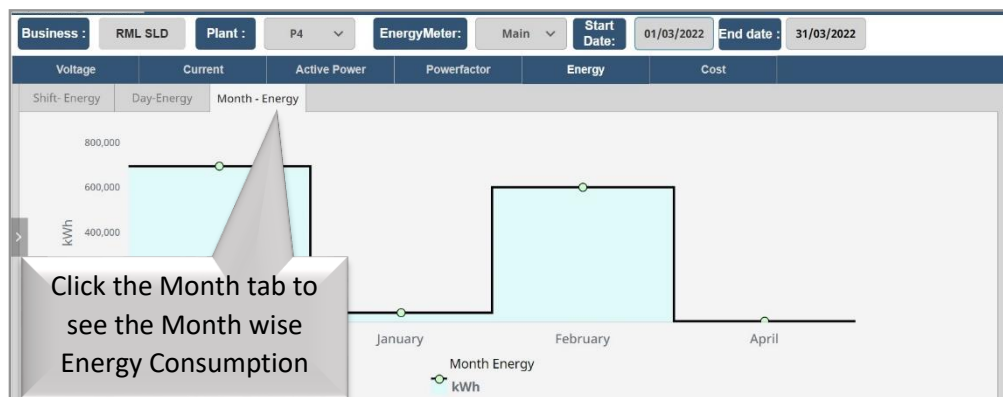


The graph shows the Day **Energy Consumption** of a selected Line/Machine between the chosen Dates(start [X - Date, Y - Energy]

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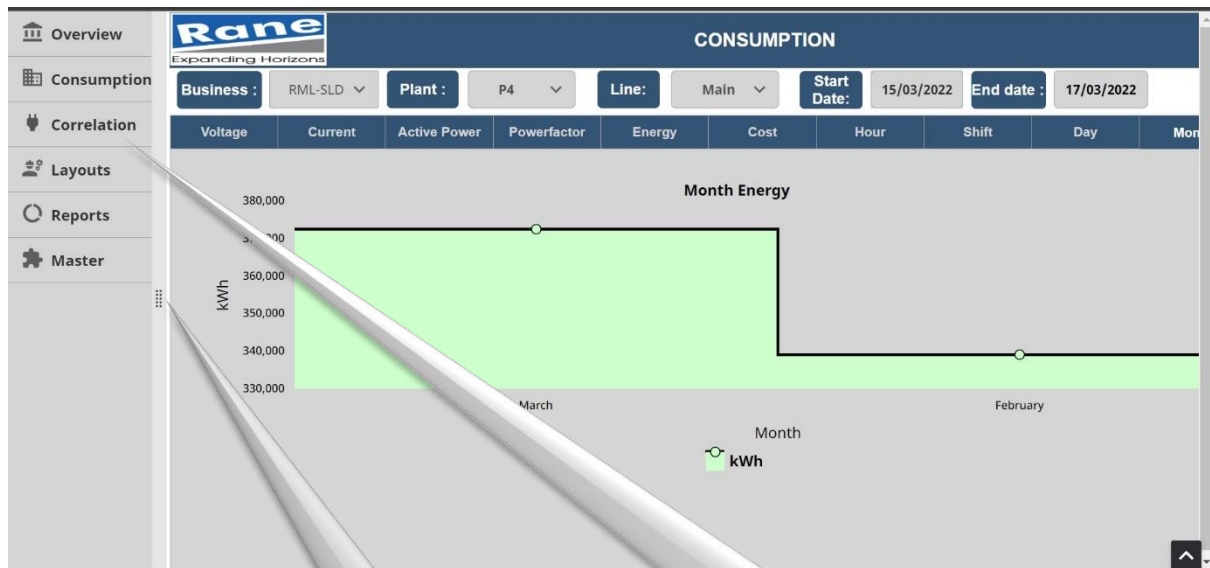


The graph shows the **SHIFTWISE ENERGY(Shift1,Shift2,Shift3)** Consumption of a selected Line/Machine between the chosen Dates(start date and End Date) [X - Date, Y - kWh]



The graph shows the Energy Consumption for the selected Line/Machine (start date(Month) and End Date(Month)) [X - Month, Y - kWh]

