

Lubrizol India Pvt Ltd, Navi Mumbai.

IMCC helps Specialty chemicals, polymers, coatings, oil & lubricants Producer use technology at its best with energy for less.

PROJECT AT A GLANCE

Project type

IMCC Panel with Can-Open & Modbus Protocol.

Location

Navi Mumbai, Maharashtra, India

Application

Leading producer of specialty chemicals, polymers, coatings, oil & lubricants.

System Components

- Tesys U Starter
- Tesys T Relay
- VFD - ATV312
- Power Monitoring Expert

Customer Benefits

- Flexible Manufacturing
- Less Down Time
- High and consistent Motor Protection
- Easy diagnostics
- Energy Management
- Energy Consumption Information Reports
- Ready for Future integration with SAP

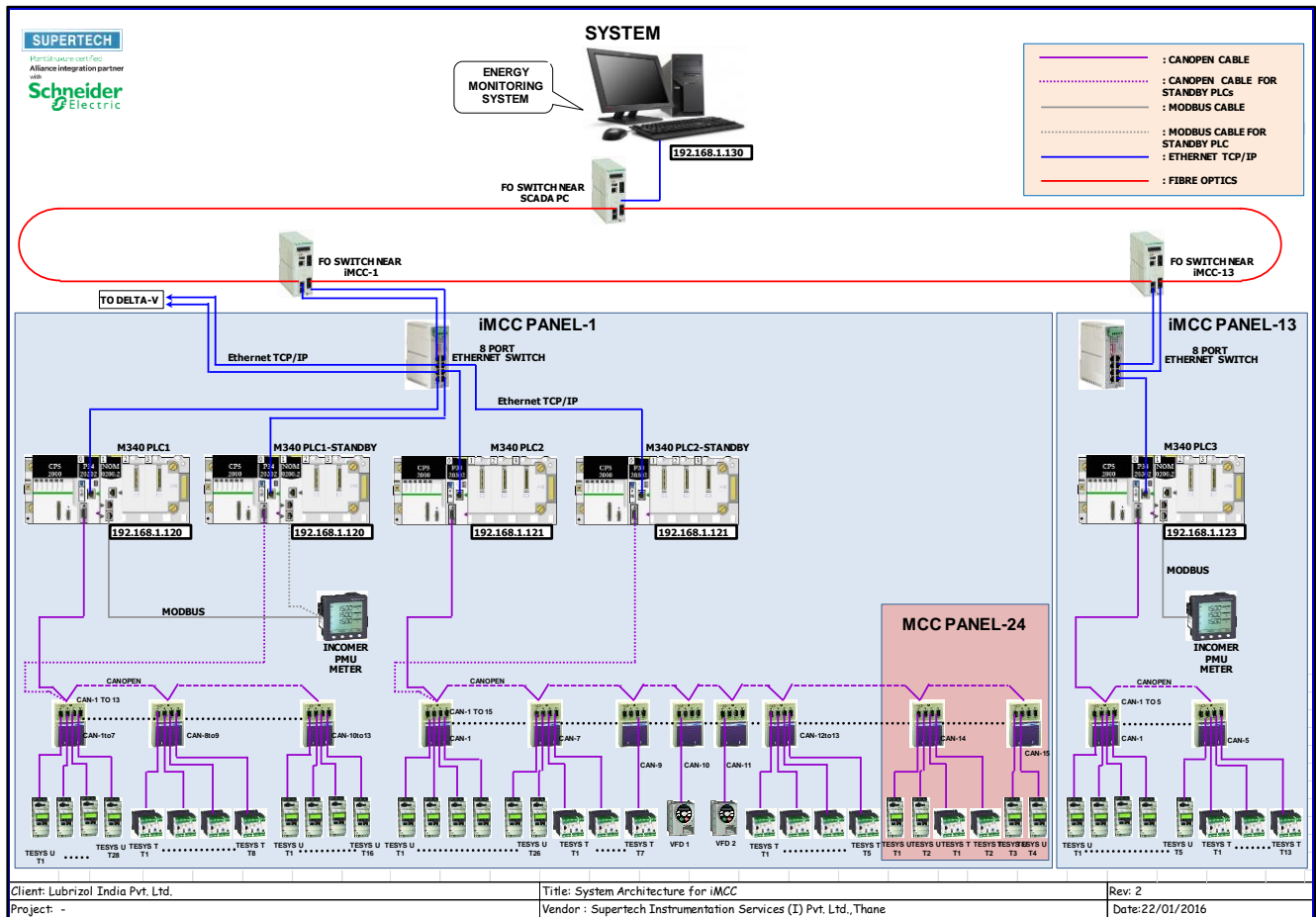


Lubrizol offer innovative, yet practical – Speciality chemical solution for customers in global transportation, industrial & consumer market & combine complex specialty chemicals to optimize the quality, performance and value of customers' products while reducing their environmental impact. They are leading producer of specialty chemicals, polymers, coatings, oil & lubricants.

Make the most of your energy

The plant consists of 2 nos. iMCC Panels with IP42 protection consisting of 108 feeders. Panel has an iMCC Starter i.e Tesys U, TesysT, VFD's with PLC M340 Communication Accessories, Indicating lamps, push buttons & EMS System.

System Architecture



The Challenge

The challenges involved in the MCC Panels were:

- Requirement of bulky wires & lot of spares.
- Constraints of space.
- To get Total Co-ordination.
- To get high level protection.
- To differentiate faults.
- To reduce operating and maintenance costs.
- To monitor and control MCC loads, reducing the need for personnel to visit the MCC.
- To reduce troubleshooting and shutdown times through advanced diagnostics and data logging.
- To be able to do easy modification or upgrade of the system.

Make the most of your energy

Schneider
Electric

SUPERTECH

The Solution

The iMCC communication system consists of PLC as shown in the above architecture. Accurate motor reading is achieved using Tesys T & Tesys U starter which gives protection like, Phase loss, Phase Reversal, Voltage phase reversal, Earth-leakage protection, Thermal overload protection, Phase failure, Overload, P.F. variation, Load Fluctuation, Phase imbalance, Long Start, Under load & Jam etc. iMCC helped to record the last 5 faults & Statistics. The Tesys T & Tesys U starter is equipped with a communication interface to allow remote monitoring and control of the motor. All motor information is then available at automation system level.

All motors are run on intelligent MCC consisting of Tesys T & Tesys U starter & ATV312 VFD Drive connected by Can-open Protocol, Meters connected by Modbus Protocol. Energy Monitoring and Motor Asset Management system is developed by Supertech has been provided.



