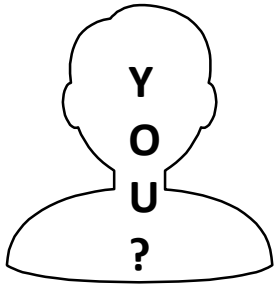
Production Monitoring System

Introduction
&
Technology Overview

Do you get these thoughts?

I need to improve machine operational efficiency and be able to budget for each stroke or operation

I know that my machine runs 90% of the time; but suspect that the actual work performed by machine is less



It takes me at least 15 minutes to know when a machine has failed thus resulting in productivity loss

I want to install additional sensors, analyze data and provide timely notification messages to respective stake holders

- Leading Industrial IoT Platform for Manufacturing Industry
- Help Customers to Increase Machine Up-Time
- Provide Real-Time Manufacturing Analytics and Insights

S2R2 Suite

Production Monitoring

Condition Monitoring

Manufacturing & Assembly Traceability

Remote Health Monitoring

Customized Industrial IoT Solutions

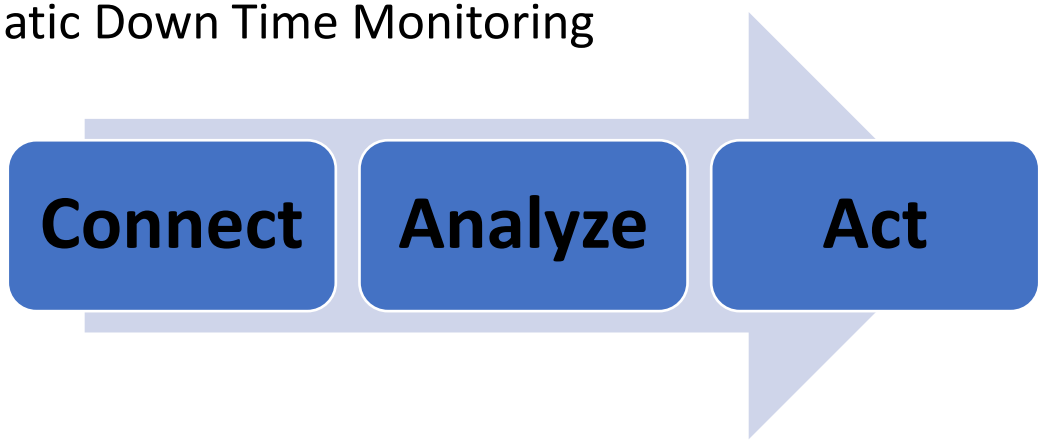
650+ Machines

50+ Customers

10 Million Records per day

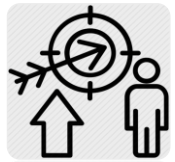
Production Monitoring

- Productized Industrial IoT Software Platform for Monitoring All Kinds of Machines
- Uses Edge Computing Devices, Data Lake and Analytical engine
- Optimize Machine Operations
- IoTize Legacy Manufacturing Machines (Acquire Production Data)
- Plug and Play Installation to Monitor OEE
- Automatic Down Time Monitoring



