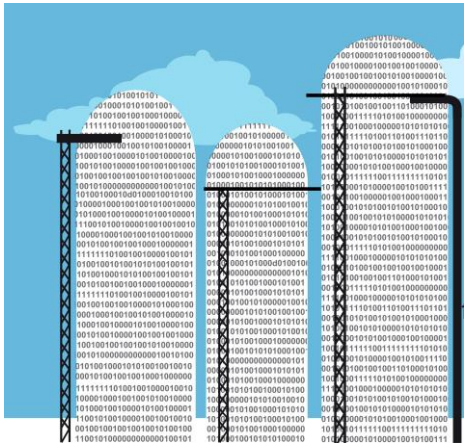
EroNkan

The platform for the 4th Industrial Revolution

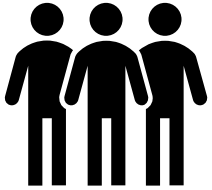
About Us

- Founded in 2014 to provide solutions in the Industrial Automation space
- Innovator in the IIoT (Industrial Internet of Things) space, having created a proprietary and comprehensive software platform
- Provide Industry 4.0 solutions to enable manufacturing units to improve their manufacturing processes and Overall Equipment Efficiency (OEE)
- Subscription based SaaS model and On-Premise Installation Option
- Currently rolled out in the Food Processing and Packaging industries
- Experienced promoter team with over 40+ years of experience across different disciplines such as Factory & Cloud-based Automation and Software Platforms
- Numerous successful and varied installations with quantifiable benefits
- Two offices – Bangalore, India and Ahmedabad, India

Manufacturing – Current Issues



Automation and Enterprise Systems – **operating in data silos**



Increasingly **manually intensive approach** in internal solutions

Realtime production dashboard impossible without integrated systems

Lack of **Integrated Operational Efficiency** – not possible to account for losses in real time (shiftwise, batchwise, operatorwise, etc.)

Data driven decisions not being adopted by management

High reliance on **manually maintained spreadsheets and paper reports** to determine productivity

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IIOT PLATFORM

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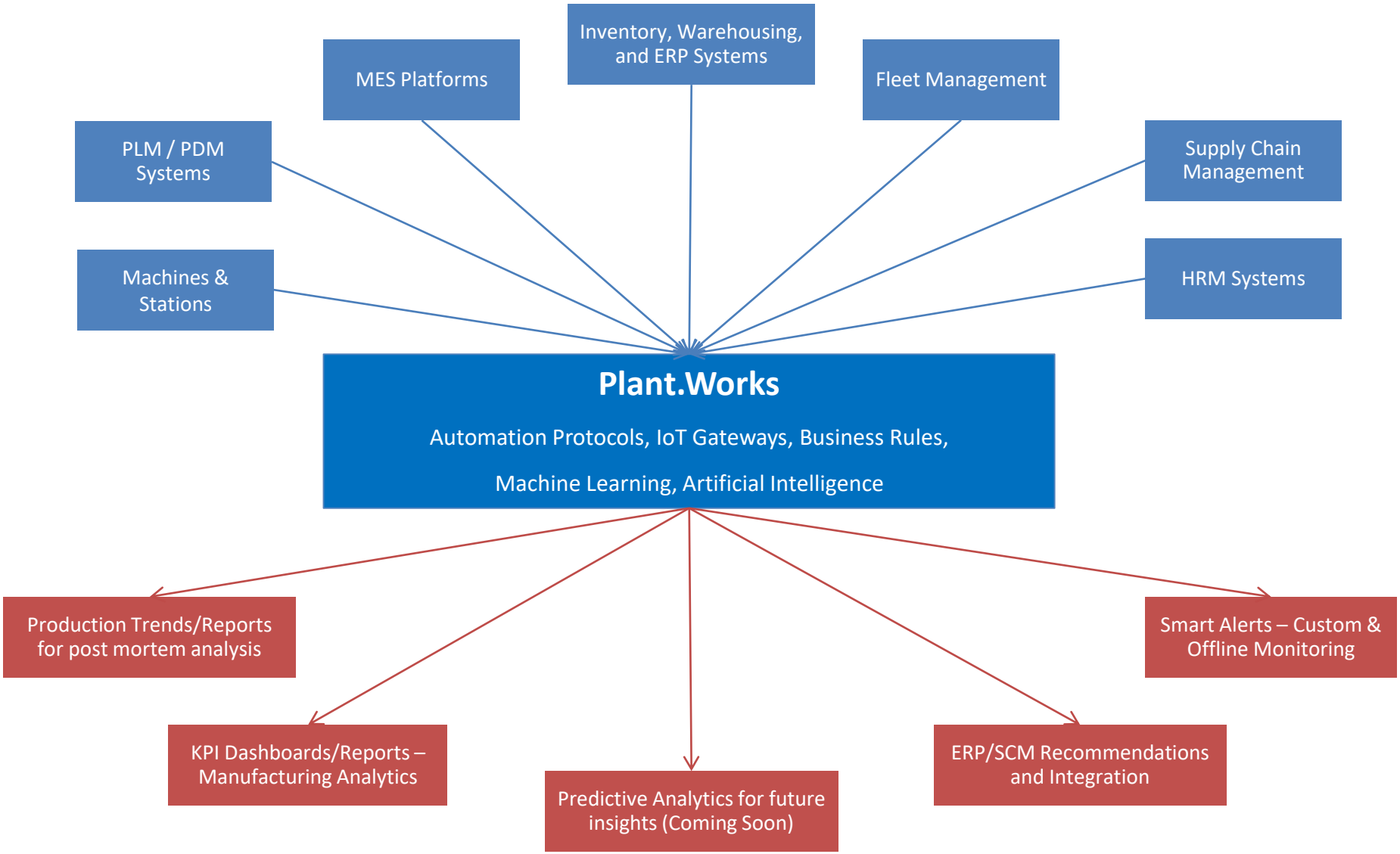
Plant.Works



