



PQSI Digital
Private Limited

StatPort

Certainty & Success with Industry 4.0

Production Planning . Visibility . OEE
Process Control . Quality Control . SPC .
Condition Monitoring . Asset Life . Yield Analytics
Workflow Automation . Workforce . Apps . Traceability
IIoT . Edge - Enterprise . Analytics . Big Data

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Why StatPort

Monetizing Industrial Data

Manufacturing companies have always invested in data - both from digital sources and human effort, yet we are always thirsty for information and insights.

StatPort has the ability to consume large volumes of varying types of data, translate raw data into readable logs, layer the logs with algorithms, generate actionable insights and deliver it to the right person in real time. It goes one step further and validates corrective actions for sustainable bottom line impact.

StatPort is the industrial pipeline that starts with data and delivers profits.

StatPort is available in specialised configurations to meet different objectives: Discrete, Assembly, Heavy Fab, Process Industries, Project Manufacturing, Assets & Maintenance, along with different variations for Quality Control.

Industrial Grade Product

The Data Engine of StatPort is built ground up for Industrial Use and is Time Tested. Our Machine Learning - Parsers are sturdy to work with different data protocols like OPC-UA, MQTT, MT Connect, Ethernet, Modbus, Profinet and more.

Our algorithms are capable of translating and transporting heavy payloads with a minimalistic Edge - Server configuration, for on premises, hosted server or cloud deployment.

Trusted by the Best

Ashok Leyland, ACWA, Amar Raja - Mangal, Aqua Flow, Armoured Vehicles, Birla Ultratech Cements, Brakes India - Showatech, Hyundai, Indian Metal One, LGB, Perfect Engineers, Pricol Limited, Pricol Precision, RT Fasteners



PQSI Digital Private Limited is an Industrial Data Company with its flagship product StatPort. We have Pricol Limited as investor & strategic partner

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32 MILLION

StatPort takes is more than 32 million data points each day across customer locations.

3 TIER

IoT - Edge
Industrial Data Pipelines
Big Data

Powering Data Logs,
Charts, Tickets, Workflow,
Apps & Dashboards

300

Data points / sec:
Capable Edge
Computing -
without cloud

50+

Active deployments
across different
flavours of StatPort

SMART FACTORY - PLASTIC COMPONENTS

State of the Art Injection Molding machines beam heavy payloads of data in real time encompassing: Machine Condition, Process Parameters, Production Count & Raw Material Consumption. However, getting a holistic picture will need Human - Machine interface towards capture of production, quality and material losses. With IT - OT Convergence StatPort has delivered a Smart Factory that is driving comprehensive gains across all functions.



QUALITY 4.0 - DEFENCE

Heavy Vehicles Factory had a goal to achieve Quality 4.0 success encompassing 350+ Digital Measurement systems within a span of 3 months. The scope included Digitalisation of Check Sheets for 150+ parts, with attribute data (human observations) in addition to IoT integration. StatPort has delivered Smart Quality within the time frame. Statistical Quality Control with IoT across 6 Lines / 24 Stations

180 PHONE CALLS / SHIFT: CEMENT

The high temperature - 1400 deg C - requirement for Cement Production has driven significant investments in Digital. However, end users are left to deal with Islands of Data & low MTTR. The need is to transform Data rich Control Rooms to delivering actionable insights. With StatPort 300+ deskless workers get realtime insights, driving better practices, institutional memory and throughput.

A VEHICLE EVERY 2 MINS

True Effectiveness requires a robust IoT strategy. Different data models are required to isolate: Availability, Performance & Quality losses. StatPort tracks position of Governor Stations enabling supervisors to identify constraints & resolve losses. Outcome: Cycle time improvements from 8 mins to 2 mins with insights gained from 35,000 data points per roll out.

