

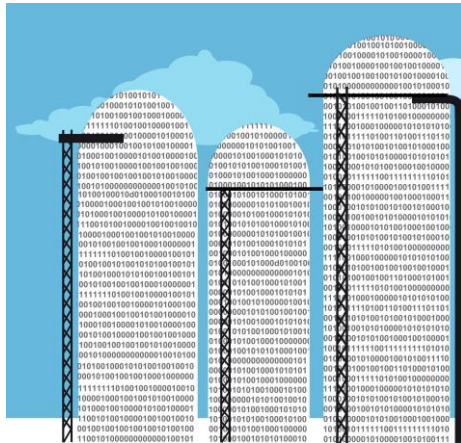
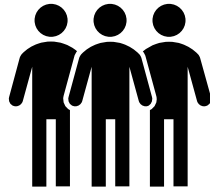
EroNkan

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



Increasingly manually
intensive approach in
internal solutions

Automation and Enterprise
Systems – operating in data silos



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



Realtime production dashboard impossible without integrated systems



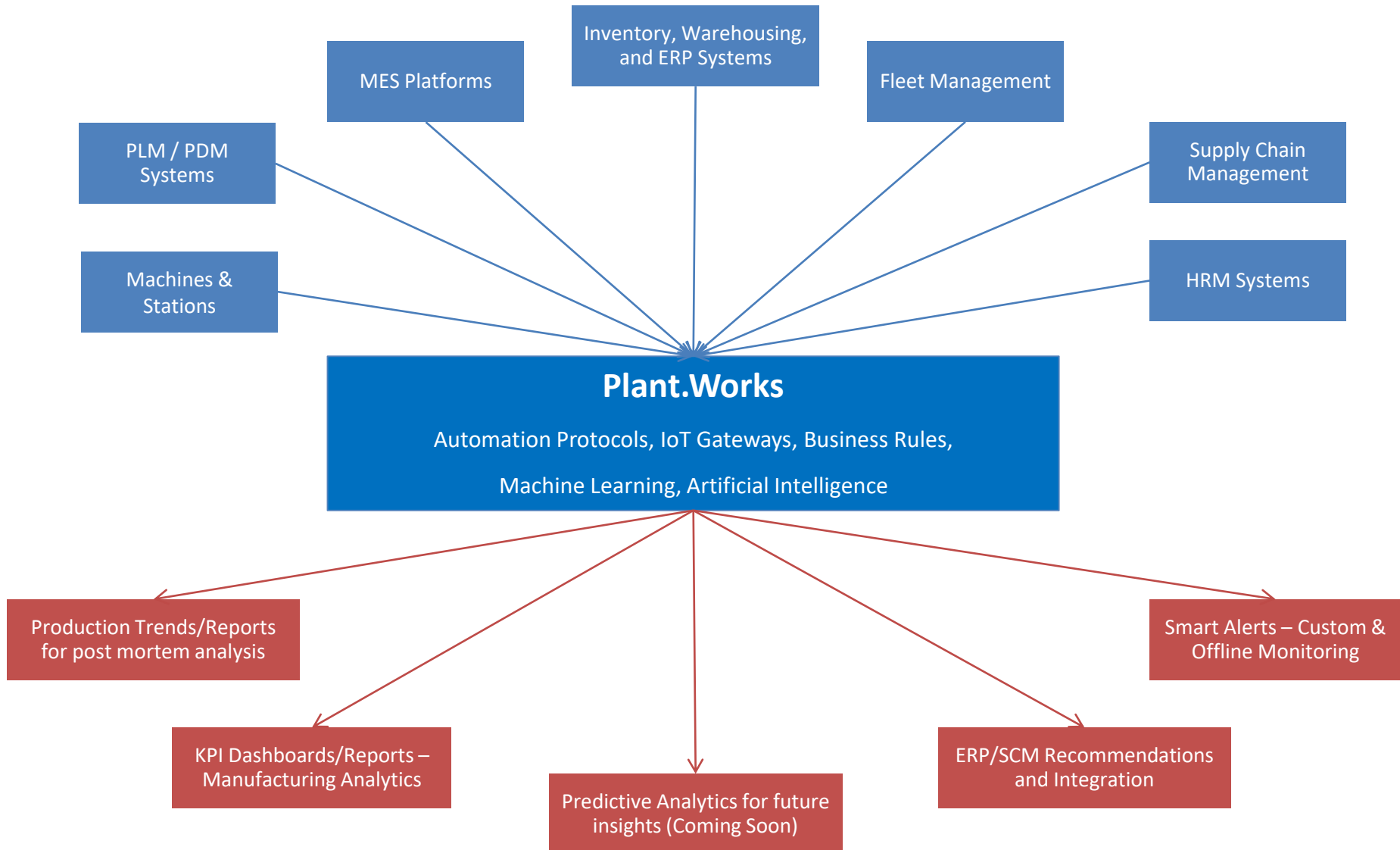
Data driven decisions not being
adopted by management