Fig: Front View panel-With doors closed

Make the most of your energy

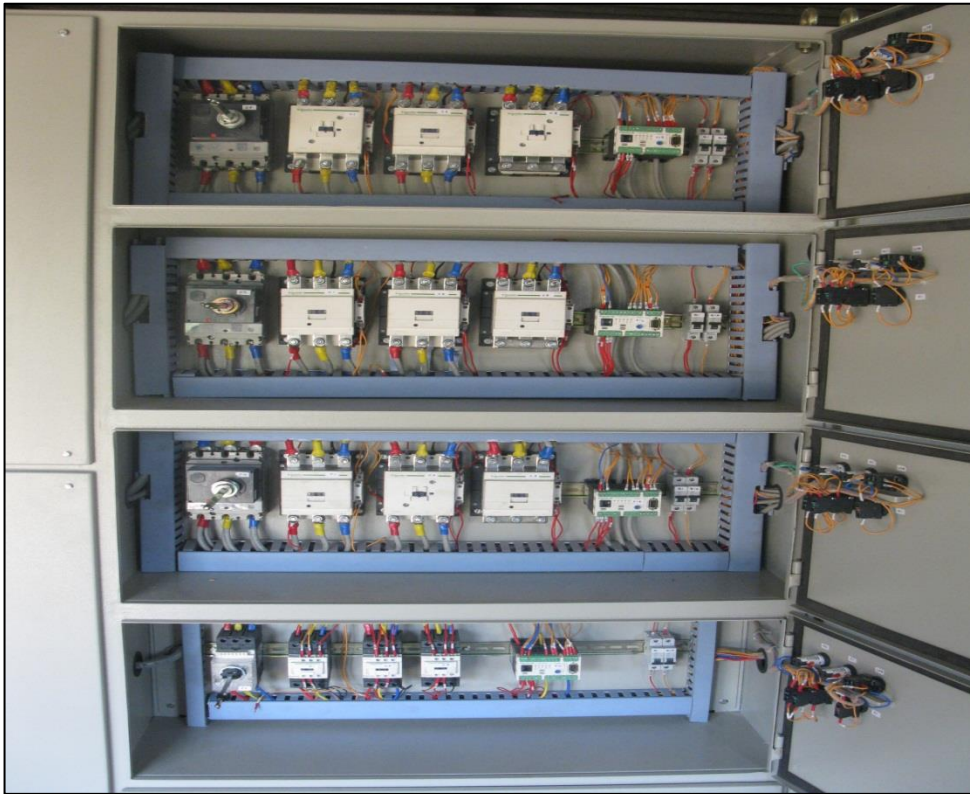


Fig: Front View panel-With doors open

Advantages of using iMCC

1. Project Stage

iMCC improves project efficiency (15% to 20% savings) and reduces:

- Engineering time as starters are more standardized over a wider range of ratings
- On-site wiring time thanks to fieldbuses
- Installation time reduced thanks to downloadable parameters

2. Commissioning Stage