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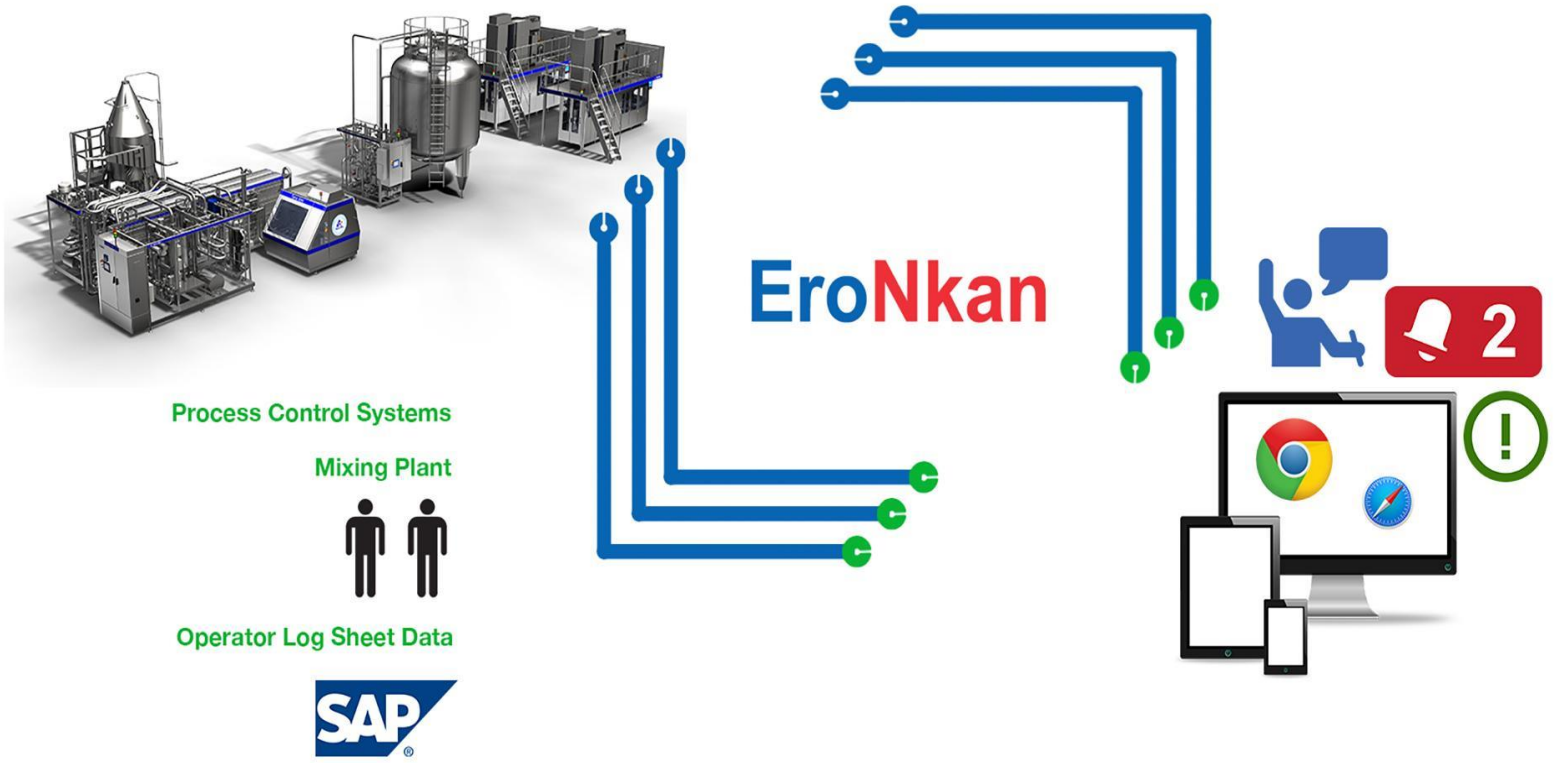
Industry 4.0 – Plant.Works Integration



