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Engineering Transformation

Utthunga's Industrial IoT Platform
- Javelin

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Industrial environments: Challenges

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Bottlenecks in the manufacturing process

Mechanical failures in assets like motors and bearings

Energy/Power failures and utilization

Issues in supply chain/ logistics

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IIoT Platform for Smart Manufacturing

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Javelin: Utthunga's Cloud based IIoT Platform

Javelin is Utthunga's proprietary cloud based Industrial IoT Platform which can acquire data from sensors, PLCs, controllers, and other devices and machineries to provide the stakeholders at each level with real time data and information.

Javelin can integrate with other systems like enterprise applications, MES, SCADA, HMIs.

With Javelin industries and service provides can transform their operations by taking decisions based on accurate data.

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How does Javelin Work

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Features of Javelin IoT platform

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- **Real-time Analytics**
- **Historical Analytics**
- **Secure remote monitoring and access**
- **Alerts & Notifications**
- **ERP/SAP integration**
- **Predictive & Preventive maintenance**
- **Customizable dashboards**
- **Be future ready**
- **Machine learning**
- **Integration to other system**

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Why Javelin?

Best of OT and IT worlds

Secure platform

Scalable platform according to business needs

Flexible for deployment

Rich visualization of data

- Customizable model to support all kind of business
- Open platform with customizable models to support multi OEM Things/Devices, communication mechanisms and processes
- Connects sensors, devices, edge, processes, environment to bring all data to the platform and provide Insights and drive ROI

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EDGE CONNECTIVITY | AUTOMATION

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uConnect – Platform for Edge connectivity

- → Supports various Device connectivity protocols
- → Supports Multiple Device and Signal Interfaces
- → Supports various Wired and Wireless Communication Mediums and Technologies
- → Works with OPC, MQTT , Web Services
- → Hardware agnostic
- → Supports custom computations
- → Provides web portal for local access
- → Supports Store & Forward
- → Supports remote configuration
- → Simple , Secure and Reliable

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System Expertise

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PLC/DCS	MAKE
S7-300, S7-300F, S7-300T S7-400, S7-400H S7-1200 S7-1500 S7-200 Smart	Siemens
MX340 Quantum	Schneider
MicroLogix & SLC-500 Compact Logix & Control Logix Plant-Pax Micro 800	Rockwell
AC500	ABB
C300	Honeywell
Delta V S-series Delta V M-series	Emerson
MEL SEC Series	Mitsubishi
FA-M Series Centum VP	Yokogowa

SCADA/HMI	MAKE
Wonderware Intouch & Archestra Citect SCADA	AVEVA
WinCC TIA Comfort HMI	Siemens
Experion PKS	Honeywell
System 800xA Symphony	ABB
Factory Talk view SE/ME CCW	Rockwell
Delta V	Emerson
Centum VP	Yokogawa
MC Works	Mitsubishi

HISTORIAN	MAKE
Wonderware	AVEVA
OSI Soft PI	OSI Soft
Factory Talk	Rockwell
PHD	Honeywell

SENSOR/DEVICES
Flow, Level, Pressure, Density, Viscosity Sensors / Devices
Temperature , Distance / Proximity Sensor
Vibration Sensor
Electrical Devices

VFD
ABB
Siemens
Danfoss
Emerson
Mitsubishi
Parker
Yasakawa

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Utthunga: Your reliable partner in Industrial Automation and IIoT

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Utthunga

About company

500+
Professionals

13+
Years

4
Locations

Certifications

Headquarters: **Bangalore, India**

Offices In: **Japan, Germany and USA**

Domain Experience

Automation Capabilities

- Deep expertise in sensors
- Equipment
- PLCs
- SCADA
- DCS & Industrial Protocols
- Multiple OEM support

IIoT Capabilities

- Inhouse hardware and software development
- strong IT knowledge
- IT protocols
- Cybersecurity

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Utthunga's Industrial IoT solutions

MANUFACTURING

- ASSET HEALTH MONITORING
- ENERGY MANAGEMENT
- WORKFLOW DIGITIZATION
- REMOTE MONITORING
- DIGITAL LOGBOOK
- NETWORK MONITORING
- CYBER SECURITY