Real-time production visibility on the shop floor

Identify and act on the causes of downtime

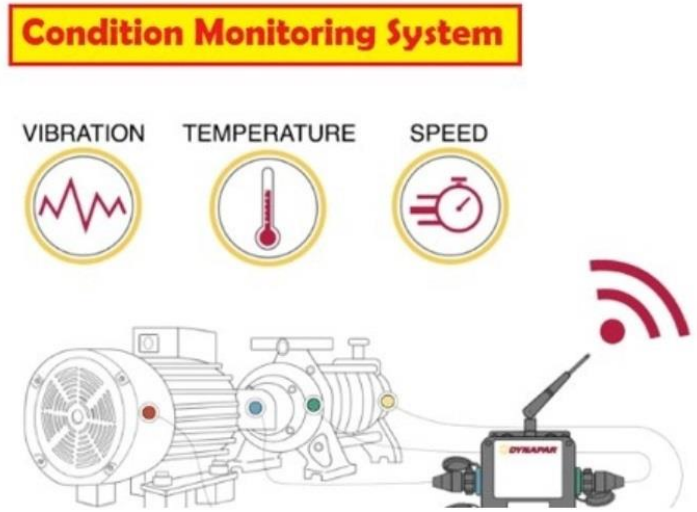


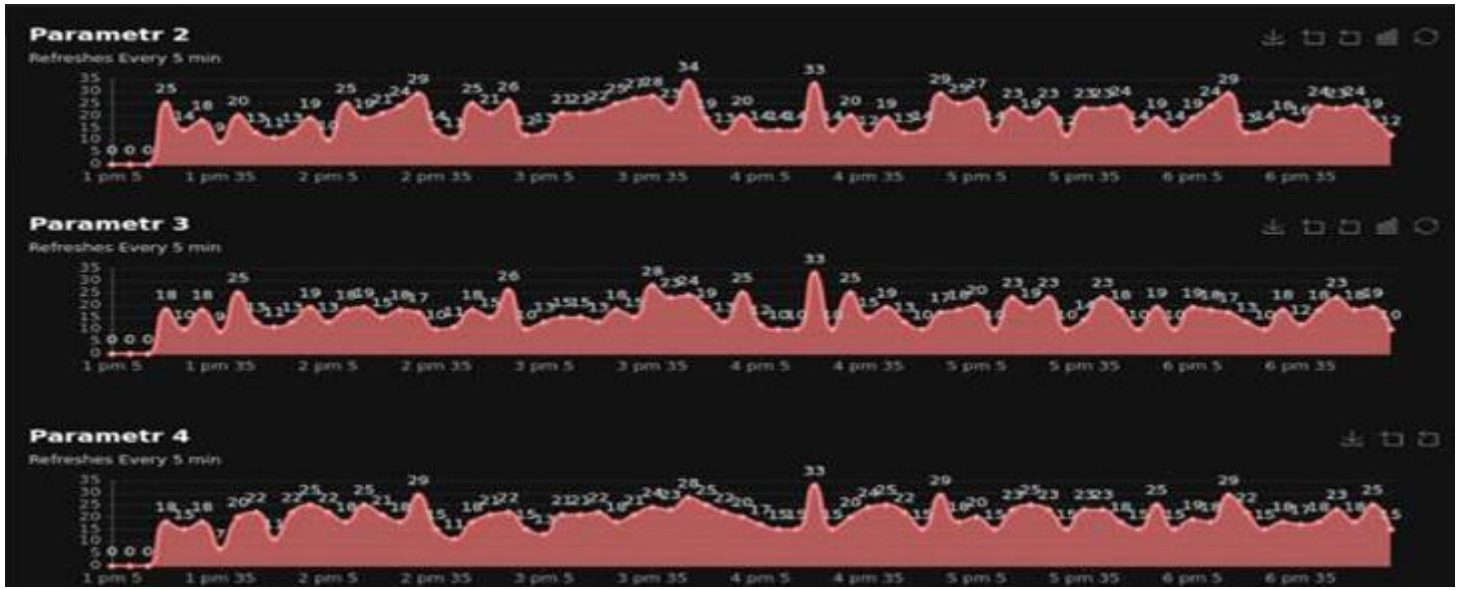
Performance evaluation of machine

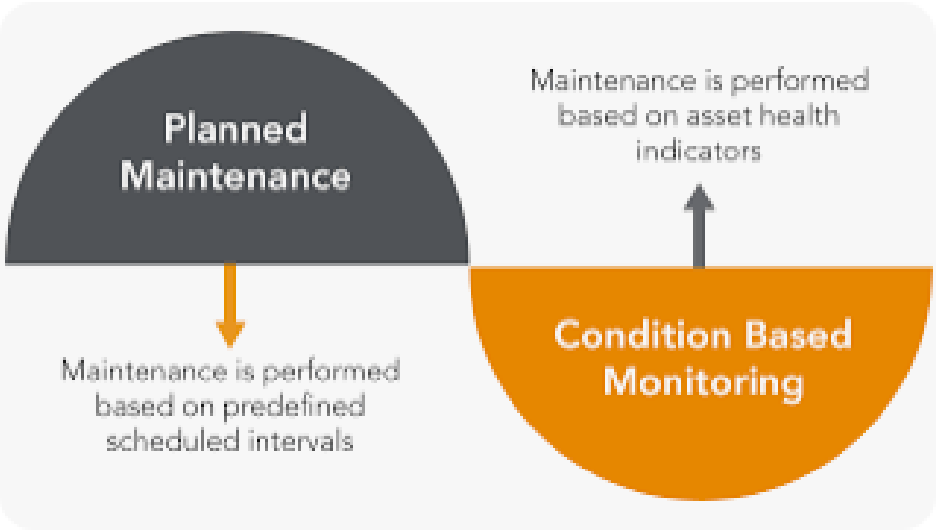
Identify process improvements at various levels

Seamless integration with external systems like ERP