Example process integration for the EroNkan solution

PLATFORM FEATURES

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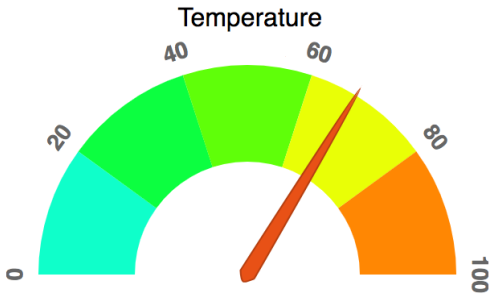
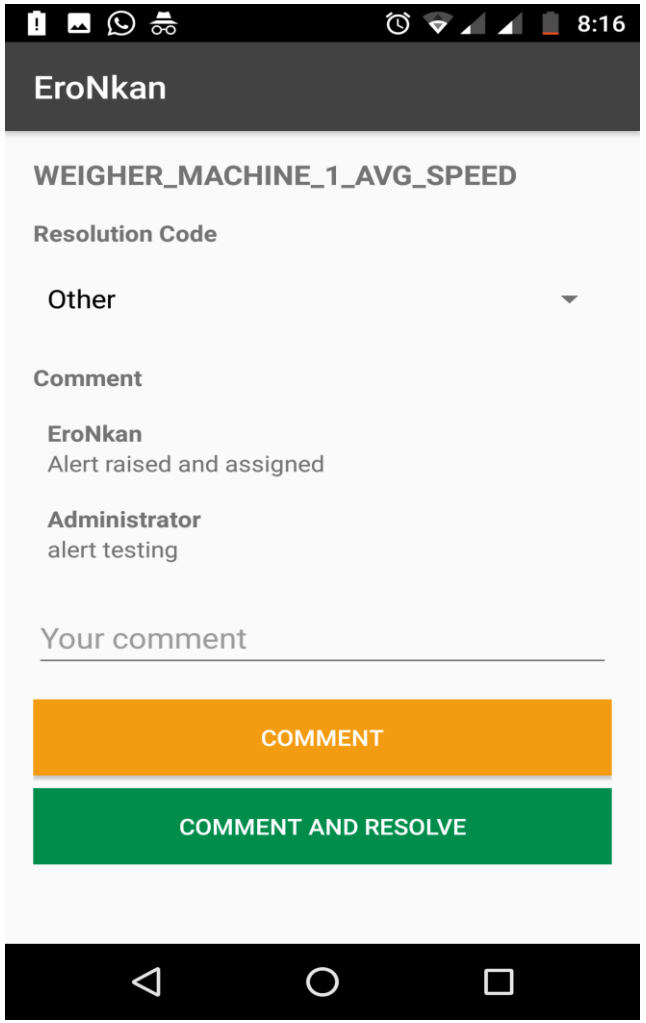
Alerting and Resolutions

- Generate alerts based on rules defined against critical parameters
- Productivity Analysis can help provide root cause analysis data
- Benefits
  - Provides quick insight and resolutions to production problems
  - Helps maintain SLA requirements
  - Improves plant efficiency
  - Increases accountability





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MIS Report Generation

- Customized MIS (Management Information System) reports detailing production performance and KPI's
- Generate custom timeframe (hourly, shift-wise, daily, monthly) reports
- Generate reports in Excel and PDF formats
- Automatic reporting sent out over email

