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# *Benchmarking*

*Christer Idhammar*

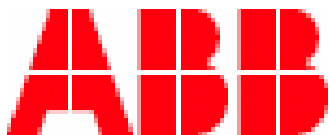
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June 2005



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# Benchmarking: What is it?

- A search for best practices
  - A comparison of quantitative metrics and performance indicators
  - An evaluation of qualitative activities or practices
    - Supported by visuals
  - “Stealing” with pride
  - Process mapping
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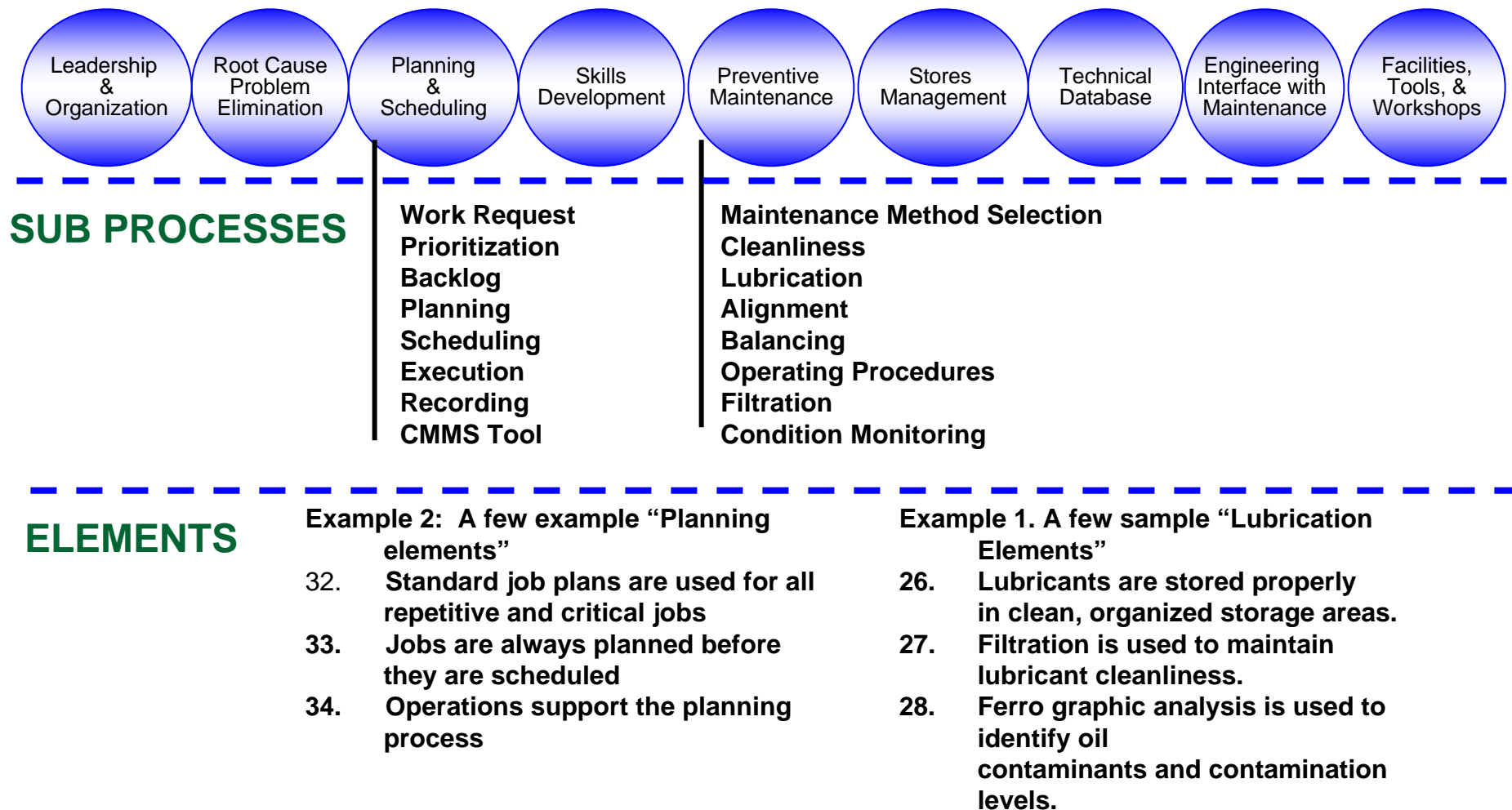
# Benchmarking: Why?

- Learn how good your organization is compared with how good it can become.
  - Learn what to do to become more competitive.
  - Avoid common mistakes.
  - Speed up implementation and generation of results.
  - Improve competitiveness and productivity
  - Shorten the time cycle for achieving superior performance
  - Reduce the likelihood of missteps
-

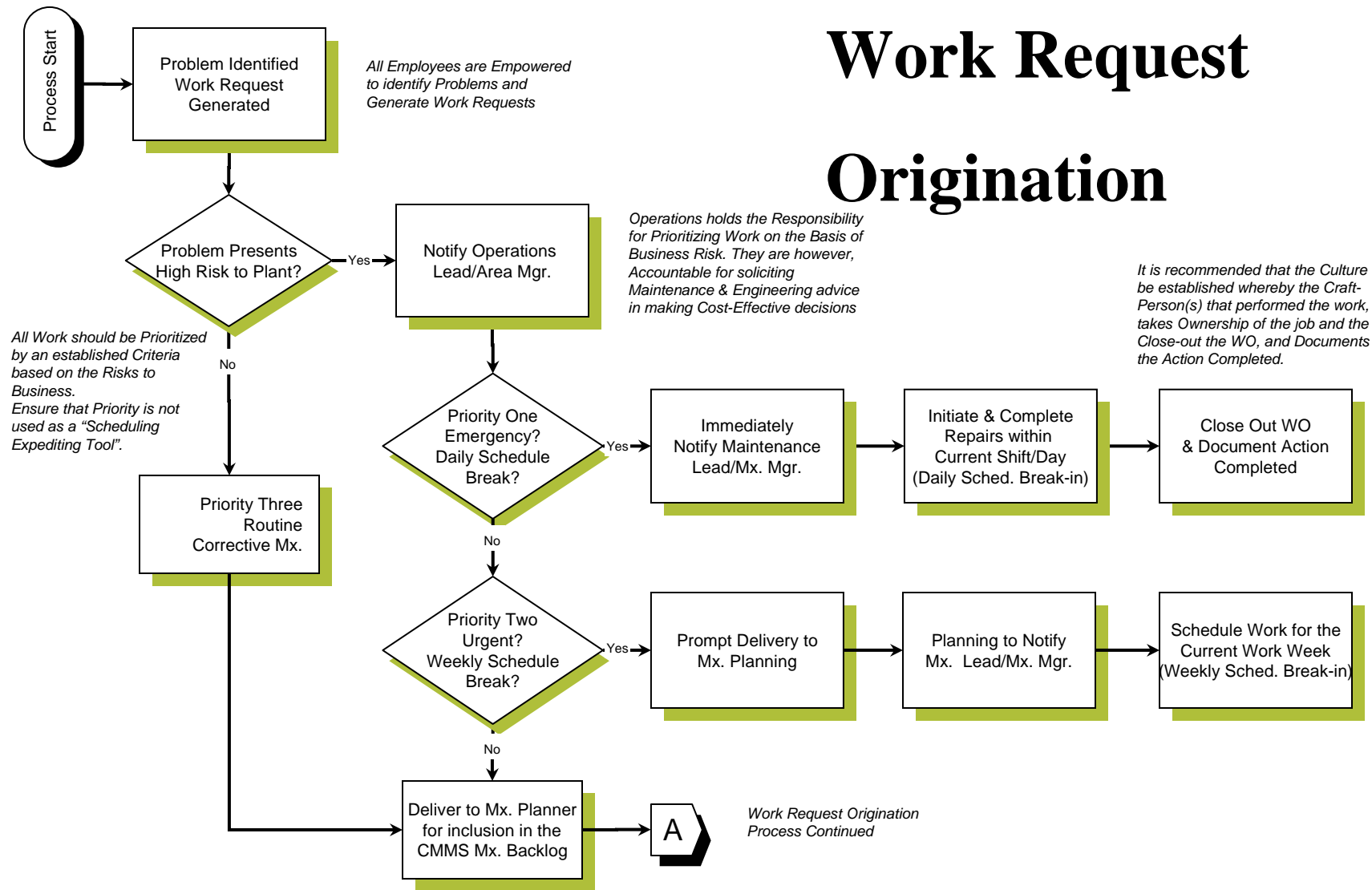
# Benchmarking - What

## IDCON Current Best Practices (CBP)

## KEY PROCESS



# Sample: Work Request Origination



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# Benchmarking: The Dangers and Fallacies