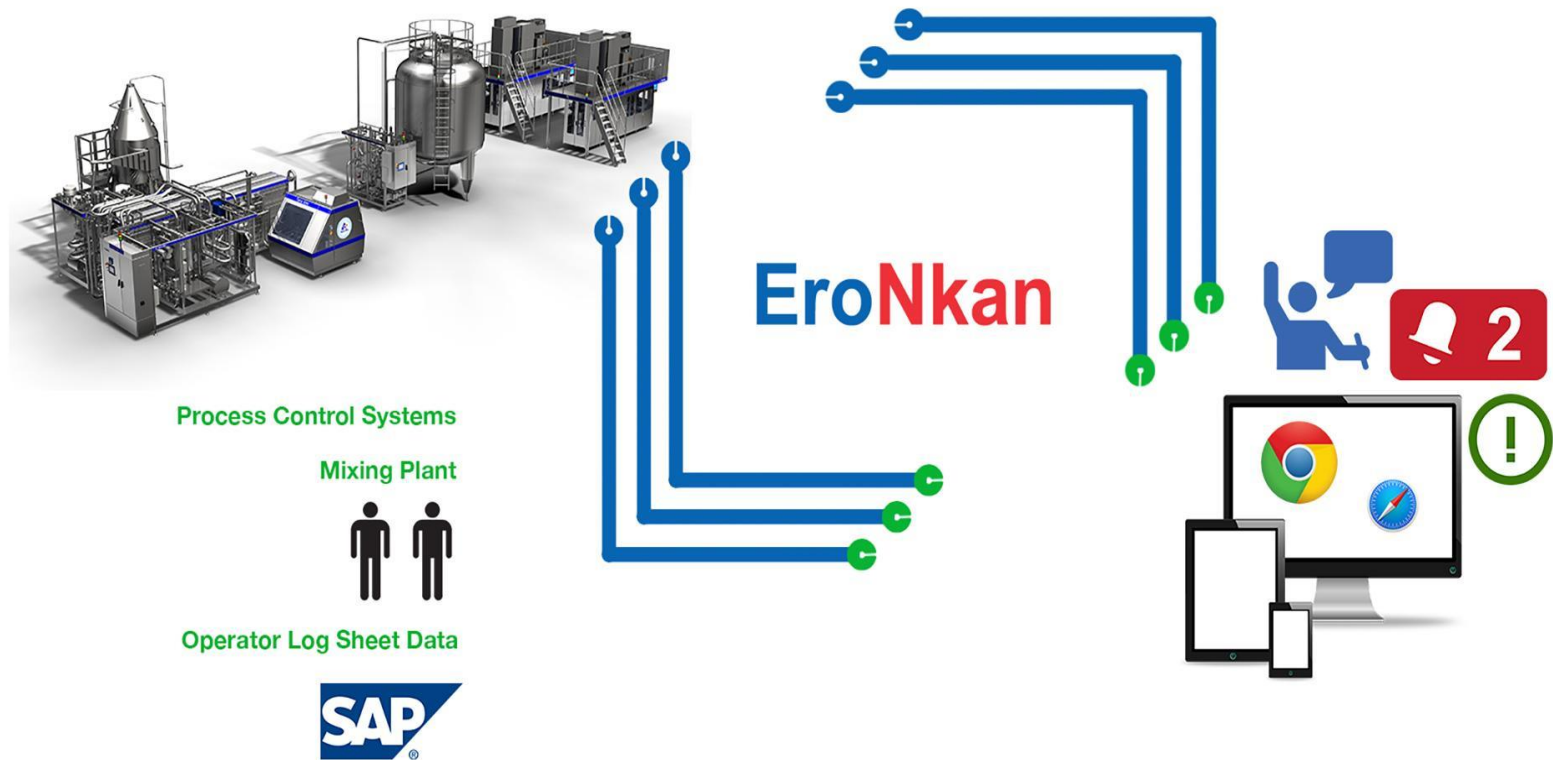
High reliance on **manually maintained spreadsheets
and paper reports** to determine productivity

