



Chemical Strategies Partnership

a project of The Canopy Institute  
founded by The Pew Charitable Trusts  
with major support from The Heinz Endowments

# **Institute for Supply Management**

## **Transforming the Chemical Supply Chain into a Chemical Services Chain: Specific Strategies with Universal Value**

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# What is the Chemical Strategies Partnership?

- The Chemical Strategies Partnership (CSP) is a non-profit project funded by foundations, government, and private companies
- CSP is helping to promote the economic and environmental benefits of chemical management services (CMS)

## CSP Mission

To reduce chemical use, waste, and cost through transformation of the chemical supply chain

# What is Chemical Management Services?

- A strategic, long-term relationship in which a service provider supplies and manages a customer's chemicals and services
- Provider compensation is tied primarily to quantity and quality of services delivered, not chemical volume
- Goes beyond invoicing and delivering product to optimizing processes, reducing chemical lifecycle costs and risk, and reducing environmental impact

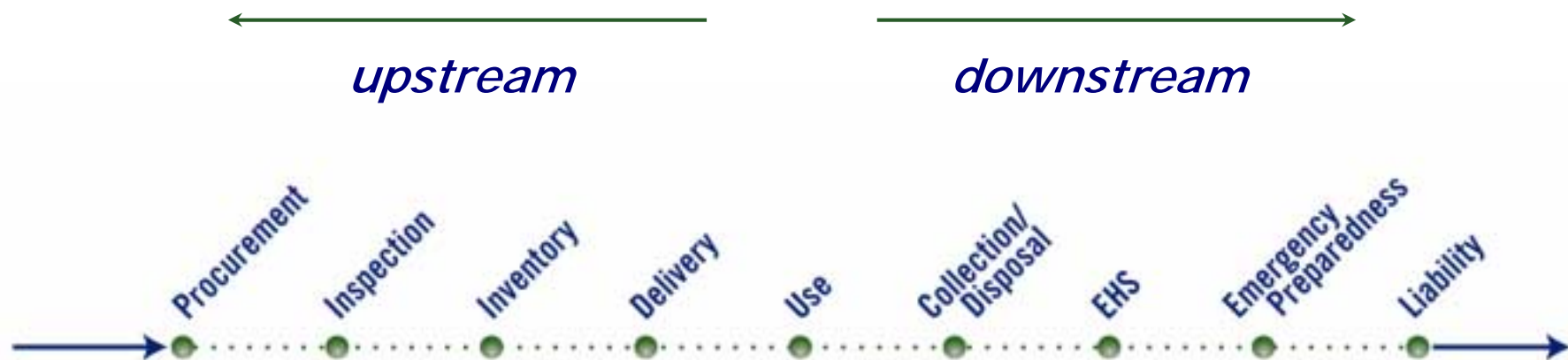


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# CMS...managing the entire chemical lifecycle

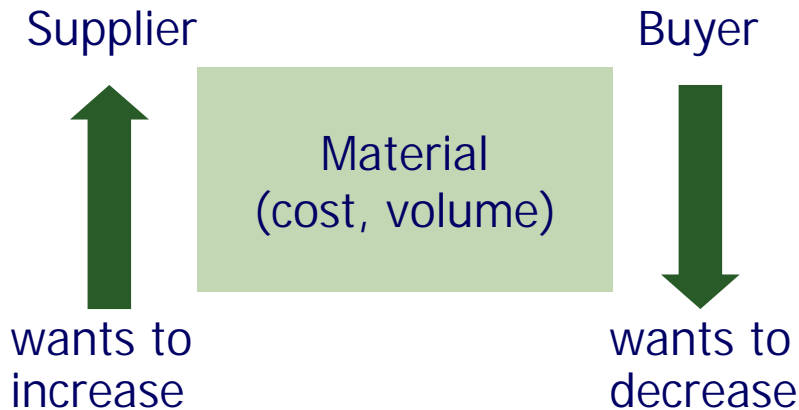
## The Chemical Lifecycle



Chemical management costs can be as high as \$10  
for every \$1 of chemical purchased