- Companies get caught up in the metrics
    - Colorful graphics are “sexy” and alluring
    - Numbers “lie” especially if definitions are not tight and consistent
    - Metrics alone don’t change behavior and practices
  - Practices are evaluated in a superficial manner
    - Cursory visits or analysis
    - Everybody plans and schedules maintenance
      - Or do they?
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# Benchmarking: The Dangers and Fallacies

- Organizations restrict their benchmark activities to their own industry
    - Is pulp and paper applying reliability modeling, 5S, and SMED principles as effectively as other industries?
  - Management is not truly committed to the process
  - Personnel are not open-minded
  - Tool is only used by management, not workers
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# Successful Networking Sample

- Three companies (continuous process)
  - Recent green-field facilities with innovative practices
  - Permanent and rotating members from each company
  - Two-day meetings rotated among the three Companies
    - Day one focused on formal explanation of host company practices
    - Day two allocated to one-on-one contact between host and visitor companies
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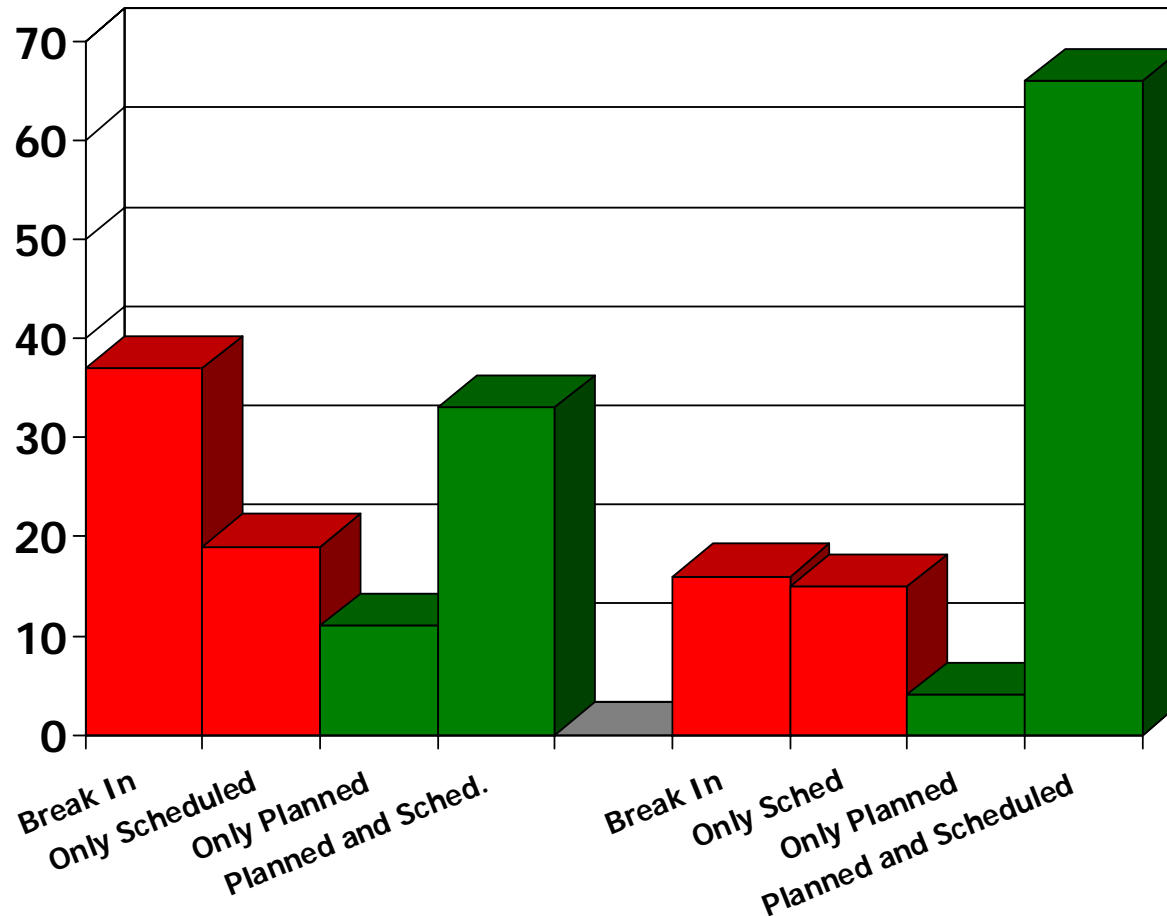
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# Performance Indicators

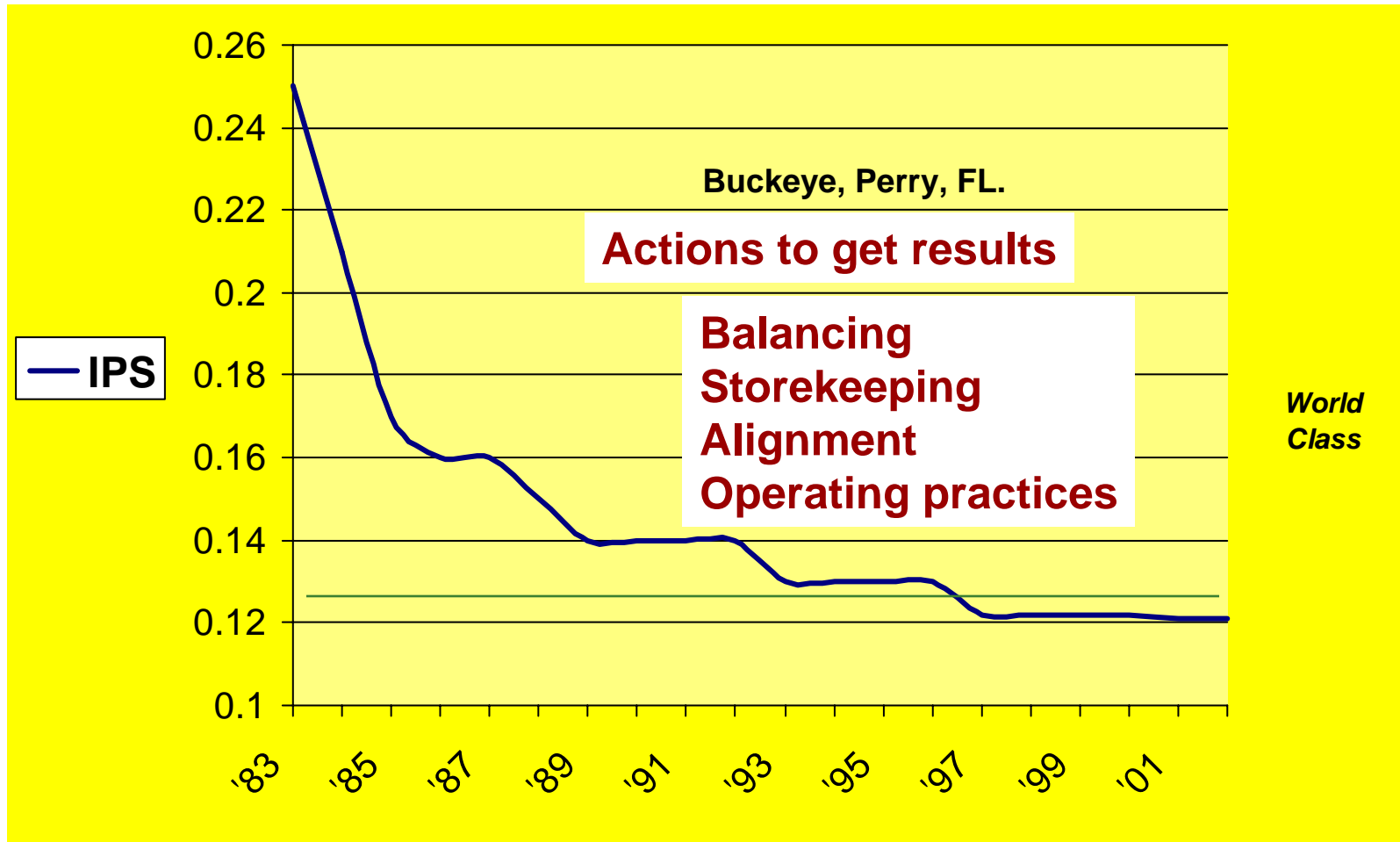
- Results are the outcome of actions.
  - Measure the actions and the results will come.
  - Action Indicators examples:
    - Planning and scheduling performance
    - Preventive maintenance compliance
    - Trend of average vibration level
    - Electric motor life
-