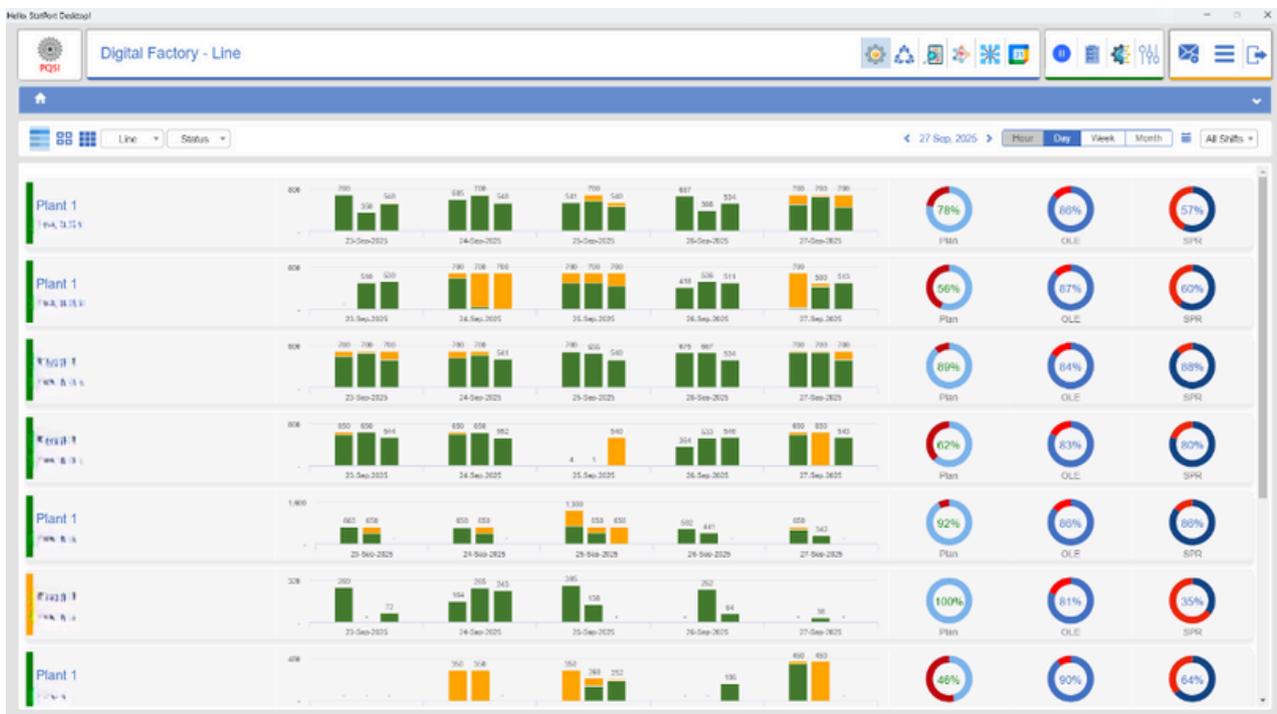
Productivity

Plans & Priorities

- Integration with ERP, inherit plans
- Capture constraints in real time
- Change priorities - allocations
- Monitor Plan vs Actuals
- Tracking variable costs with IoT

Visibility

- Real time visibility of Plants
- Drill down to Lines & Machines
- Track jobs or batches in real time
- Detect bottlenecks and take action
- Batch - Part Traceability



StatPort Digital Factory Dashboard - Live Status, Production Trends, Efficiency, Effectiveness & Quality

OEE & OLE

- Identify cycle time losses
- Track & resolve losses
- Map to Availability, Performance
- IoT integration to capture Quality
- Holistic approach to OEE: AR, PR, QR

Yield

- Integrate with Material Feeds
- BoM check with ERP integration
- Track process (common) losses
- Identify abnormal consumption
- Real time yield monitoring

