

Demand Forecasting

Demand Analysis for 2019-2022

We collected data for Sales in volumes across India for the period – 2019 to 2022

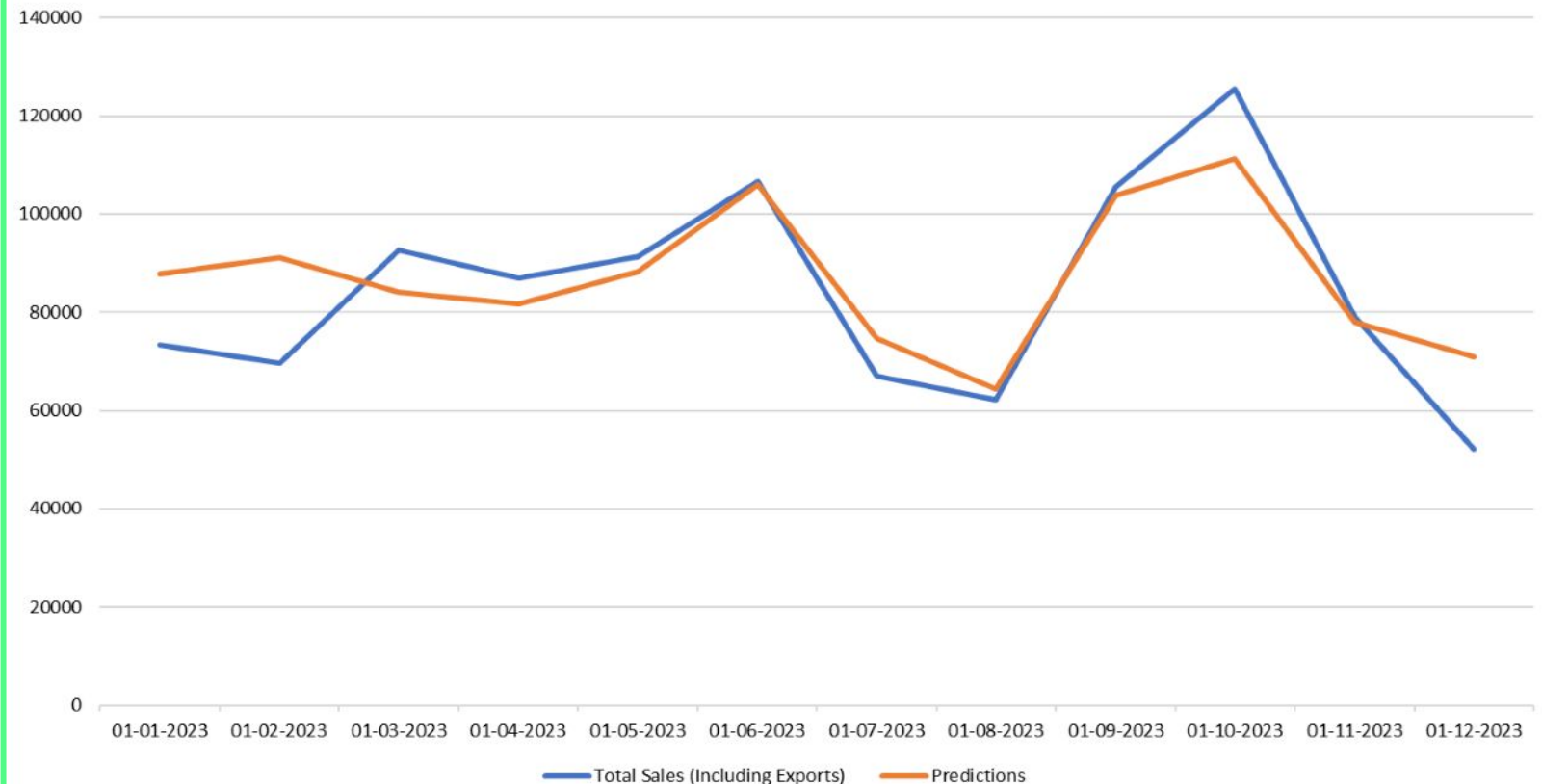
We applied predictive analysis using Time Series method-ARIMA
-AutoRegressive Integrated Moving Average

ARIMA models predict future values based on past values

Time Series Elements

- Trend,
- Seasonality,
- Cyclic Pattern,
- Irregularity,
- ARIMA

Prediction of Total Sales for 2023



Warehouse Management

Warehouse Management

Warehouse Management Solution allows employees to locate and track items in warehouse efficiently.

