# Inventory

sign turnover average annual poor sold produced indicating unhealthy sales stocks ratio Low speed excess measures

**HARMONIX**

*Stock turnover = cost of sales / average stock*

## Cloud SaaS

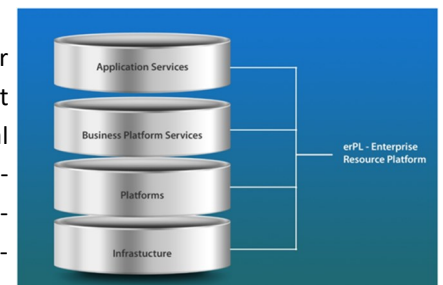# 'Real-Time' Throughput Computator

### 'Intelligence-Assist' Material & Production Planning Solution

## Benefits

- Harmonizes cross functional departments by reducing dependencies of data inputs of other departments. Empowering individual department to work decisively while harmonizing with other departments.

- Instantly check material availability of each Work Order. Excellent checking tool for cannibalized material by 'unexpected' urgent orders or rework orders

- Automatically generates delivery instructions for supplies replenishment in the event the forecasted orders been deferred or brought forward

- Automatically generates work order sequencing to minimize resource 'idle' time for maximizing throughput of cell/line

- Up to 20 times faster calculation than standard material planning solution

- Works with any major ERP/MRP solution thus eliminates the need for complex customization for advanced calculation and reduce TCO

## Summary

HARMONIX Solutions is a SaaS layer that solves 'disruptive' event that may occur during or after material procurement, logistics or production work order has been committed. Its primary role is to harmonize operations by continuously adjusting WO, JO sequencing and material movement to achieve the most favorable results. What makes HARMONIX unique is that it has an embeded 'Intelligence-Assist' (patent filed) capabilities that assist operations to respond to 'disruptive' events that may occur during the order fulfilment cycle; beginning from material procurement to delivering the finished goods.

Application Services

Business Platform Services

erPL - Enterprise Resource Platform

Platforms

Infrastucture

HARMONIX

QTO    CS    ETD
PO    QTD

ERP

### Who shall benefit from this solution?

Manufacturers that produce high variances for multi-customers. They shall greatly benefit from this solution as they likely experience complexities in order fulfilment and inventory management.
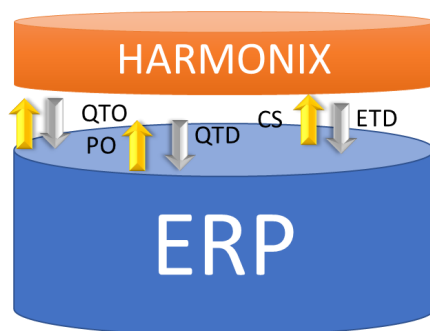
### Reduces operational cost and increases inventory turnover rate

HARMONIX reduces risk of over-producing WIP thus eliminates operational 'wastage' and 'frees up' material for real demand orders thus increases inventory turnover rate.