POWER & UTILITIES

- AUTOMATIC METER READING
- ASSET MANAGEMENT
- REMOTE MONITORING
- SCADA/MES INTEGRATION
- ENERGY MANAGEMENT
- STREET LIGHT MONITORING

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Benefit for End users

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- Real time data for better decision making
- Upgradation of machinery
- Improve asset utilization
- Visualize data for better understanding
- Grip on Productivity and breakdowns of machinery
- Predict failures of your machinery
- Adaption of technology
- Better maintenance
- Better planning
- Increase reliability on machines
- Remote diagnosis of machines
- Connect to ERP, MES, ANDON for better data integration

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Benefit for OEMs

- Outgrow Competition
- Upgradation of machine
- Help for your servicing team
- Additional hand for R & D Teams for deep research on consumer usage
- Ensure Spares business continuity
- Create ecosystem of your own brand
- Remote diagnosis of machines
- Make your machine ready to connect to your end customers ERP, MES, ANDON.

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Case Studies

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Use Case: Production monitoring through OEE in Discrete Manufacturing

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Challenges:

- Inconsistent Production quality
- Under utilization of the equipment
- Not meeting planned production
- Machine Controllers from multiple OEMs

Solution

- Data extraction from Controllers via OPC UA
- Continuous reading of production data from Controllers
- Data getting published to IIOT platform
- Live OEE

Benefits:

- Single communication protocol OPC UA for multiple vendor machine controllers
- Live OEE helps identifying production issues
- Alarms for below expected OEE goal
- Greater equipment Availability
- Helps improving productivity as necessary actions taken based on OEE monitoring

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Use Case: KPI Monitoring and Analytics for Oil & Gas refinery

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Challenges:

- Management wanted to drive their operations through continuous KPI Monitoring
- Data Analysis in multiple dimensions such as Reference Tracking
- Working with Heterogeneous systems containing multiple data sources and historians

Solution

- IIOT Platform on cloud with customizable KPI manager
- Hierarchical KPIs and drill down to the last KPI in the Hierarchy covering the entire span of requirements of CXO to Devices.
- Heterogeneous system through OPC Stack and Edge connectors for systems which were not compliant with OPC UA
- AI Processing engine using latest AI/ML models and algorithms to perform predictive analytics

Benefits:

- Near Real-time tracking and monitoring of KPI's for Production, Quality, Maintenance and Remote Operations
- Tracking with respect to production, cost & revenue
- Single view real time metrics data from different plant floor systems to derive useful relations affecting plant operations
- Understand impact of reactive and proactive maintenances on the production, equipment and labor and build knowledge base

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Use Case: Vessel Fuel Consumption Monitoring for Marine Logistics Company

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Challenges:

- Inconsistent Fuel consumption data
- Human errors while entering consumption readings
- Chances of fuel theft
- Manual process for data consolidation

Solution

- Edge Gateway
- Edge Software
- Flow meters

Benefits:

- Complete fuel ledger with fuel inventory
- Vessel tracking parameters
- Fuel consumption data Integrity
- Online monitoring prevents Fuel thefts
- Data on the Server is available for analysis and reports

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Use Case: AMR for a Power Distribution Company

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Challenges:

- Reading consumption, diagnostic, and status data from HT meters
- Personnel visit to take readings
- Difficult to track tampering/theft
- Unavailability a centralized location for data from all meters

Solution

- Edge Gateway with surge protection
- Interfaced Edge GW with HT meters over DLMS
- IIOT Platform

Benefits:

- Saves time as no visits needed to location of the meter
- Accurate and complete readings
- Ability to detect Tamper events and Outage occurrences
- Ability to integrate with billing system
- Data security

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Pricing / Licensing model

User-wise

No of acquired parameters/tags

EPC Turnkey Projects

Contract annually/ quarterly/monthly

For System Integrators

- No of acquired tags/ parameters

For OEMs

- As per number of machines
- No of acquired tags/ parameters

For End users

- No of acquired tags/parameters
- No of assets

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Our approach to support you

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Thank You

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