

# Operational Efficiency and Quality in Industrial Application

# **Overall Landscape**

High demand in production is forcing automation players to deliver maximum uptime, all the time while maintaining a high level of quality.

#### How to Tackle Operational Issues to Maximize Efficiencies and Competitiveness



- Inefficient processes and wasteful operations put a drain on the bottom line
  - Workarounds
  - Rework
  - Inefficient changeover procedures
- Some experts put "hidden factory" losses at as much as 40% of total company effort

% of respondents rating areas as "extremely/somewhat serious"

Meet customer delivery dates
77
77
77
78
Time to respond to unforeseen events
NPI cycle time
69
Flex production mix according to needs
Costs of poor quality & scrap
Labor costs
Downtime costs
57

Manufacturing change-overtime
57

Maintenance costs

Source: SCM World survey, June 2015

### **Benefits of Optimum Operational Efficiencies**

#### **Cost and Budget**

Data aggregation & analysis enables:

Smart capital expense optimization

of processes enables:

 Doing the right things with the right amount – replacing "do more with less" mentality

# Customer Journey Intelligent process automation, robotics and end-to-end digitization

 Values-driven changes to be made more quickly, easily & sustainably

Adapted from: McKinsey & Company



budgeting (ZBB)

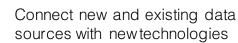


Manufacturing
Yield, energy & throughput

analytics enables:

- Real-time performance management
- Data-enabled predictive maintenance





**Product** 

sources with newtechnologies enables:

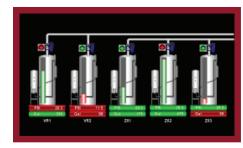
- Complexity managementDesign-based optimization
- R&D productivity through machine learning

# **Best Practices**

#### Connect Operators to Organizational Goals with Key Performance Indicators

Experts agree that changing from a reactive to proactive culture is challenging, but achievable. Operations that monitor and reward operator behaviors aligned with lean goals are more successful, sooner.







#### Count & Reject Ratio

Many companies will compare individual worker and shift output to invoke a competitive spirit among employees.

#### Takt Time

Takt time is the amount of time required for the completion of a task or the cycle time of a specific operation.

#### Target

Display target values for output, rate, takt time and quality. This KPI helps motivate employees to meet specific performance targets.

#### Downtime

Whether the result of a breakdown or simply a changeover, downtime is considered one of the most important KPI metrics to track.

#### OEE

OEE is a metric that multiplies availability by performance and quality to determine utilization. The higher the number, the more efficient the operation.

# Lower the Total Cost of Deployment and Ownership

anywhere, any way while also reducing development time with point-and-click simplicity

Gain insight into what equipment is doing anytime,

data from virtually any source
 Simultaneous protocol conversion simplifies

• Red Lion Crimson 3.x-enabled products can collect

networks by passing data to almost any device without external protocol converters



# Harness the Value of Industrial Information



# Deliver operational

- insights directly to the plant floorMonitor productivit
- Monitor productivity from anywhere
- Display trends in real time



#### Collect statistics on any Crimson data tag and

- deliver to upstream systems for reporting

   Address regulatory
- Address regulatory requirements
- and improve uptime

Enhance troubleshooting



# Sync data to system

- servers for longterm storageSimplify batch and
- ensure repeatable quality

recipe management to

IMPROVE PERFORMANCE & DRIVE PRODUCTIVITY