IIOT PLATFORM

Plant.Works



Industry 4.0 – Plant.Works Integration

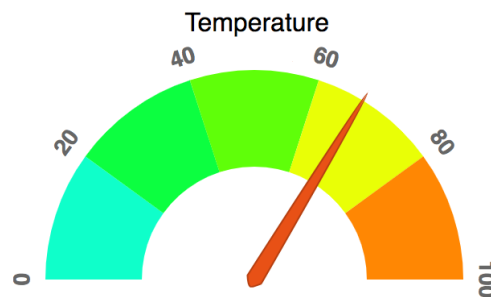


Example process integration for the EroNkan solution

PLATFORM FEATURES

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



EroNkan

WEIGHER_MACHINE_1_AVG_SPEED

Resolution Code

Other

Comment

EroNkan
Alert raised and assigned

Administrator
alert testing

Your comment

COMMENT

COMMENT AND RESOLVE

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

42	04 Aug 2018 09:00 AM - 04 Aug 2018 10:00 AM																			
26	Balaji Wafers (Valsad Plant)				Aloo Line				30gm Gathiya				04 Aug 2018 09:00 AM - 04 Aug 2018 10:00 AM							
27					Weigher C1								Weigher C2							
28		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			
29	Wegher M,N	87.24	99.79	30.44	156.7	0	5147	11	0	75.8	100	30.41	156	0	4472	0	0			
30	Wegher O,P	87.05	97.72	30.42	156.5	0	5155	120	0	85.65	100	30.39	155.9	0	5229	0	0			
31	Wegher Q,R	77.69	100	30.25	156.5	0	4506	0	0	85.95	100	30.27	150.9	0	4985	0	0			
32	Wegher S,T	95.97	100	30.55	166.4	0	5450	0	0	75.67	100	30.62	159.7	0	4565	0	0			
33	Wegher U,V	75.07	100	30.47	126.9	0	4165	0	0	64.55	100	30.45	112	0	3651	0	0			
34	Total Weight/Hour	1440.1																		
35	(C1 + C2)																			
36	Total Count/Hour	47467																		
37	(C1 + C2)																			
38	Packaging Count	1156.67 Bunches																		
39	04 Aug 2018 10:00 AM - 04 Aug 2018 11:00 AM																			
40	Balaji Wafers (Valsad Plant)				Aloo Line				30gm Gathiya				04 Aug 2018 10:00 AM - 04 Aug 2018 11:00 AM							
41					Weigher C1								Weigher C2							
42		Average Speed	Weigher Efficiency	Mean Weight	Kg / Hour	Overscale Dump Total Weight / Hour	Total Count	Overweight Dump Count	Overcal Dump Count	Average Speed	Weigher Efficiency	Mean Weight	Kg / Hour	Overscale Dump Total Weight / Hour	Total Count	Overweight Dump Count	Overscal Dump Count			
43	Wegher M,N	104.04	100	30.44	171	0	5616	0	0	116.11	99.97	30.4	195.9	0	6375	0	2			
44	Wegher O,P	110.15	100	30.41	160.9	0	5945	0	0	87.67	99.89	30.4	145.9	0	4754	5	0			
45	Wegher Q,R	100.67	100	30.26	164.5	0	5456	0	0	110.35	100	30.27	160.4	0	5959	0	0			
46	Wegher S,T	105.8	100	30.54	171.2	0	5605	0	0	95.75	100	30.45	162.6	0	5554	0	0			
47	Wegher U,V	85.91	100	30.46	141.5	0	4639	0	0	95.44	100	30.44	156.9	0	5154	0	0			
48	Total Weight/Hour	1666.6																		
49	(C1 + C2)																			
50	Total Count/Hour	54512																		
51	(C1 + C2)																			
52	Packaging Count	1370.30 Bunches																		