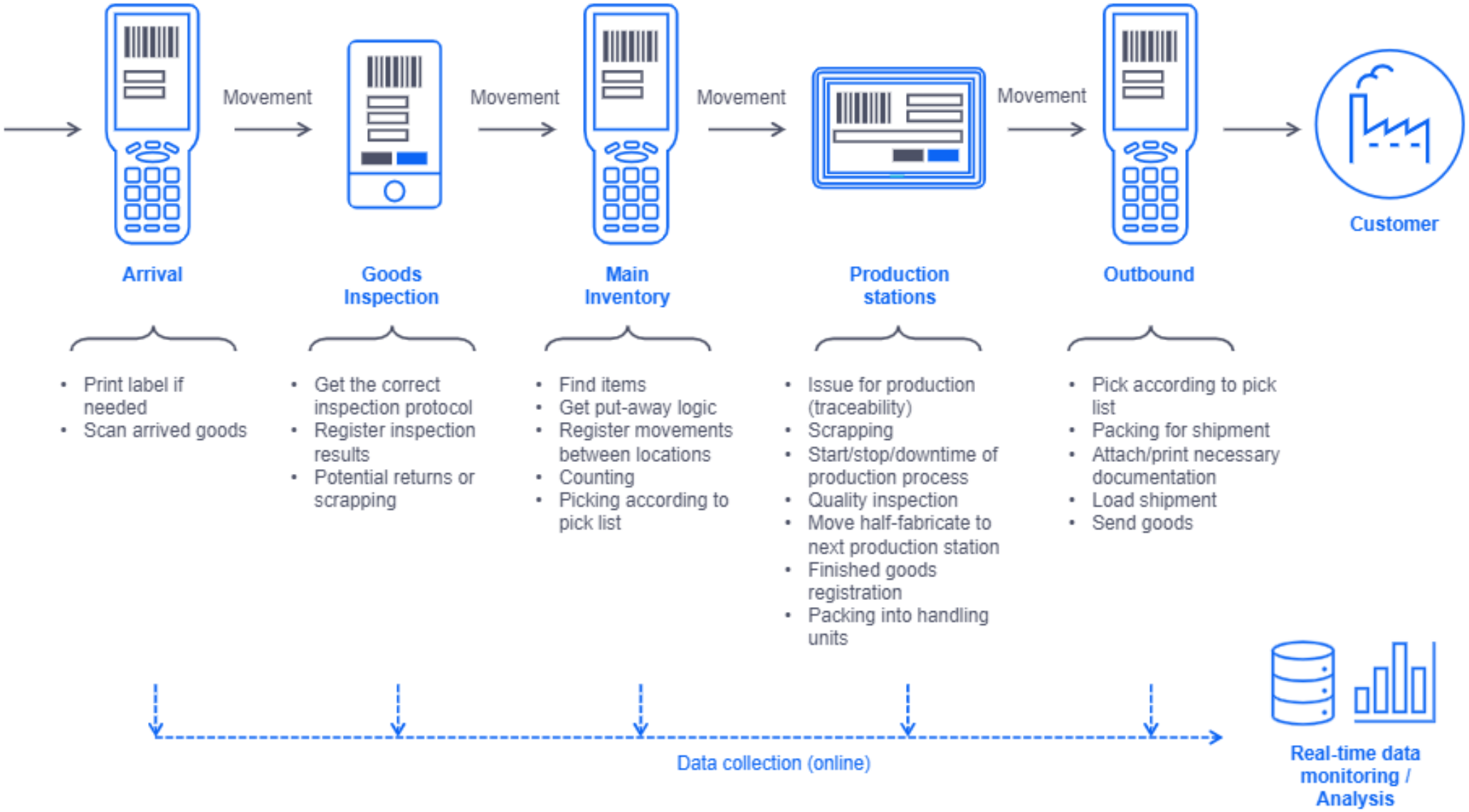
- Ready to use IOT Application platform for Condition Based Monitoring (CBM)
- Any Parameters or conditions like Temperature, Pressure, Vibration, Acoustic Noise, Humidity etc. can be monitored (with the help of sensors)
- Sample dashboard for temperature monitoring







