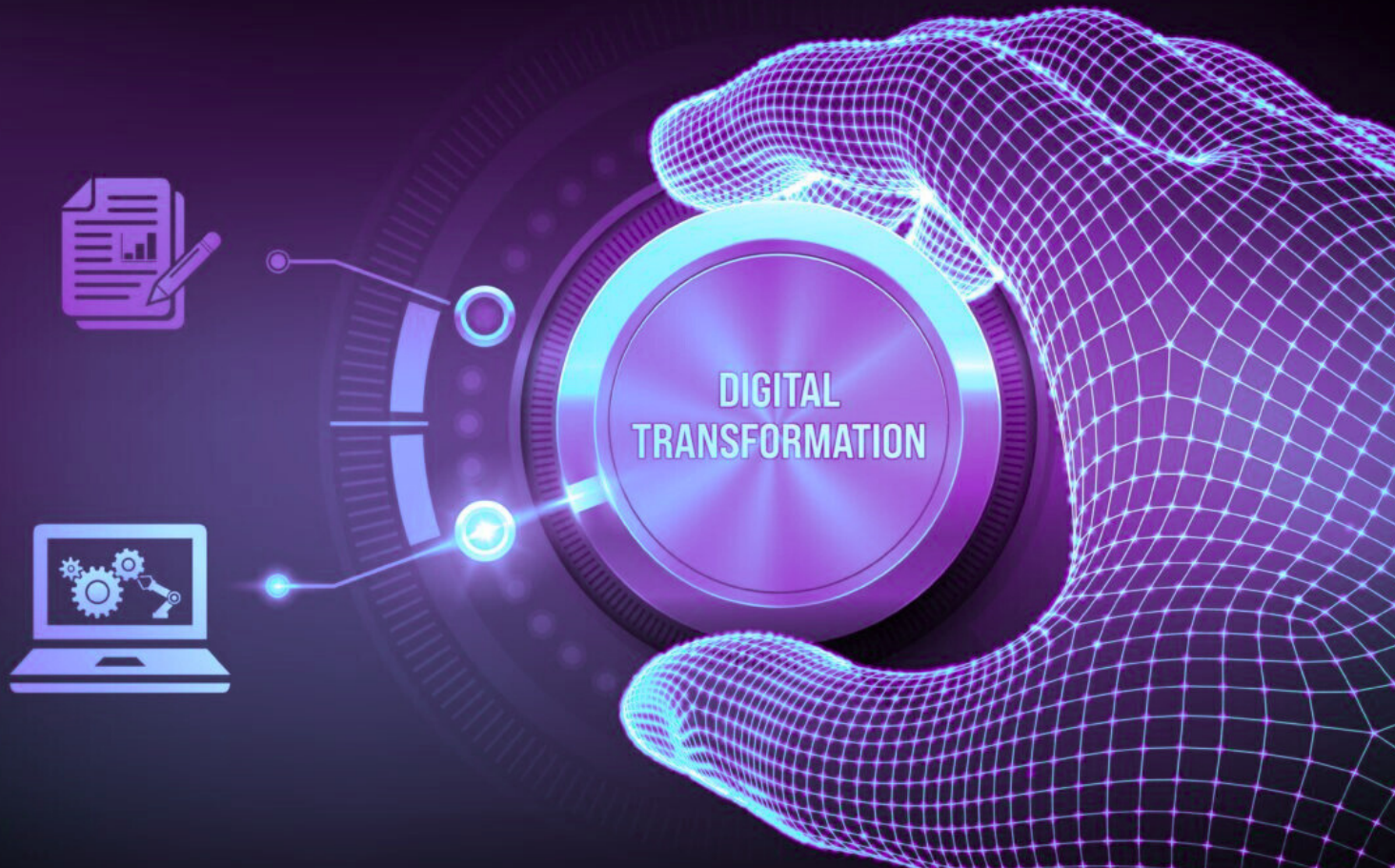




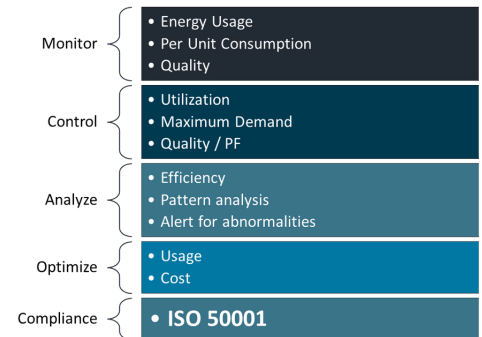
An ISO 9001:2015 Certified Company

X- Force Digitalization

**IIOT - Energy Management System with
Compliance with ISO 50001**

What is Energy Management System EMS?