# Under the CMS model, formerly conflicting incentives are now aligned

**Traditional relationship:**  
Conflicting incentives



**CMS model:**  
Aligned incentives



**Changing the supply chain model results in potential costs savings and environmental gains**



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# CMS is a growing trend in the US

## CMS market penetration across sectors

- Aerospace  $\approx$  10%
- Metalworking  $\approx$  20%
- Electronics  $\approx$  35%
- Automotive  $\approx$  50-80%

## Common benefits realized by customers

- Cost savings range from 5-25% per year
- Improved production efficiency and reliability
- Reduced chemical use, emissions, waste, and risk
- Better data for regulatory reporting

**Source:** *CMS Industry Report 2000*, Chemical Strategies Partnership

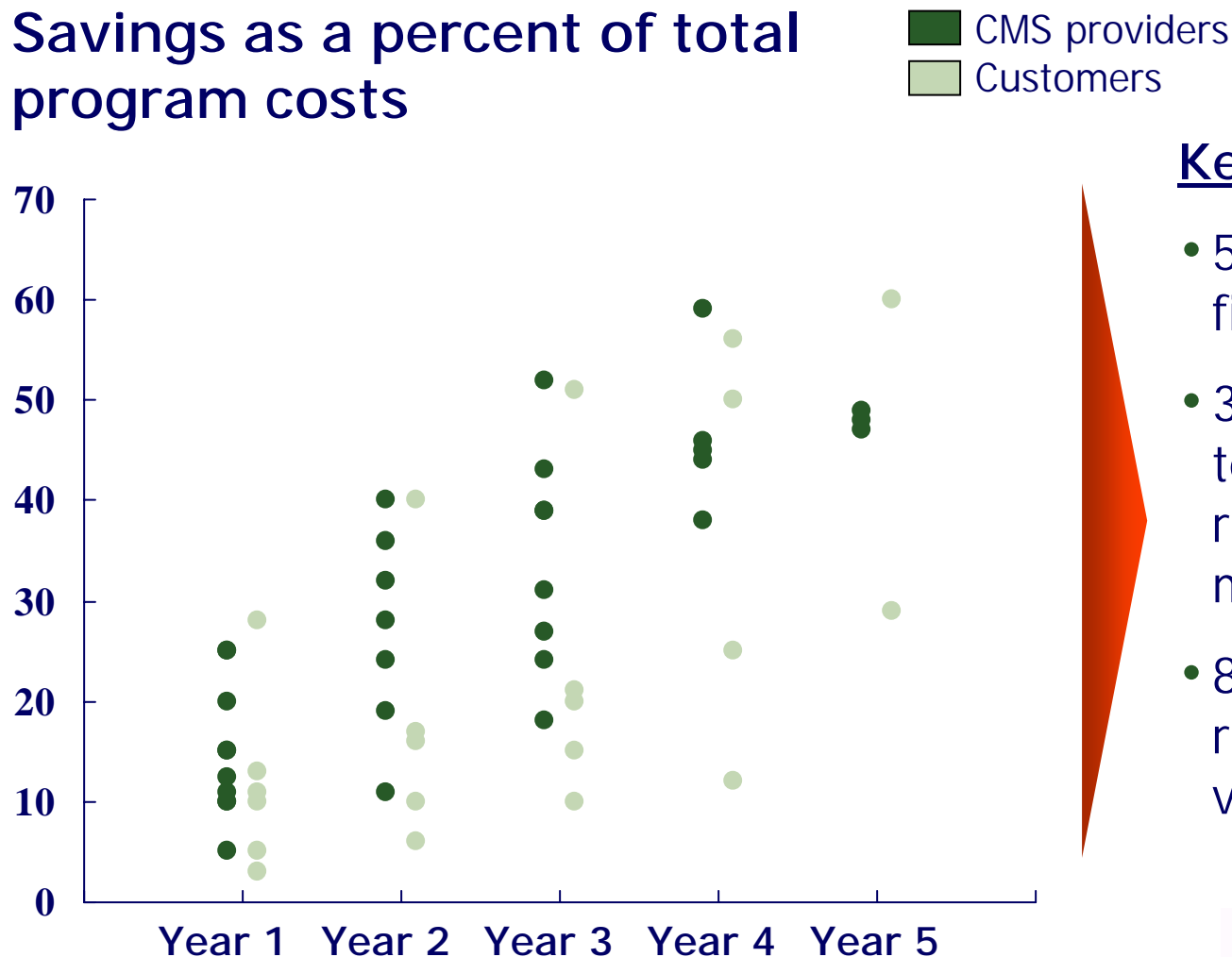


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# Overall cost savings reported by CMS customers are significant

## Savings as a percent of total program costs



## Key results

- 5-25% savings in first year
- 30-80% of long-term savings from reducing management costs
- 80% of customers report chemical volume reduced

Source: CMS Industry Report 2000, Chemical Strategies Partnership



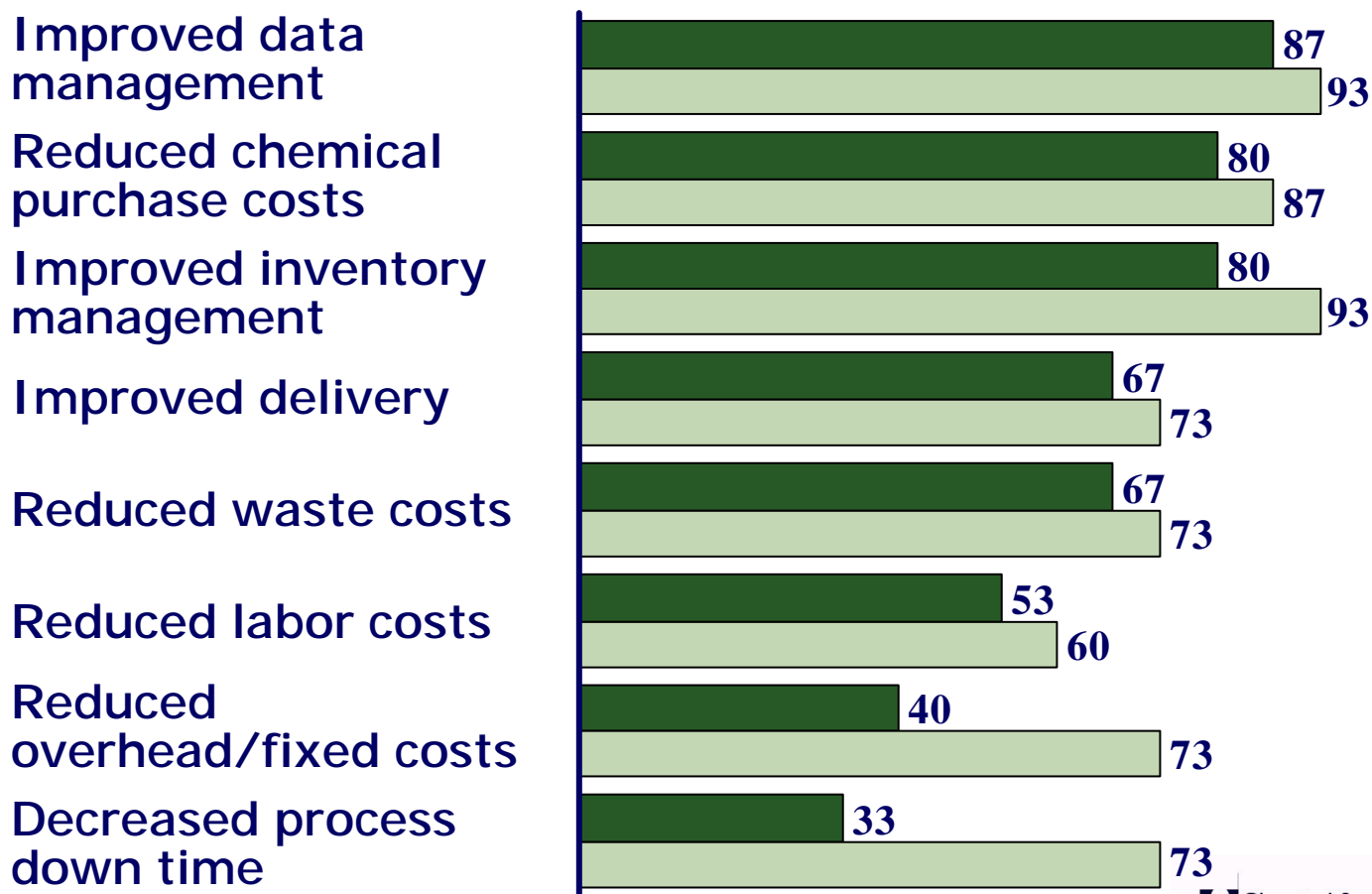
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# Reduced costs and improved inventory management cited by customers