ENERGY MANAGEMENT SYSTEM

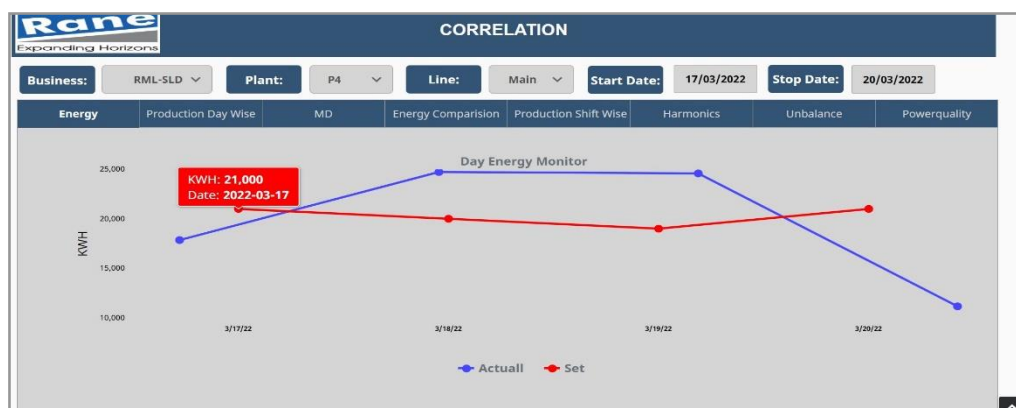


Click the Arrow to show the list of pages

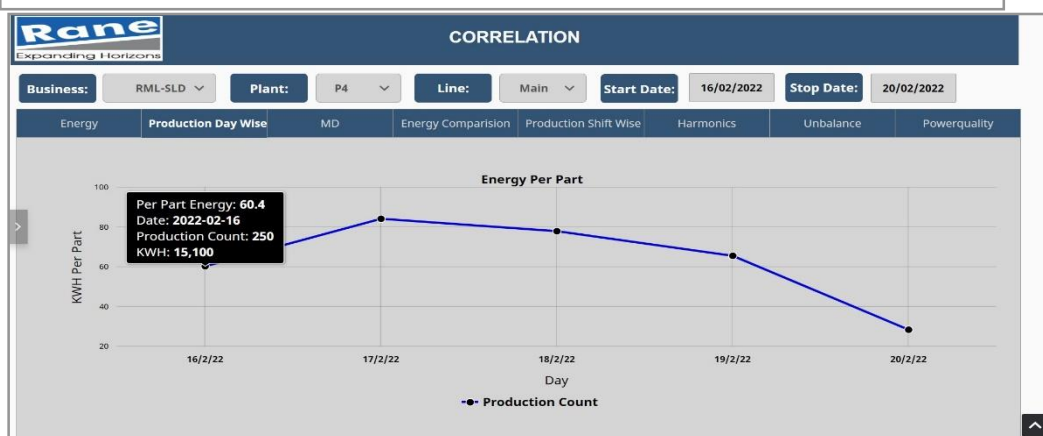
Click the Correlation icon to view the consumption correlation between Different Energy Meters

ENERGY MANAGEMENT SYSTEM

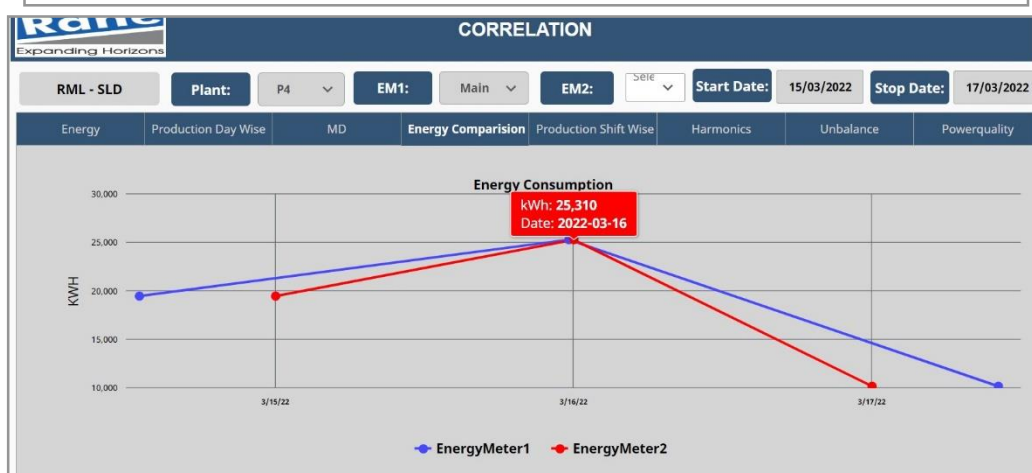
Page-3 Correlation



The graph shows the **Energy correlation** between Actual consumption with Predefined Energy limits to predict overall consumption [x- Date, Y - kWh, Bullets red - Preset Energy, Blue - Actual Consumption]

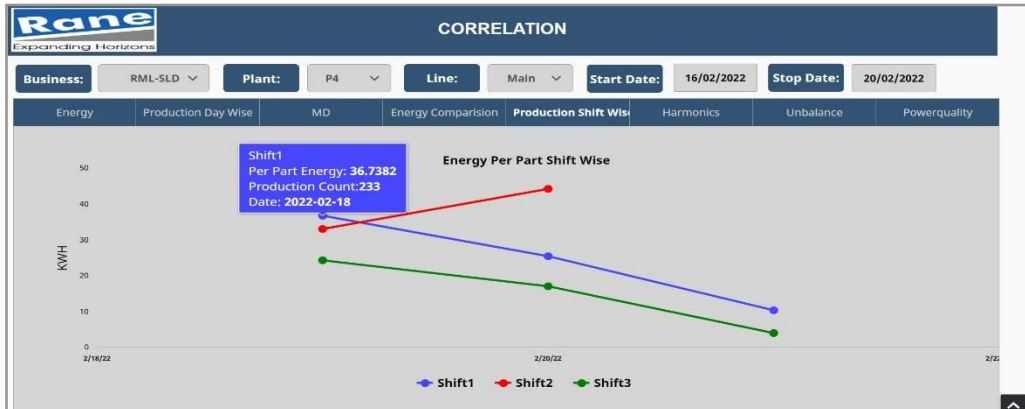


The graph shows the Energy consumption to produce per Part with respect to the Predefined Production Count [X - Date, Y - kWh Per Part] **Per Part Energy = kWh/Production Count**

