March 18, 2021

IIoT World's Manufacturing Day

The largest Industrial IoT virtual event in the world

IIoT World

Send your questions using:

#IIoTWorldDay #IIoTWorldDays

AI and Digital Twins in Manufacturing: Case Studies

12:15 PM – 1:15 PM ET

Amit Dingare

Novelis

John Burton

UrsaLeo

Pravin Khurana

Nexteer Automotive

Andrew Lewis

DecisionIQ

ML MODEL USING SENSOR DATA FROM THE MELTERS HELPS IMPROVE THE MELTER THROUGHPUT

Novelis

BEFORE:

Estimated melt time based on a static equation

After elapsed time

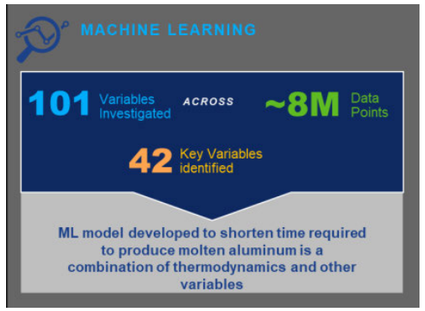
Operator checks if melt is complete

NO

Time Lost if Batch Checked Too Early

YES

Time Lost if Batch Checked Too Late



AFTER:

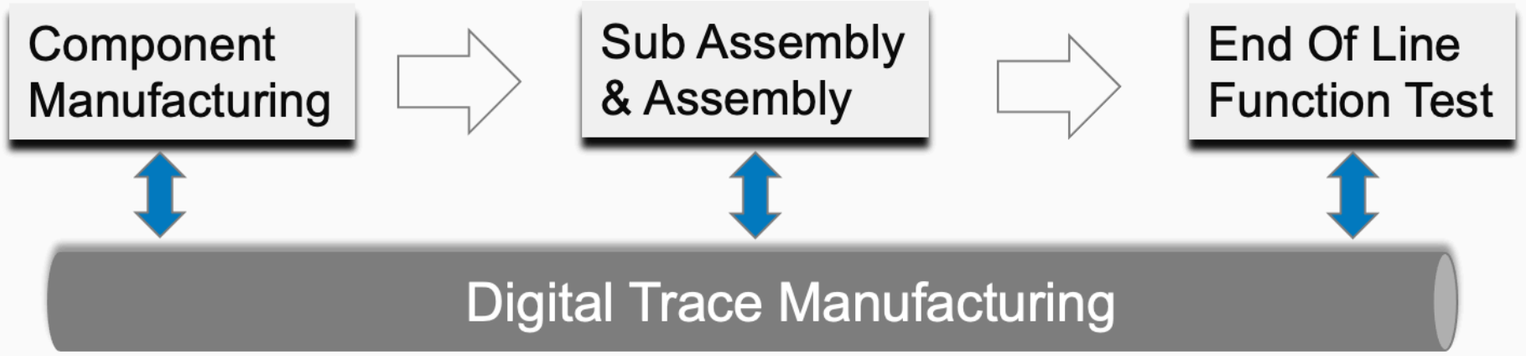
Operator inputs batch parameters

ML Model reads readings from various sensors to calculate batch readiness

Real Time Alert
when batch is ready

CASE STUDY: Predictive Quality for End of Line Function test

- Project: Reduce reject rate for End of Line Function test
  - Final assemblies are 100% function tested (failures are expensive)
  - Past approach has used swap studies and controlled studies to find critical factors
- Solution:

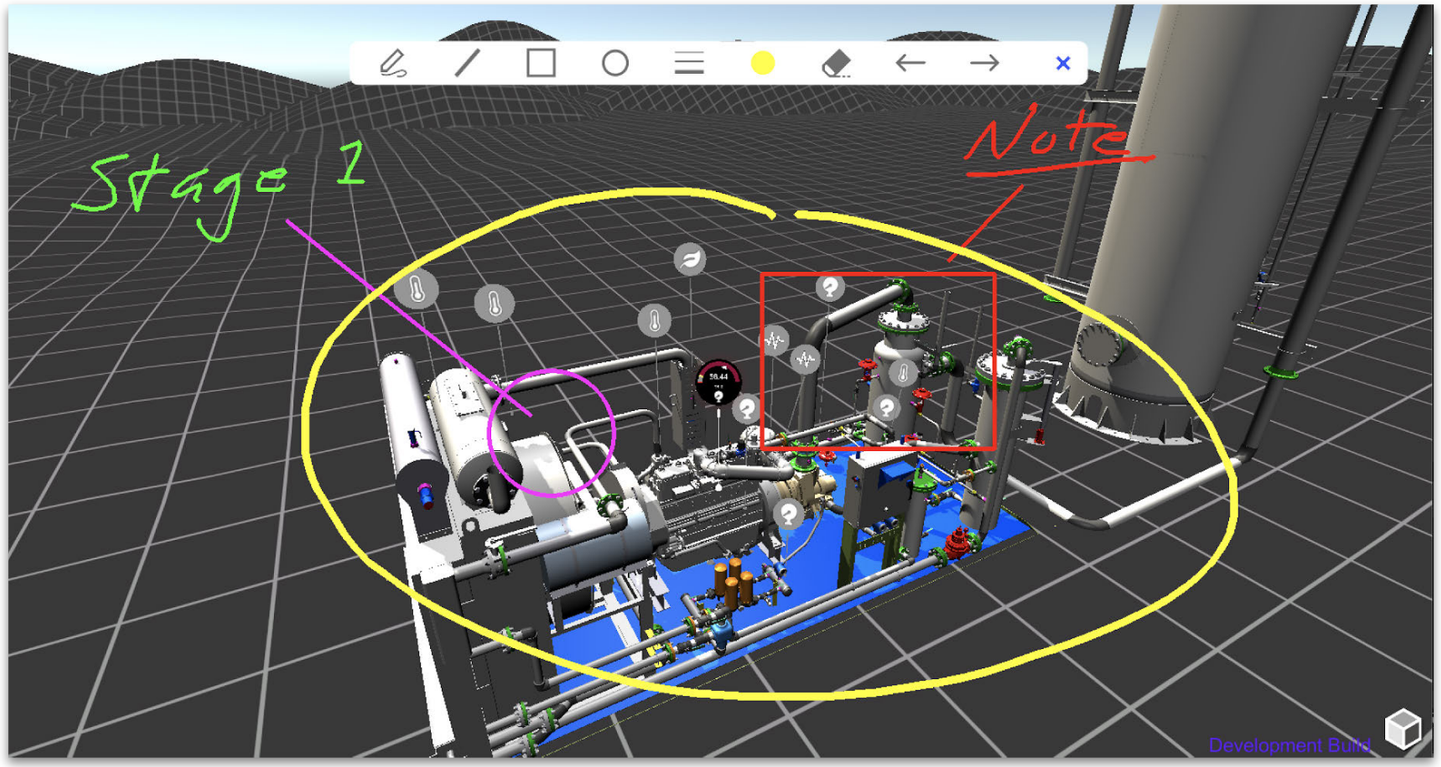


  - Step 1: Use Machine Learning technology to identify features (factors) that influence end of line function testing
    - Utilizing production data from Digital Trace Manufacturing Database
    - Discovered factors that were previously not known to influence reject rate
  - Step 2: Install real time vibration/force monitoring on Critical Component Machining Processes
- Benefits: Improved performance and reduced costs

CASE STUDY FOR IIoT

UrsaLeo

- Problem - reduce ‘truck rolls’
- Solution - 3D photorealistic digital twins + live data
  - Advanced visualizations
  - Collaboration
  - Reporting



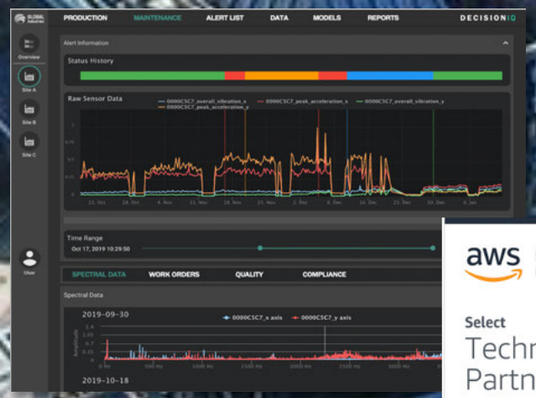
‘Using UrsaLeo’s digital twins, we expect to see a 10-15% reduction in maintenance costs’
- Mims Talton, CEO Flogistix

MANUFACTURING | OSB PLYWOOD

REDUCE UNPLANNED DOWNTIME

Predict Unplanned Downtime Events
Live Cloud Monitoring of Two Sites
Eight Major Asset Groups at Each Site
300+ Sensors at Each Site

Added Availability	+4%
Annual Savings (each site)	$4.5MM
Average Failure Warning Time	30 Days
Projected ROI	22x



aws partner network
Select Technology Partner

DECISIONIQ