- Reduction in commissioning time: From 10 starters a day with a conventional MCC to 30 or 40 starters a day with iMCC.
- Better understanding of process reactions thanks to detailed.
- Diagnostics and statistics.
- Faster bug fixing and tracking

3. Operation Stage

iMCC improves motor protection (up to 90% fewer motor burn-outs):

- Microprocessor based relays provide high level protection
- More accurate sensing

Make the most of your energy

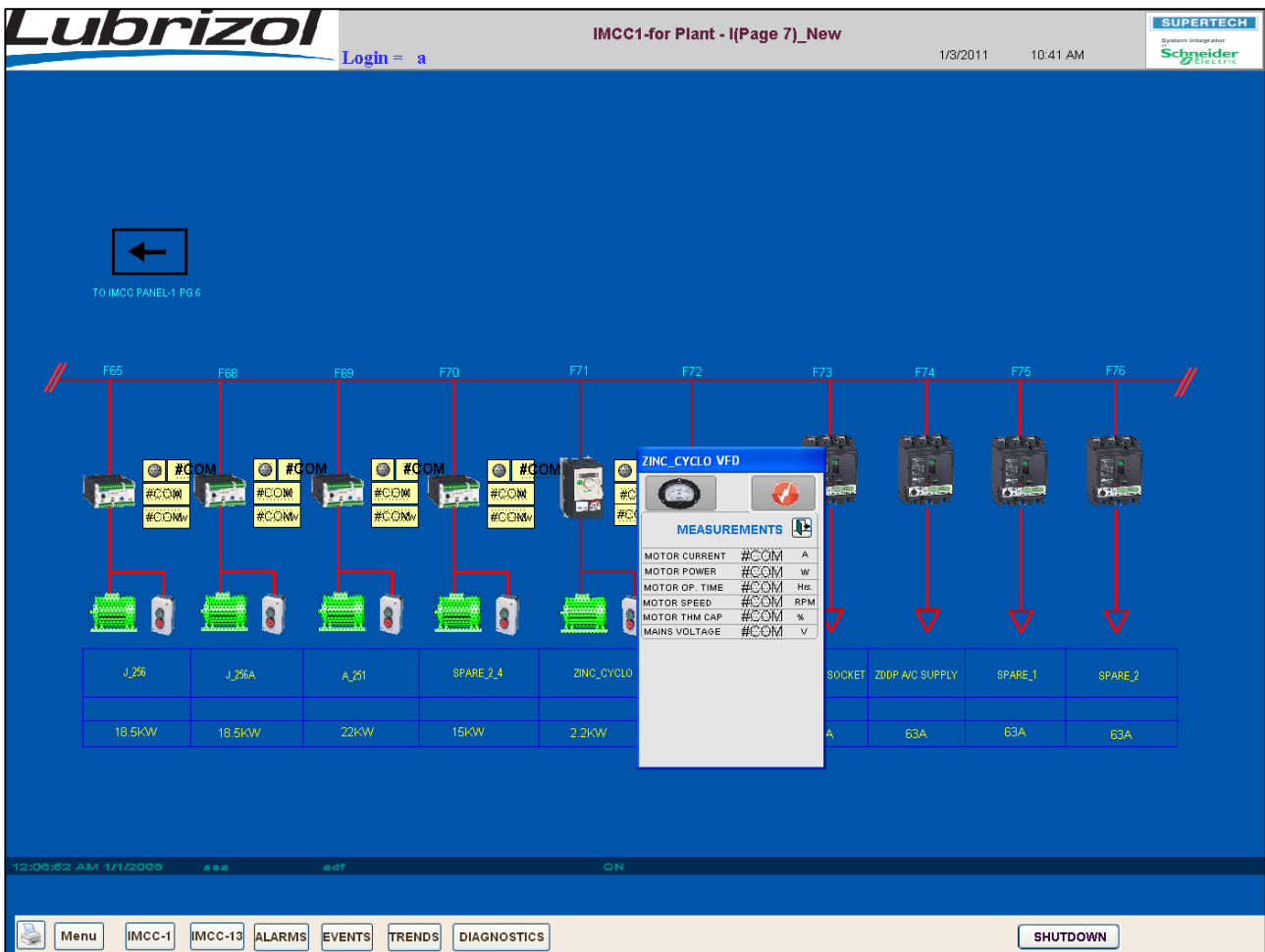
iMCC reduces untimely downtime (up to 70% reduction in process downtime):

