

# SMART 4.0

Software Manufacturing Analytix in Real Time (4.0)



# What is SMART 4.0

Software for Manufacturing Analytix in Real Time (SMART) 4.0 is a fully customizable and adaptable solution where customers require insight into what is happening in their shop floor. With over 15 years of experience in solving manufacturer's data connectivity, we have come a long way in creating SMART 4.0 platform that uses the latest technology in IOT.

## Manufacturing Current Situation

- Traditional Data Management methods?
- Rising Manufacturing cost from Operational Downtime?
- Machine idle without fast respond time?

## Improve Operational Respond Time with SMART 4.0

- A fully customized and adaptable solution for different machines and the competitive Manufacturing environment.
- Minimize production delays or machine downtime at the shopfloor.
- Do away with traditional and tedious paperwork.
- Tracks Availability, Performance and Quality of the shopfloor.

## ANDON Monitoring Systems



## Manufacturing Current Situation

- Current system unable to monitor production performance and efficiency.
- No immediate attention to problems as they occur in the manufacturing process.
- Current system do not capture downtime of production line thus production performance can't be measured.
- Current system using manual counting for production output and manual reporting by production department.
- Current system only provide minimum data for future improvement analytics.

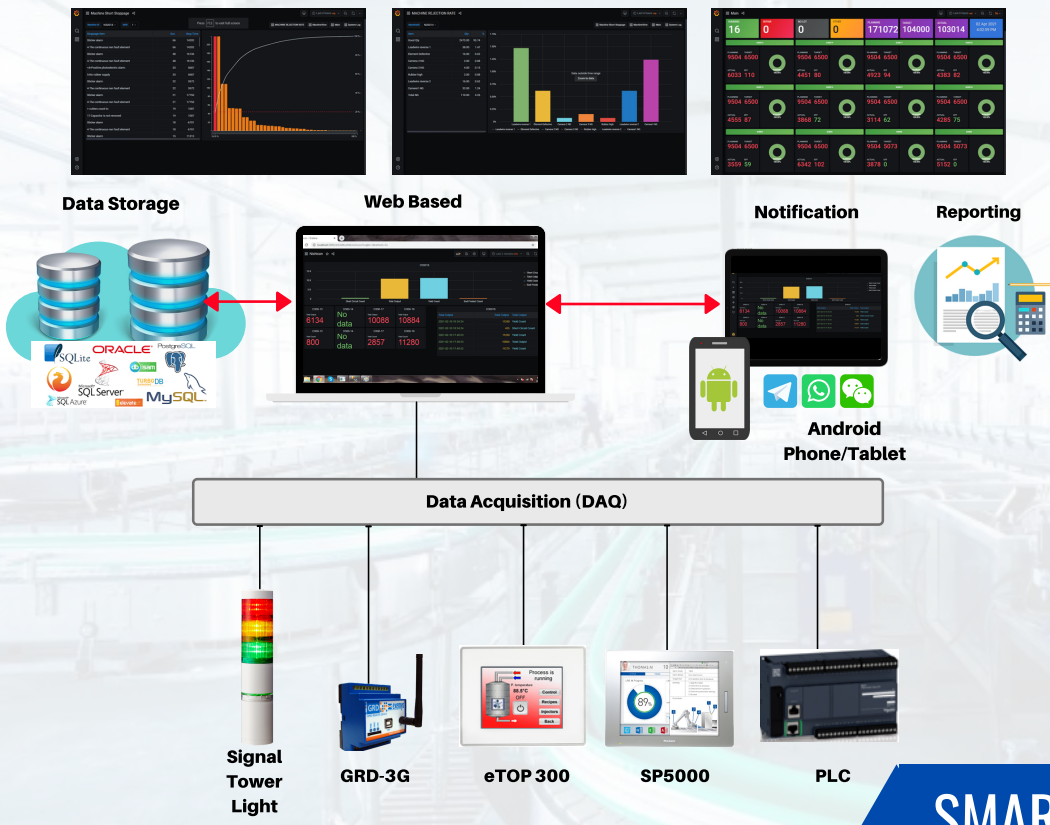
## COST REDUCTION

## Reduce Operating Cost SMART 4.0

- Cut material costs by do analysing from the generate report
- Optimize performance by tracking the production line in real time
- Avoid over-scheduling staff by improving respond time toward any issues or problems occur
- Automate manual processes at the early stage by collecting data, paperless etc.
- Optimise processes with the right tools.