# Planning and Scheduling Categories

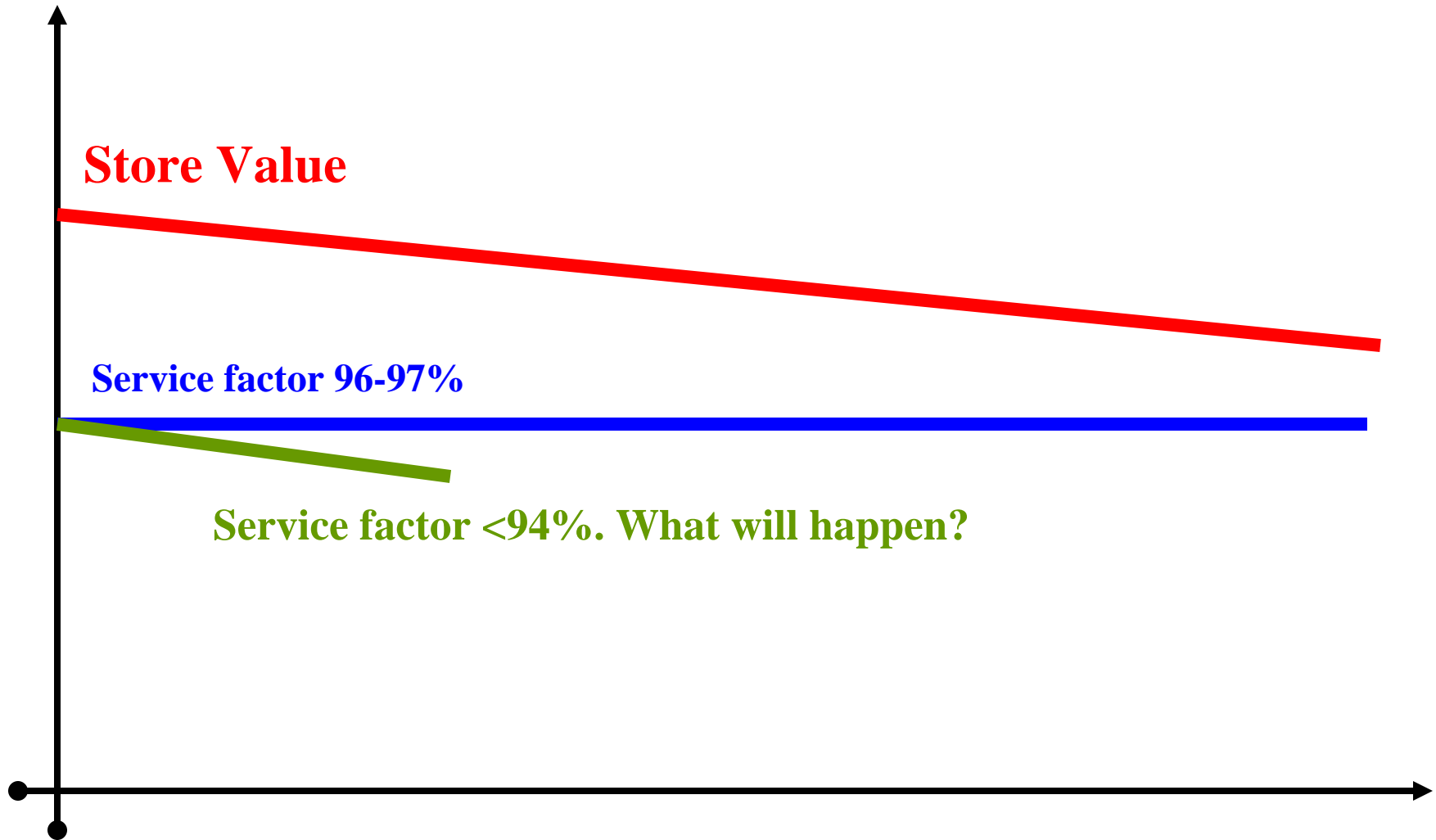
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# Action Indicator Example - Plant Vibration Level



# Store





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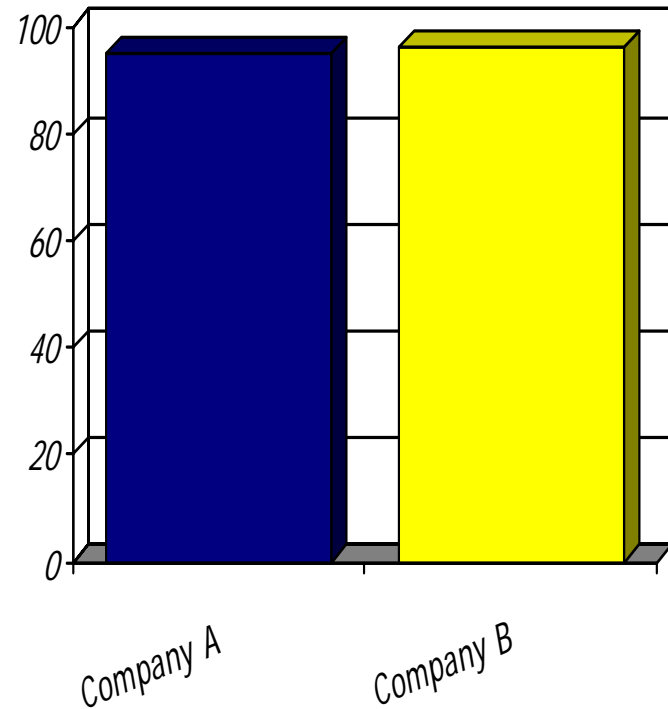
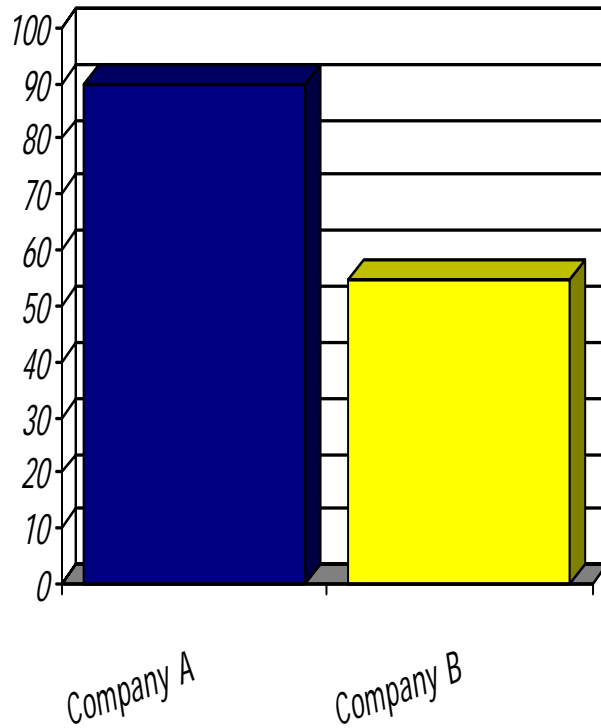
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# Performance Indicators