Warehouse Management Solution has contributed to boosting overall productivity in three ways:

1. Smoother operations
2. Improved time and resource management
3. Improved risk mitigation

The screenshot displays the 'Store Manager' interface. On the left is a navigation menu with options: Navigate, Buildings (selected), Building 1, Cartography, Analytics, Real Time, Configuration, Store Manager, Building 2, Building 3, Profile, and Contact. The main area shows 'Assembly Detail: R1040T' and 'Assembly Incharge: Mr. Ingle'. Below this is a table of items with columns: ITEM NAME, QUANTITY, SYMBOLS, and STATUS.

ITEM NAME	QUANTITY	SYMBOLS	STATUS
Pulley	3	✓ ✕ 0 1	●
Turbo Charger	4	✓ ✕ 0 1	●
Feed pump	3	✓ ✕ 0 1	●
Blanking Plate	5	✓ ✕ 0 1	●
Crankshaft	5	✓ ✕ 0 1	●
Pulley	5	✓ ✕ 0 1	●
Exhaust	7	✓ ✕ 0 1	●
M3 Bolt	3	✓ ✕ 0 1	●

On the right, there is a map view with 'Map' and 'Satellite' tabs. A red pin is placed on the map, and a callout box shows 'Engg. Stores Department'. Below the map is a detailed 'STORE LAYOUT' diagram showing various storage areas like 'CRANE AREA', 'VERTICAL SHED', and 'Pvt'. The Google logo is visible at the bottom right.

Vision Inspection System

Real-time machine vision-based quality inspection system

With this technology, the product can be visually inspected based on different parameters dimensions, surface finish, etc.

Robotic arm or Cobots can be mounted with high quality camera, which captures multiple images and send it to the quality inspection AI model which has been trained, validated and tested for different parameters. AI based part inspection model gives result based on images captured.

This technology helps in manpower optimization with improved quality and lesser response time.