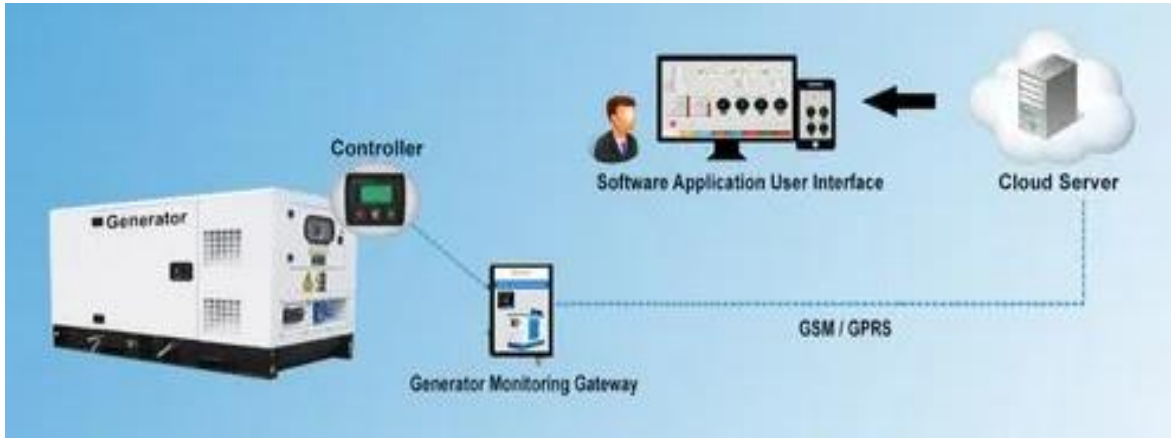
Manufacturing Traceability



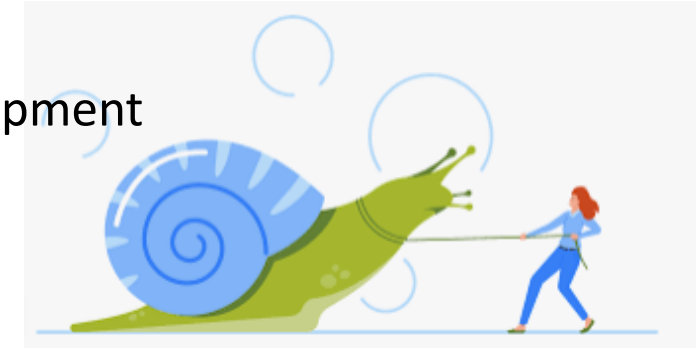
Remote Machine Monitoring

- Enable Tele-management of your equipment to:
  - ✓Manage it remotely
  - ✓Supervise its operations
  - ✓Receive immediate alerts for incidents
  - ✓Compare performance between different equipment
  - ✓Improve your efficiency and the competitiveness

- Enhance Up Time and Productivity of Equipment
- Bring down Warranty Costs
- Plan Service and Support Calls