## Benefits cited, percent of respondents

Customers  
CMS providers



Source: CMS Industry Report 2000, Chemical Strategies Partnership



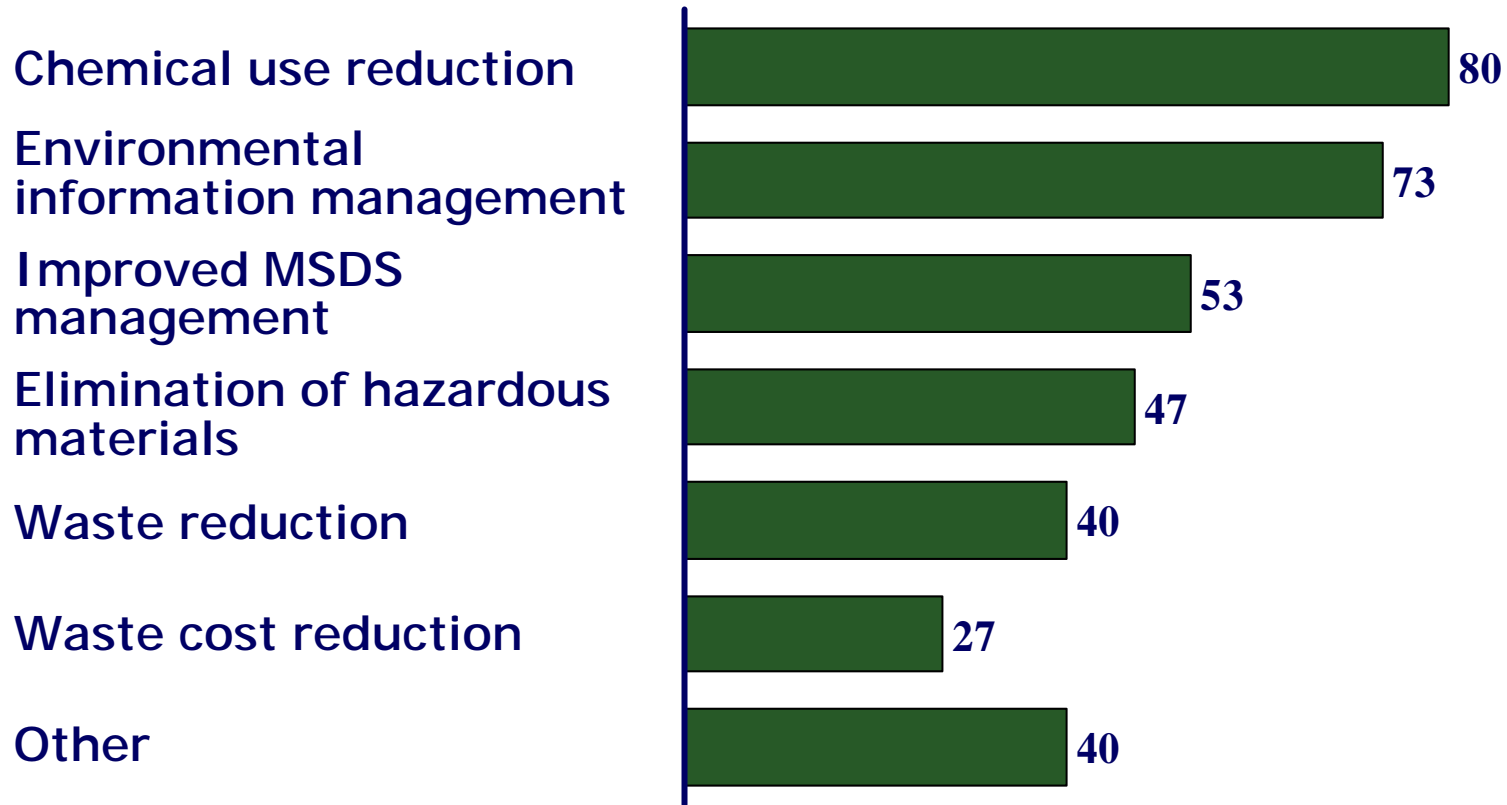
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# Environmental benefits are especially strong