## ■ Results Indicators

- ❑ Competitiveness = Prime Tons/\$
  - ❑ Productivity = Prime Tons/Hour
  - ❑ Overall Production Efficiency
  - ❑ Cost comparisons are difficult and unreliable
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# Maintenance Costs Before and After Merger



## Example: Paper Industry Results Indicators

<b>Grade</b>	<b>High%</b>	<b>Low%</b>
<b>Fine Paper. No coater.</b>	<b>89</b>	<b>71</b>
<b>SC Paper. Incl SC.</b>	<b>84</b>	<b>74</b>
<b>LWC, Incl. Coater.</b>	<b>84</b>	<b>70</b>
<b>Liner Board</b>	<b>96</b>	<b>88</b>
<b>Corr. Medium</b>	<b>92</b>	<b>82</b>
<b>News Print</b>	<b>93</b>	<b>85</b>
<b>Tissue</b>	<b>96</b>	<b>88</b>

**Time Efficiency based on 8,760 available hours per year x Quality Performance (Yield).  
From IDCON SIMA database. Best and worst performers.**

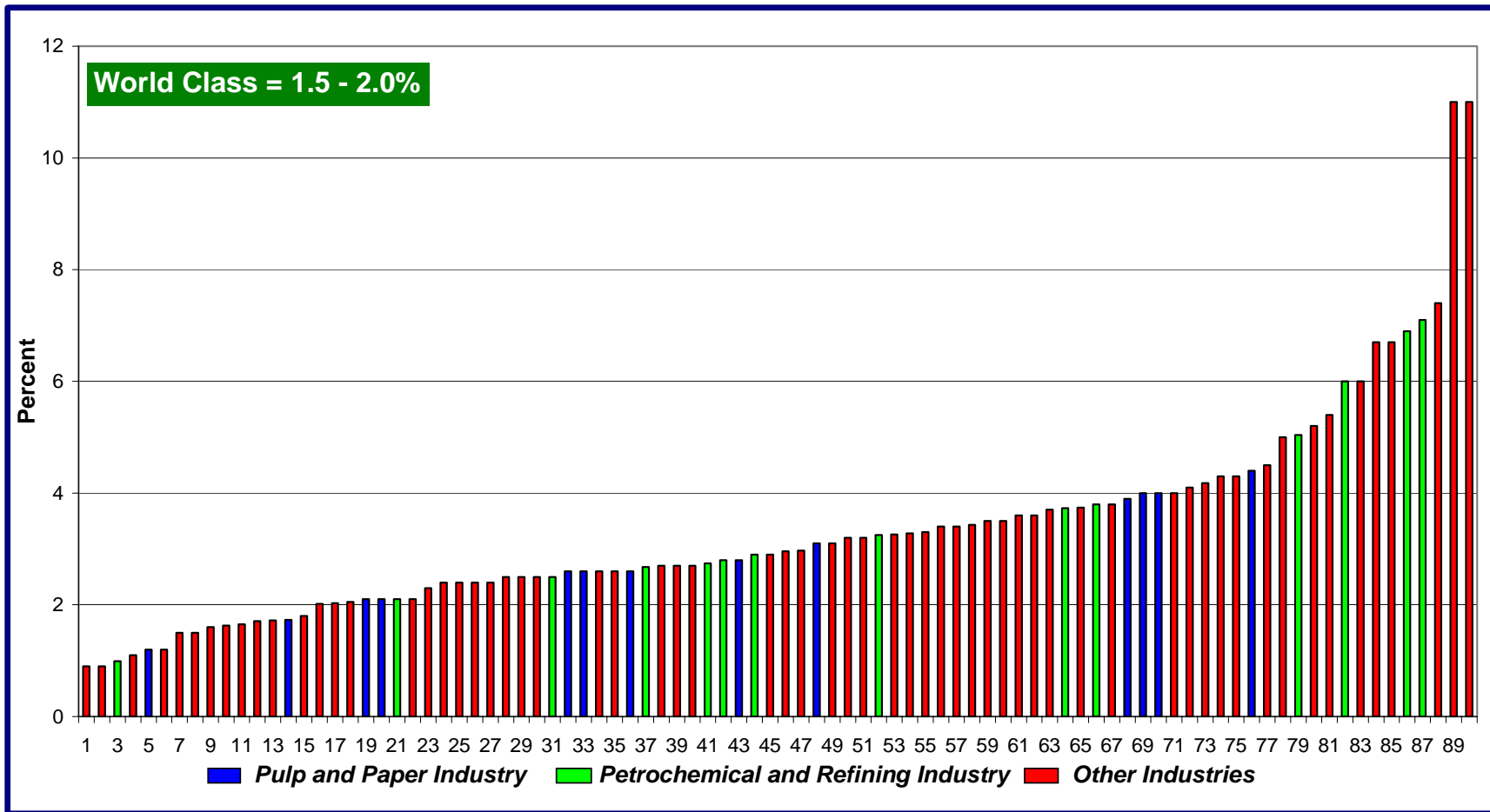
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# What to Benchmark:

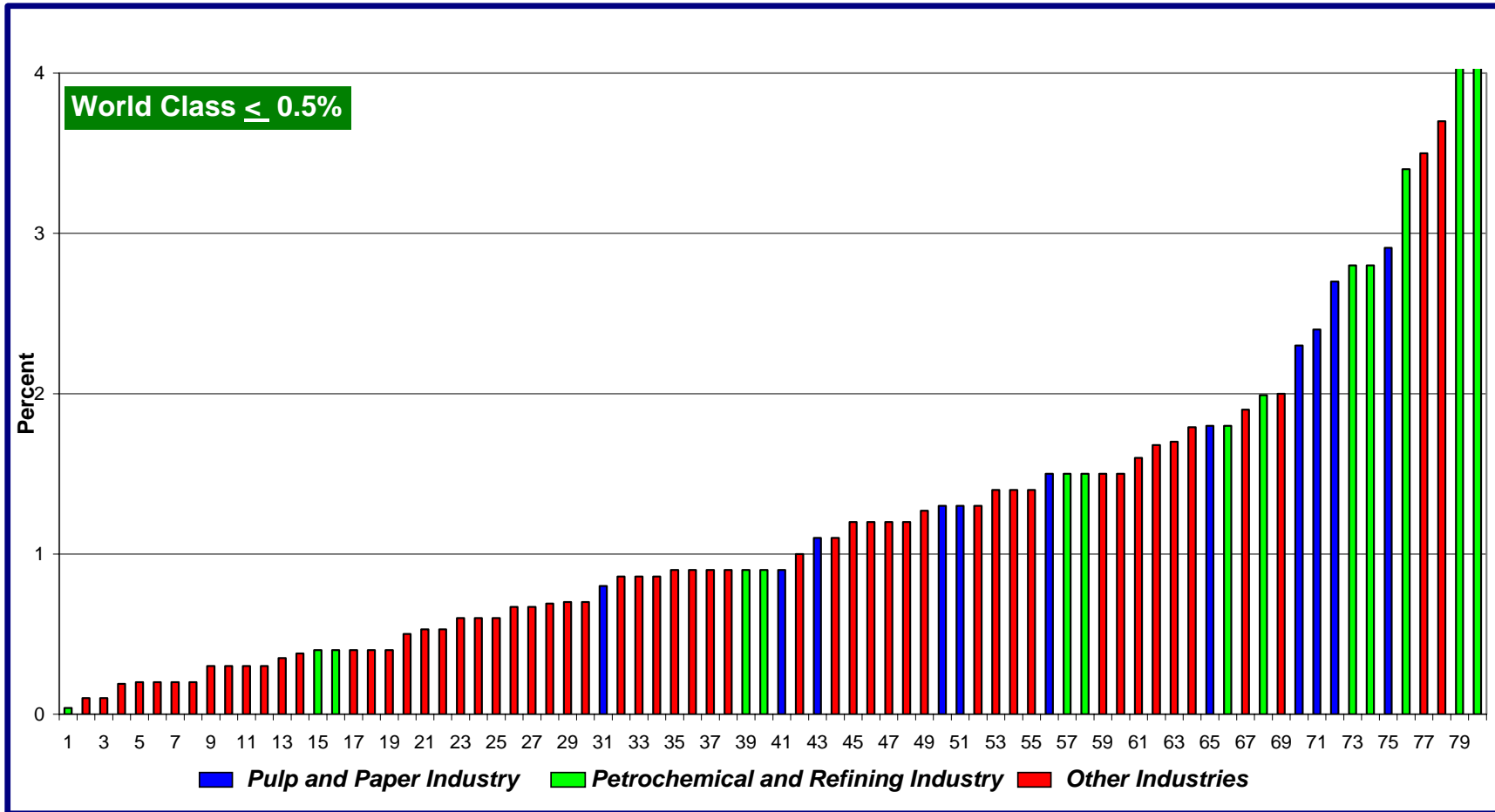
## Sample Reliability Metrics

- Equipment Performance
    - OEE, Availability, Run Rates, Quality
  - Maintenance Costs as % Replacement Asset Value
  - Percent Emergency Work
  - Percent Overtime
  - Percent Planned Work
  - Percent Preventive Maintenance
  - Crew Weeks of Backlog
  - Maintenance Parts Value as Percent of Replacement Asset Value
  - Inventory Turns
  - Inventory Accuracy
  - Maintenance Stock outs
  - Inactive Inventory Level
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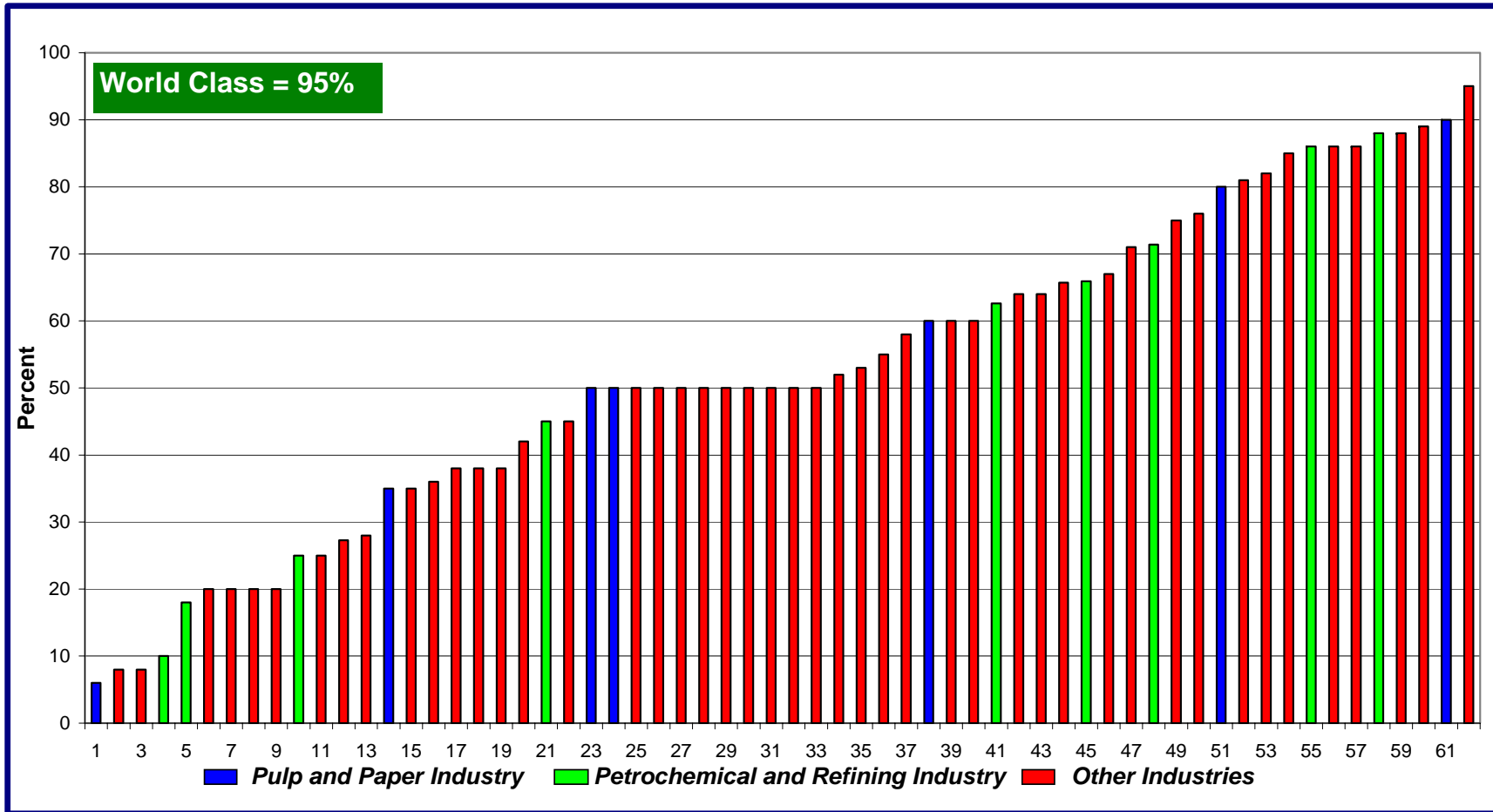
# Maintenance Cost to Facility Replacement Cost



