

Chemical Management Services

A supply chain approach to
reducing chemical use

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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 improved chemical management

The CSP Mission

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

Chemical Strategies Partnership (CSP)

Funders

- Foundations
- Government
- CMS Forum companies

CSP

CMS Forum

- Tier I CMS Providers
- Tier II suppliers
- Customer co's
- Other stakeholders

CSP Pilot Companies

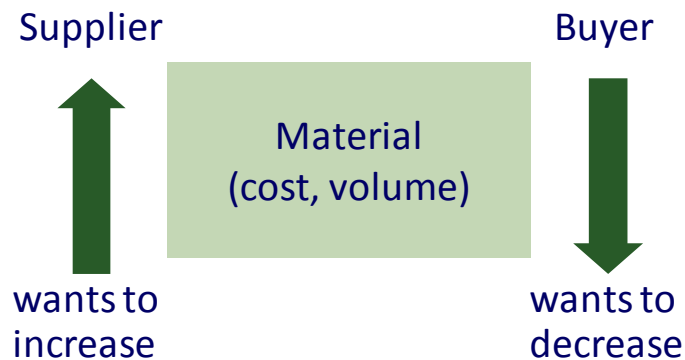
- Raytheon Company
- Nortel
- Seagate Technology
- Analog Devices
- SLAC (Stanford/DOE lab)
- Dartmouth College
- UC Merced
- Hyundai Motor Company
- Metalworking co's
- Lansing School District
- Weyerhaeuser

What are Chemical Management Services (CMS)?

- Strategic, long-term contract for chemicals *and* associated management services
- Goes beyond invoicing and delivering product; CMS optimizes processes and continuously reduces chemical lifecycle costs, risk, and environmental impact
- High quality, low cost system for expert chemical management and continuous improvement
- Aligns incentives for business and process efficiency improvements that reduce chemical volume and costs
 - From “more is more” to “less is more”
 - Documented cost savings

Under the CMS Model, formerly conflicting incentives are aligned

Traditional relationship:
Conflicting incentives



CMS model:
Aligned incentives



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

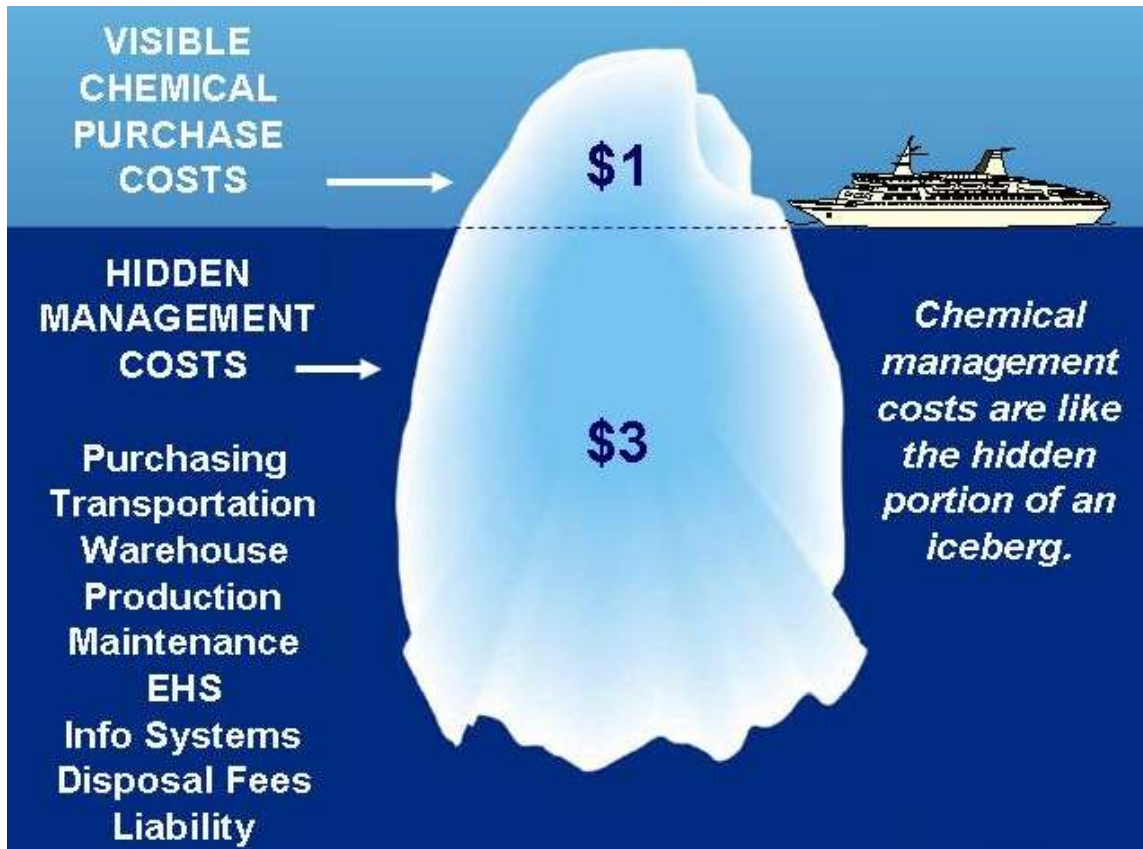
The chemical lifecycle's unique requirements

Unlike other purchased materials, chemicals require specialized procedures and data at every lifecycle stage.