							04 Aug 2018 09:00 AM - 04 Aug 2018 10:00 AM									
	Balaji Wafers (Valsad Plant)			Aloo Line			30gm Gathiya				04 Aug 2018 09:00 AM - 04 Aug 2018 10:00 AM					
		Weigher C1								Weigher C2						
		Average Speed	Weigher Efficiency	Mean Weight	Kg / Hour	Overscale Dump Total Weight / Hour	Total Count	Overweight Dump Count	Overscal Dump Count	Average Speed	Weigher Efficiency	Mean Weight	Kg / Hour	Overscale Dump Total Weight / Hour	Total Count	Overweight Dump Count	Overscal Dump Count
Weigher M,N		87.24	99.79	30.44	156.7	0	5147	11	0	75.8	100	30.41	136	0	4472	0	0
Weigher O,P		87.06	97.72	30.42	156.5	0	5138	120	0	88.85	100	30.39	156.9	0	5229	0	0
Weigher Q,R		77.69	100	30.25	136.5	0	4506	0	0	85.95	100	30.27	150.9	0	4985	0	0
Weigher S,T		93.97	100	30.33	166.4	0	5450	0	0	78.87	100	30.62	139.7	0	4565	0	0
Weigher U,V		73.07	100	30.47	126.9	0	4165	0	0	64.56	100	30.45	112	0	3681	0	0
Total Weight/Hour (C1 + C2)	1440.1															
Total Count/Hour (C1 + C2)	47467															
Packaging Count	1186.67 Bunches															
							04 Aug 2018 10:00 AM - 04 Aug 2018 11:00 AM									
	Balaji Wafers (Valsad Plant)			Aloo Line			30gm Gathiya				04 Aug 2018 10:05 AM - 04 Aug 2018 11:00 AM					
		Weigher C1								Weigher C2						
		Average Speed	Weigher Efficiency	Mean Weight	Kg / Hour	Overscale Dump Total Weight / Hour	Total Count	Overweight Dump Count	Overscal Dump Count	Average Speed	Weigher Efficiency	Mean Weight	Kg / Hour	Overscale Dump Total Weight / Hour	Total Count	Overweight Dump Count	Overscal Dump Count
Weigher M,N		104.04	100	30.44	171	0	5618	0	0	116.11	99.97	30.4	193.9	0	6376	0	2
Weigher O,P		110.15	100	30.41	180.9	0	5945	0	0	87.67	99.89	30.4	143.9	0	4734	5	0
Weigher Q,R		100.67	100	30.26	164.5	0	5436	0	0	110.55	100	30.27	180.4	0	5959	0	0
Weigher S,T		105.6	100	30.34	171.2	0	5605	0	0	98.78	100	30.48	162.6	0	5334	0	0
Weigher U,V		85.91	100	30.46	141.5	0	4659	0	0	95.44	100	30.44	156.9	0	5154	0	0
Total Weight/Hour (C1 + C2)	1666.6															
Total Count/Hour (C1 + C2)	54812															
Packaging Count	1370.30 Bunches															

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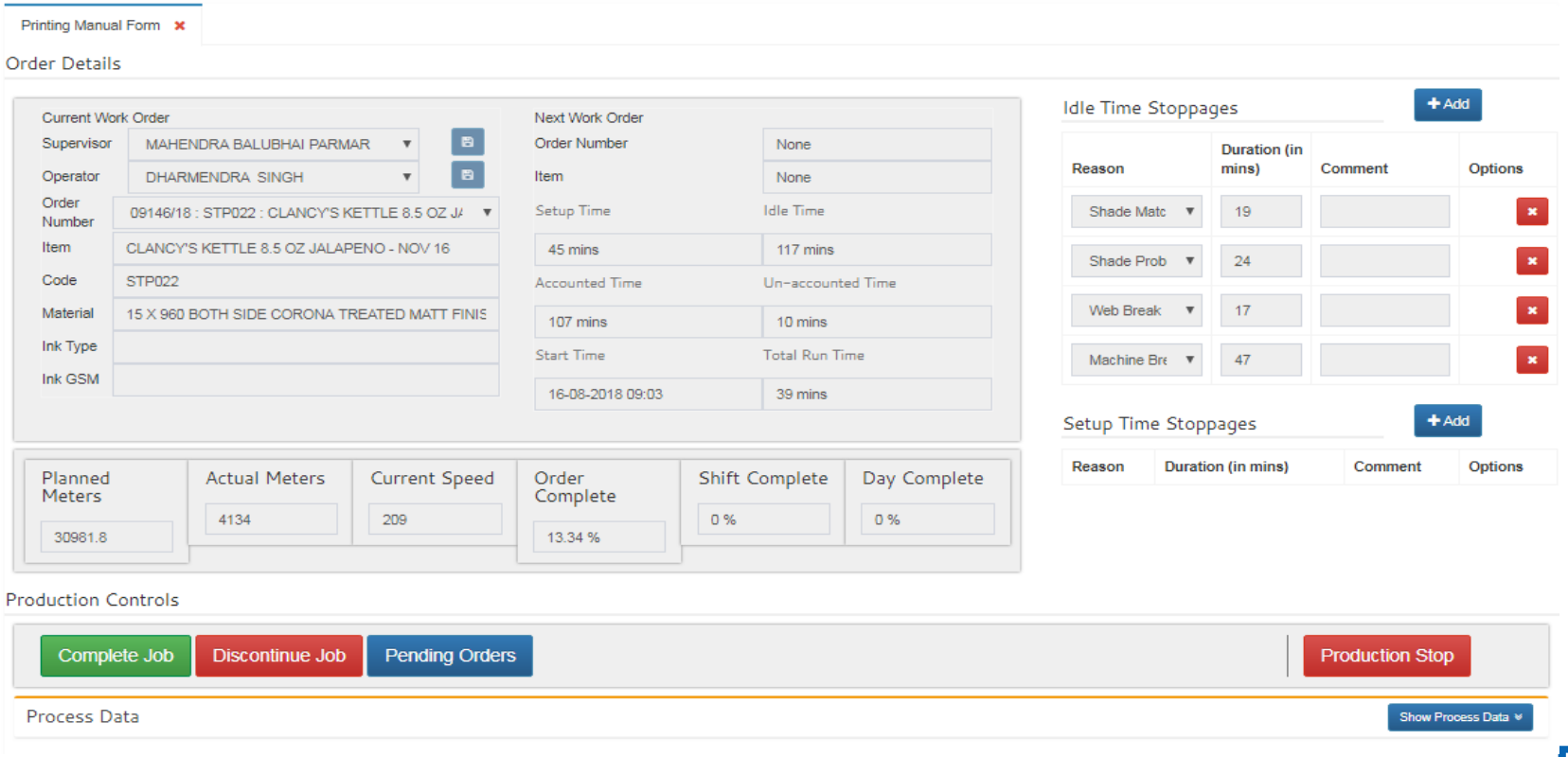
Logbook Digitisation

