Vegam
Making Factories Smarter

vMaxOEE

Digital Factories

Industrial IoT

Robotics & Automation

Data Sciences AI/ML

vMaxOEE

A revolutionary OEE tool unleashing hidden efficiency, maximizing profits with actionable insights and elevated bottom-line

Key Challenges for Manufacturers

Intense Competition & Rising Costs

Competitive Pressures:

- Optimize Processes
- Reduce Costs
- Enhance Efficiency

Increasing the Speed of Production Lines

In quest of efficiency

- Affects Quality
- Increased Maintenance Downtimes
- Synchronization Challenges

Complex Changeovers

Intricate & Time Consuming

- Efficiently Managing Them
- Increased Downtimes due to Changeovers

Shift to Shift Variabilities

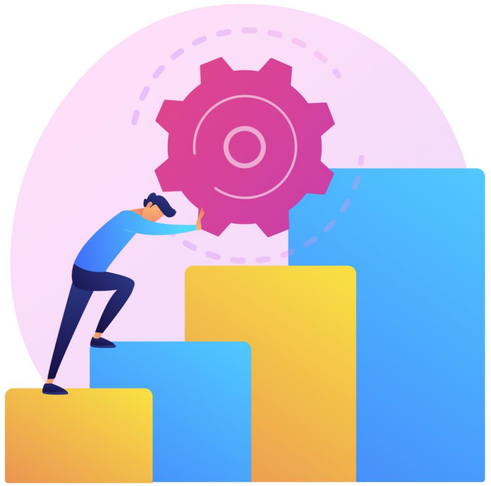
Inadequate Visibility into Shift Performances

- Shift Specific Bottlenecks
- Shift Changeover Inefficiencies

Order Completion Challenges

Meeting the Dynamic Demands

- Identifying the Bottlenecks
- Identifying the Micro downtimes



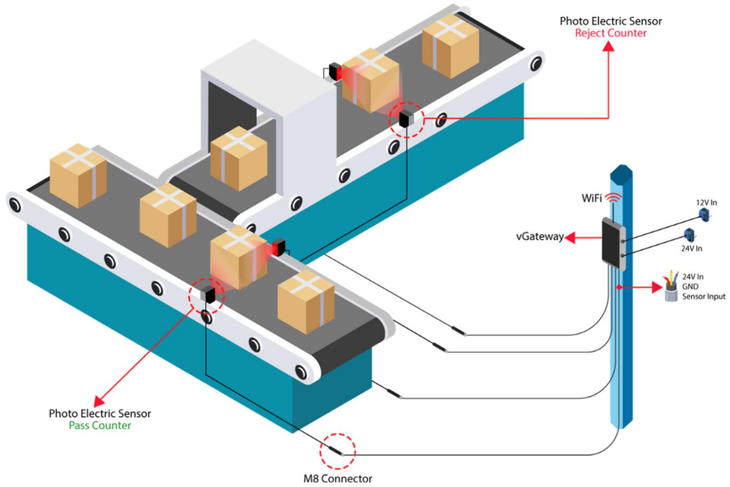
Case Study – Global Construction Chemical Company

Case in point & Key Challenges

- 2022 first engagement
- 32 production lines in 15 plants globally
- Global Roll-out in 6 months
- Heterogeneous IT infrastructure
- Varied degree of automation across production lines.
- Integration with third party software, MES system and IoT deployments at various sites.
- Remote and efficient development, deployment and rollout with minimal involvement from Customer staff.

32 production lines – 15 plants

vMaxOEE



Value & Outcome

- Global Unified Reporting of OEE & Downtime metrics
- Realtime Data on Productivity worldwide
- Enhanced transparency
- Reduced losses
- Improved Productivity