- In today's world, energy and demand costs have skyrocketed and certainly impact any industry's balance sheet.
- To keep track of Demand and consumption.
- Plant / Unit wise energy analysis to ascertain productivity rate and energy consumed.
- To control energy cost, the consumer must gain answers to these questions:
 - How much energy is used?
 - What are the major loads?
 - When and Where electrical energy is used the most?
 - Finally, how much does it cost?
- X-Force EMS consolidates energy-related data (sources, costs, control, and monitoring points) into a robust data warehouse, providing a platform for tools to easily access and turn this data into actionable insights.
- This system revolutionizes how you perform diagnostics, engineering analysis, and monitoring, reducing the time and effort required with traditional methods.



What is ISO 50001?

- ISO 50001 is an international standard for energy management systems (EMS).
- ISO 50001 provides a framework of requirements for organizations to:
 - Develop a policy for more efficient use of energy
 - Fix targets and objectives to meet the policy
 - Use data to better understand and make decisions about energy use
 - Review how well the policy works, and
 - Continually improve energy management.
- Our Xforce IIoT/EMS solution supports the ISO 50001 standard by enabling efficient energy management and monitoring.

Core Capabilities

- **Real-Time Monitoring:** Continuous Data acquisition and maintain the data at the 15 minutes intervals (User configurable) for monitoring of real time energy information.
- **Automated Analysis & Reporting:** Automatically generated analytical and scheduled reports, along with interactive dashboards, enable continuous tracking and evaluation of energy performance.
- **Energy Intelligence :** Collect data from all forms of energy used in industrial operations, including electricity, water, air, gas, steam, and other utilities
- **Continuous Improvement:** Support for ongoing performance enhancement through data-driven insights and actionable recommendations.
- **Regulatory Compliance:** Ensures alignment with ISO 50001 and other regulatory standards through structured data and audit trails.
- **Savings:** EMS is a hub for viewing cost performance against targets, energy data/information, energy efficiency projects and resulting savings.
- **Energy-Saving Identification:** Intelligent tools designed to detect inefficiencies and recommend targeted Energy Conservation Measures (ECMs) for performance optimization.

Key Functionalities

Energy Management & Analysis

- Regular alerts, reports and communication from the Energy Manager or designated representative.
- Historical utility data analysis (12–60 months) to establish accurate energy baselines.
- Detailed load breakdown to identify significant energy users.
- On-site assessments and collaboration with facility teams to define Energy Performance Indicators (EnPIs).
- Identification of energy waste and operational dysfunctions.
- A Generative AI Assistant in an EMS system enhances decision-making and efficiency by providing intelligent insights, automating reports, answering natural language queries, and recommending energy-saving actions.

Strategic Planning & Optimization

- Evaluation of metering infrastructure and feasibility of advanced monitoring systems.
- Assessment of renewable energy and innovative technology integration.
- Normalization of energy cost and usage data to uncover improvement opportunities.
- Prioritization of energy-saving initiatives and cost-reduction strategies.

Visualization & System Integration

- Centralized EMS portal for viewing energy data, cost performance, and project outcomes.
- Drill-down capabilities from corporate to site-level insights.
- Integration with external data sources (e.g., weather, ERP, PIMS) for enriched analytics.
- Real-time metering tools and gateways for seamless data flow.

Performance Tracking & Audit Readiness

- Generation of customized analytical reports to track actual vs. expected energy performance.
- Documentation of improvement areas and implementation of conservation plans.
- Maintenance of structured data and reports to support internal and external energy audits.
- Comprehensive audit trail through the EMS portal for compliance verification.