- Record manual entries such as idle time or machine breakdown reasons and any other production parameters that are usually noted down in log books
- Fully customizable logbooks
- Seamless integration with ERP and real-time machine data
- Complex data analytics can be carried out, difficult with paper logbooks



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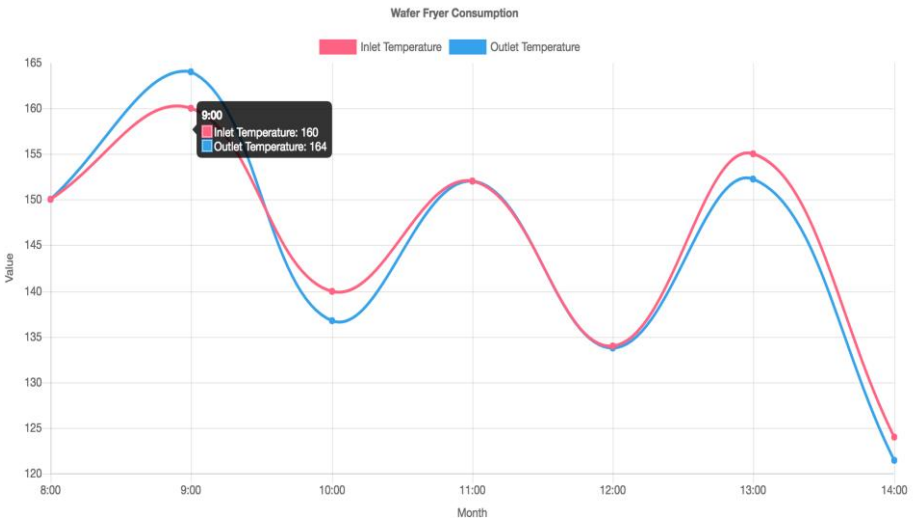
KPI (Key Performance Indicator) Dashboards

- Ability to combine data from various sources such as
  - Process Control/Plant Automation Systems
  - Manual entry through Desktop/ Mobile
  - ERP/ MRP systems
  - CRM systems/LAB systems
- Customised KPI Dashboards after data aggregation
- Information updated in real time as data comes in from the field
- Perform statistical and custom calculations



Images above show sample dashboards for a food processing company.

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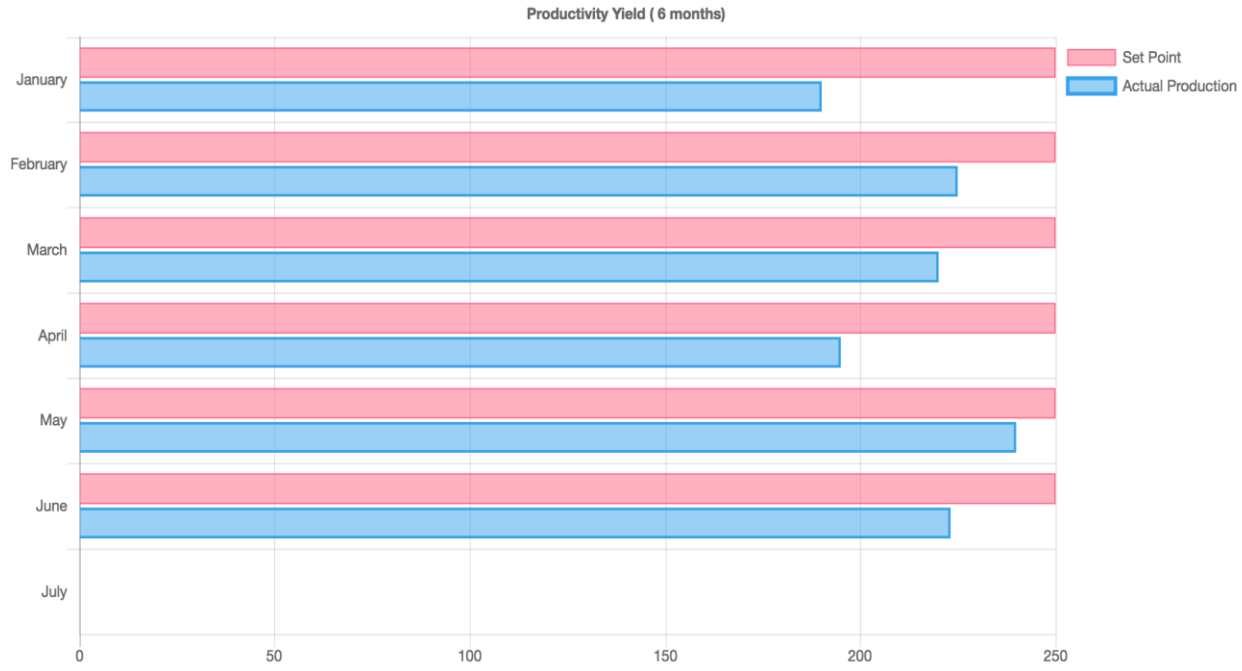
Productivity Analysis