Benefits cited, percent of customer respondents



**Source:** *CMS Industry Report 2000*, Chemical Strategies Partnership



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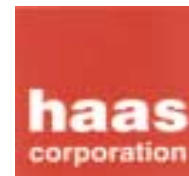
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# Case study: General Motors

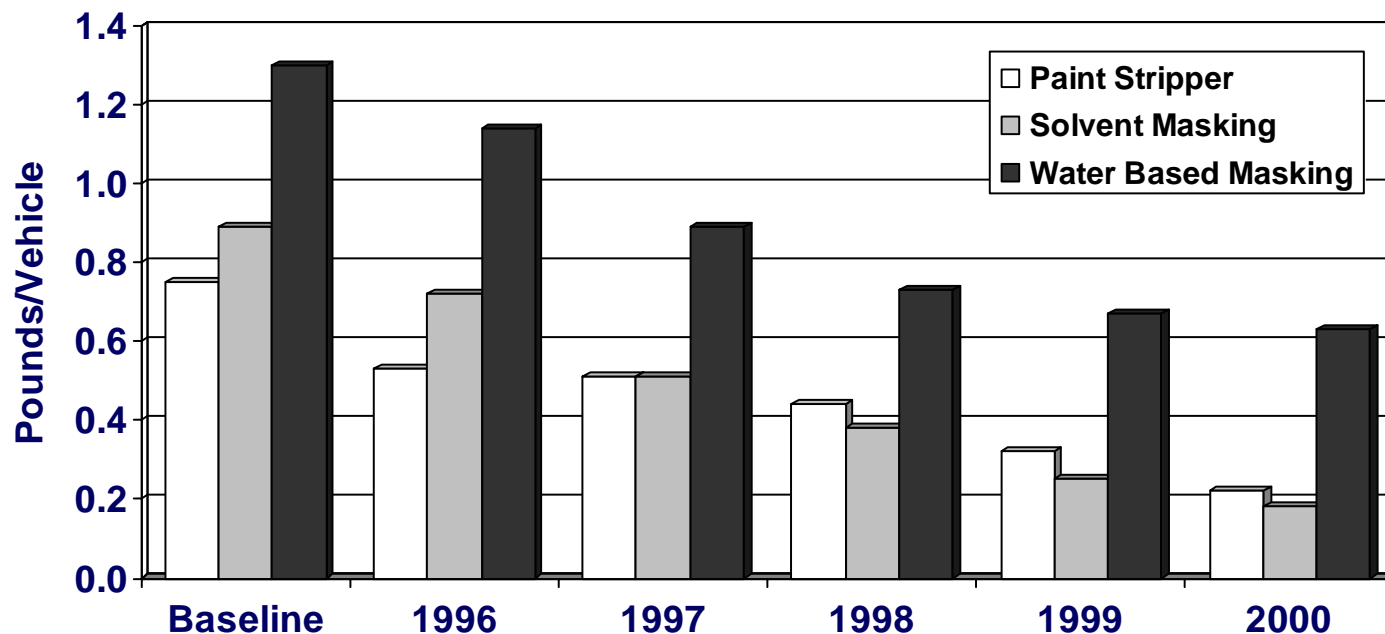
## General Motors: Programs in over 90% of plants worldwide