Benefits of Compliance

- Effective site-level energy consumption management through the integration of the right tools, strategic planning, in-depth analysis, and consistent diligence
- EMS solutions including meters and software platform to meet Monitoring, Measuring, and Analysis requirements
- Real-time metering tools and data integration for consolidated energy data
- Energy data collection review and ongoing monitoring
- Energy analytics and performance comparison of actual vs. expected consumption
- Proactive approach and real-time monitoring to save up to 30% of energy costs
- EMS portal for documented audit trail and smooth success during internal corporate audits

Benefits Across Industry Verticals

- Manufacturing:
 - Reduced energy consumption and costs
 - Improved operational efficiency
 - Enhanced sustainability
- Energy:
 - Optimized energy generation and distribution
 - Increased reliability and resilience
- Commercial Buildings:
 - Efficient energy usage and management
 - Improved building performance
 - Enhanced occupant comfort and productivity

X-Force IIoT - EMS Dashboard



Industry based Our Valued Customer

Oil and Gas	Chemical & Fertilizers	Power	Cement	Metal & Manufacturing	FMCG & Pharma	OTHER
 Reliance Industries Limited Growth is Life	 NTPC touchin lives...	 UltraTech CEMENT	 LARSEN & TOUBRO	 SUN PHARMA	 MRF	
 GAIL	 DCM SHRIRAM Growing with trust	 torrent POWER	 JK LAKSHMI CEMENT	 NALCO	 Coromandel FUTURE POSITIVE	
 DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED	 INDORAMA ELEME FERTILIZER & CHEMICALS	 WELSPUN Dare to Commit	 Shree Cement	 JSW	 ADITYA BIRLA CENTURY	
 IndianOil	 G.N.F.C.	 greenko	 ACC cement	 ADITYA BIRLA HINDALCO	 Kirloskar Precision	
 Bharat Petroleum	 DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED	 GIPCL	 STAR CEMENT Solid Setting	 Banco Aluminium Limited	 Private Windows Settings to activate Windows	
 HNG THE SMARTER WAY	 ADITYA BIRLA NUVO	 GSECL	 SANGHI CEMENT Turning Dreams into Concrete Reality	 ANCHOR by Panasonic	 SSM	
 Johnson Matthey Inspiring science, enhancing life	 ADITYA BIRLA GRASIM	 Ambuja Cement	 And many more...	 And many more...	 And many more...	

Overview

Our Industrial X-Force IoT-based Energy Management System (IIoT-EMS) is engineered to serve energy-intensive sectors such as Oil & Gas, Manufacturing, Power, Steel, and more. Built on a Cloud-First Data Lake and Analytics architecture, it enables seamless management of utilities like Electrical, GAS, FO, Steam, Water, and AIR. The system integrates advanced features including analyzer management, condition-based monitoring, and AI/ML-powered anomaly detection. With capabilities for predictive and prescriptive analytics, IIoT-EMS empowers industries to optimize energy consumption, reduce operational costs, and drive sustainability through intelligent decision-making.

Value delivered with X-Force IIoT -EMS



Optimized Energy Consumption

Real-time monitoring and analytics help reduce energy wastage, ensuring efficient usage across utilities.



Cost Reduction

Minimized energy bills and maintenance costs through anomaly detection, predictive insights, and condition-based monitoring.



Improved Operational Efficiency

Centralized visibility into multiple utilities (Electrical, Gas, FO, Steam, Water, Air) enables better control and coordination.



Reduced Downtime

AI/ML-driven anomaly detection and predictive maintenance prevent unexpected equipment failures and production halts.



Sustainability and Compliance

Supports ESG goals with data-driven reporting and reduced carbon footprint through smarter energy practices.



Scalability and Integration

S-Cloud-first architecture ensures easy scalability and integration with existing industrial systems and platforms.



Informed Decision-Making

Prescriptive analytics and intuitive dashboards empower teams to make strategic, data-backed operational decisions.



Centralized Data Lake for Unified Insights

Aggregates data from disparate sources into a single cloud-based platform, enabling holistic analysis and cross-utility correlations for deeper operational intelligence.