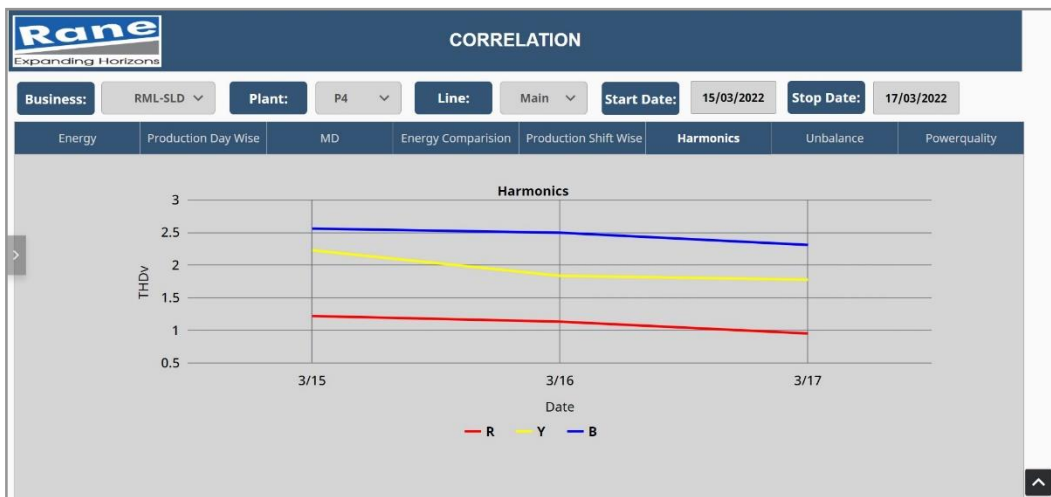


The graph shows **Comparison of Energy consumption** between 2 Energy Meters [X - Date, Y - kWh]

ENERGY MANAGEMENT SYSTEM



The graph shows the **Energy consumption to produce per Part Energy** with respect to the Predefined Production Count for each shift in a Day [X - Date, Y - kWh Per Part] **Per Part Energy = kWh/Production Count**

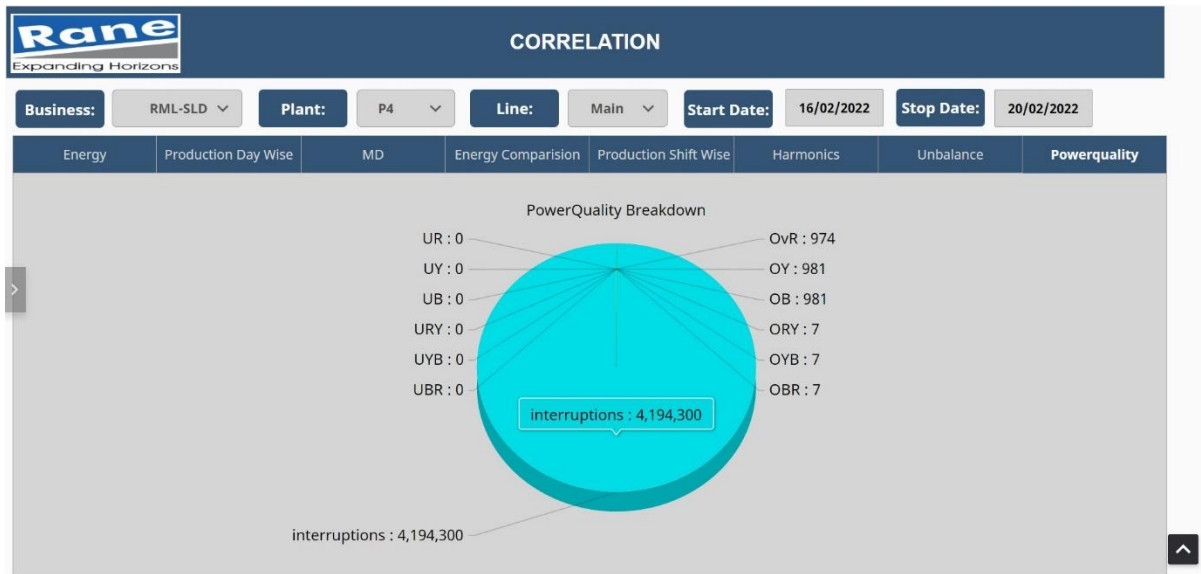


The Graph represent the Voltage **Harmonics** for R,Y,B Phase with respect to the Threshold Voltage [X - Date, Y - THDv]



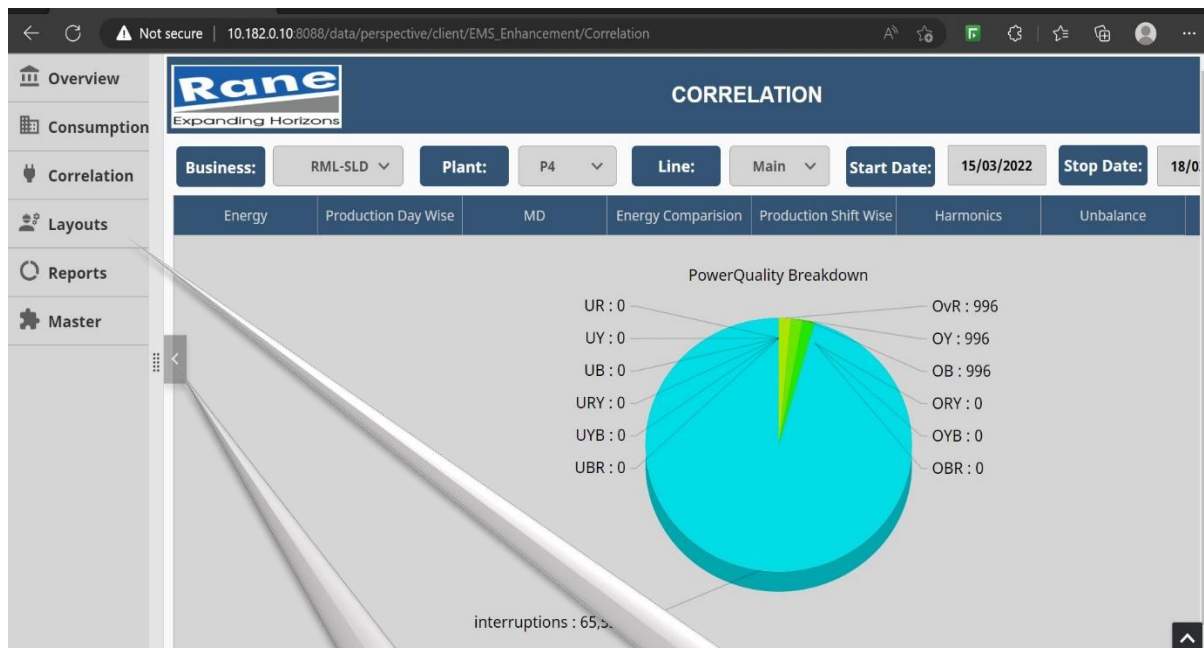
The graph represents the inequality in R,Y,B 3 Phase Voltages as **Voltage Unbalance**[X - Date, Y - Unbalance]

