



Remote Monitoring and Diagnostic Solution

ConnectM
a Sasken and IDG Ventures company

Solution Concept

ConnectM provides remote asset management solutions for optimizing overall equipment efficiency and reducing operating costs.

The Remote Monitoring and Diagnostics Solution from ConnectM is designed to gather performance parameter data from the assets on the field. The Solution is designed to enable companies to increase machine efficiency and reliability, reduce or avoid scheduled down time, eliminate unscheduled downtime, reduce overall operation and maintenance costs, optimise energy costs, increase time between machinery overhauls, increase personnel safety and reduce encounters with machinery thereby helping improve profitability.

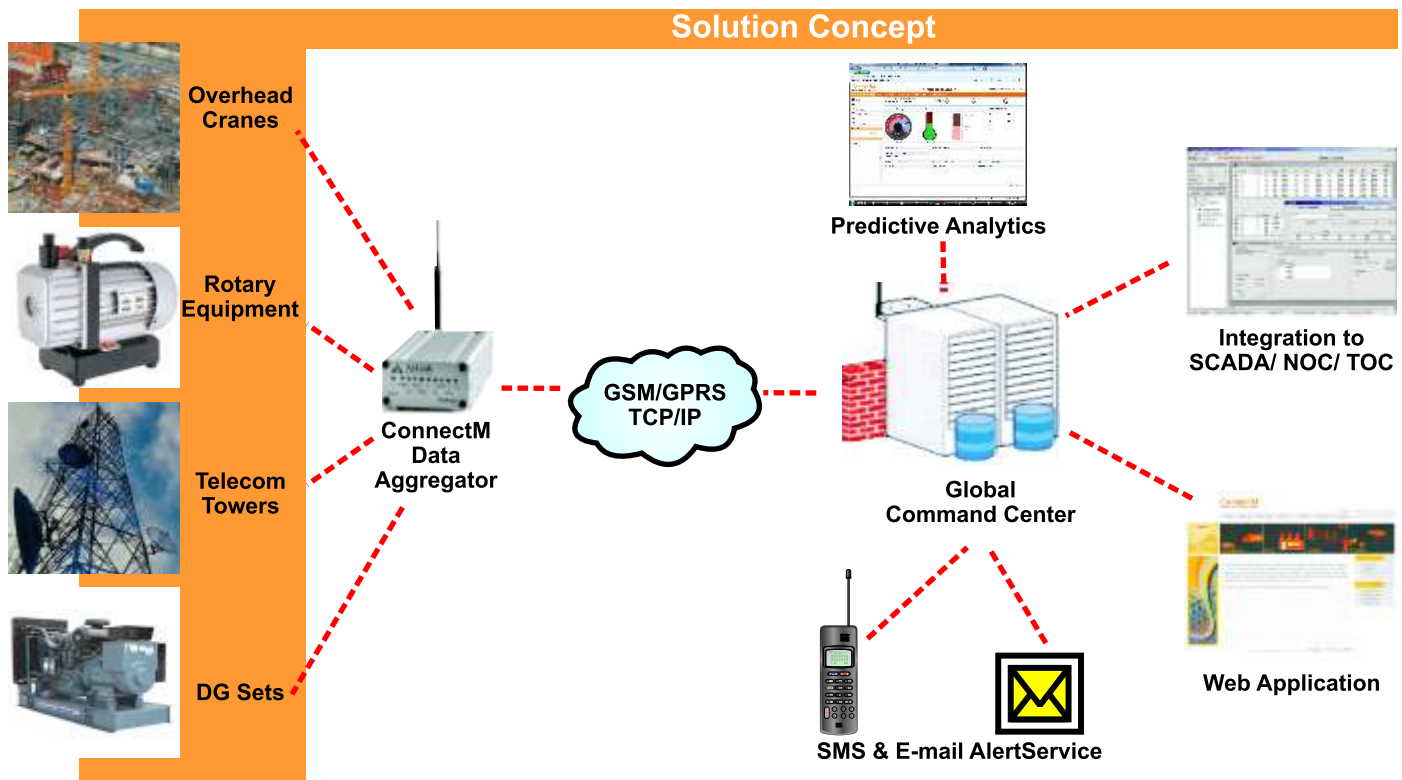
Application Areas

Diesel Generating Sets	Overhead Cranes	Rotary Equipment (pumps, motors)
Telecom Towers	Water treatment plants	Construction Equipment
Industrial Machines	Process Industries	