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

Printing Manual Form ✖

Order Details

Current Work Order

Supervisor
MAHENDRA BALUBHAI PARMAR

Operator
DHARMENDRA SINGH

Order Number
09146/18 : STP022 : CLANCY'S KETTLE 8.5 OZ JA

Item
CLANCY'S KETTLE 8.5 OZ JALAPENO - NOV 16

Code
STP022

Material
15 X 960 BOTH SIDE CORONA TREATED MATT FINIS

Ink Type

Ink GSM

Next Work Order

Order Number
None

Item
None

Setup Time
45 mins

Accounted Time
107 mins

Start Time
16-08-2018 09:03

Idle Time
117 mins

Un-accounted Time
10 mins

Total Run Time
39 mins

Planned Meters
30981.8

Actual Meters
4134

Current Speed
209

Order Complete
13.34 %

Shift Complete
0 %

Day Complete
0 %

Idle Time Stoppages

+ Add

Reason	Duration (in mins)	Comment	Options
Shade Matc	19		✖
Shade Prob	24		✖
Web Break	17		✖
Machine Bre	47		✖

Setup Time Stoppages

+ Add

Reason	Duration (in mins)	Comment	Options
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Production Controls

Complete Job

Discontinue Job

Pending Orders

Production Stop

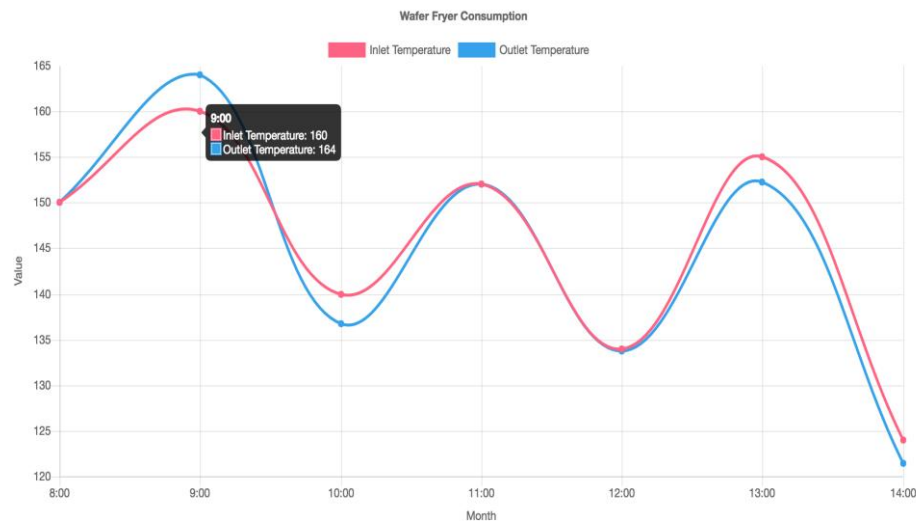
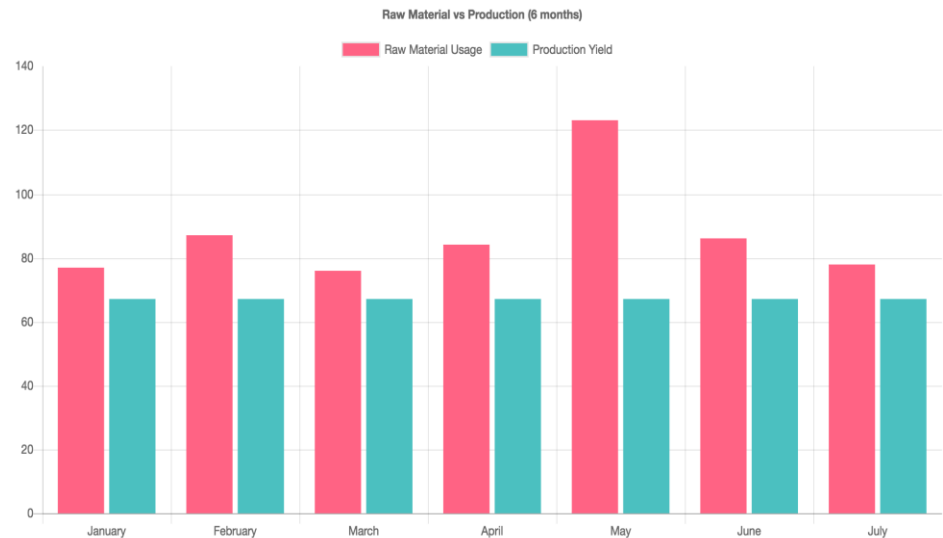
Process Data

Show Process Data

EroNkan

KPI (Key Performance Indicator) Dashboards

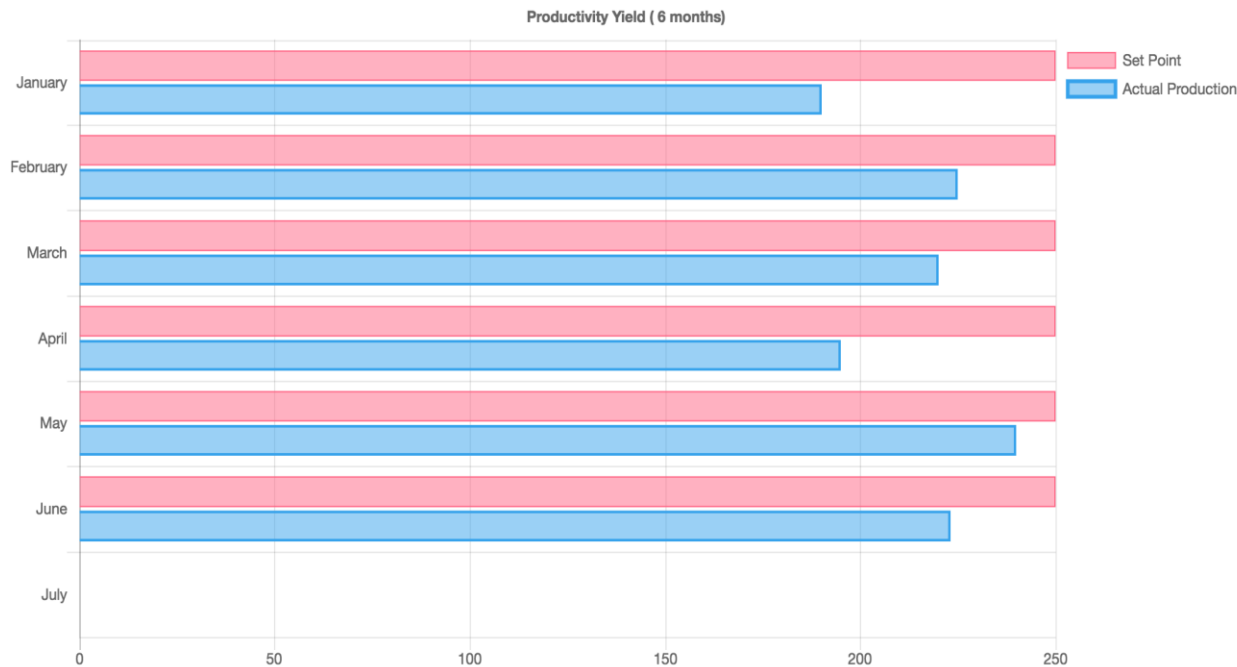
- Ability to combine data from various sources such as
Process Control/Plant Automation Systems
Manual entry through Desktop/ Mobile
ERP/ MRP systems
CRM systems/LAB systems
- Customised KPI Dashboards after data aggregation
- Information updated in real time as data comes in from the field
- Perform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



