

# USING LEADING INDICATORS TO DRIVE RELIABILITY IMPROVEMENT

Looking where you are going rather  
than looking where you have been



# Leading Indicators

- A directive to Improve without saying “how to” - is ineffective”
- A leading indicator directs the individuals behavior today
- It is immediately measurable
- If you do more of this? You will improve

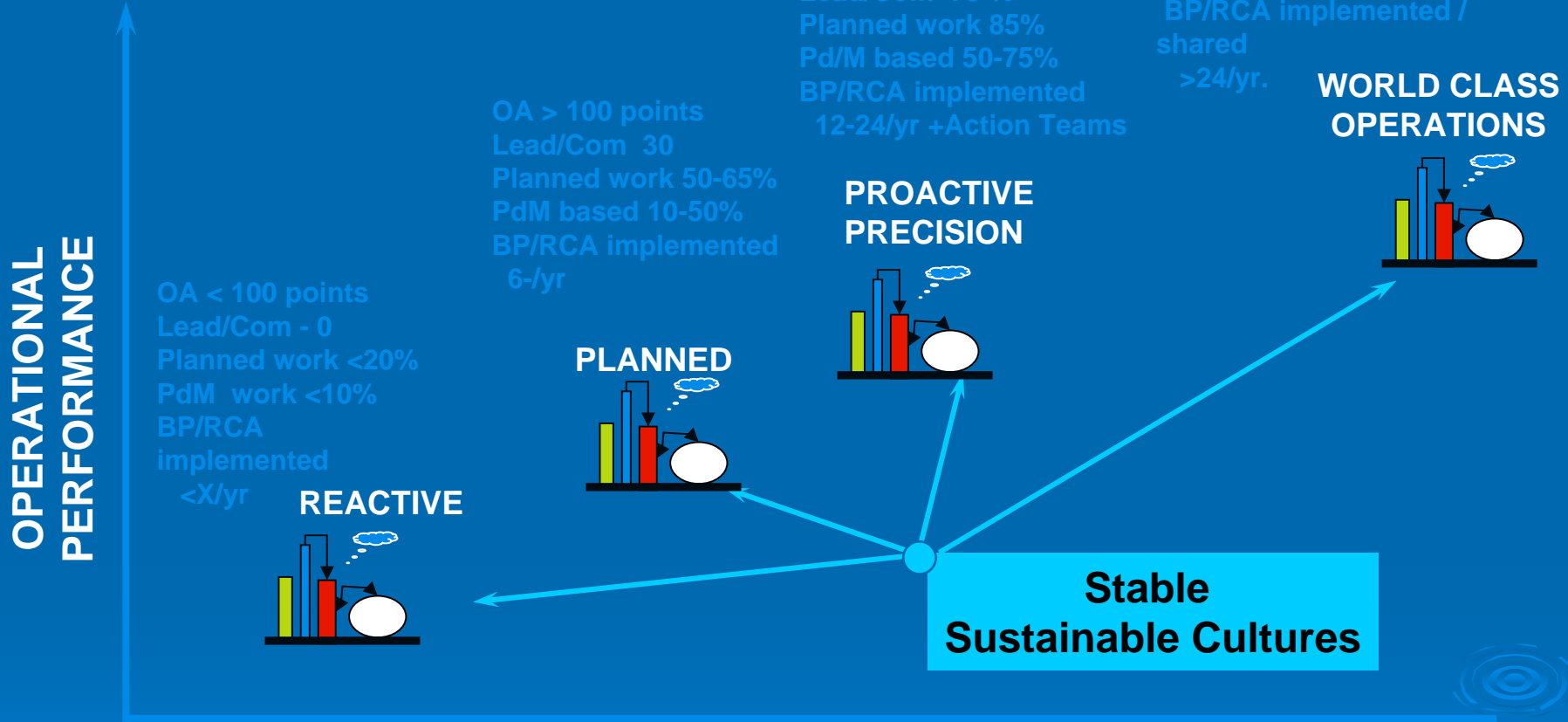
# An example of the use of “Leading Indicators” to drive safety performance on – ExxonMobil Hoover – Diana construction project – Jack Toellner

- As well as “Lagging indicators” like -
- “Cumulative OSHA Total Recordable Index
- and SCAT injury studies
- Plus monthly safety subject meeting
- The “Leading Indicators” measured were

# Examples of “Leading Indicators”

- Relative quality of morning safety meetings
- Numbers of observed unsafe behaviors
- % Participation by foremen in safety inspections
- Effective use of “Barricades”
- Average housekeeping score
- % Site management participation
- These produced “World Class Performance”

# Leading Indicators for the four stable operating states



Responsive Work

Planned Work

Proactive & Disciplined

Organizational Learning

**NATURE OF BEHAVIOR**

# What about “Manufacturing Efficiency”



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# Leading Indicators

Total number of completed activities, percentage or points

- **Operational Accuracy Assessment (points)**
- **Leadership/Communications (points)**
- **Planned / Maintenance %**
  - **Predictive / Preventive Maintenance %**
- **{ BP - Best Practices & RCA - Root Cause Analysis} #**

# Lagging Indicators

- \$ Costs
- % Downtime
- % Quality Right First Time
- Tons / Week – Operating Rate

# Operational Accuracy Assessment #

## Monthly Points System –

### Add

- 1 point for each % of process for which a comprehensive simplified pictorial SOP's exist
- 3 points for each individually assigned S/U and S/D checklist
- Non Conformance Report related to operating procedures (NCR's) 1 point each

### Deduct

- For - upsets / incidents - 20 points for each minor, 50 mid level and 100 points for major



# Leadership & Communications

# Points

- Managers actions at all levels are seen as supportive 25
- Comprehensive formal daily & monthly review meetings are held with reports issued 20
- Multiple (4 +) level experts are created 10
- Individual empowerment by creation of “activists” pushing RCA project implementation and hourly action teams 10
- “Black Belt” type program drivers (3)are created 10
- S R Manager holds monthly site wide meetings to report progress 10
- Program successes are celebrated 5

TOTAL 100

# Planned / Maintenance %

- The amount of work planned a minimum of 24 (72 future) hours prior to accomplishment as a percentage of total true repair and inspection hours
- Note – Individuals such as stores, lubrication mechanics, vibration analysts, clerical & admin should not be included. Essentially all immediate work is unplanned



# Predictive / Preventive Maintenance %

- How much of the total work of the maintenance group is initiated by detecting defects in the equipment by some form of prior routine scheduled inspection ?
- Also having detected the defect the corrective work must have been planned to include it.



# Best Practices & Root Cause Analysis #

- The number of Root Cause Analyses conducted and reports issued.
- The number of best practices written, implemented and being used. (typically occurs from mid point in the improvement project)
- A fully implemented “Solutions Project” counts as two