Quality

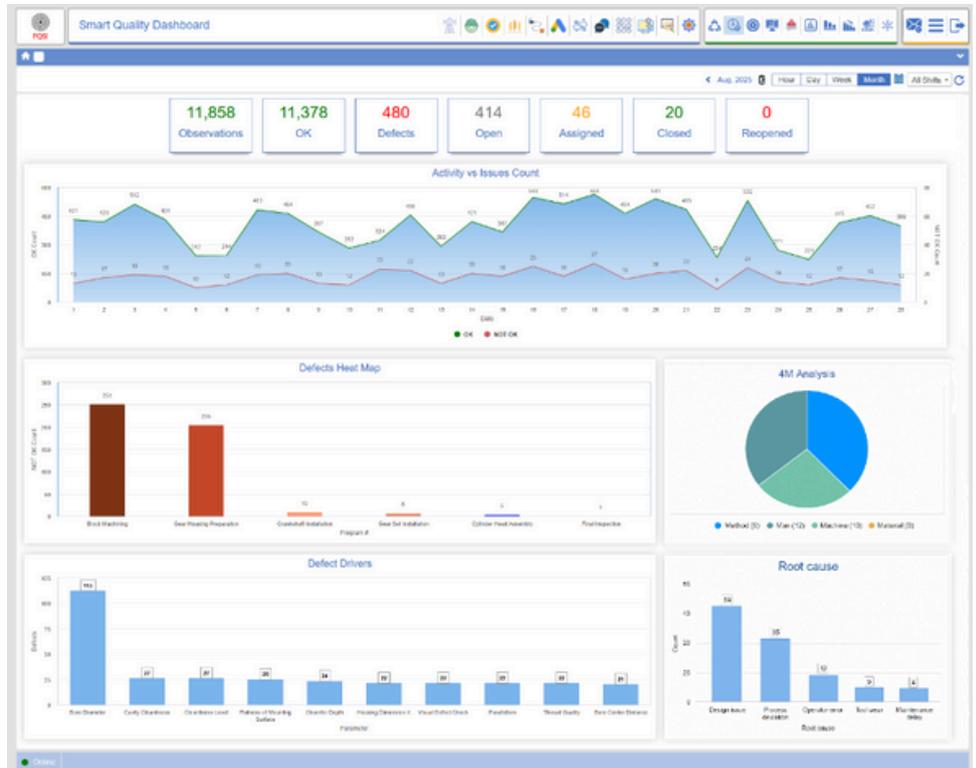
Digital Check Sheets

- Paperless transformation with Apps
- Change management, version control
- Workflows to automate quality plans
- Calendar to plan, track & control
- Archives with Traceability Search

Telemetry / IoT

- Digital Control Plans - Sampling
- Incoming, In Process, SFG, EOL
- IoT: Air Gauges, Handheld, CMM...
- Barcode, QR Code, RFID, BLE support
- Track rework, rejection, approvals

Palm Pro App - Process Monitoring



Smart Quality - Live Status, Heat Map, RCA, 4M & Impact of Problem Solving

Process Monitoring

- IoT integration with PLC, SCADA
- Machine Learning to identify issues
- Algorithms to identify anomalies
- Batch - Grade traceability
- Holistic approach to OEE: AR, PR, QR

Outcomes

- Statistical Process Control
- Auto / Manual allocation for CAPA
- Root Cause Analysis, 4M
- Monitoring CAPA for sustainability
- Institutional Memory - Traceability