The Chemical Lifecycle



Hidden risks and costs offer opportunities for savings



These management costs can be large: up to \$3 for every \$1 spent on chemicals.

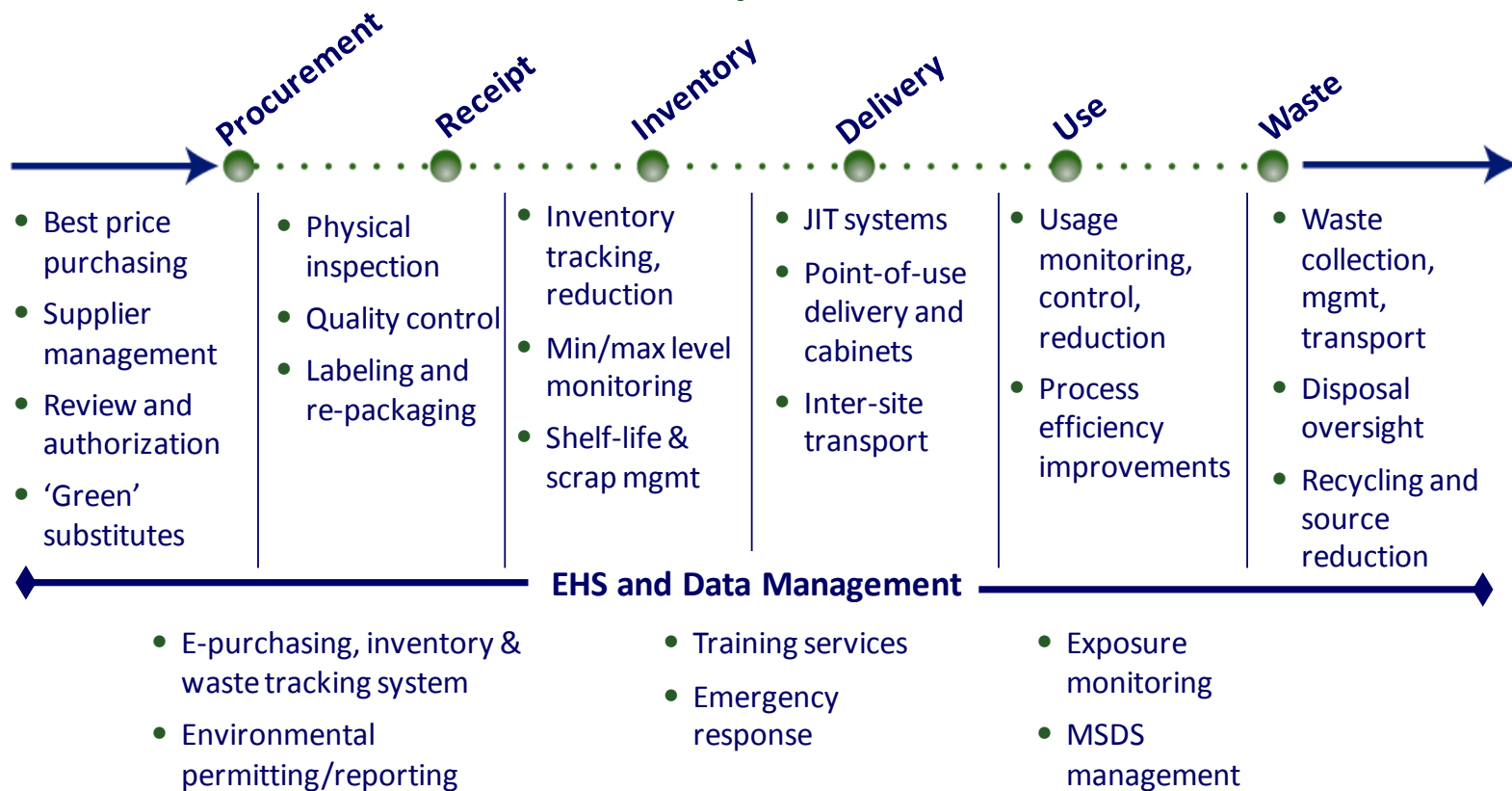
However, these are often overlooked because they are hidden among many department budgets.