# Intelligent Buffer Stock Monitoring
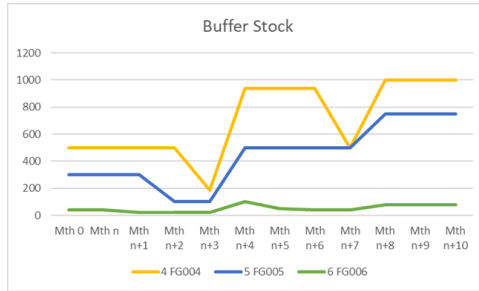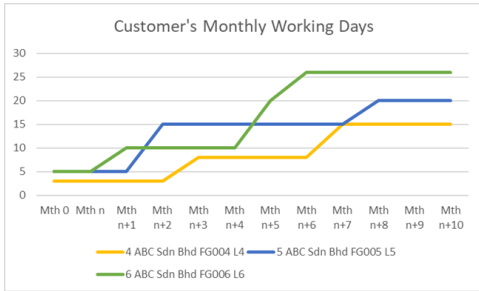


*Ramping Up production to meet new demand*

HARMONIX calculates the buffer stock required to meet forecast demand; and shall intelligently adjust the minimum buffer according to demand for each month to prevent over-producing FGs, Semi FGs & WIP
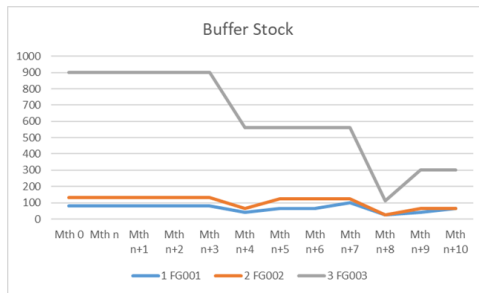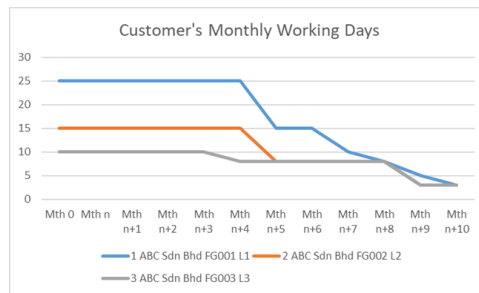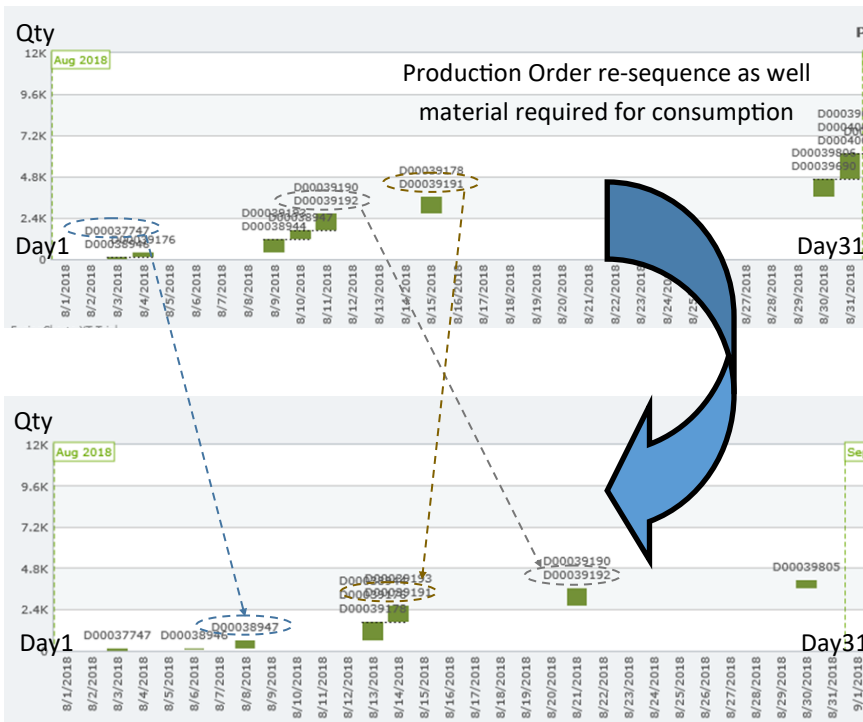


*Phasing Out Aged model that are exiting the market*

HARMONIX likewise intelligently adjust the buffer accordingly to minimize obsolete inventory write-off.

Either extreme HARMONIX constantly adjusts for optimal buffer so that sufficient buffer is maintained throughout without over-producing excess inventory

# 'Smart' Material Consumption Requirement



*HARMONIX quickly recalculates material required for consumption at shop floor to avoid unnecessary machine idle time caused by material shortage.*

**Demand Deferred**

Whenever demand is deferred, the material consumption requirement chart shall shift right (defer) to avoid over-producing inventory.

**Increased Demand**

Whenever increased demand occur, it is likely capacity is increased to meet the surge in demand. HARMONIX automatically prioritizes material consumption requirement so that right material is scheduled for production consumption.