Images above show sample dashboards for a food processing company.

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

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

Groups Menu		Eronkan Super Administrator	
▼ Eronkan Super Administrators		Group Name	
▶ Registered Users		Eronkan Super Administrators	
		Permissions	Subgroups
		Component	Permission
		Eronkan Portal	Super User Permissions
		Eronkan Portal	Registered User Permissions
		Eronkan Portal	Public Permissions

Value Map Editor

EXPLORER

NEW VALUE MAP X

Name *

 New Value Map

Folder

 Product Codes



DESCRIPTION

KEY VALUE MAPPINGS

ATTACHED DATA POINTS

	Data Point Value	Product Group	Product Name
1	13	Wafers	18gm Salted Wafers
2	14	Wafers	30gm Salted Wafers

Configure Rules

Plant Editor

EXPLORER

RAJOT PLANT

PACKAGING MACHINE A

BASICS

STATIONS & FORMS

DATA MODEL

META MODEL

STATIC DATA POINTS

STREAMING DATA POINTS

Filter:

ADD

DELETE

Name *	Tag	Data Type	Units / Suffix	Storage Period (Days)
Total Count	TOTAL_COUNT	Number		180
Total Weight				
<div>Name *</div> <div>Total Weight</div>	<div>Tag *</div> <div>TOTAL_WEIGHT</div>	<div>Data Type *</div> <div>Number</div>	<div>Units / Suffix *</div> <div>kg</div>	<div>Timestamp Format *</div> <div>Not A Timestamp</div> <div>Custom Format</div> <div>YYYY-MM-DD HH:mm:ss</div> <div>Storage Frequency *</div> <div>Realtime</div> <div>Storage Period (Days)</div> <div>180</div>

Advanced

Value Maps, et al

Data Points 1 - 2 of 2

10

Configure Assets

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

INSTALLATION CASE STUDIES

Material Packaging Case Study

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

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

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✕

Machine Br

47

✕

Setup Time Stoppages

Reason

Duration (in mins)