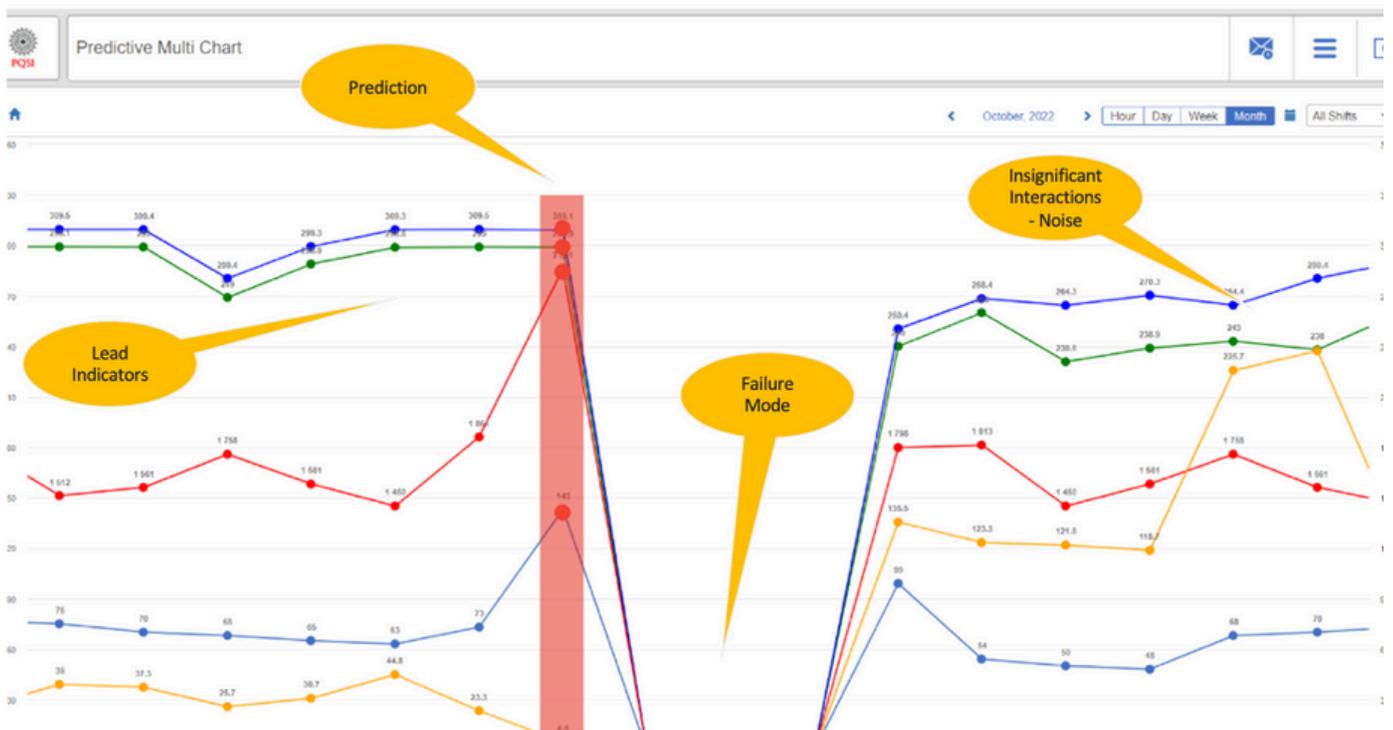
Maintenance

Maintenance

- Digitalisation of PM Schedules
- Downtime capture with IoT
- Real time MTTR, MTBF
- ERP Integration for Spares, Costs
- Evolve from Preventive to Predictive

Asset Life

- IoT based tracking of Life vs Use
- Poka Yoke: Error Prevention methods
- Pre-emptive - Preventive Controls
- Workflow for Service Management
- Wear Analysis - Left Over Life



Predictive Maintenance with Denoising Algorithms

Calibration

- Measurement System Analysis
- R & R Study
- Gauge Issue - Return Workflow
- Asset Tracking
- Workflow for Calibration

Tracking & Location

- IoT for Asset Identification
- Passive ID: Barcode, QR Code
- Active ID: RFID, BLE
- Live Location for Critical Assets
- Ownership & Rule based monitoring