**Unexpected defects**

HARMONIX quickly re-sequence all production orders to re-prioritize jobs so that orders can be fulfilled while measures are carried out to resolve the quality issues
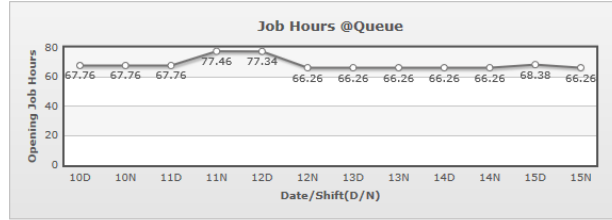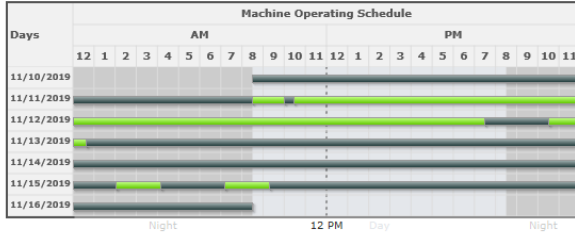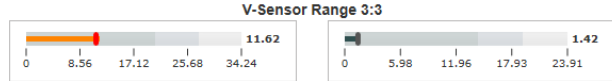
**Material Cannibalization**

HARMONIX has the ability to detect such risk and quickly recommend options and present 'what if' scenario to help planner make right decision

# 'Hybrid' Machine Dashboard



HARMONIX when it is connected with iOT devices will publish production jobs in queue in real-time. It can also work without iOT devices thus making it suitable to work with Production system that consist of 'heterogenous' equipment such as computerized and non-computerized equipment; fully automated line and labor intensive manual line. HARMONIX relies on its Virtual Sensor to process measurement where iOT devices are too costly or impractical to be installed

# Virtual Sensor
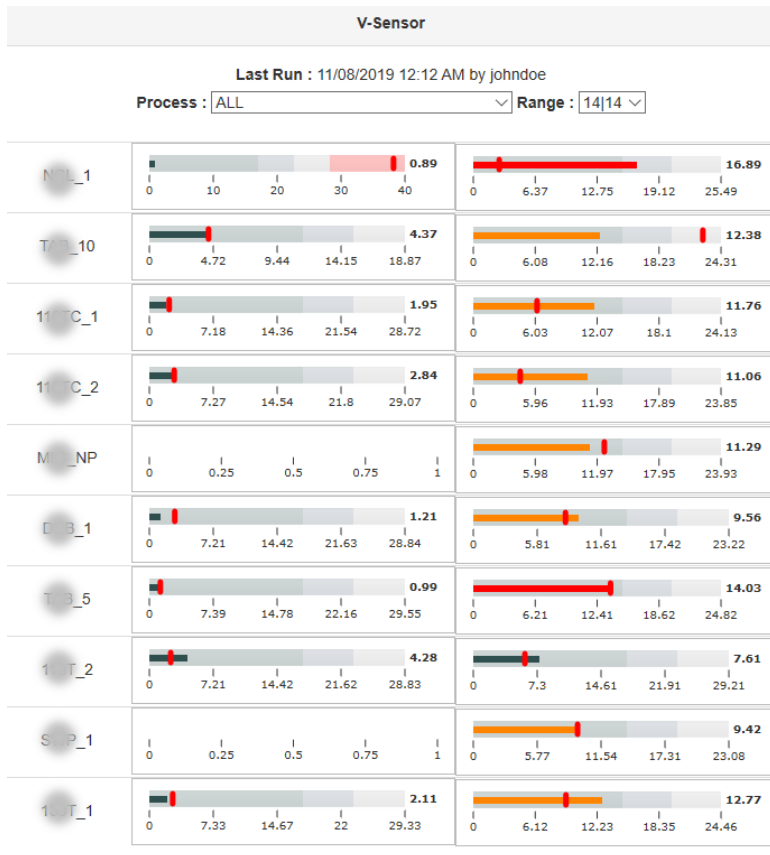


## Throughput—Output per day

HARMONIX computes the output per day by taking into consideration available hours, non-value added time, material transfer time and etc, to give a more realistic net output

## Resource Utilization Rate

HARMONIX measures the utilization rate of machines/resources. It displays its utilization rate in color red, green & gray to indicate critical, normal & under utilized.

## Planned vs Target

HARMONIX constantly check planned capacity against the target. Whenever there is deviation due to demand changes, rework, breakdown, the V-Sensor will display the impact on the gap.