Comment

Options

Production Controls

Complete Job

Discontinue Job

Pending Orders

Production Stop

Process Data

Show Process Data ▼

Ice Cream Manufacturer

– Case Study

Customer Profile

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

Existing Inefficiencies

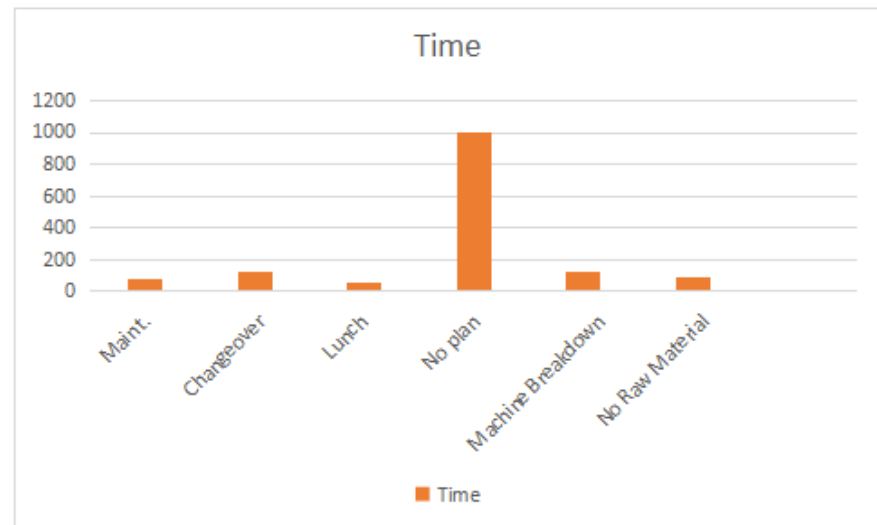
1. High idle time, low machine availability, no way to track downtime reasons across lines
2. Inability to track the start of production across different lines – critical loss of time and production capacity
3. Inaccurate icecream overrun tracking – critical function of manufacturing

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



Warehouse Management

– Case Study

Customer Profile

Large processed food manufacturer based out of Madhya Pradesh, India

Existing Inefficiencies

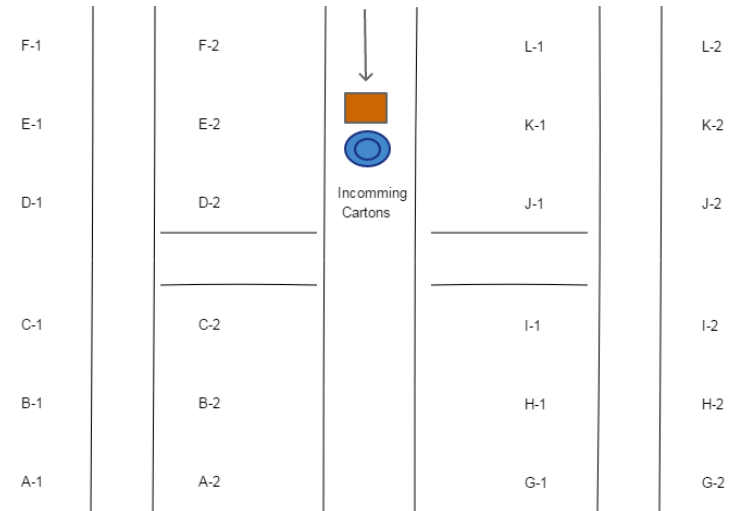
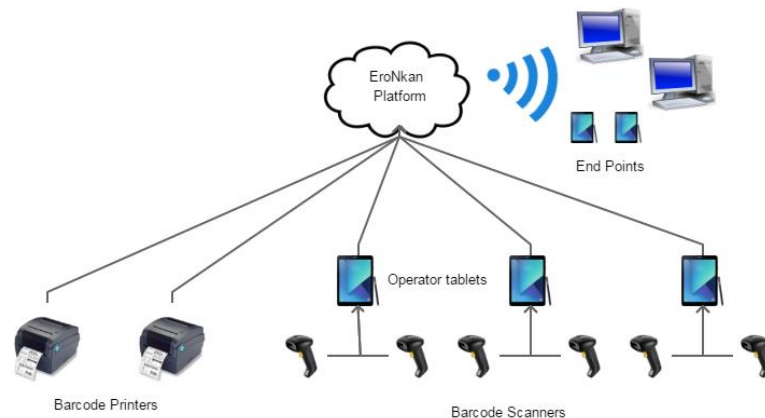
1. Inability to track inventory in real time
2. Losses incurred due to loss in inventory
3. Inaccurate production count
4. Inability to maintain FIFO in warehouse
5. Wrong SKU Dispatch – Customer complaints

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



Thank You!

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