## Benefits and Features SMART 4.0

- Encourage immediate reaction to quality, down time, and safety problems.
- Bring immediate attention to problems as they occur in the manufacturing process.
- Improve the ability of maintenance team to quickly identify and resolve manufacturing issues.
- Provide a simple and consistent mechanism for communicating information on the plant floor.
- All information is recorded down for future trace, analysis and future improvement



## SMART 4.0 Building Blocks



### Dynamic Dashboard

- Collaborate and Share Shop Floor information across departments



### Analytix and Reporting Engine

- Immediate access of factual and real-time data from the shop floor



### User Interface

- Customize web base User Interface



### Data Storage

- Distributed or centralized Database Engine



### Data Acquisition Module

- Interface with machine directly through Hardwired, Serial, Ethernet or Wireless Solution. Plug-Play concept

## Digitalisation in Manufacturing with SMART 4.0

- Production facilities must become more efficient
- Step by step to smarter production

### Digitalization Features :

- Monitor and reports machine usage, conditions and losses.
- Notification and alerts via email or popular messaging APP to alert key personnel on issues related to machines.
- Do away with traditional paperwork Smart 4 0 user interface can be adapted to mobile, or tablet environment Production target/achieve quantity, machine stoppage reasons can be entered into the system.
- Automatic or on demand report can be generated and distributed to the management.
- Web based dashboard display provides stunning and clear results to be shared with operators and management Fast response to any abnormality can be identified and resolve Data are updated in real time.

### Benefits of Adopting Digitalization in Manufacturing

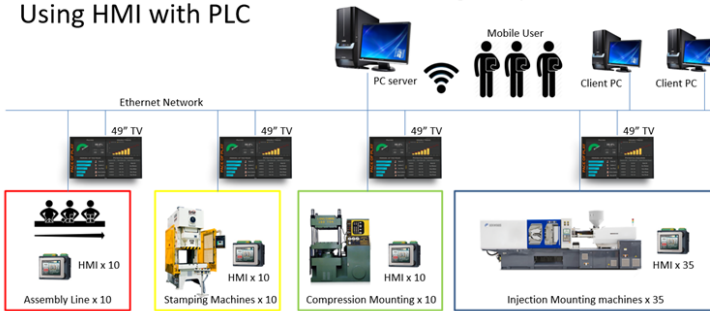
- Reduce Operation Cost
- Eliminating wastage
- Improve Response Time
- Gain Insight
- Reduce Downtime
- Improve Efficiency
- Optimize Productivity
- Better Quality Control
- Improve Communications
- Real time monitoring
- Data Accuracy, Transparency, Traceability.



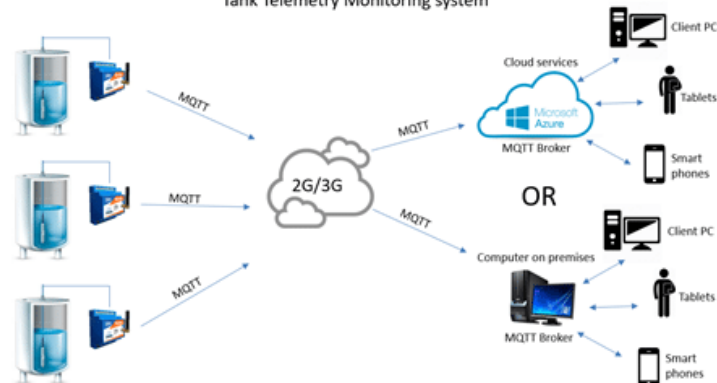
## Computerization & Connectivity

### Overall Architecture of Production monitoring System Using HMI with PLC

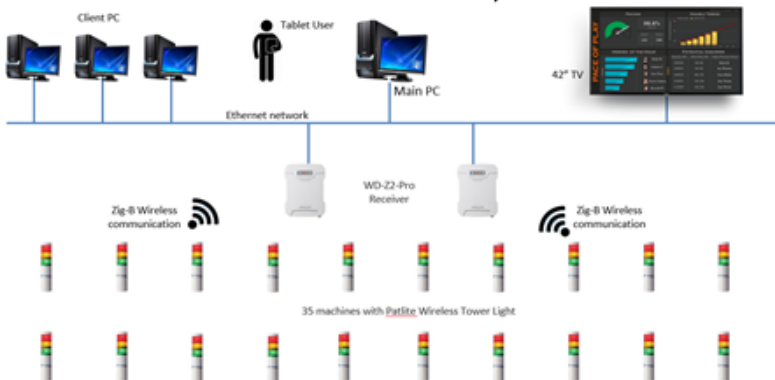
- > 2 Way communication.
- > Able to see current job order at machines.
- > Operator able to feed back status to server.
- > Not affected by machine relocation.
- > Higher cost implementation.



### Tank Telemetry Monitoring system



### Patlite Wireless Andon System



### PC Software Architecture