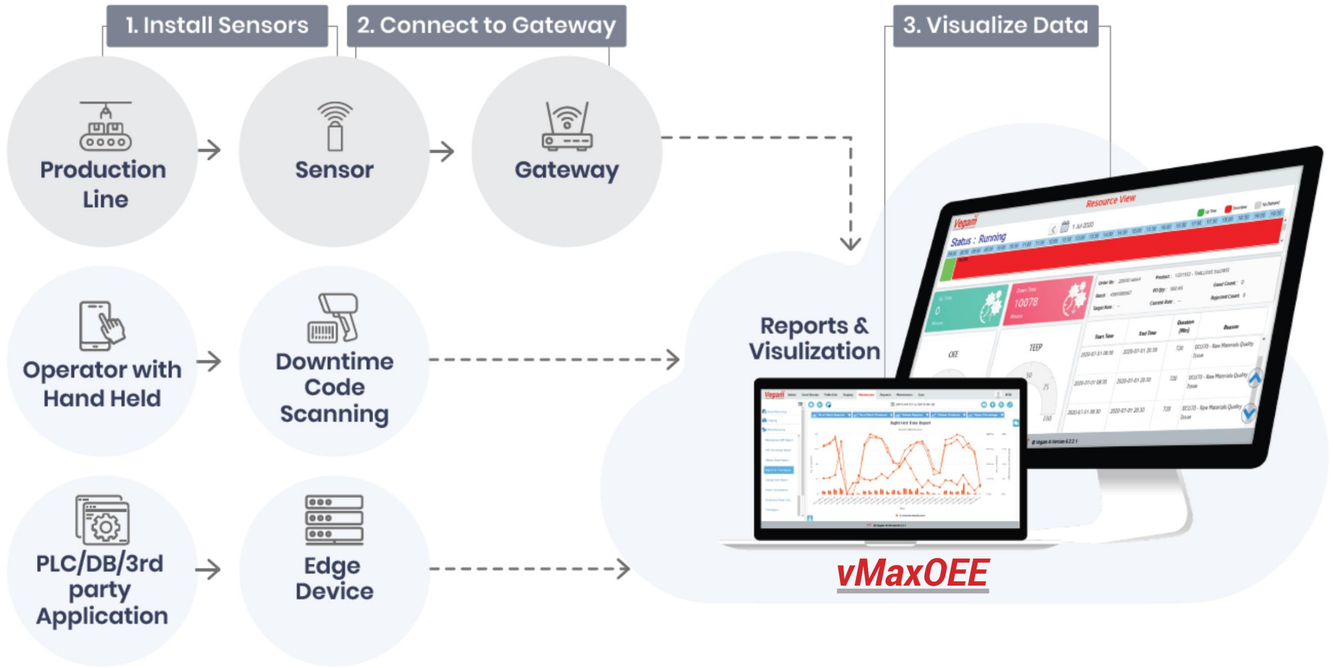
5% increase in OEE – ROI in 4 months

vMaxOEE – Roll Out

Inconsistent and not reliable OEE measurements

Delayed decision due to non-availability of real time Information

Lack of uniformity in data generated from different plant locations globally



Multiple Device Support

Informative and Easy to use UI

Economics

- Increased OEE
- Improved Productivity & Capacity Utilization
- Reduced Losses

Global Operations

- Unified standard measurements across facilities
- Global improvement Initiatives

Plant

- Insights on manufacturing KPIs
- No mammoth manual Report preparations

Operation managers/supervisors

- Real-time views of all production processes.

Operators

- Automated, accurate and live production tracking

Scalability & Deployment

- Scalable Architecture
- Quick to deploy
- IoT Sensors for Legacy systems
- Support custom Integration

vMaxOEE offers benefits at various levels within the organization

Global Operations

Enhance company-wide improvement initiatives by:

- Establish unified OEE, TEEP & OLE standards
- Boosting capacity
- Cutting costs
- Driving continuous improvement across facilities

Plant

- Get up to date insights on manufacturing KPIs.
- No need for manual report preparation.
- Focus on issues with positive and measurable impact.

Operation managers/supervisors

- Real-time views of all production processes let you focus on high-priority areas.
- Uncover hidden opportunities and offer insights to management.

Operators

- Automated, accurate and live production tracking eliminates manual shift input and downtime.
- Operators love our user-friendly, robust solutions.

vMaxOEE Analytics

Productivity Optimization

Operations Metric

- First time right
- OEE
- Plan V/S Actual
- Downtimes & Change overs
- Operational Cycle Times
- Truck Wait and Handling times
- QC Wait times