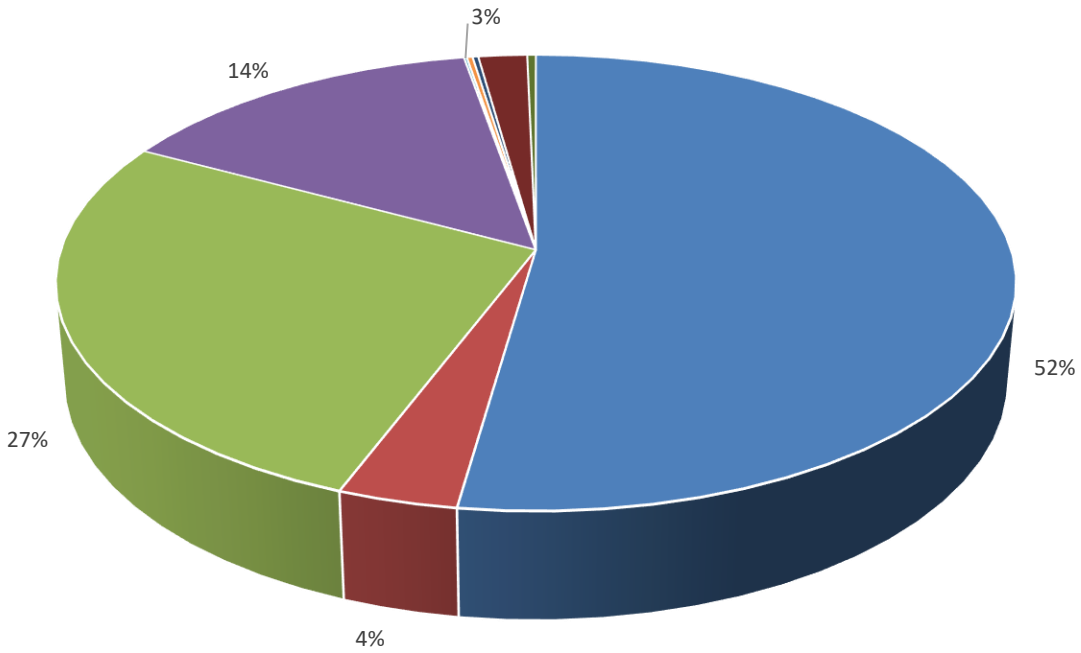
- Legacy Equipment is a Big Road Block for the Digital Transformation



- S2R2's Hardware Device (Iotizer) can Acquire Data from any Legacy Equipment

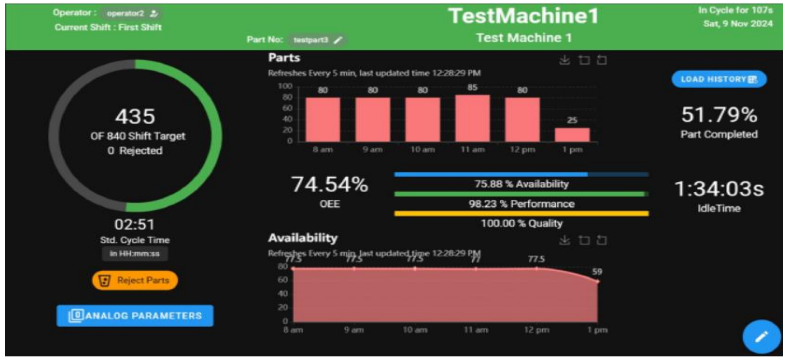
- Industry grade standard chipset
- Digital and/or Analog Inputs/Outputs
- Wireless Communication
- Protocol: MQTT
- Easy to Configure and Maintain
- Web and Mobile App for Wireless Configuration
- Data Security: TLS 1.2 supported
- FOTA

Installed base



TATA MOTORS · SKF · RSB · KALYANI TECHNOFORGE · IAC International Automotive Components · FIAT · Godrej · RENISHAW apply innovation · Saroj Group of Companies · KIE · ASK · H · JENDAMARK TECH | PEOPLE · EagleBurgmann · entrib · calibit · WERARDT · TRIGO Global Quality Solutions · PNEUTECH ENGINEERS