Measuring size of an object

Choose type of threshold

Auto

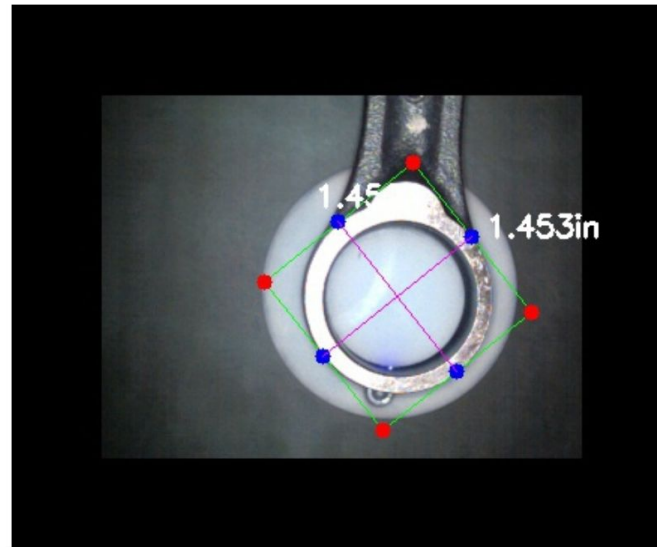
Threshold

0

0

255

Object with it's dimensions:-



This is the dimension 1.452 inch X 1.453 inch



Part:- **Not Ok**

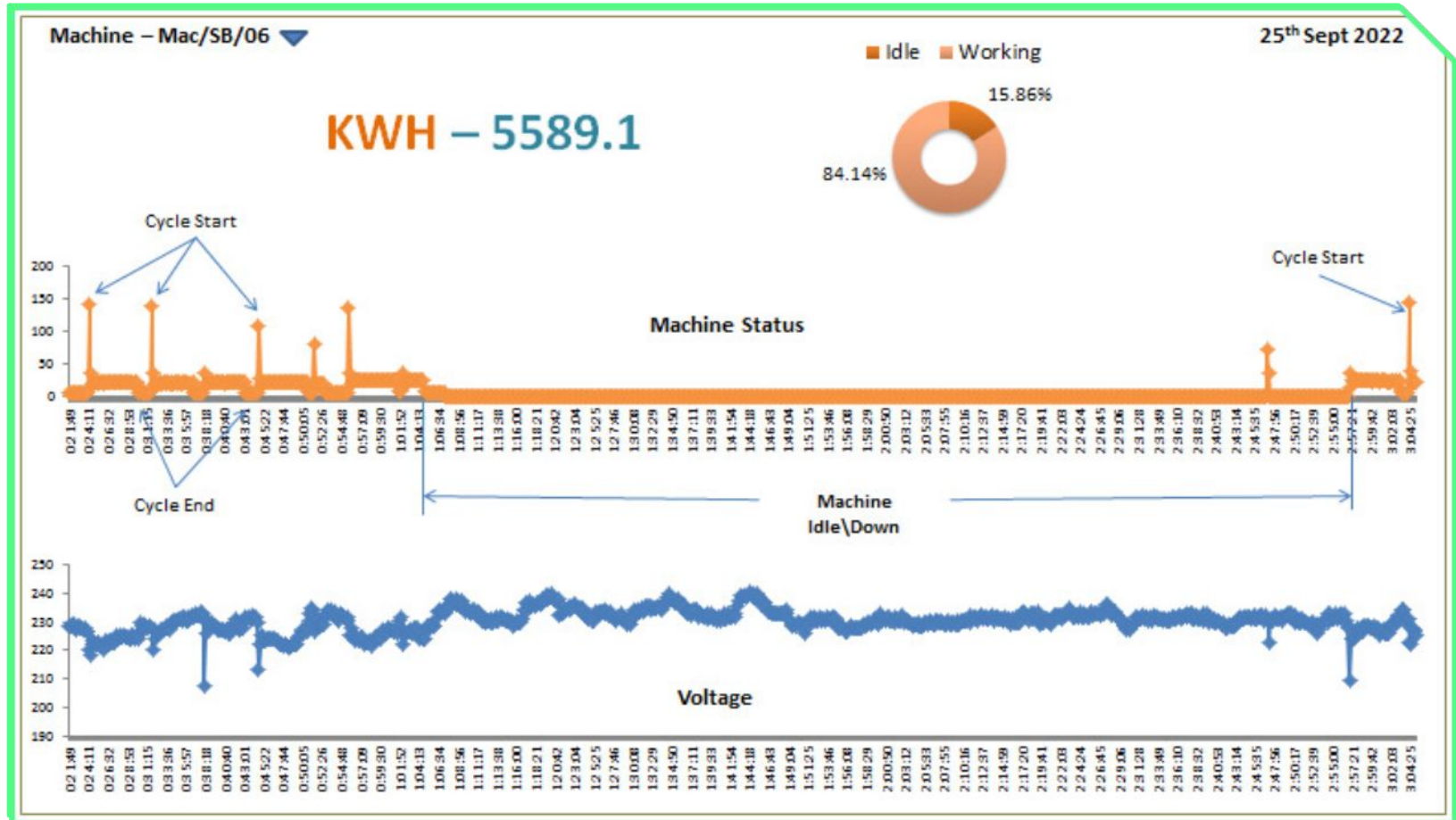
Part:- **Ok**

Energy Monitoring Solution

Energy Monitoring Solution

In manufacturing industry, energy consumption has critical impact on overall cost. ICPL identified the opportunity and developed Energy Monitoring Solution to tackle the issue.

This has led to deployment of energy monitoring solution in foundry and forging plants. This has helped our clients to make their processes cost efficient.