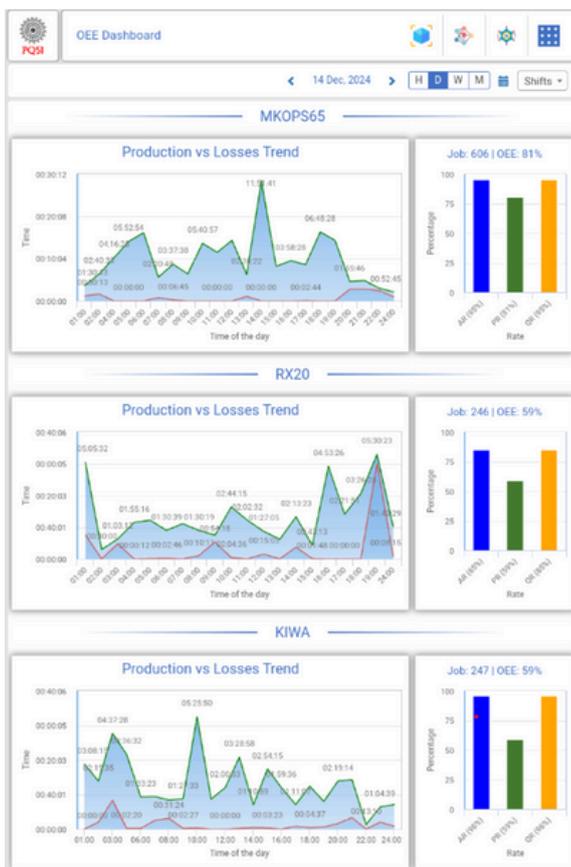
Apps & Documents

Apps

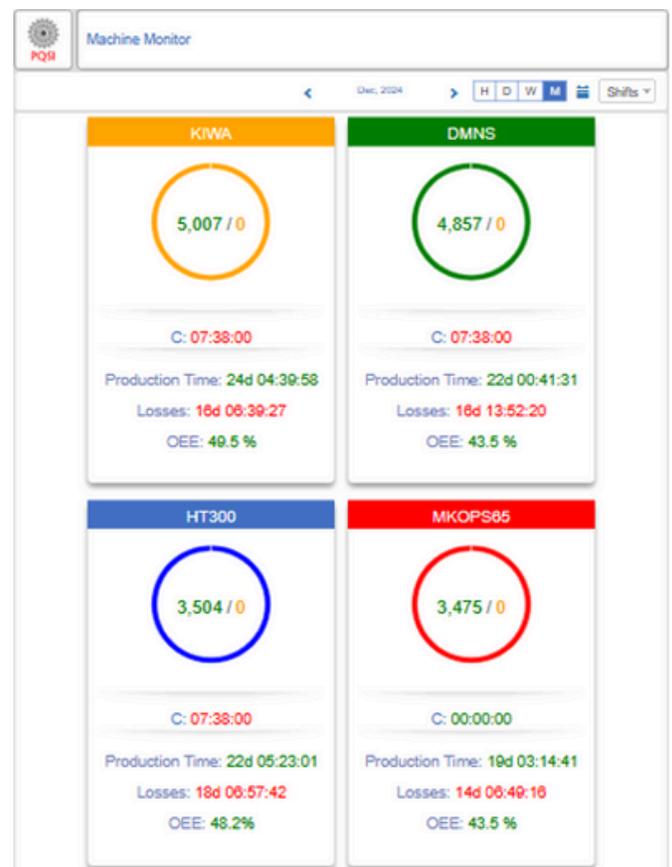
- Replace paper with Digital Templates
- Centralised change management
- Evidences for Compliance - Audit Ready
- Save time & effort in data retrieval
- Automate Operation Sequences

IT - OT Convergence

- Analytics - Insights from OT Data
- Templates that respond to OT Signals
- Support for Process - Product variants
- Reliable capture of constraints & losses
- Human - Machine Interplays



Mobile app - Live OEE Dashboard



Mobile app - Real Time Condition Monitoring

Industrial Mobility

- Digital Job Cards
- Mobility for Industrial Workforce
- Process monitoring & response
- Condition monitoring & Response
- Access to Analytics - Anywhere

Documents

- Framework for Data Management
- Compose new documents
- Modify existing documents
- Update data properties
- Change management - made easy