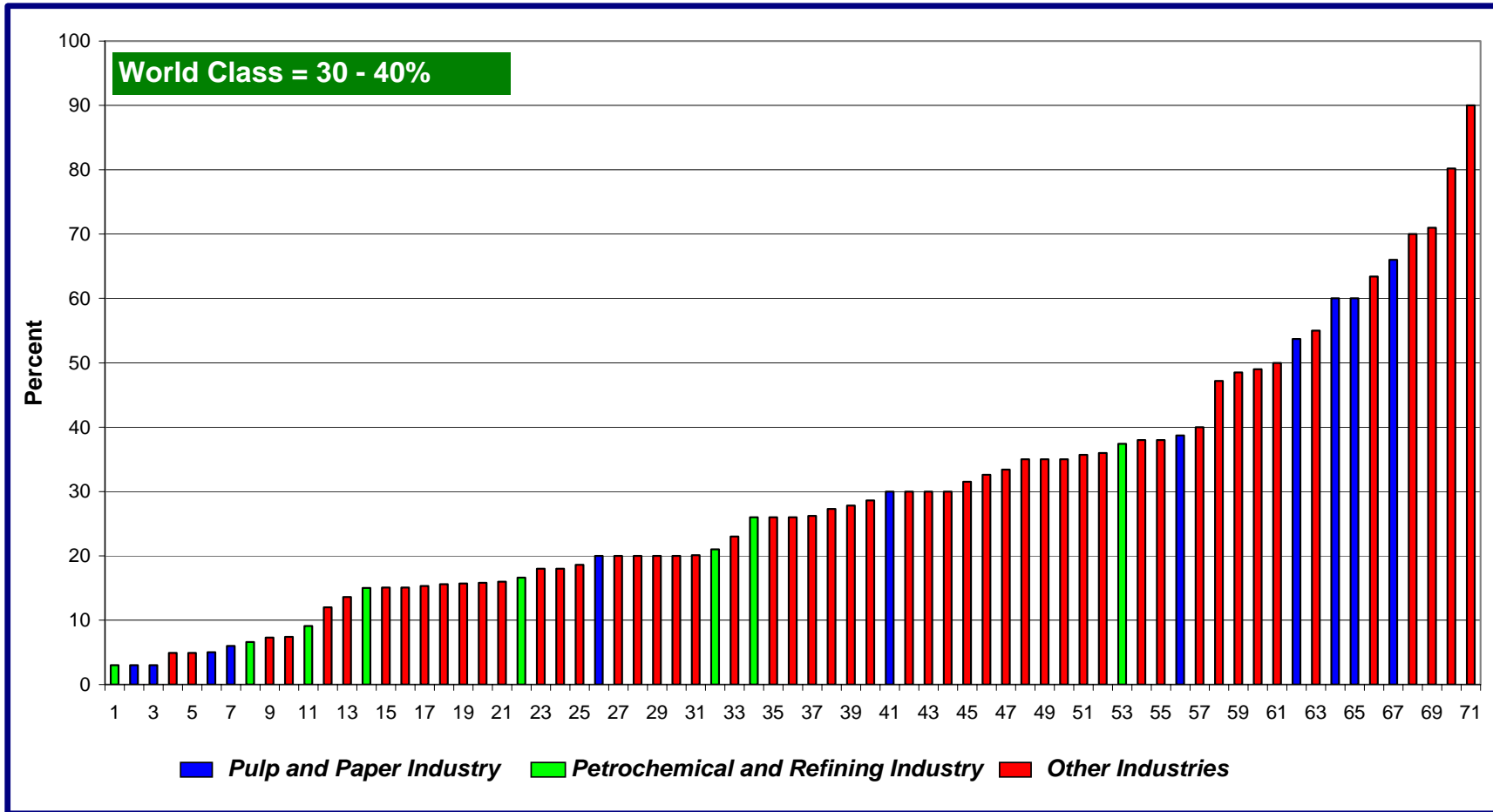
# Maintenance Stock Value to Facility Replacement Cost



