

IoT, Industry 4.0 and Factory Digitization Service Provider



Introduction

We are leading IoT, Connectivity and Software products and solution provider to Oil & Gas, Process and Manufacturing Industries. IoT allows industries to connect physical devices and systems to the internet, collect data in real time, and analyze it to improve efficiency, productivity, and quality.

We help Inustries by providing the best solutions for this using the latest technologies combinations like IoT, VPN, Drivers, ERP and Integrations.

Core Team Strength

Our core strength is that we have expertise in both IT [Information Technology] and OT [Operation Technology]. Expertise in industrial protocol and web technologies like Modbus, Profinet, MQTT, Dashboard, Security which make unique combination required for any system integrator.

Expertise – Industrial Protocol (OT Integration)

We have expertise in understanding and implementing Industrial protocols and web technologies.

Major Industrial Protocol we use to collect data from machines or process plants

- Modbus
- Profinet
- OPC
- Bacnet
- Ethernet IP
- SLMP
- IEC 104
- CAN
- Raw data or custom protocol over serial or TCP

Server side we use the latest web technologies to provide fast, secure and user friendly solution to manage manufacturing process.

Expertise – Information Technology

We have also expertise in Web and Desktop based software which can provide you best user experience, data analytics and reporting tools.

We focus below major aspects of IT solutions

- Integration with OT (Machine / Field data)
- Security (TLS, Data security at rest and on transit, 2FA Authentication)
- Performance (Uses the fastest framework to provide result at blazing speed)
- Use Experience (Balanced combination of easy operation and features)
- Database (SQL, Timescale, Cassandra etc)
- REST API and Integration with other systems
- Startup and Backup utility
- Rich visualization widgets
- Detailed and customized reporting and analytics

Industries we serve



Manufacturing

Product and Machine manufactures



Process plants

Water treatment, Chemical treatment, Pharma



Power plants

Hydro, Windmills, Thermal



Oil and Gas

Flow, pressure and various parameters monitoring on Pipe networks



Smart Cities and BMS (building management system)

Smart traffic & parking, Smart metering, Security and Surveliance



Automobiles

Vehicle and asset tracking, Drones

Our solution used At

























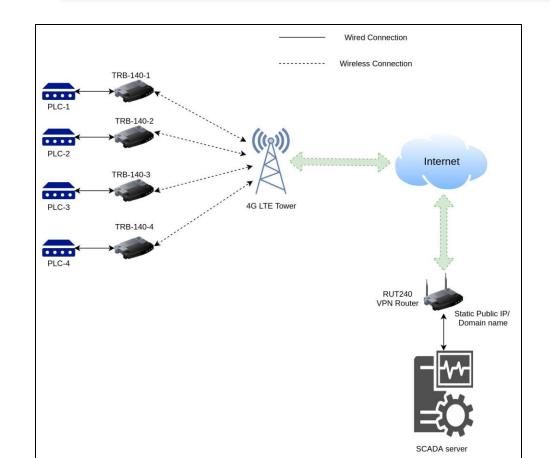


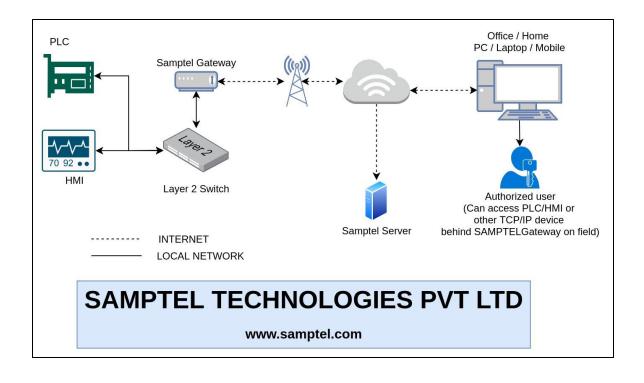


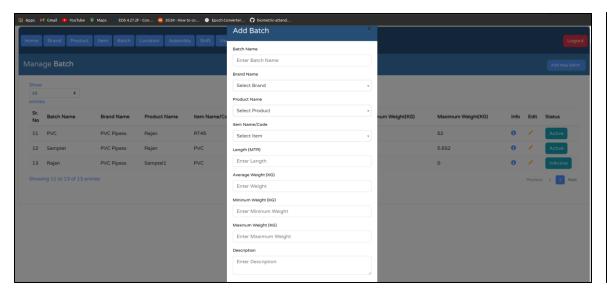
PLC & SCADA Connectivity

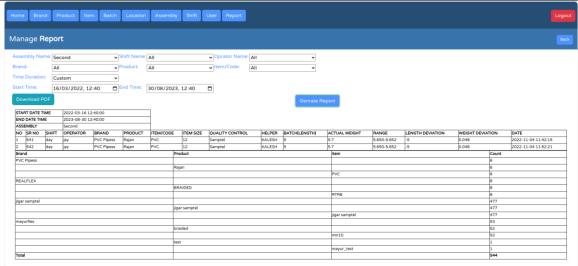
Our VPN services enables communication between field devices and office PC. Use cases :