- Calculate Productivity or Operational Efficiency data
- Explanations provided for any production gaps and root cause of issues can be entered for each Purchase Order or production batch
- Error free communication across all levels – transparent decision making
- Supports multiple plants/lines and data aggregation in real time to compare the performance of each production line & unit



Line Status	Start Time	End Time
	26/07/2017 06:56	
	24/07/2017 15:05	24/07/2017 17:20

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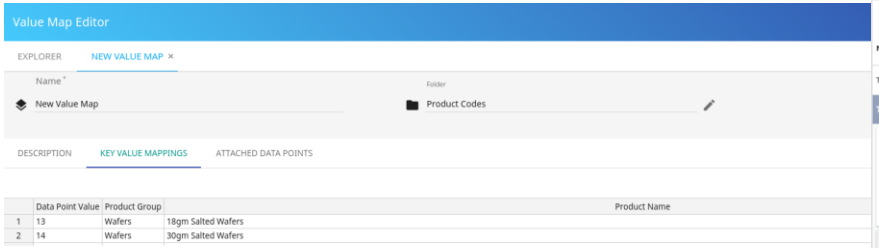
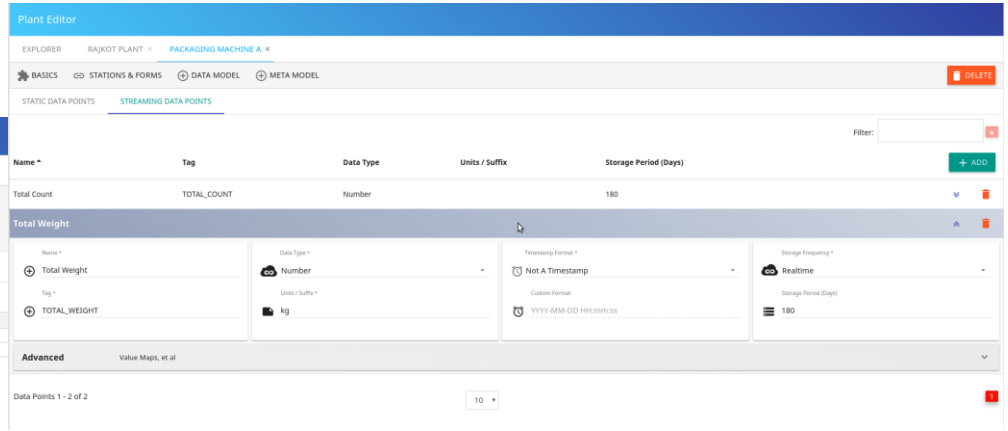
Enhanced User Access Control

- Multi-tenant architecture allows for granularity of access at Operator/Supervisor/Manager and Senior Management level
- Policy driven access control allows easy implementation of organisation access and data control policies
- Audit trail of actions with time stamps - allows auditing and compliance, making it easy to improve accountability and action items



Configure Rules



Configure Assets

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Types of IoT Implementations

- Warehouse Management System
- Real Time Production Monitoring
- Downtime Tracking
- Real Time OEE
- ERP Integration for Production Scheduling
- Manufacturing Loss Reductions
- Visual Factory Displays

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INSTALLATION CASE STUDIES

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Material Packaging Case Study

Implementation Timelines
- Started February 2018
- Completed July 2018

Ongoing maintenance and change request implementations

Huge potential for implementing this solution into other lines and production plants

Solution Sizing
- 300+ data points per minute
- 50,000+ data point operations per day