- Alarms often allow time to fix the problem before they trip
- Trip conditions are detailed to help corrective operations
- Statistics can be used for continuous improvements

iMCC reduces maintenance costs (up to 50% savings)

- Less downtime
- Less spare parts stock
- Statistics help to focus preventive maintenance where motors are heavily stressed
- Less cabling
- Easy modification/ up-gradation of the process
- Simplified engineering
- No wiring required and simplified set up

Power Monitoring Expert (PME) PME SLD



Make the most of your energy



- PME (Power Monitoring Expert) is an energy monitoring tool by which we can monitor the real time data of electrical power network as well as analyze the power system through the data obtained through energy meters.
- The PME system installed here collects data from power meters PM5500 which is connected to Ethernet switch.
- The PME Web applications provides us with viewing of real time data such as Power(KW) and Energy(KWH).
- It also provides us some other feature such as interactive dashboard, Diagrams, Generation of reports and Alarms.

REPORTS

We can get default reports such as Energy management(Calendar Trend Month report, Calendar Trend week report, consumption ranking report-by area, consumption ranking report-by load, Energy comparison report, Energy cost report, Energy period over period report, energy usage by shift energy usage by TOU, Hourly usage report, Load profile report),General(100ms report, Dashboard report ,Event history report, System configuration report , Tabular report), Power Quality(EN50160 reports, Harmonic compliance report, Power quality reports) and Usage Trending (Multi and single device usage report, Trend report).