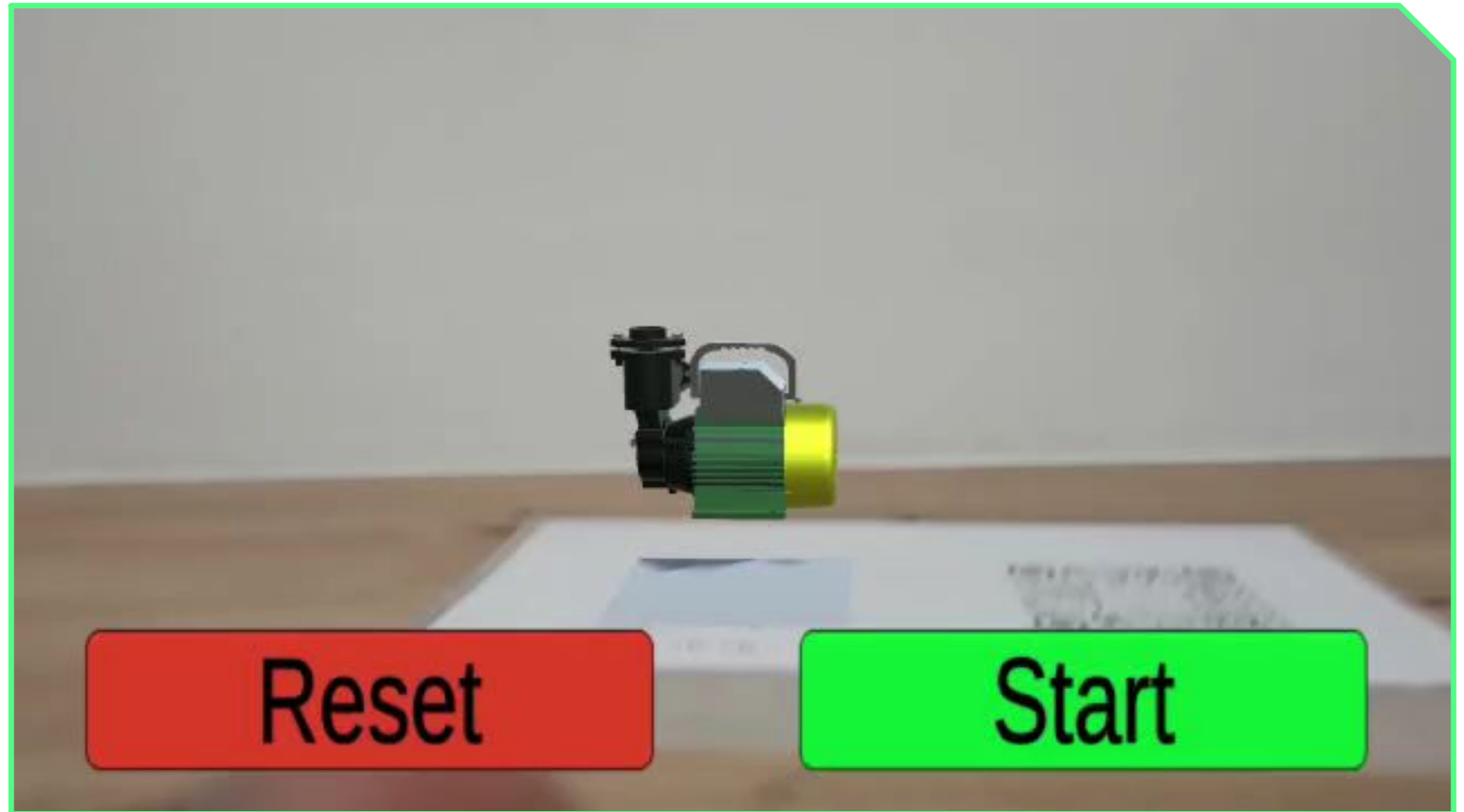
AR Training Module

AR Training Module

AR can be a precious tool for training and maintenance, especially in manufacturing, AR training, maintenance and implementation can boost overall productivity in manufacturing.

AR training for manufacturing has contributed to boosting overall production in five ways:

1. Bridge the skills gap
2. Decrease errors
3. Maintenance
4. Quality Production
5. Timely Assembly



Remote Monitoring Solution

Remote Monitoring Solution

Remote monitoring solution allows user to connect all machines from different locations in order to centrally monitor all plants. This allows organization to utilize the resources at their full capacity. In addition, it also allow organization to monitor efficiency based on equipment's and locations.