- Remotely access field device for debug
- SCADA can connect to field device to poll them to read / write
- Read / Write between multiple remote field devices









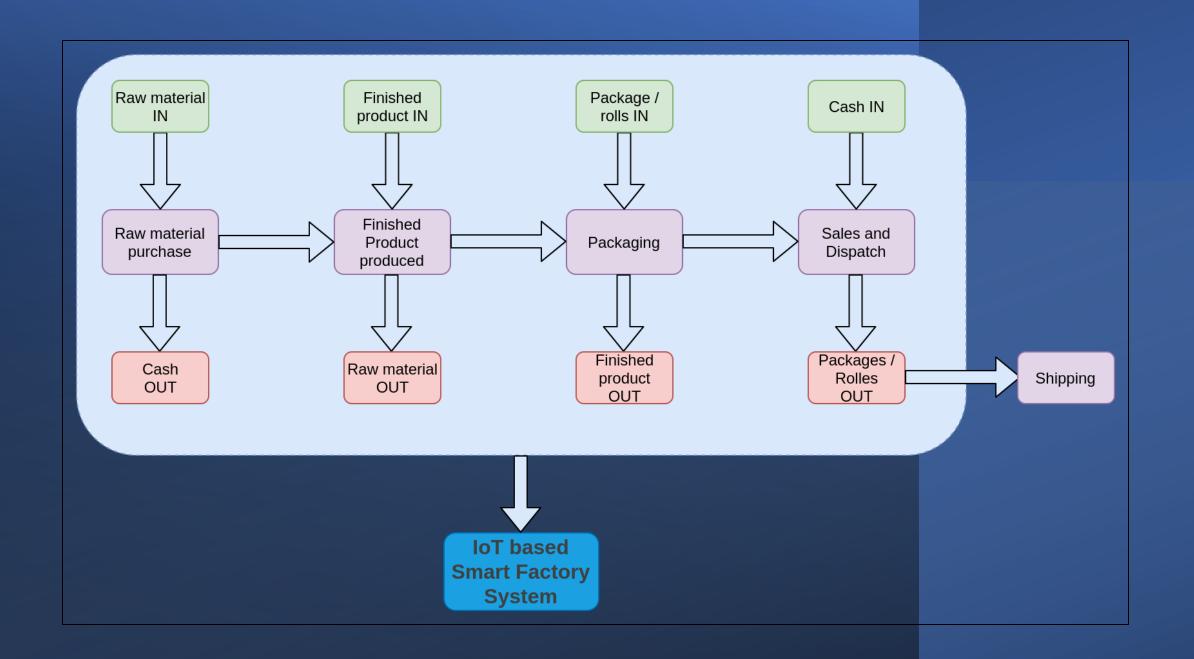
Digital manufacturing solution

Using IoT technologies to get data from manufacturing machines and use data to implement inventory management, cost calculation, worker efficiency, product variants management, label sticker management

- Sticker printing for identify manufactured rolls.
- Reporting

Digital manufacturing solution - Ongoing

- Different stages to collect data from various system
 - Purchased raw material (From Accounting system)
 - Cash Out, Raw material In
 - Semi finished product manufactured (IoT, From Machines)
 - Raw material Out, Semi finished product In
 - Finished product manufactured (IoT, From machines)
 - Semi finished and raw material Out, Finished product In
 - Finished product dispatched to customer (From dispatch application using barcode, and accounting system)
 - Finished product Out, Cash In



IT and OT integration for manufacturing plant

Provided IoT solution to customer to read data from manufacturing plants.