Components Of The Solution

The Solution consists of four primary parts:

- ConnectM Data Aggregator: Hi-tech sensor-cum-communication module capable of communicating on various Industrial standard communication bus protocols, developed in partnership with global leaders in the space. We leverage a wide variety of wired and wireless technologies, including GSM/GPRS, CDMA, ZigBee, GPS, Wireless Lan, Bluetooth
- Scalable server application that can database the performance metrics being streamed from multiple network sites
- High-end business intelligence and optimisation application to provide reporting and actionable analytics
- Managed service offerings



ConnectM Hardware

Data Aggregator capable of communicating with various Industrial standard & customized communication bus protocols.

Communication Modem GSM/GPRS, CDMA, ZigBee, GPS, Wired /Wireless LAN, Bluetooth

Sensors

Level Sensors	Energy Meters	Vibration Sensors
Temperature / Humidity Sensors	Access Control	Video Surveillance
Motion detectors		

Remote Monitoring Application (Enterprise Version)

GIS Mapping	Alerts over Email/SMS	Standard Reports and Dashboards
Asset Management Database	Alarms Monitoring	Encrypted Data
Scheduling Events	Ticketing Workflow	Command Center (On/Off triggers)
User hierarchy access Management	Interface with other applications	Preventive Maintenance Scheduling

Business Analytics

Benchmarking & Comparative analysis	MTBF, MTTR performance	Control Charts
Performance Dashboards (Energy, Fuel, Maintenance, Production)	Route Optimization & Transit Time Analysis	Resource Planning - Cost Redn., Capacity Increase

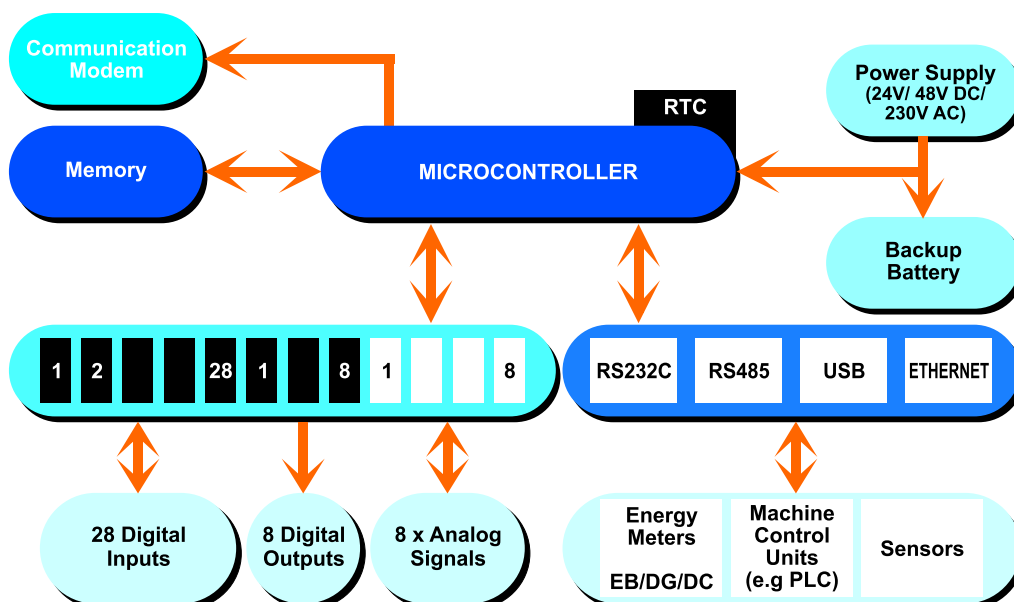
Key Parameters to be monitored

ConnectM relies on years of domain knowledge to help identify the key performance parameters that end-users or OEM's are interested in. The Solution focuses on Overall Equipment Effectiveness and Energy Management

Productivity	Availability	Quality	Energy Management
<ul style="list-style-type: none"> • Performance % • Number of runs • Planned production (mins) • Planned Production % • Operating time (mins) • Recovered time (mins) <ul style="list-style-type: none"> • Units produced • Units rejected • Good units • Average run length (mins) • Average units per length • Average units per min • Average cycle time • Unplanned downtime <ul style="list-style-type: none"> • Time usage • Output analysis 	<ul style="list-style-type: none"> • Date Range <ul style="list-style-type: none"> • Asset • Shift • Product • Operator • Downtime Category • Downtime Reason <ul style="list-style-type: none"> • Duration (mins) • % of loading time • Frequency • Average time between downtime 	<ul style="list-style-type: none"> • Units rejected • Reasons for rejection • Rejections per run 	<ul style="list-style-type: none"> • Energy Consumption per batch / run / shift / day / asset • Active Energy