- Average total chemical use reduction of 30%
- Total cost savings above 30%
- Environmental benefits
  - Reduction in the number of chemicals
  - Reduction in the amount of chemicals (purge solvent)
  - Reduction in the complexity of chemicals

# Case study: General Motors, Oshawa



## Paint Booth Maintenance Chemicals



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# Case study: Seagate Technology

## Seagate Technology:

### Benefits realized in first six months

- Aligned incentives and guaranteed savings – supplier generates no profit from volume sales
- Reduced onsite chemical inventory/handling (JIT)
  - Reduced 10,000 sq. ft. of inventory by 50%
  - Reduced \$800,000 carrying costs in chemicals by 50%
- Improved chemical processes/shared best practices
  - Photo-resist process: substituted more benign product and extended bath life 3-5 times, resulting in savings of \$50,000/month
- Provided focus on full chemical lifecycle by chemical service providers



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# Case study: Raytheon Company

## Drivers to initiate the Chemical & Gas Management Program (CGMP)

- Become one company despite multiple cultures, procedures, and systems
- Reduction chemical lifecycle costs
- Desire to focus on core competencies
- Better data management of hazardous materials
- Diverse and large supply base
- Lack of material and process standardization



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# CGMP at a glance

## Goals:

- Ensure that quality chemicals and gases are supplied dependably to Raytheon's operations
- Continuously reduce Raytheon's **use** and **costs** of chemicals

## Program Overview:

- Multiyear agreement awarded in February 1999
- Deployment initiated May 1999
- Three regional hubs implemented: Salem, Dallas, and Tucson
- Over 30 sites participating, representing 80% of all chemical spend



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# CGMP scope of services

## Procurement:

- Chemical gate-keeping sourcing
- Supplier consolidation and rationalization
- Volume Leveraging

## Inventory management:

- Incoming inspection/testing
- Labeling and shelf-life control
- Catalog maintenance/part number consolidation
- Controlled storage

## Distribution:

- Point of use ordering/delivery
- Just-in-time delivery
- Emergency service

## Hazardous waste management:

- Waste pick-up and disposal mgmt
- Long-term liability reduction
- Volume leveraging
- Emergency response

## Database management:

- Chemical usage/hazardous waste tracking
- MSDS file
- Electronic catalog
- EH&S reports

## Technical support:

- Process improvements
- Hazardous waste reduction
- Toxic/hazardous chemical reduction



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# CGMP performance to date

- Streamlined and automated operations
- Improved service and quality
- Reduced direct and “total” costs
- Reduced waste



# Streamlined and automated operations

- Automated ordering and tracking (~20,000 chemicals and gases, ~700 waste profiles online)
- Chemical gate-keeping – managed work flow approval
- Online MSDS & EHS data for reporting
- Chemical usage/waste generation tracking
- Centralized electronic invoicing
- Leveraged sourcing, procurement & inventory management



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# Improved service and quality