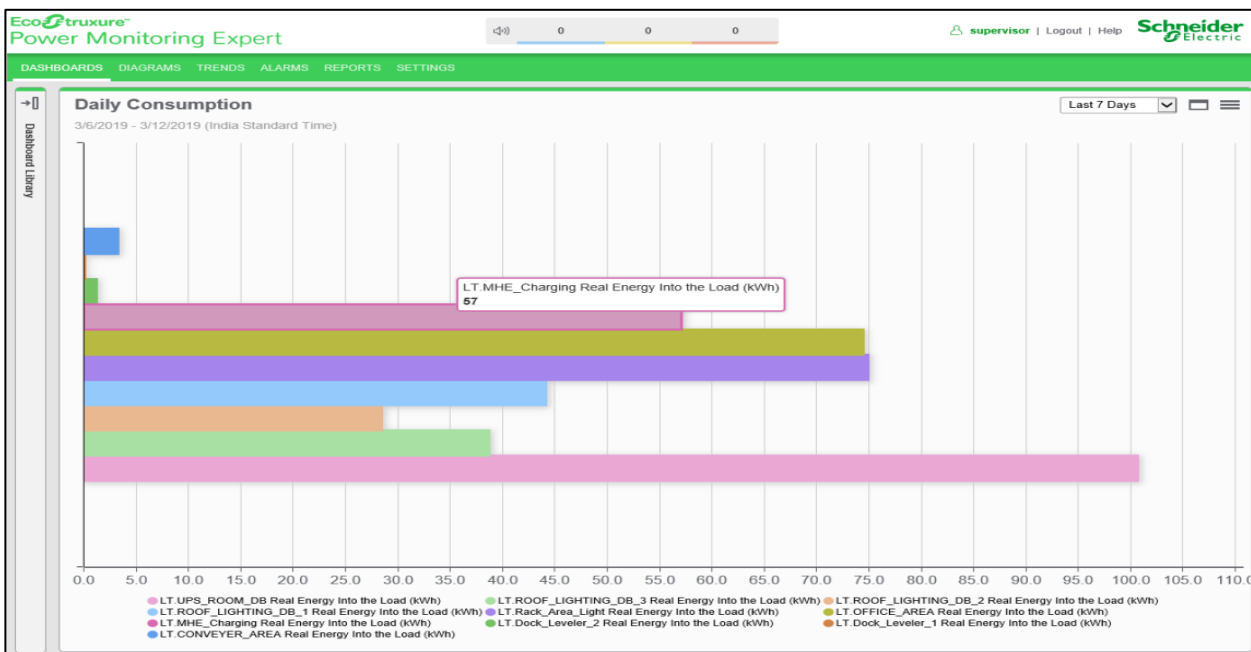


Fig: Dashboard

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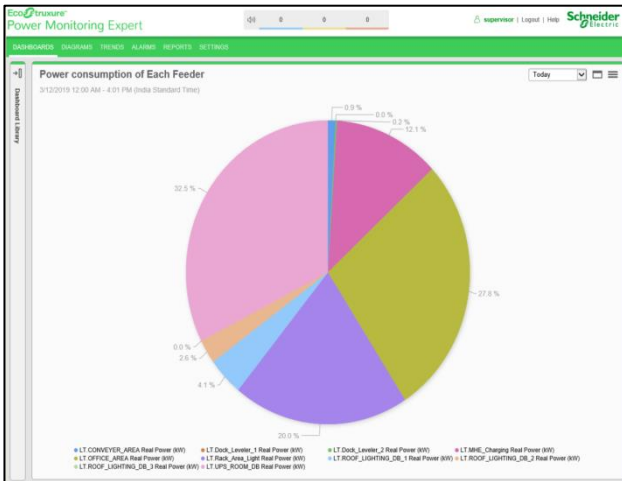


Fig: Pie-chart

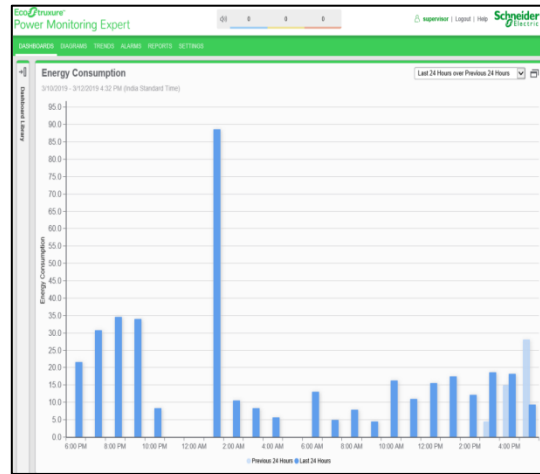


Fig: Bar-chart

This system was designed and supplied by Supertech - Alliance Partner of Schneider Electric in 2014 :
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