## Data Acquisition Range

HARMONIX V-Sensor has extraordinary data acquisition range. It is capable to compute up to 28 days to measure progress against demand pulling rate

# Overview
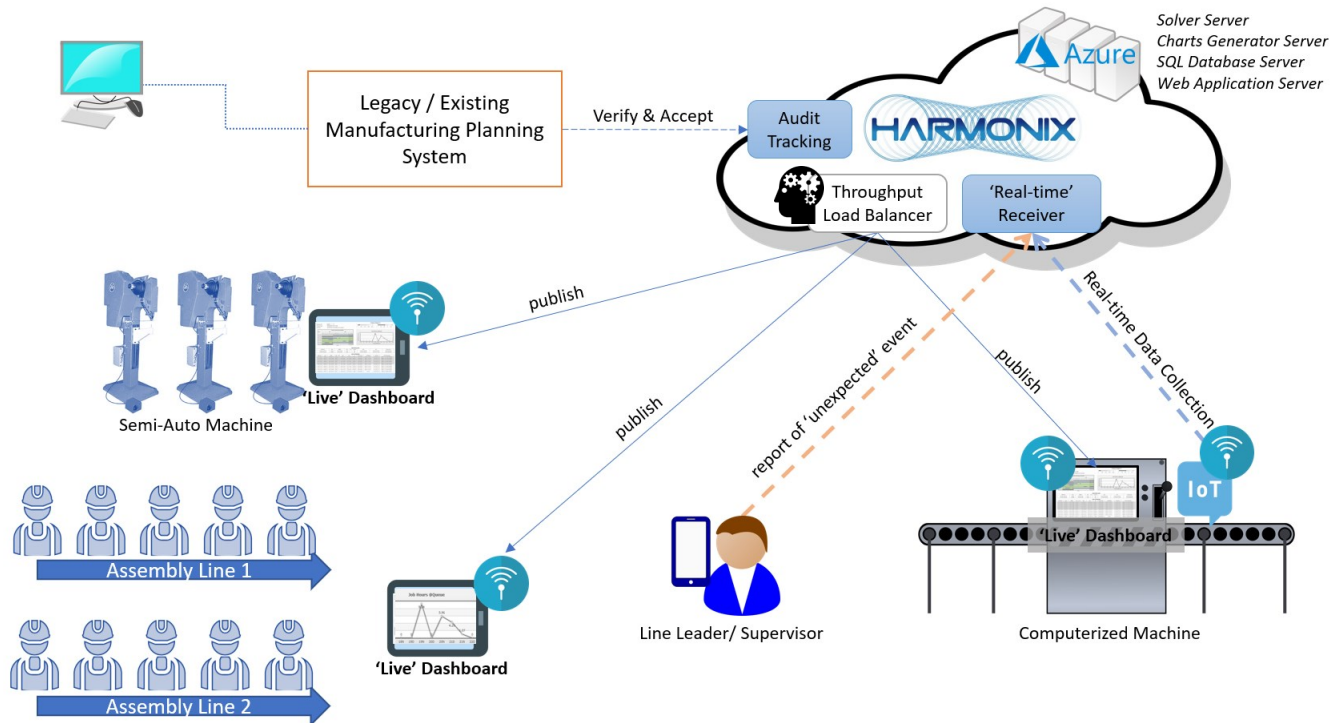


# Key Features

**HARMONIX Intelligent Process Routing**

- Smart, Flexible & Robust algorithm to simulate realistic WIP flow

**HARMONIX Intelligence Assist**

- Intelligently sequence the jobs to achieve best outcome

**HARMONIX 'Smart' MCR**

- 'Smart' to recommend executable options instantly during unexpected event such as material rejection, quarantined, defects or cannibalized by other orders

**HARMONIX "True" Process Cycle Time**

- Supports more comprehensive cycle time calculation; up to 5 + 2 types of operation cycle time for better accuracy

**HARMONIX Now!**

- Fastest deployment time and hassle free

**HARMONIX Intelligent Router**

- Very easy way to define process data in Excel format without compromising logic accuracy

**HARMONIX Intelligent QTP**

- Intelligently calculates quantity-to-produce to maintain optimal buffer stock level while meeting required demand output

**HARMONIX Team Harmonizer**

- Simple and effective tool to support "collaborative" team effort for order fulfilment

**HARMONIX CentralDash**

- Easy and quick way to visualize Order fulfilment status and Bottleneck prediction

Please **contact us** for more information.

**Scan here !**