## On-time delivery min/max material (24 hr)

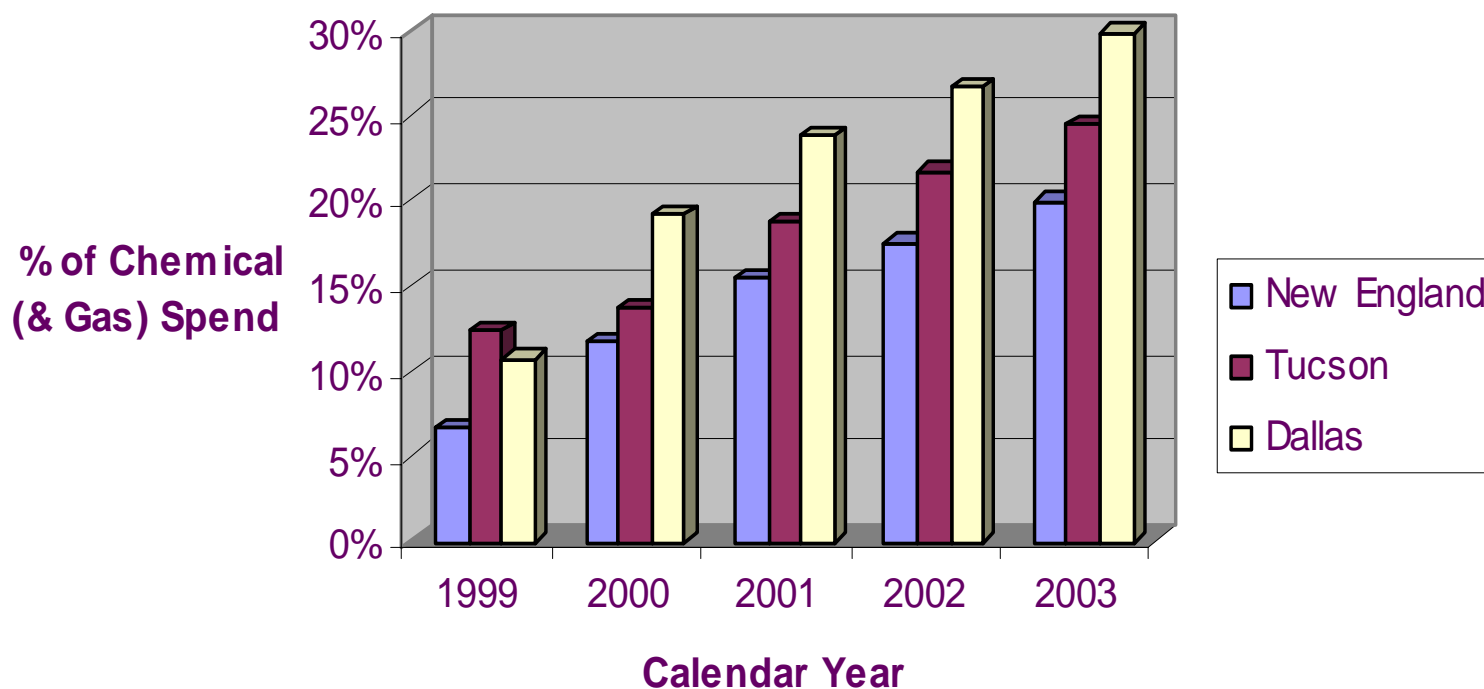
Year 1 Baseline:	82%
Year 2 Goal:	95%
Year 2 Average:	92%

## Scrap Rate

Year 1 Baseline:	3.00%
Year 2 Goal:	0.47%
Year 2 Average:	0.45%

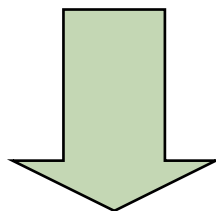
# Reduced costs

## "Net" Raytheon Savings, by Region

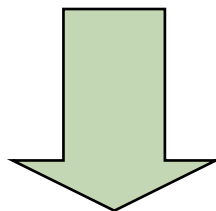


# Reduced waste

Consolidated regional inventories



Higher inventory turn rate



Lower scrap rate

# CGMP summary of other benefits

- Supply base consolidation to a single first-tier provider
- Improved delivery to point of use
- Reduced overhead/fixed costs
- Reduced labor, inventory, floor space
- Reduced direct chemical, gas, and waste costs
- Material leveraging and process efficiency improvements
- Reduced chemical purchases and non-production waste
- Improved EHS stewardship, including reduced liability and 100% MSDS access
- Improved data management and reporting
- “Best In Class” information management system



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