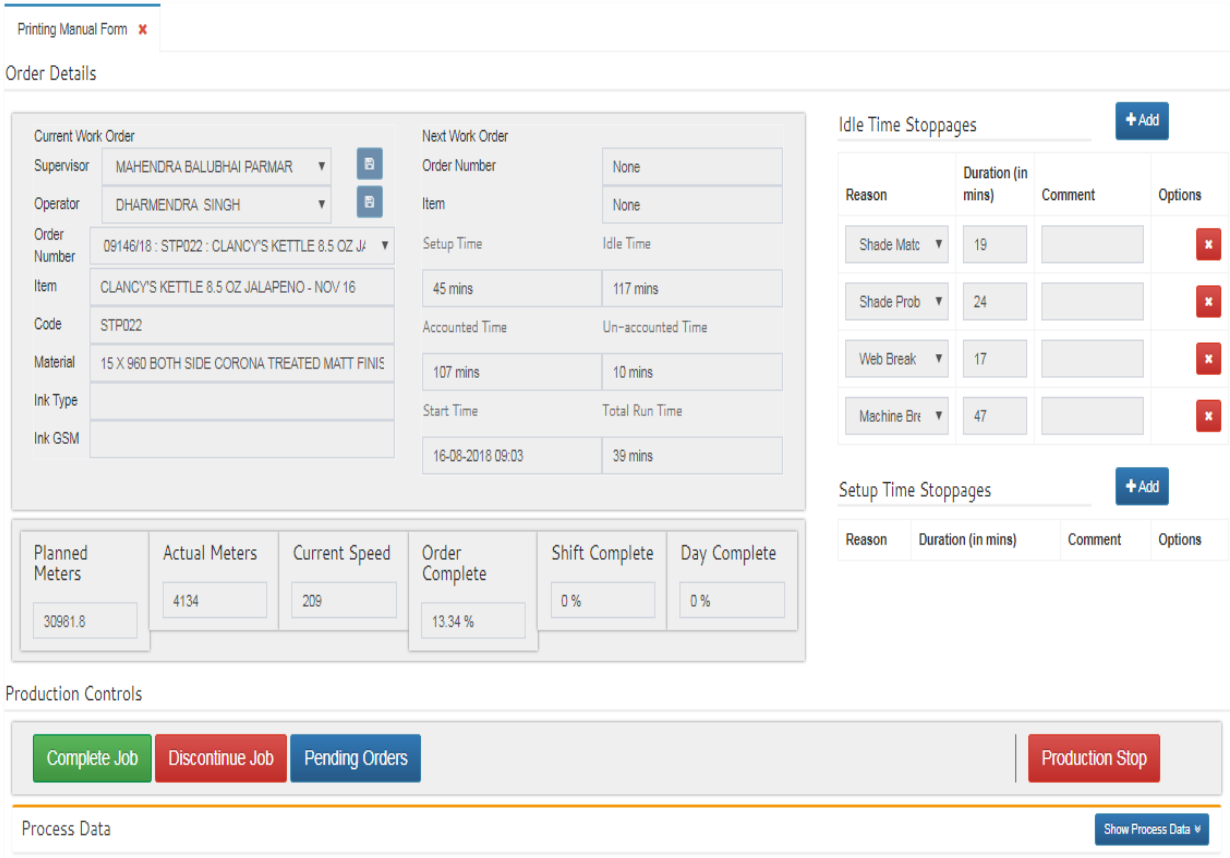
Physical Sizing
- 3 plants
- 12 process lines
- 48 machines

Customer Profile
Large packing material manufacturer based out of Gujarat, India

Existing Inefficiencies
1. Low asset utilization due to high idle times
2. CAPA analysis process missing due to lack of data on revival of stoppage
3. MIS reporting not integrated with Microsoft AX, leading to multiple sources of "truth"
4. Lack of visibility into the next job - leading to extremely high setup time as the required material is not available on the shop floor

Solution
Better utilization of expensive assets, leading to better ROA. CAPA to help improve OEE and culture of continuous improvement

Benefits
1. 10% increase in the output, resulting in top-line growth
2. 15% reduction in raw material wastage, resulting in bottom-line decrease



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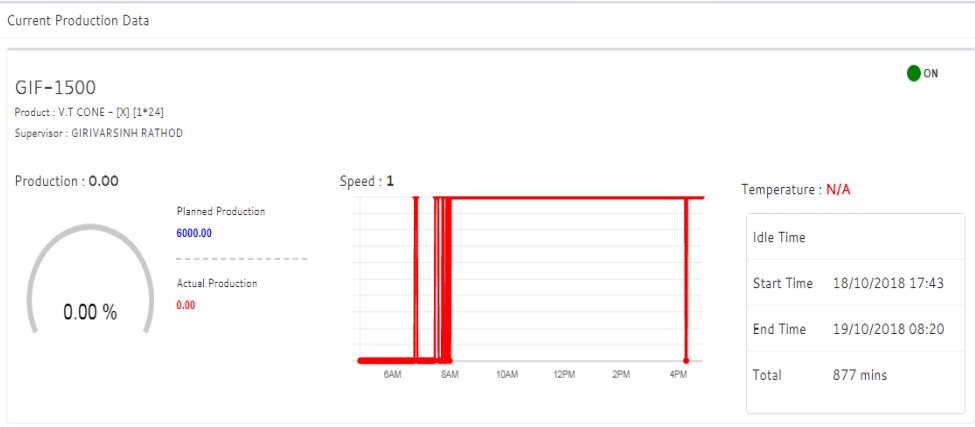
Ice Cream Manufacturer – Case Study