StatSocial

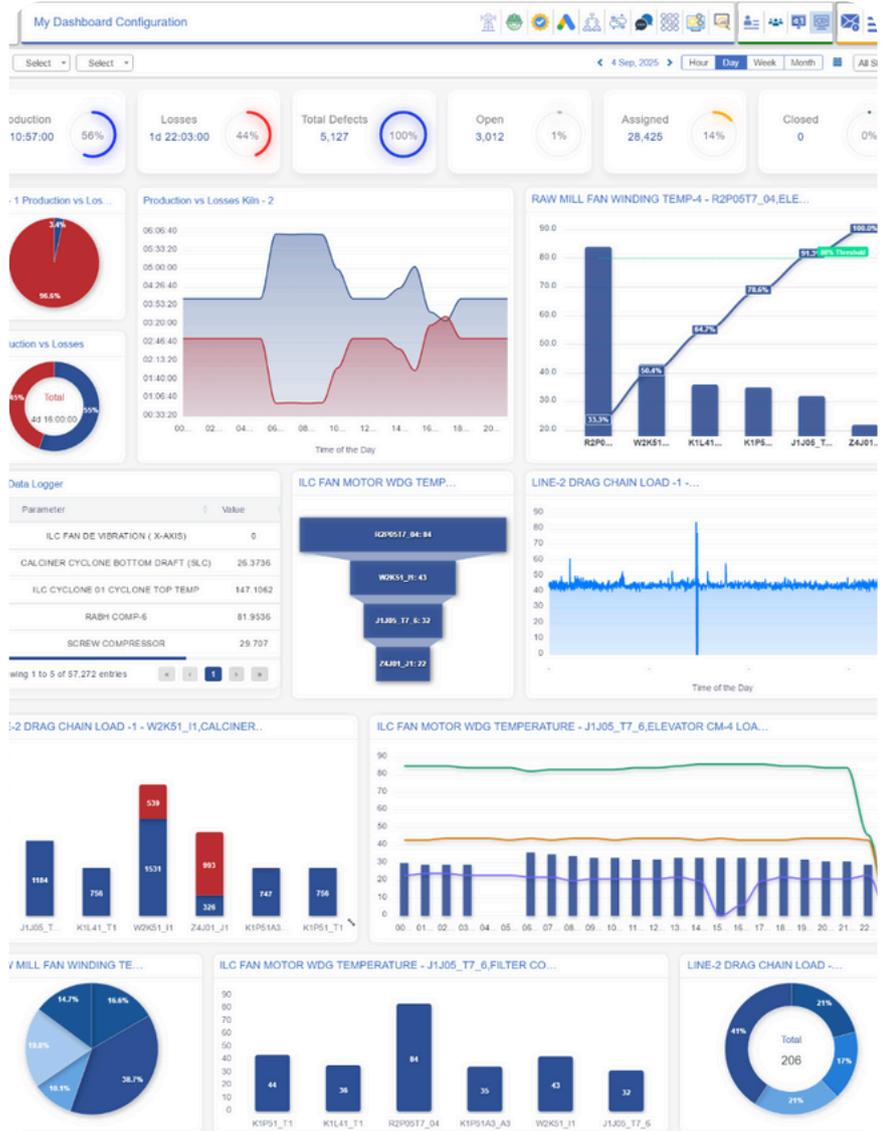
We are at a large process manufacturing complex and it is the early hours. Kiran is the Maintenance Engineer 'on call' and is moving to the location of a L3 alert. It is the 3rd or 4th time that she got the same alert this week. While driving to her section of the large plant, she is waved at by Kumar and his Electrical Gang, and that too seemed like the last few times. Coincidence?

Their company has been driving Industry 4.0 and their Vice President has been closely monitoring the quality of insights delivered to his engineers. He wanted to quickly evolve from monitoring of parameters, to a more holistic - system thinking.

What if Kiran's recurring tickets is somehow related to what Kumar and Gang are up to? Kiran pulled out data for 3-months and packed them into charts to show significant shifts in patterns, duration of the instability and corrective actions. Her corrective actions were not sustainable and inferring that her root cause analysis was off. Tickets she closed were re-opened by StatPort and gaining position in the 'Daily Works Management' dashboards. She did not want to be at the top row of that dashboard.



Charts shared by users - StatSocial



Dashboards published by End Users

She thought of StatSocial, the social app for deskless workers like her, to collaborate with peers. Spending time in StatSocial was like scrolling through reels on social media, but informative. She posted her charts and tagged Kumar.

Kumar, having been through a similar scene, realised what was going on. Two assets as much as 15-steps away in the operation sequence were impacting each other. Kiran had stumbled upon an mast head of a 'virtual' group. Enriched with their new perspective they got the real root cause, arrived at a sustainable closing and took out hundreds of tickets from the past, present and, into the future. They remembered their VP's oft-repeated line: Sustainable problem solving is Profits.