Read data from machines using industrial protocols

Store and manage data coming from machine

Provide data visualization for monitoring manufacturing parameters

Provide valuable data to customer's IT system for further processing

Waste water treatment plant monitoring and control

Read data from various PLC, RTOM and HMI from control panel

Proecess data locally in edge gateway and send to server for monitoring and reporting

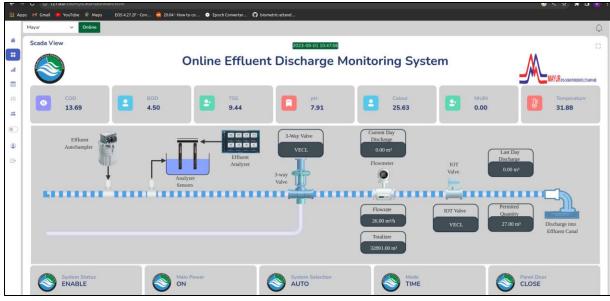
Server front end for users to monitor and control

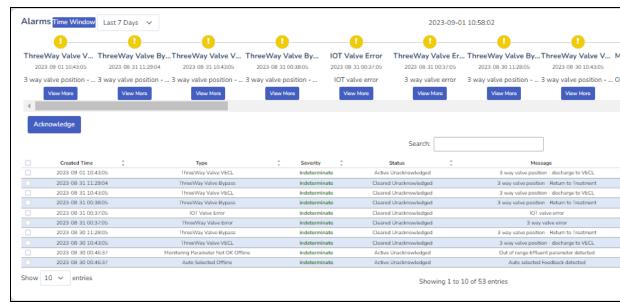
Roll based permission to user for various operation like admin, company users, monitor and control access etc

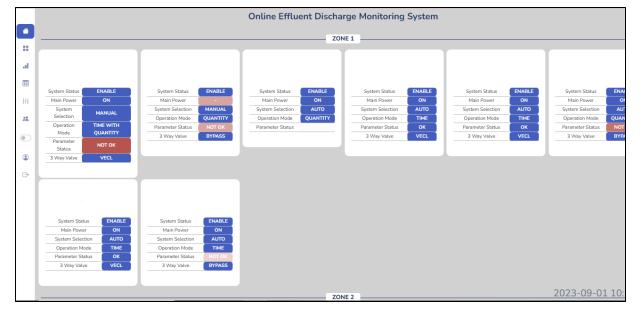
Manual and Auto report using email, customized report with excel fomula and company logo

Remote control operations for controlling valves and alarm rules

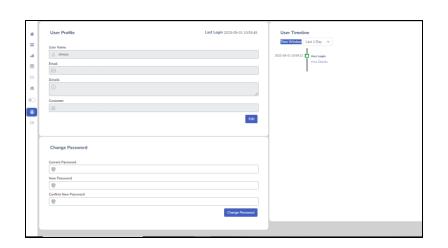


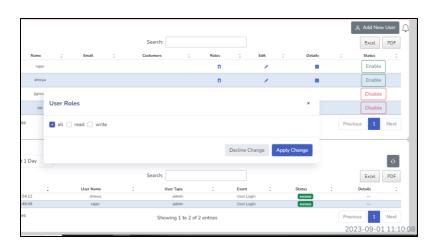














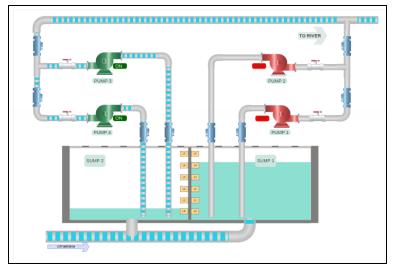
Textile machine production data monitoring

Shift wise over all production in kg, from no of doff, set length

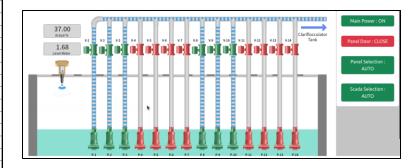
Spidle wise production calculation for given date time range







Auto Manual Mode		13	Pump Limit						
Auto Manual Valve Pump Start/Stop		Pump No.	High limit		Low limit				
			1	45		Ø		30	Ø
		2	47		3		32	B	
Pump No.	Start/Stop		3	50		2		34	Ø
1	•		4	51		${\mathscr Z}$		42	3
2			5	52		\mathcal{C}		36	Ø
3	•		6	40		Z		37	ď
4			7	45		3		30	3
5			8	47		3		32	ď
6	•		9	50		3		34	ď
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9			11	52		Ø.		45	ď
10			12	53		$\boldsymbol{\mathscr{Z}}$		37	B
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14									



Pumping station monitoring and Control

- Remotely monitor various pumps and valves for city pumping stations
- Provide control options to set manual / auto operation
- In manual mode provide options to turn on / off pumps and valves and for auto mode provide options to set limits

Firmware Projects

IoT Gateway firmware

Industrial protocol converter

Data logger

Remote PLC / HMI / IPC / Field instrument connection for debug and firmware update

Battery management
System for
automobiles

Protocol converters