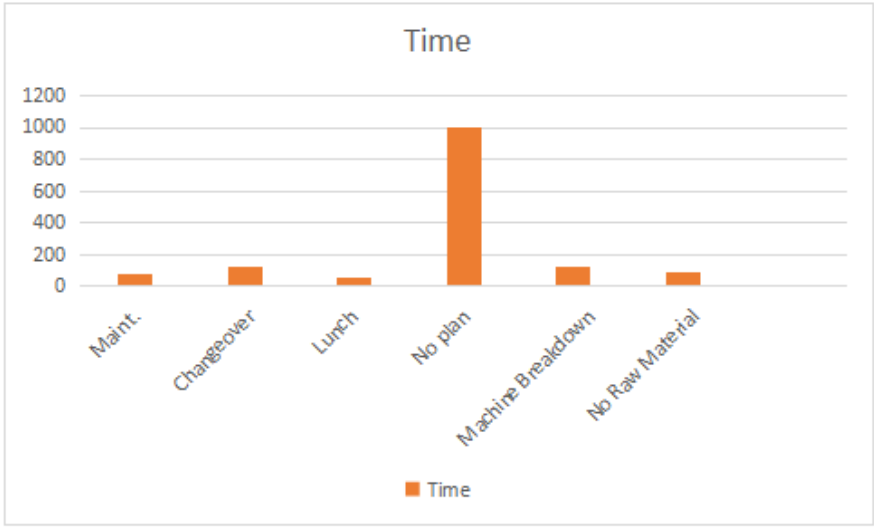
Customer Profile
One of the largest ice-cream manufacturers based out of Gujarat, India

Existing Inefficiencies
1. High idle time, low machine availability, no way to track downtime reasons across lines
2. Inability to track the start of production across different lines – critical loss of time and production capacity
3. Inaccurate icecream overrun tracking – critical function of manufacturing

Solution
Real-time data collection allied with custom dashboards, scheduled reporting, and alert notifications, Downtime and CAPA Analysis, Planned vs. Actual Production numbers

Benefits
1. Higher ice cream overrun – more productivity from the initial mix
2. Increased visibility into machine downtime reasons, proactive maintenance and trend analysis into issues with downtime





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Warehouse Management – Case Study

Customer Profile

Large processed food manufacturer based out of Madhya Pradesh, India

Existing Inefficiencies

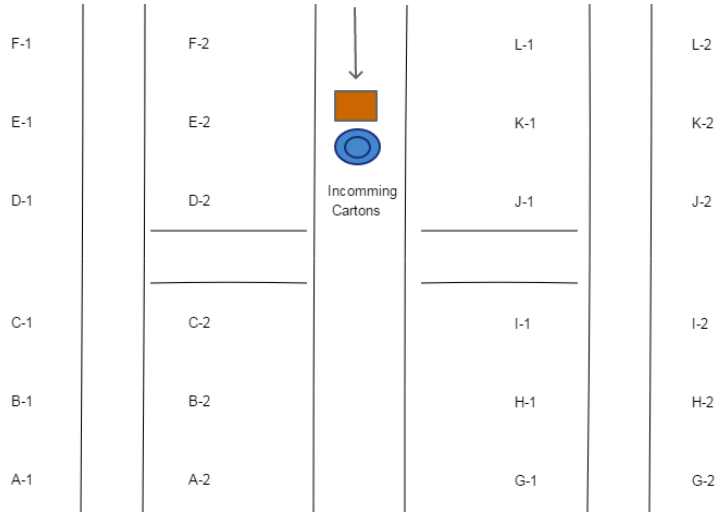
1. Inability to track inventory in real time
2. Losses incurred due to loss in inventory
3. Inaccurate production count
4. Inability to maintain FIFO in warehouse
5. Wrong SKU Dispatch – Customer complaints

Solution

Real-time product tracking using Barcode/RFID tracking systems. Each product identified using a unique ID and tracked from production to warehouse to final dispatch

Benefits

1. Consolidated real time monitoring of all warehouses (any location) on one screen
2. Seamless FIFO maintenance
3. Better customer satisfaction
4. Better product accountability
5. Overall wastage reduction



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Thank You!

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