High Level Product Layout

- The hardware module has capability to integrate Various Industry standard & customized Communication Bus protocols.
- The hardware module of the Solution is highly flexible and extendable. This helps to monitor a wide range of analogue and digital inputs
- Provide continuous automatic / exception based update of information with time stamp
- User configurable thresholds / limits

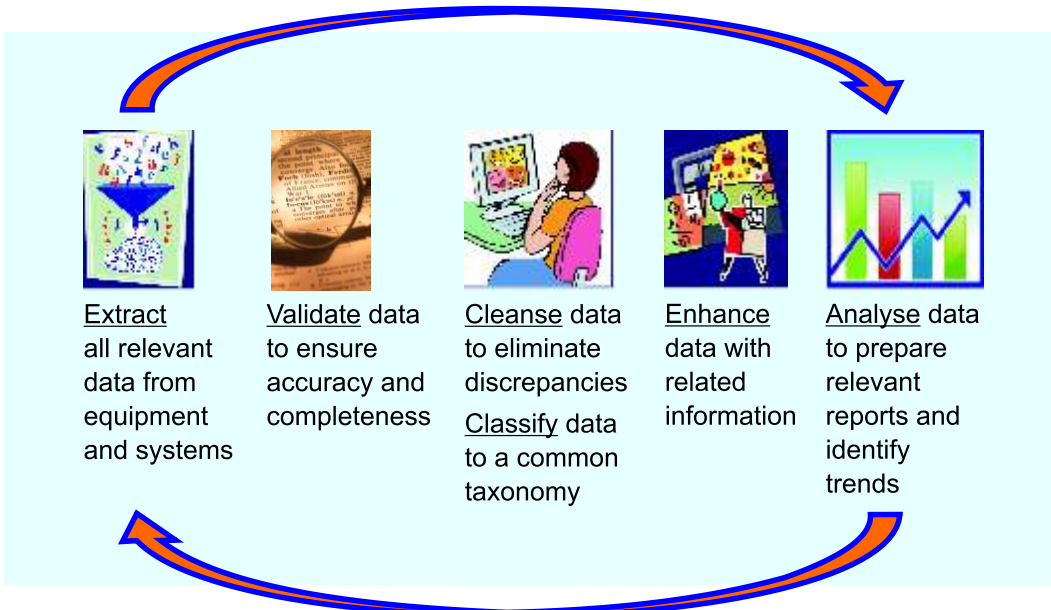


Business Analytics Offerings

Business Challenge

- Identification and quantification of key performance parameters on an ongoing basis
- Continuous improvement in Operational Effectiveness, Safety & Compliance, Productivity and Efficiency

Analytics Solution – Superior Value Proposition



Data Management

Alerts

Reports & Dashboards

Schedule Analysis

Trends / Patterns

Predictive Analytics

Our Customers

Our customers include market leaders in the IT, FMCG, Construction, Industrial Goods and BFSI segments out of India. We also service the telecom infrastructure of leading operators in India. ConnectM's Monitored Assets are spread across 20 + cities across India and are expanding further in the domestic and international markets.

"ConnectM has successfully delivered the remote monitoring solution for HCC batch mixing plants across India. The accuracy and uptime of the solution has exceeded our expectations. We see significant value being delivered by ConnectM partnership in our real-time asset management program".

Mahendra K | Assistant Vice President - Information Systems | Hindustan Construction Company Ltd.

About ConnectM

ConnectM focuses on Telecom, Utilities, Industrial, Construction, IT/ITES Enterprises and Transportation market segments. ConnectM's solutions are powered by cutting edge M2M technology, and are designed to make significant, sustained and measurable business impact.

ConnectM's USP is to collect data remotely and use domain specific analytics to deliver actionable business intelligence. ConnectM addresses business problems by providing consulting and end-to-end solutions. These solutions leverage innovation in hardware design, embedded software, web based application and system integration to provide a superior value proposition to our customers.

This is a key differentiator and establishes us as a one stop shop.

Backed by Sasken and IDG Ventures, ConnectM has the credentials to lead in this space.