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Pie Chart Represents **Power Quality Events Breakdown**

[Over voltage(R,Y,B),(RY,YB,BR) , Under voltage(R,Y,B)(RY,YB,BR), Interruptions]

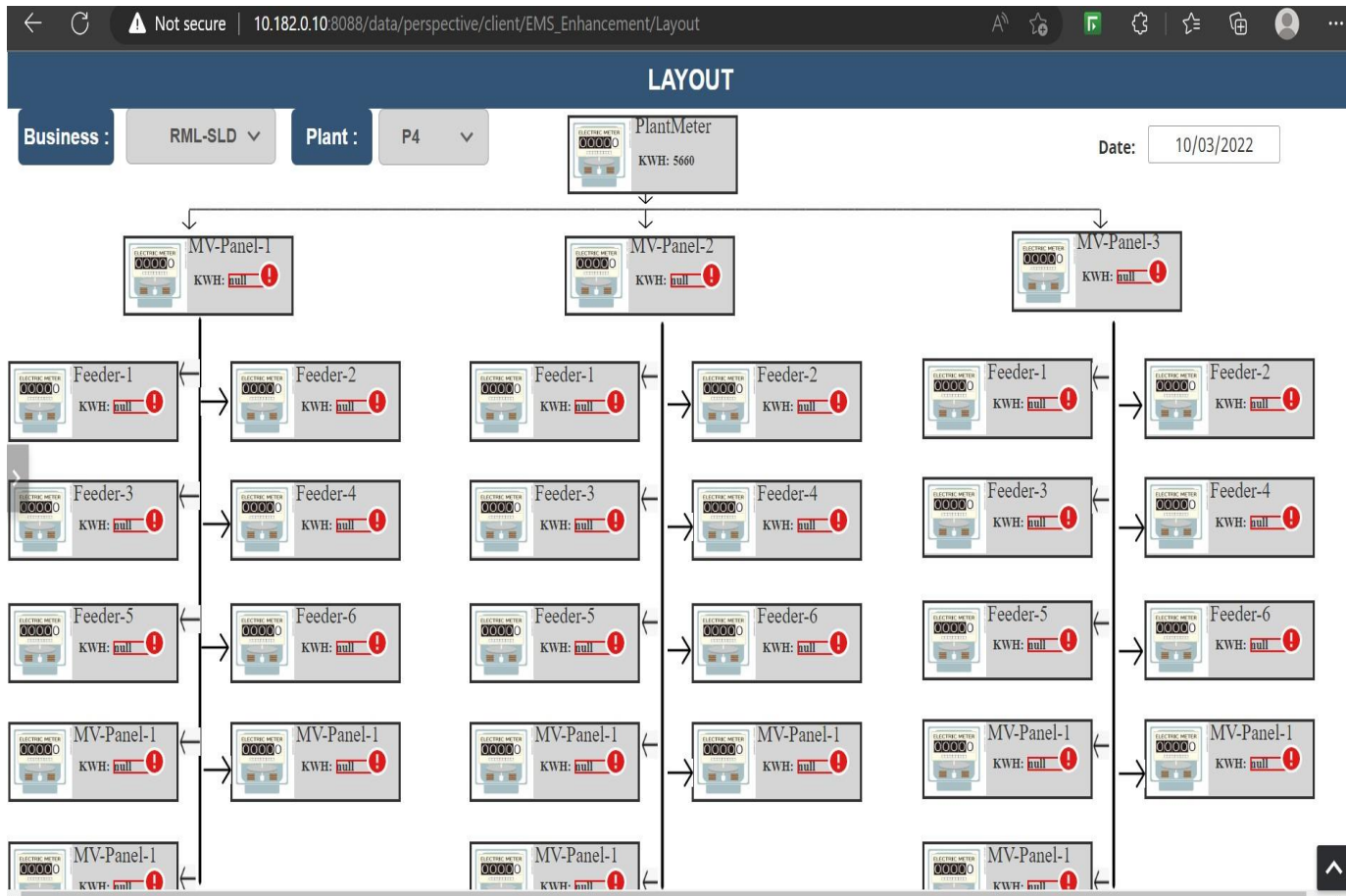


Click the Arrow to show the list of pages

Click the Layouts icon to view the EnergyMeter Connection layout

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Page-4 Layouts



1. **Layout** shows the list of **Energy Meters** connected in the plant
2. Each **block** will display the **Consumption value in kWh** of the respective Energy Meter