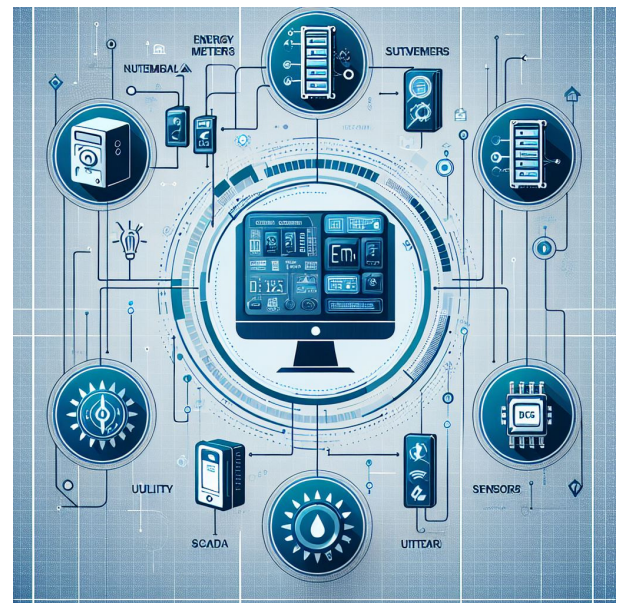
X-Force IIoT - EMS Architecture

• Data Acquisition & Monitoring

Seamlessly acquire and monitor data from Energy Meters, Utility Meters, Sensors, Numerical Relays, SCADA, and DCS systems using a centralized EMS platform. Supports industry-standard protocols (Modbus, IEC, DLMS, MQTT, OPC, etc.) with wired/wireless connectivity, virtual tagging, and ERP/SCADA integration for scalable, easy-to-configure deployments.

• Alarm & Event Management system

Advanced Alarm & Event Management system with real-time critical alarm display, rationalization, and acknowledgement. Supports setpoint violation alerts (H/H-H/L/L-L), SMS/email notifications, electronic annunciator interface, and comprehensive alarm logging for operational safety and compliance.