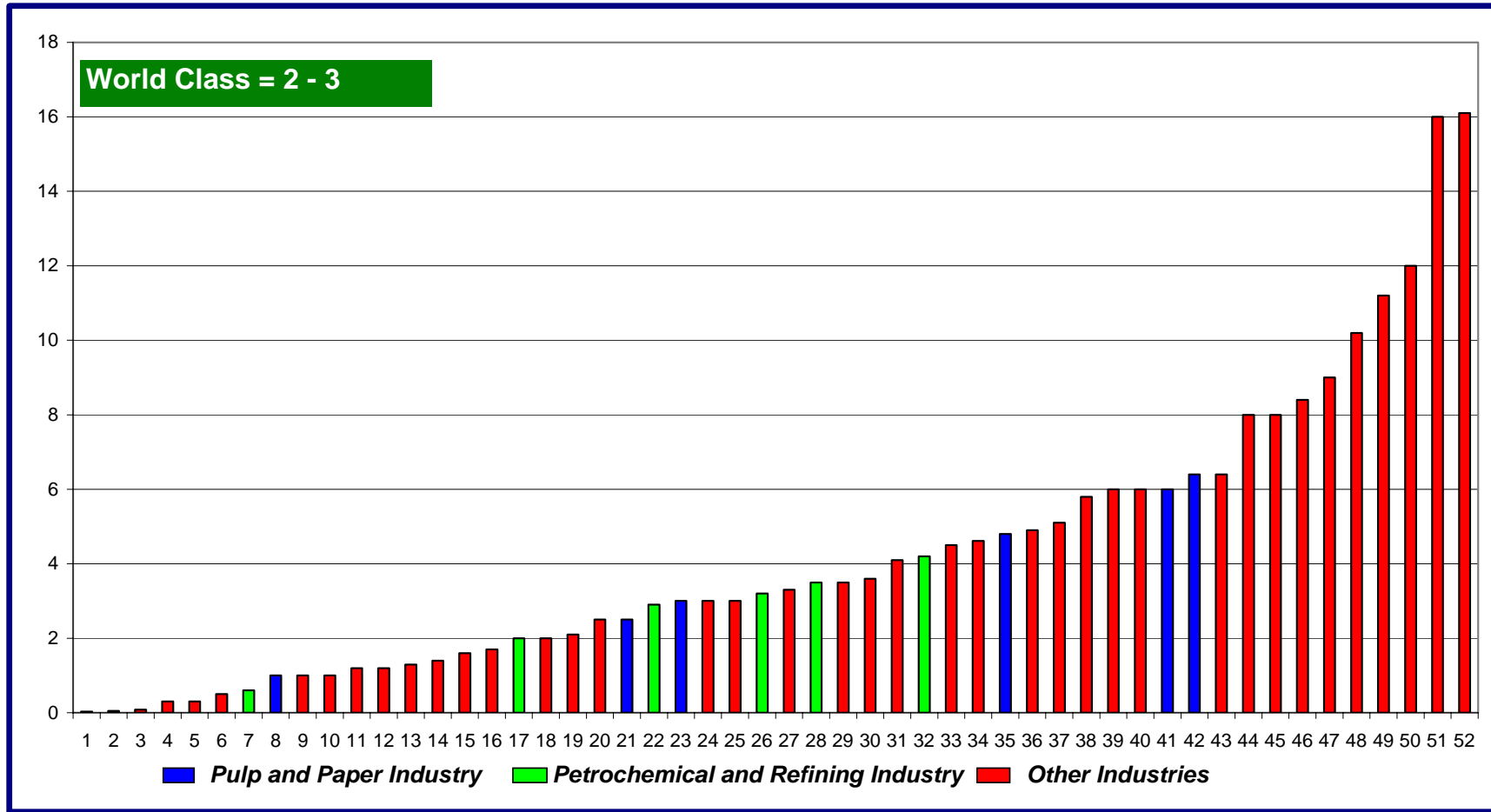
# Percent Planned Work



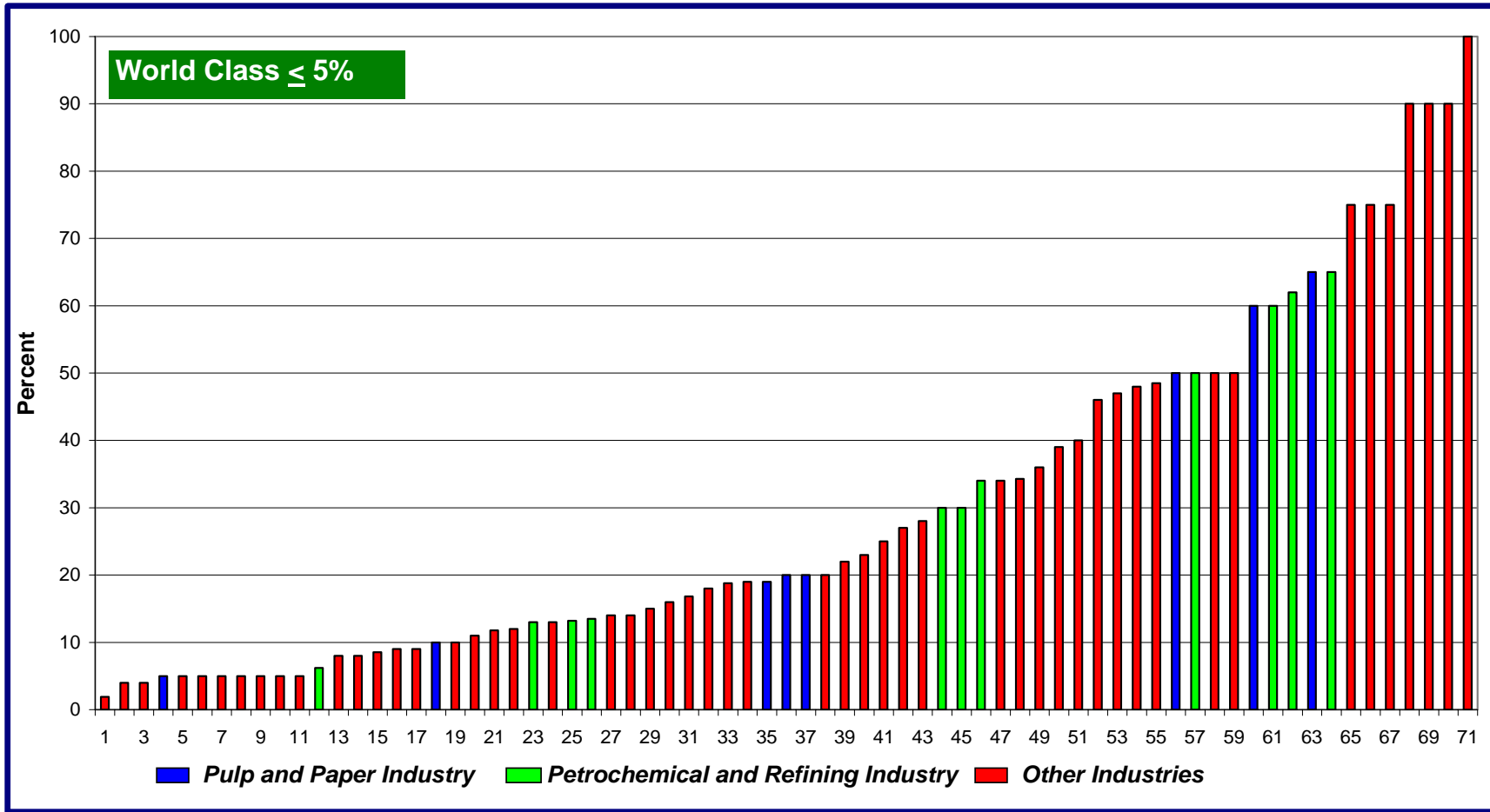
# Percent Preventive Maintenance Work



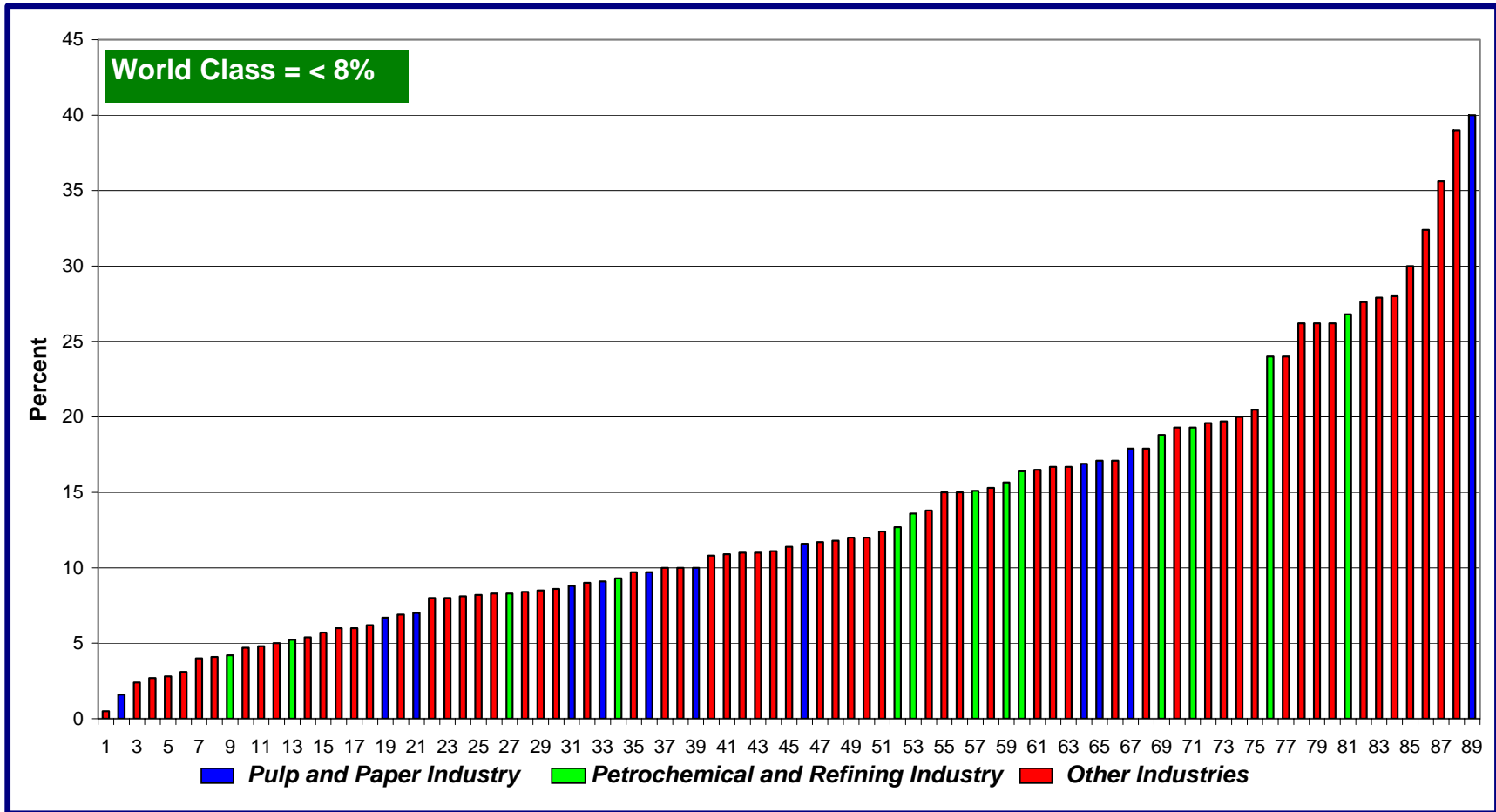
# Maintenance Crew Weeks Backlog



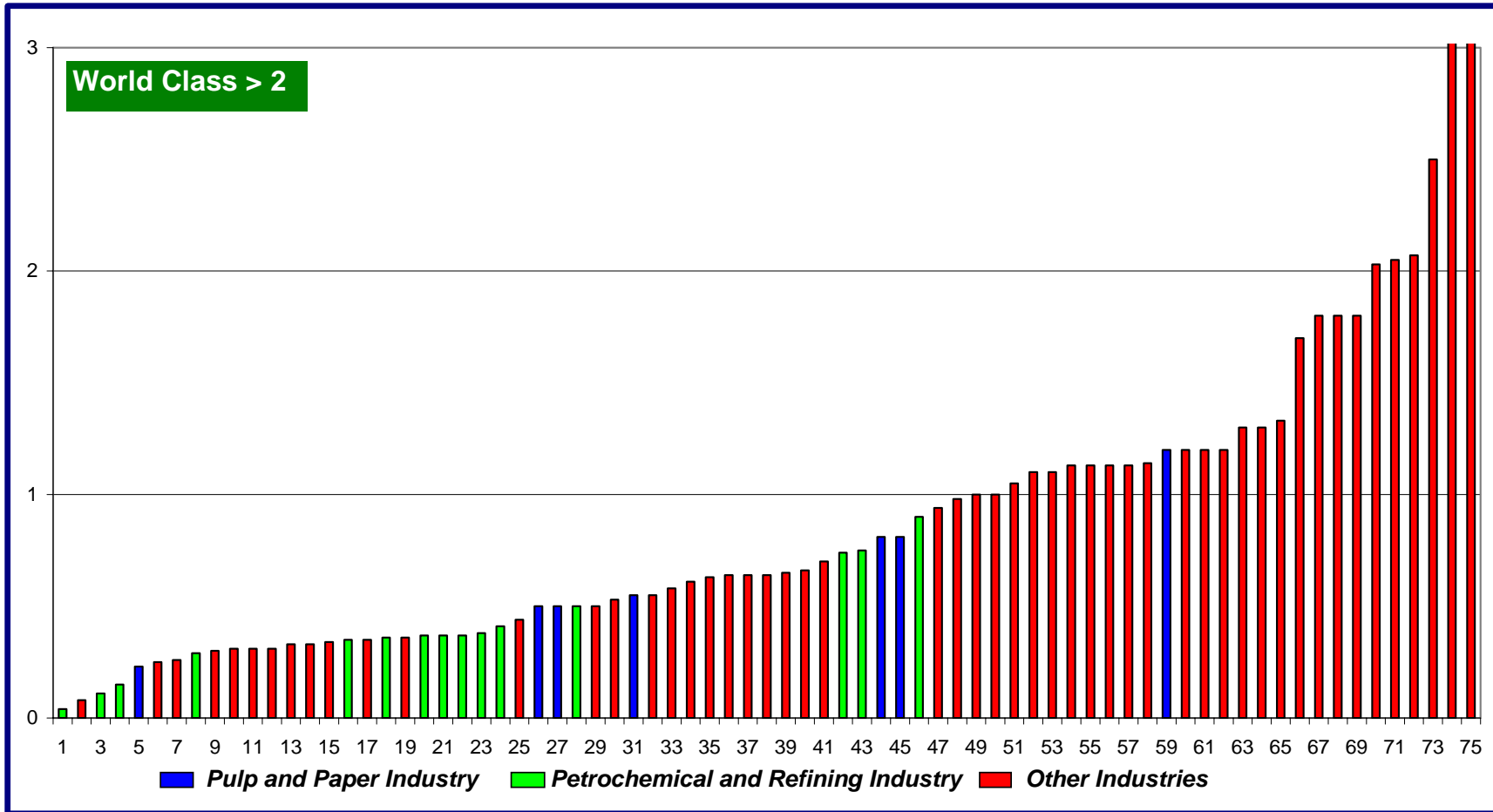