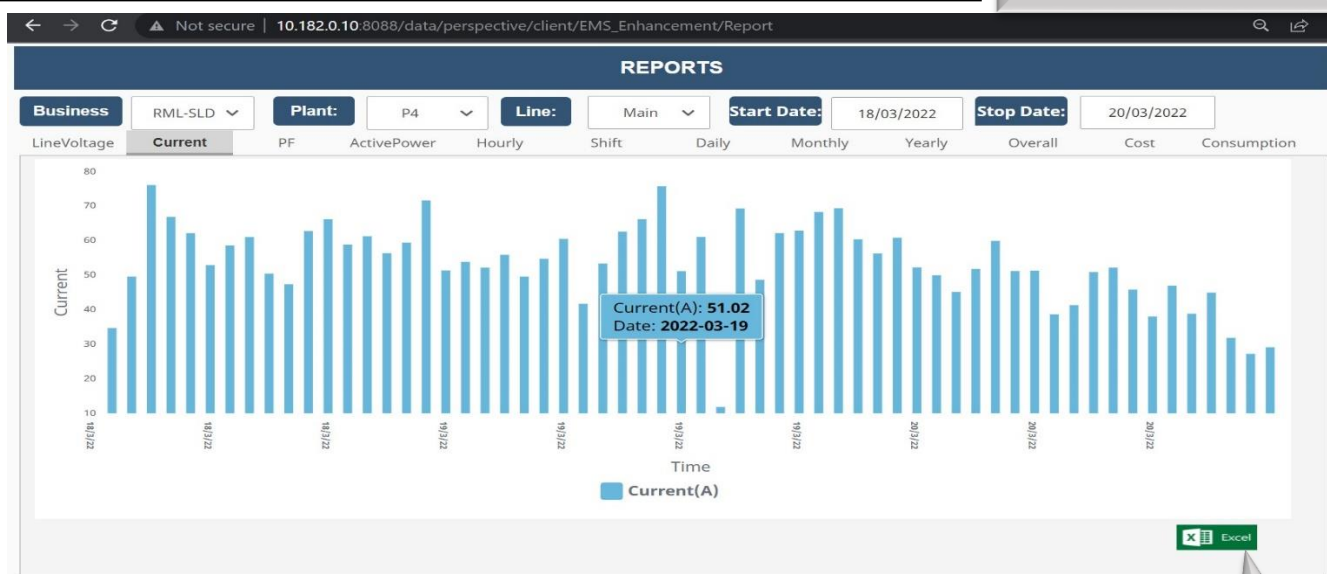
ENERGY MANAGEMENT SYSTEM

Page-5 Reports



1. The graph shows the Voltage consumption of a selected Energy meter [X axis – Date, Y – Voltages (V)].
2. On clicking the Excel button we can able to download the Report of Voltage Consumption of a device between any 2 selected dates.

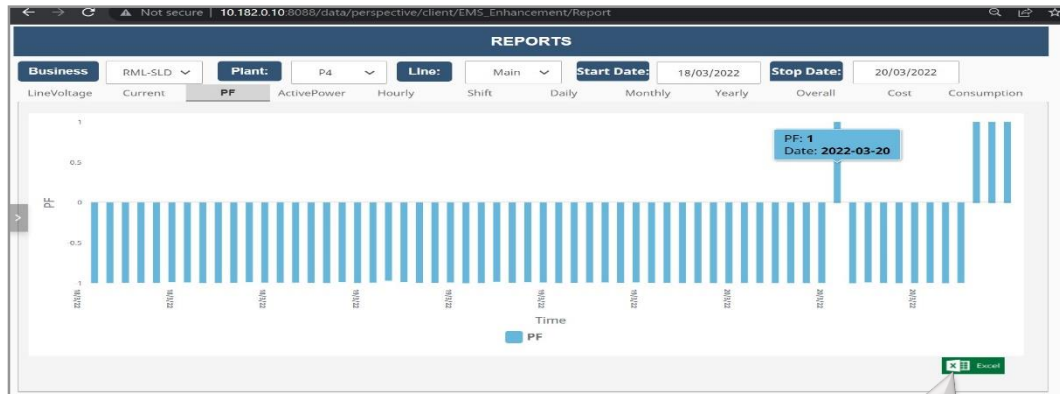
Click the Excel Button to download the Reports of Voltage consumption



1. The graph shows the Current consumption of a selected Energy meter [X axis – Date, Y – Current (A)].
2. On clicking the Excel Button we can able to download the Report of Current Consumption of a device between any 2 chosen Dates.

Click the Excel Button to download the Reports of Current Consumption

ENERGY MANAGEMENT SYSTEM



1. The bar chart shows Powerfactor consumption of the selected Energy Meter[X axis - Date, Y axis - powerfactor]
2. On clicking the excel we can able to download the reports of powerfactor consumption of an EM between any 2 chosen dates

Click the Excel Button to download the Reports of Pf Consumption



1. The graph shows Active Power consumption of the selected Energy Meter[X axis - Date, Y axis - Active Power(VA)]
2. On clicking the excel we can able to download the reports of ActivePower consumption of an EM between any 2 chosen dates

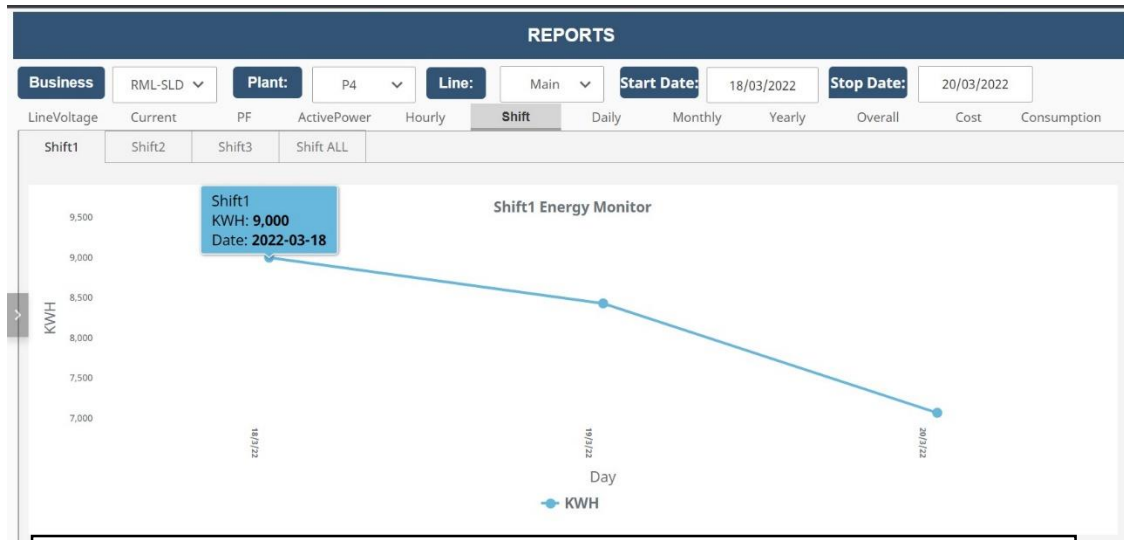
Click the Excel Button to download the Reports of Activepower Consumption