Multi-Dimensional Complexity in Manufacturing Operations Data

Product A

Product B

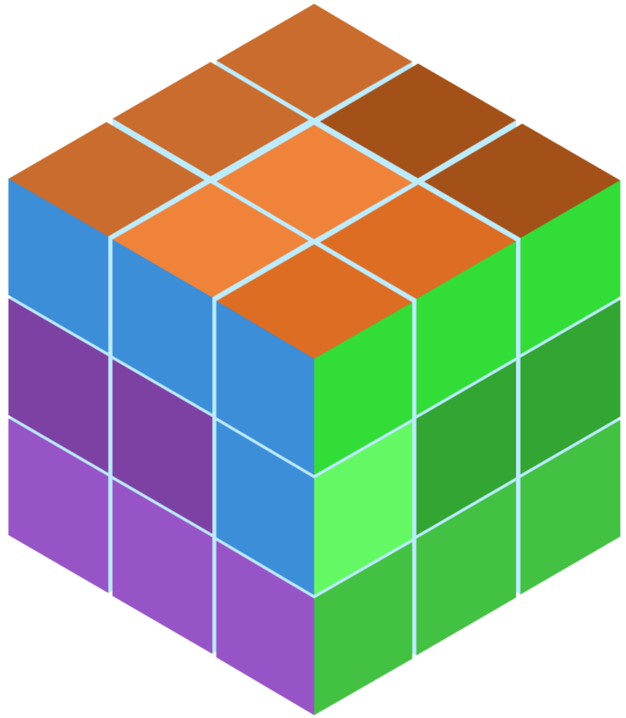
Cycle Time

Quality Metrics

Critical Control Parameters

Raw Material qty

Production Rate



Downtime

Batch Size

Rework Qty

Production Output

Rework Rate

Reject Rate

Yield & Reject Qty

Operator Efficiency

Production Resource

Production line

Shift

Unlocking Value in Operational Data: Recommendations

Data-Driven Recommendations: Immediate Actions

- Line 1 PO is running 1.5% slower than the standard rate. Check target rate or increase speed by 8 packs/h
- Line 2 PO has Product 'Q' scheduled next. Recommend switching to PO for Product 'S' to reduce downtime
- Line 5 PO will miss delivery, impacting important customer expectations. Urgent attention is needed.

Yearly | Monthly | Daily

Products with the highest recorded production downtime

1. Product A: 692 occurrences, 354.38 Hrs lost, 22% of total losses
2. Product B: 329 occurrences, 169.72 Hrs lost, 19% of total losses
3. Product C: 298 occurrences, 168.85 Hrs lost. 14% of total losses

Yearly | Monthly | Daily

Downtime reasons with the highest recorded downtimes

1. Waiting for QC: 148 occurrences, 254.38 Hrs lost, 12% of total losses
2. RM Shortage: 108 occurrences, 154.38 Hrs lost, 8% of total losses
3. Pline pump failure: 95 occurrences, 68.85 Hrs lost. 5% of total losses

- **Product X in Shift 2 : overall downtime duration increased by 12.5% compared to the last week**
- **For the current PO 205412, the set standard rate is 525 packs/hr, the PO is running at 517 packs/hr which is 1.5% lesser than the standard rate**
- Material 55475989 in Shift 1 : the downtime duration last month was increased by 1.33% which is more than compared to previous month
- Downtime Reason “Start-up Losses” in Shift 1 : the average downtime duration increased by 2.5% compared to last month’s average
- Downtime Reason “Product Changeover Deep cleaning” in Shift 2 : overall downtime duration decreased by 12.22% compared to last month
- Total downtime duration increased by 56.17% compared to the last week.

vMaxOEE – Analytics

Optimize Production Timelines

- Time Completion Prediction based on instant cycle rate
- Suggestions for adjusting the cycle rate without affecting the quality

Act proactively for the upcoming downtimes

- Get recommendations to act upon critical downtimes which can be predicted through historical analysis
- Prevent Downtimes before they Occur

Turn bottlenecks into breakthroughs – actionable insights for smoother line

- Identify the bottleneck in real time
- Bottleneck Prediction
- Actionable insights on how to remove the bottleneck and balancing the line

Ideal Parameters Recommendation

- Ideal Cycle Rate Recommendations based on cycle time analysis
- Utilize resources and operators based on patterns of cycle rates, shift and operator details

Data Driven – Downtime Patterns

- Analyze downtime based on shifts, time, seasons, resources and product
- Reduce downtime duration and frequency through targeted interventions

Enhance Operations

- Reduce defects and rework
- Identify product specific equipment stress and quality of goods manufactured
- Benchmark OEE – Performance, Availability and Quality across industries

Vegam
Making Factories Smarter

"The agility and professionalism the Vegam Team has shown was tremendous."

Vice President Operations & Supply Chain Asia, Adhesives

"Thanks Vegam Team for being such a good partner. I appreciate it a lot!"

VP Operations, IMEA, Fine Chemicals

"Vegam SFS helps us achieve performance at the highest granularity with just a click of a button."

Head of Operations South East, European Chemicals Major

"Vegam SFS deployment offered great improvements in terms of productivity, labor efficiency, site safety and lean mind set."

Manufacturing Operations Manager – Chemicals Factory, Melbourne

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