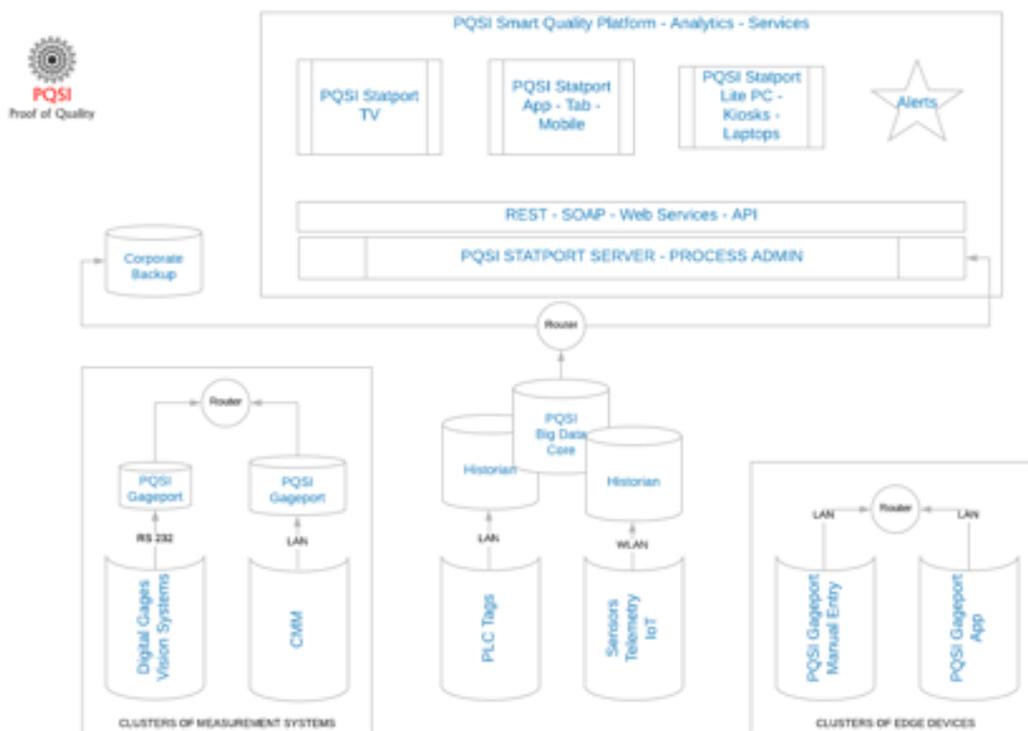
Industrial Data Management

IoT for Gen 4, 3, 2 & 1

- IV. Ready for network 2-way interactions
- III. Responds to syntactical commands
- II. Is Digital - But not communicable
- I. Has minimal or no digital capabilities

Industrial Edge

- Support for 13+ Protocols
- Parsing of large data payloads
- Translate - Transport in real time
- Resilience for Industrial Networks



Architecture for IT - OT Convergence

Data Pipelines

- Restful Web APIs for data services
- From OT to Database
- From Database to UI / UX
- 100% API based architecture
- Secure Edge to Enterprise integration

Big Data

- Ideal for unstructured data
- Document based architecture
- Meta data capabilities
- Efficient for multi year archives
- Cost competitive

Partners

At PQSI Digital our growth is driven by our relentless focus on product capabilities. On the other hand, customer success in Industry 4.0 entails End-to-End solutions & Significant Value Adds. To achieve both goals, we have built close knit partnerships with the best names in Digital Manufacturing. With our expert partners we deliver outcomes and enable you to focus on the bottom line.



BIM TRICHY

Artificial Intelligence
Operations Research
Machine Learning - Deep Learning
15+ Years in AI



SAP CONSULTING

Industrial Intelligence - Coimbatore
Industrial Edge to Enterprise
Best Practices - Global Standards
Tenure: 20+ years



CONSULTANTS

Domain - Process Experts
Empanelled Specialist Team
ROI - Outcome Orientation
30+ Years of Experience



IQC AIS

Machine Vision Systems
NDE based Expert Systems
Global Class Industrial AI
Over 80 million products evaluated



INNOVATIVE AUTOMATION

Dimensional Metrology
Air Electronic Gauges
IoT Interfaces for CNC Machines
Tenure: 30+ years



BOMBAY TOOLS

Precision Measurement Devices
#1 Mitutoyo Dealer
Calibration Labs
Tenure: 80+ years

Industry 4.0 Roadmap

Paperless - Digitalisation

1

Start with Paperless Transformation and gain control over data. Guide users with Digital Documents that support Production variants, and respond to operation status. Automate routine operations with workflows, improving visibility & compliance.

IoT integration

2

Consolidate OT streams into a Data Logger. Remove dark data and gain reliable insights in real time. StatPort can integrate with CNC, PLC - SCADA, Historians, Hoppers, Measurement Systems, Sensors - Gateways, Power Drives, BLE - RFID and ERP.

IT - OT Convergence

3

Orchestrate Man - Machine interplays with IT - OT Convergence. StatPort is built ground up to combat challenges and deliver reliable outcomes with Convergence. Transform to a holistic - data driven governance, tailor made for Industrial success stories.

Industrial AI

4

Achieve Edge to Enterprise (ERP) integration. Start with real time visualisation and descriptive analytics, build a reliable foundation with data and invest in Predictive Analytics, Prescriptive Solutions and Process Control Loops.