1. Heat map shows the hourly energy consumption Y - hour, X - kWh split
2. On clicking the excel we can able to download the reports of ActivePower consumption of an EM between any 2 chosen dates

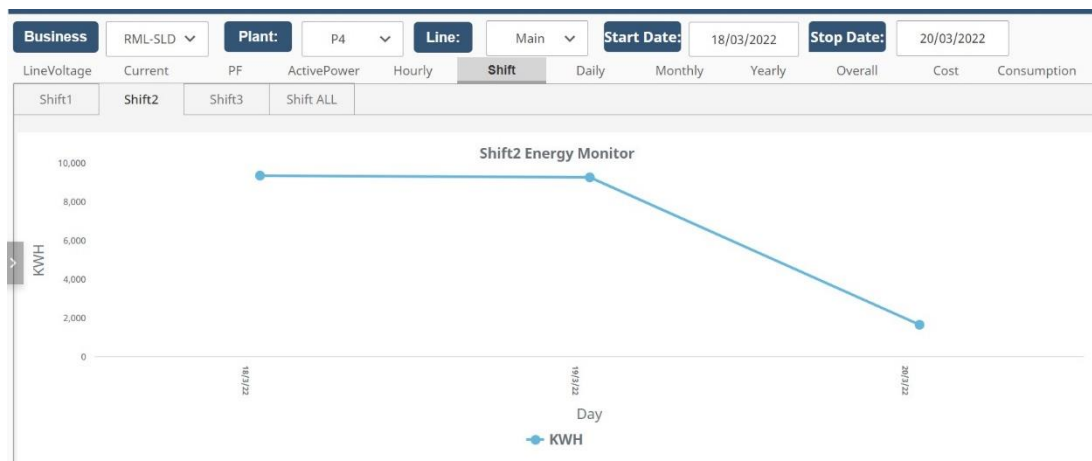
Click the Excel Button to download the Reports of Hourly Consumption

ENERGY MANAGEMENT SYSTEM



1.The line graph shows the Shiftwise Energy consumption[X axis - date,Y axis - kWh]

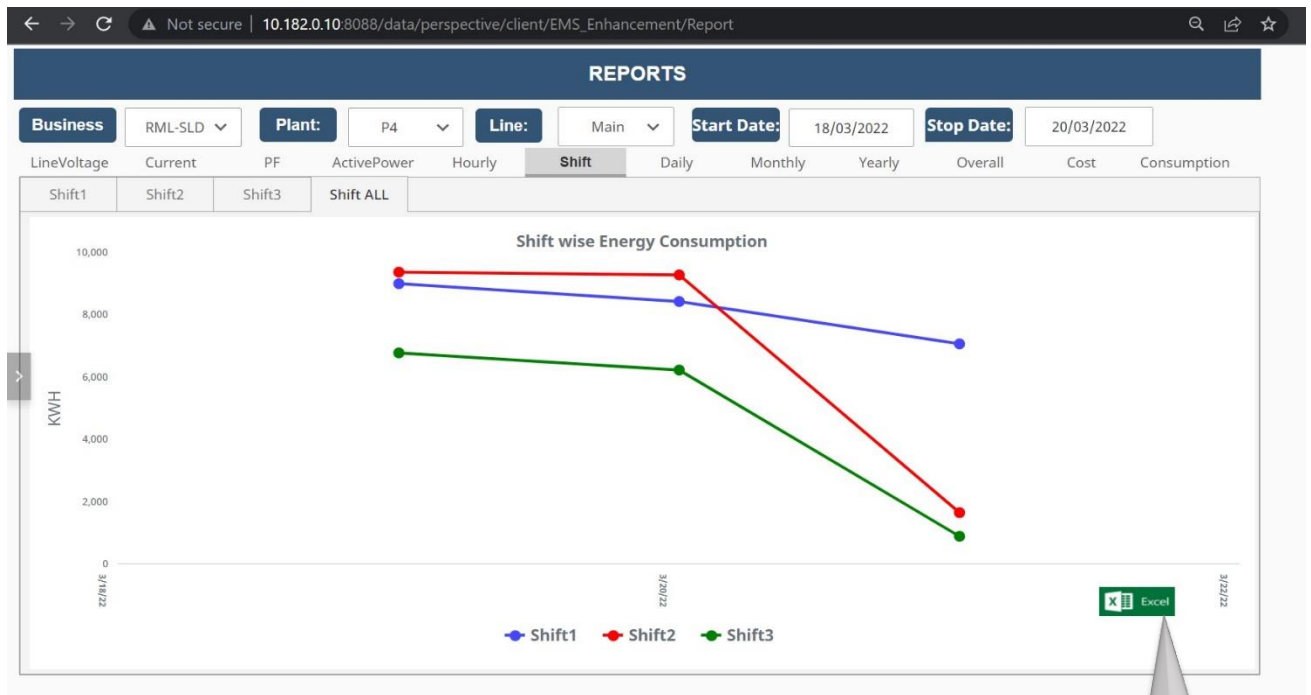
2.By hovering to the bullets we can able to see the **shift1** Energy consumption of the selected Dates