Site Pictures and Insights



Leadership Team

Sandeep Mutalik	• MBA from Symbiosis, Pune in Computer Systems. 27+ years of experience in Software Product Development, hands-on experience while working with PCS, i2 Technologies, BMC Software, Avaya, IBM • Worked extensively at customer sights at USA, Germany, South Africa and India • Sound Domain Knowledge of Machining Centers, Metrology, Data Acquisition and Processing
Rajiv Mandke	• B Tech Mechanical Engineering from IIT Bombay • 45+ years of Global experience in Management, Strategy development and Business functions • Ex Principal Consultant at Kaizen Inst. Japan, Executive Director at ACMA, Tata Motors, Schlumberger • Expertise in driving Automotive and market expansion plans
Santosh Mutalik	• BE Mechanical from MIT, Pune • 32+ years of experience in Business Development, Enterprise sales, Key Account Management • Ex GÜDEL India (GM Sales), Atlas Copco (Business Line Manager P&L responsibility), Crompton Greaves • Excellent network with Automobile industry, Tier-1 component manufacturers, Tractor industry, Off road industry, Line builders, Heavy engine & genset manufacturers, etc.

Production Monitoring System

Technology Overview

Architecture: Block Diagram

PLCs

S2R2 Adapters

Siemens, A-B, Fanuc, etc.

Sensors or A/D Signals

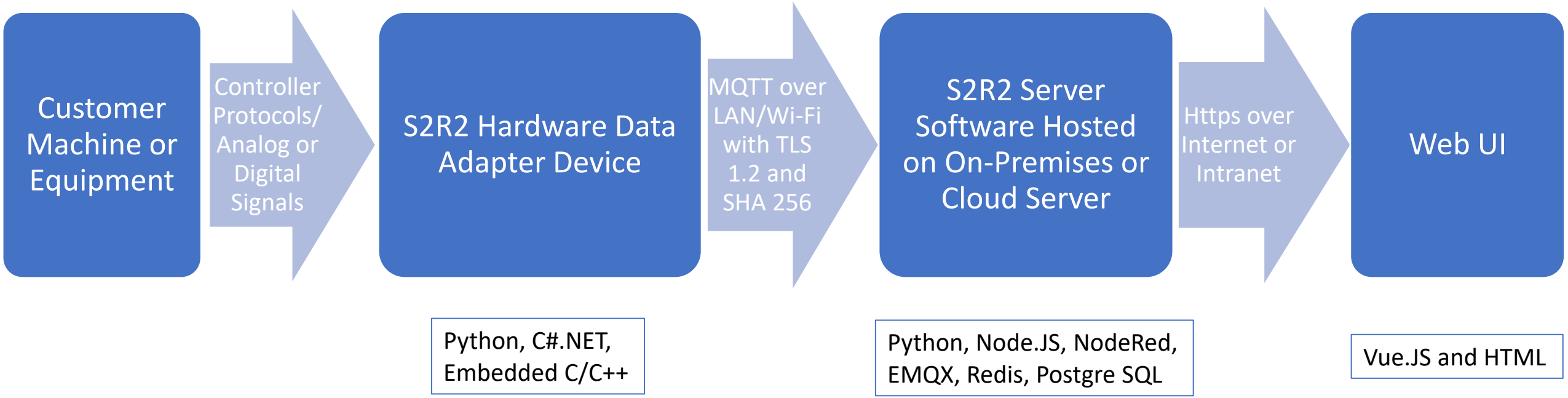
Gateway

Server Software On-Prem or Cloud Server

Web Interface

Users

Data Flow


Customer Machine or Equipment
Controller Protocols/ Analog or Digital Signals
S2R2 Hardware Data Adapter Device
MQTT over LAN/Wi-Fi with TLS 1.2 and SHA 256
S2R2 Server Software Hosted on On-Premises or Cloud Server
Https over Internet or Intranet
Web UI
Python, C#.NET, Embedded C/C++
Python, Node.JS, NodeRed, EMQX, Redis, Postgre SQL
Vue.JS and HTML

Thank You!

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