# Percent Emergency Work



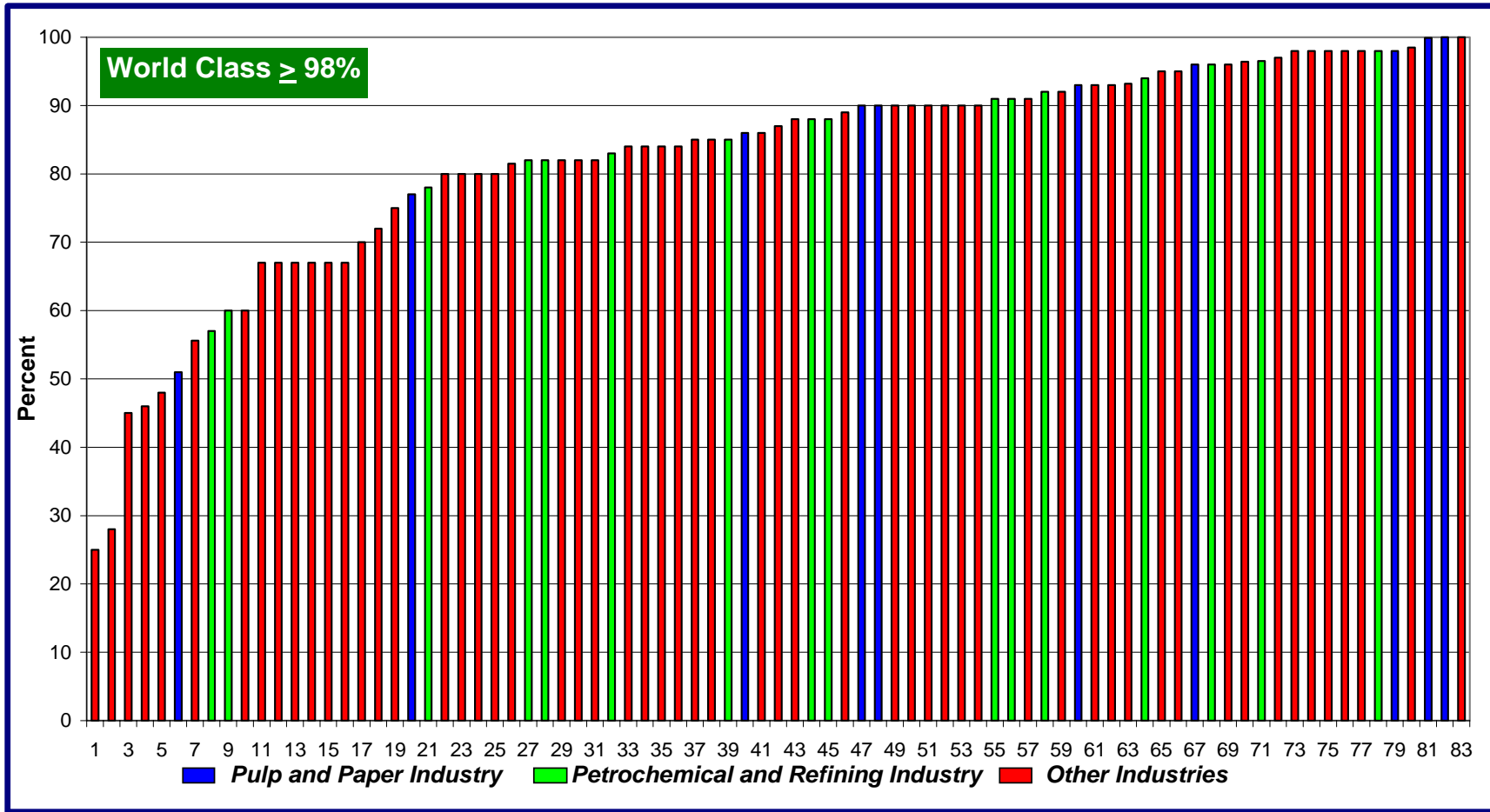
# Percent Overtime



# Annual Inventory Turns for Maintenance Material



# Percent Inventory Accuracy



# Percent Line Items Showing "No Issue" for Three Years