1.The line graph shows the Shiftwise Energy consumption[X axis - date,Y axis - kWh]

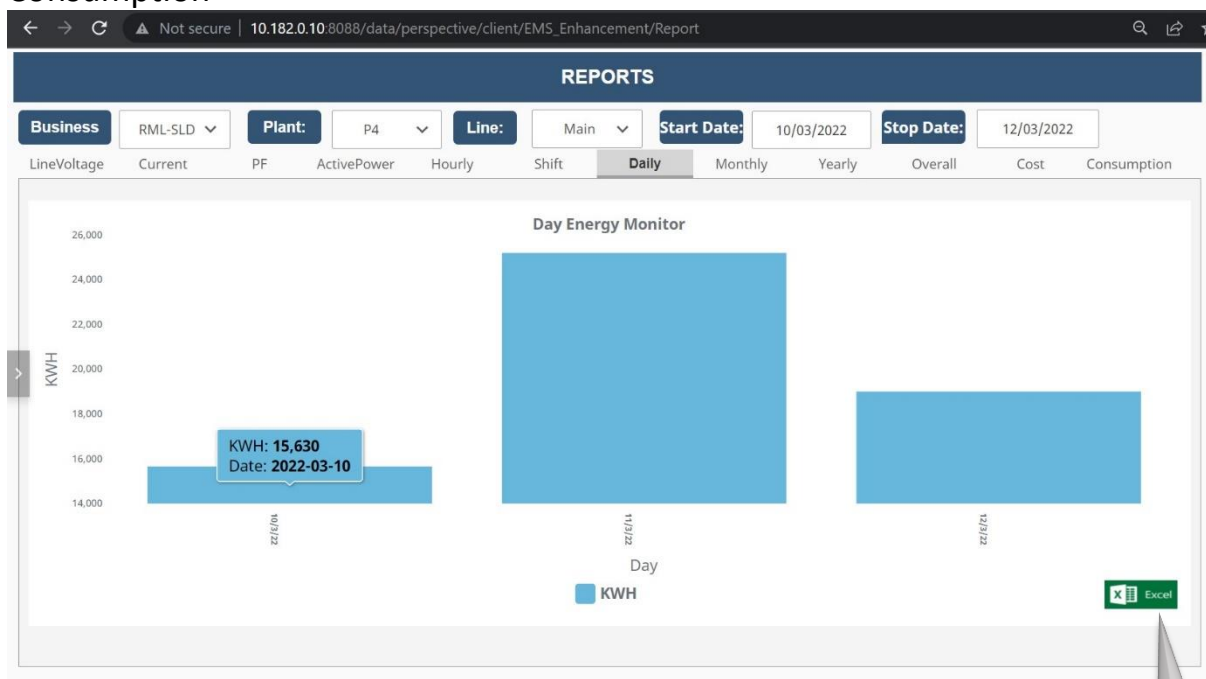
2.By hovering to the bullets we can able to see the **shift2** Energy consumption of the selected Dates

ENERGY MANAGEMENT SYSTEM



1. The line graph shows the Shiftwise Energy consumption[X axis - date,Y axis - KWH]
2. By hovering to the bullets we can able to see the **shift1,shift2,shift3** consumption of the selected Dates
3. By clicking the Excel Button we can download the report of Shiftwise Energy Consumption

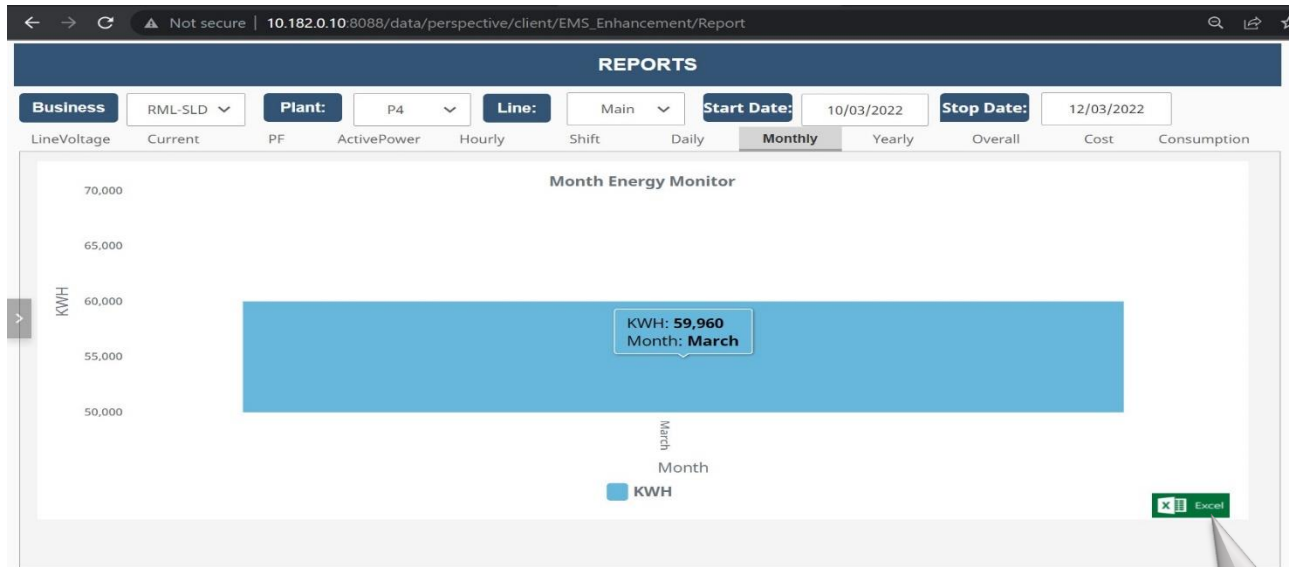
Click the Excel Button to download the Reports of shiftwise