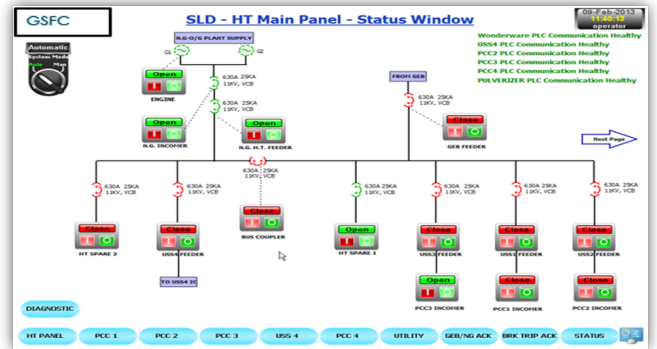


- **SLD/Dashboards & Reporting:**

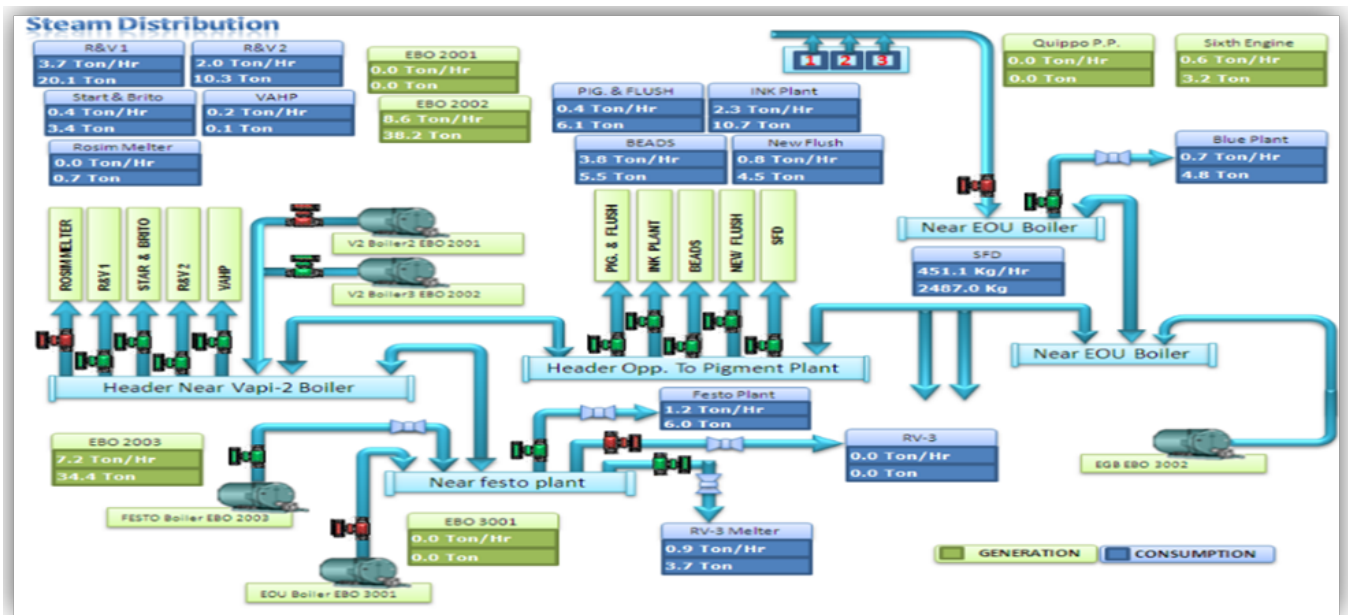
Visualize plant, area, or department-level operations with dynamic SLDs and customizable dashboards. Track energy balance, load flow, KPI/EnPI metrics, and generate detailed reports on equipment efficiency, availability, and consumption trends.

- **Reporting System:**

- Standard Consumption Reports
- Shift Wise, Hourly, Daily Monthly and Yearly Reports
- Customized Reporting as per end user requirements
- Automatic Report Generation and E-mail Notification of Reports
- Energy Balancing Report, MIS Reports
- Automatic Schedule Creation



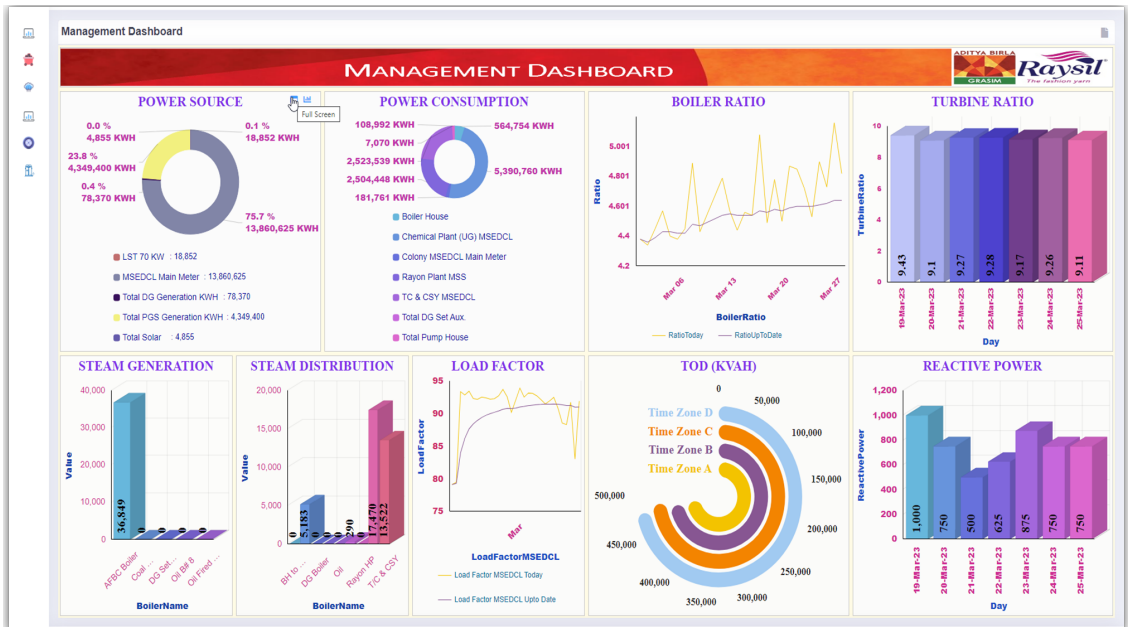
X-Force IIoT - EMS Screen and Process Graphics