1. The bar chart represents the Day Wise Energy Consumption
2. By hovering we see the Energy consumed for the Day for the chosen dates
3. By clicking the excel button we can able to download the report of daywise Energy

Click the Excel Button to download the Reports of Daywise energy Consumption

ENERGY MANAGEMENT SYSTEM



1. Bar Chart represents the Month wise Energy Consumption[X – Month,Y – Energy Consumption(kWh)]
2. By Clicking the excel We can able to download the report of Monthly energy

Click the Excel Button to download the Reports of Monthly energy Consumption

REPORTS

Business

RML-SLD

Plant:

P4

Line:

Main

Start Date:

10/03/2022

Stop Date:

12/03/2022

LineVoltage

Current

PF

ActivePower

Hourly

Shift

Daily

Monthly

Yearly

Overall

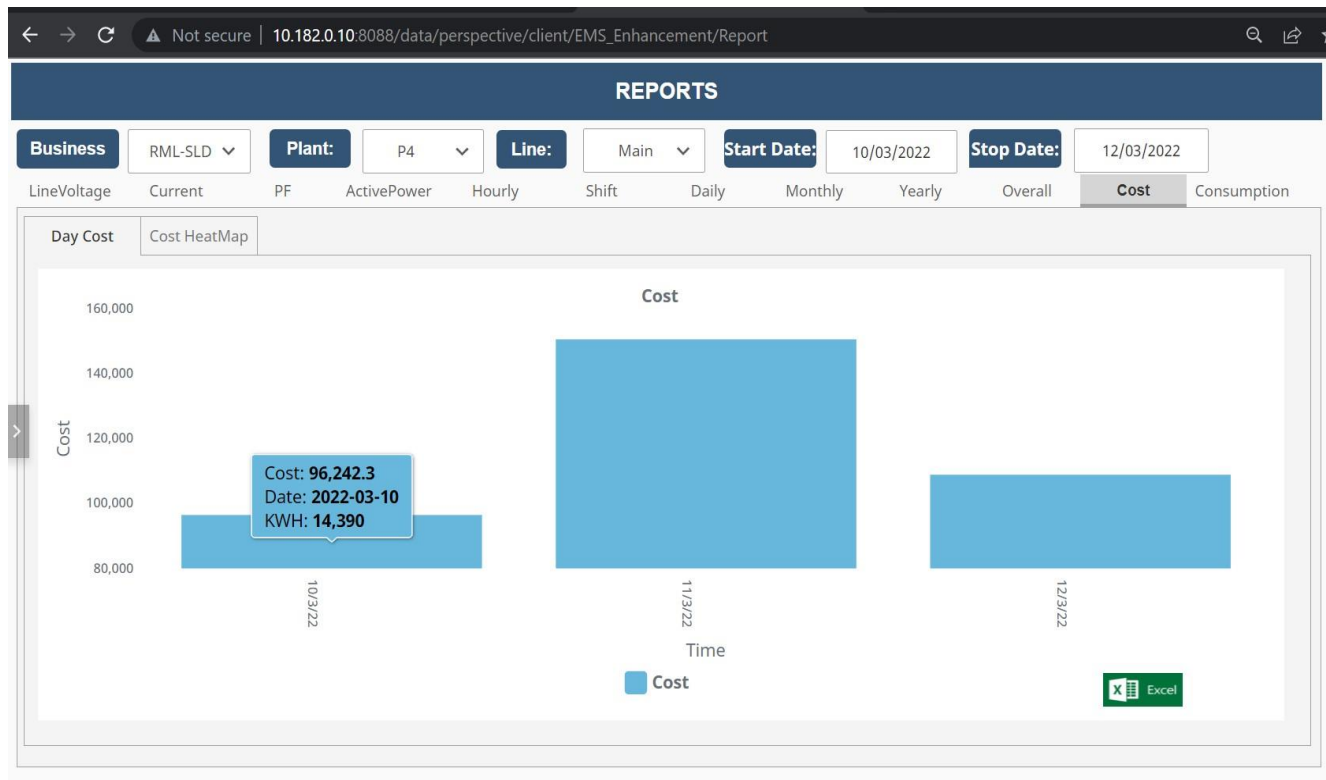
Cost

Consumptior

Date	BG	Plant	Line	Machine	HOUR	KWH	Frequency	PF	VoltageR	VoltageY	VoltageB
03/10/2022 06:00:09	1	4	1	0	6	2,954,570	49.9571	-0.99493	11101.9	11099.6	11059.2
03/10/2022 07:00:08	1	4	1	0	7	2,955,320	49.9263	-0.986816	10636.9	10662.9	10655.6
03/10/2022 08:00:04	1	4	1	0	8	2,956,320	50.1029	-0.991355	10668.2	10661.6	10664.1
03/10/2022 09:00:07	1	4	1	0	9	0	0	0	0	0	0
03/10/2022 10:00:02	1	4	1	0	10	0	0	0	0	0	0
03/10/2022 11:00:10	1	4	1	0	11	2,956,920	49.9825	0.184712	10552.5	10550.8	10514.2
03/10/2022 12:00:02	1	4	1	0	12	2,957,620	50.0364	-0.981136	10297.5	10299.7	10269.1
03/10/2022 13:00:08	1	4	1	0	13	2,958,560	50.0615	-0.990824	10309.7	10303.4	10284.7
03/10/2022											

- The table shows the overall energy Parameters values for the selected date
- We can see the values of 3 Phase R,Y,B Voltage, Current
- By clicking the Excel button we can able to download the overall reports

ENERGY MANAGEMENT SYSTEM



- Bar graph shows the cost w.r t the Energy consumed for the selected date
- By hovering we can able to see the Cost value , Energy consumption, Date
- By clicking the excel button we can able to download the report of cost w.r.t Energy

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