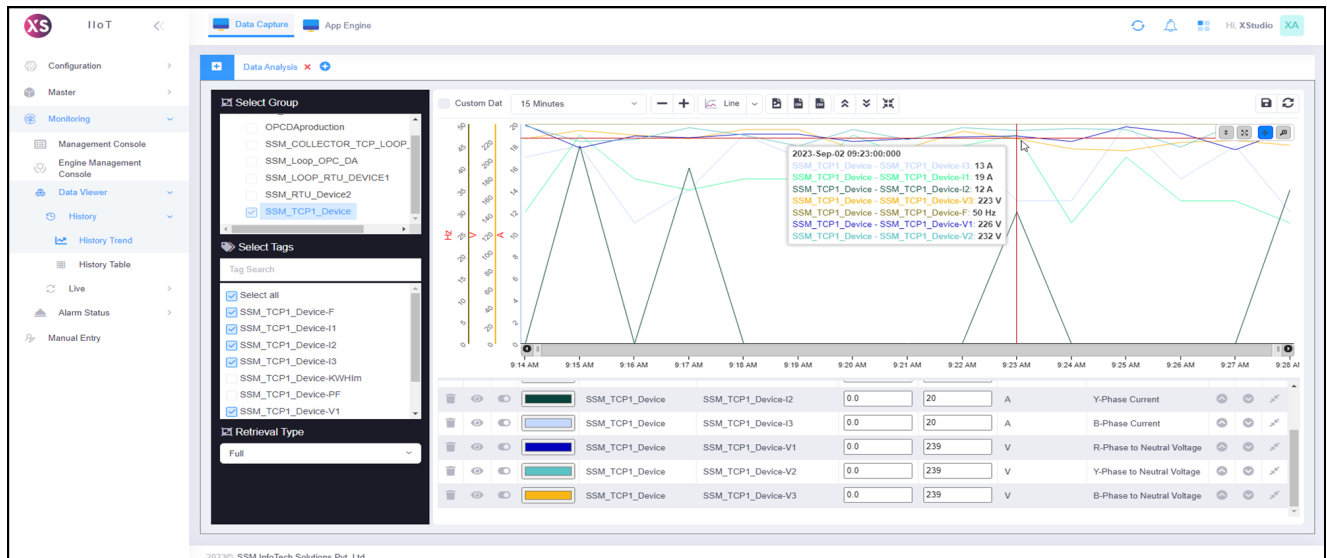
X-Force IIoT - EMS Report

 POWER ANALYSIS REPORT												
											Date Selection: 23.02.2015 Block no Selection: 3	
PARAMETER	Block Number	132 KV SYSTEM		66 KV SYSTEM								GSFC DRAWL FROM GRID
		11KV I/C 1	11KV I/C 2	66 KV TR- 1	66 KV TR- 2	66KV TR- 4	66KV TR- 5	66 KV TR-6 COG- I	66 KV TR-7 COG-2	66 KV TR-8 GTG	66 KV TR-9 STG	
MW	1	15.55	18.36	6.56	8.14	6.22	6.49	0.03	0.76	0.25	0.07	62.43
	2	15.41	18.20	6.58	8.06	6.21	6.29	0.03	0.75	0.25	0.07	61.85
	3	15.88	18.25	6.56	8.10	6.23	6.47	0.03	0.77	0.25	0.07	62.60
	4	15.56	18.12	6.53	8.09	6.21	6.34	0.03	0.75	0.25	0.07	61.93
	5	16.388	18.16	6.54	8.14	6.23	6.44	0.03	0.75	0.25	0.07	63.00

X-Force IIoT - EMS Dashboard



X-Force IIoT - EMS - Trend Analysis



Our Valued Customer



Summary

Empower operations with plant, area, and department-wise SLDs and user-configurable dashboards. Visualize energy balancing, load flow, and monitor KPI/EnPI metrics in real time. Generate customized reports on equipment efficiency, availability, and consumption. A scalable solution for data-driven decision-making and performance optimization.

SSM Infotech Solutions PVT. LTD.

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