Source: Tom Bierma, Illinois State University

CMS providers improve lifecycle chemical management

A CMS Provider not only supplies chemicals, but also delivers services and continuous improvement, often at lower total cost.

Potential Scope of CMS Contract



CMS market penetration

12 major market sectors utilize CMS services.

The pharma/biotech sector has been added as the newest sector since 2004.

All sectors have shown increasing or steady use of CMS over the past five years, except for the automotive sector.

TABLE 3. Providers' Estimates of CMS Market Penetration in the U.S.

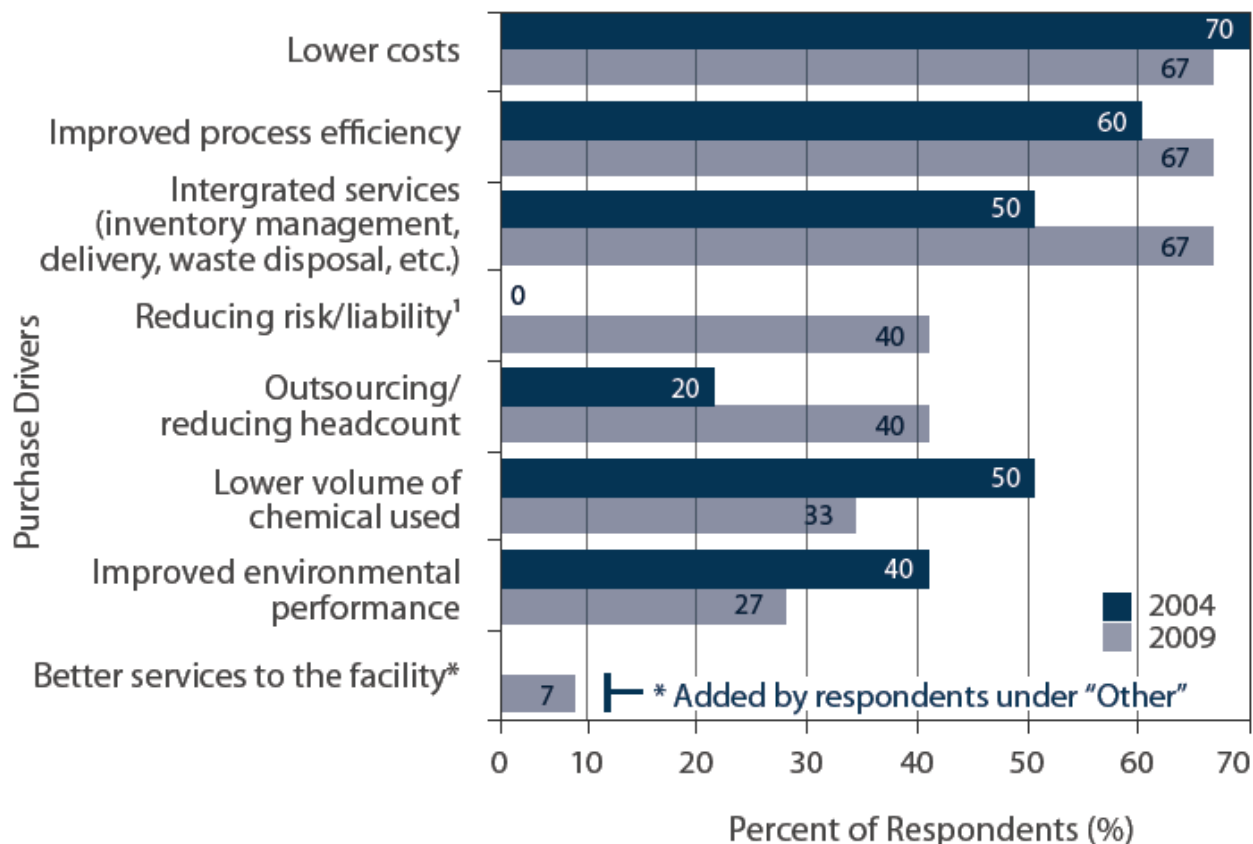
Sector	Avg. Market Penetration 2009 (%)	Est. Market Penetration 2004 (%)
Automotive	57	75-80
Automotive Suppliers	41	30-40
Heavy Equipment	33	15-25
Aerospace	45	25-30
Electronics	33	30-40
Air Transport	41	40-50
Energy/Utilities	17	<10
Steel Manufacturing	22	20-30
Misc. Manufacturing	19	<10
Food/Beverage	15	<10
Research/Laboratory /Schools	16	<10
Pharmaceuticals /Biotech	26	<10

Source: CMS Industry Report 2009

Drivers for implementing CMS

Lower costs and improved process efficiency are the top drivers for CMS.

73% of customer respondents indicated that Corporate Purchasing led the development of their CMS initiative and the selection of their CMS provider.



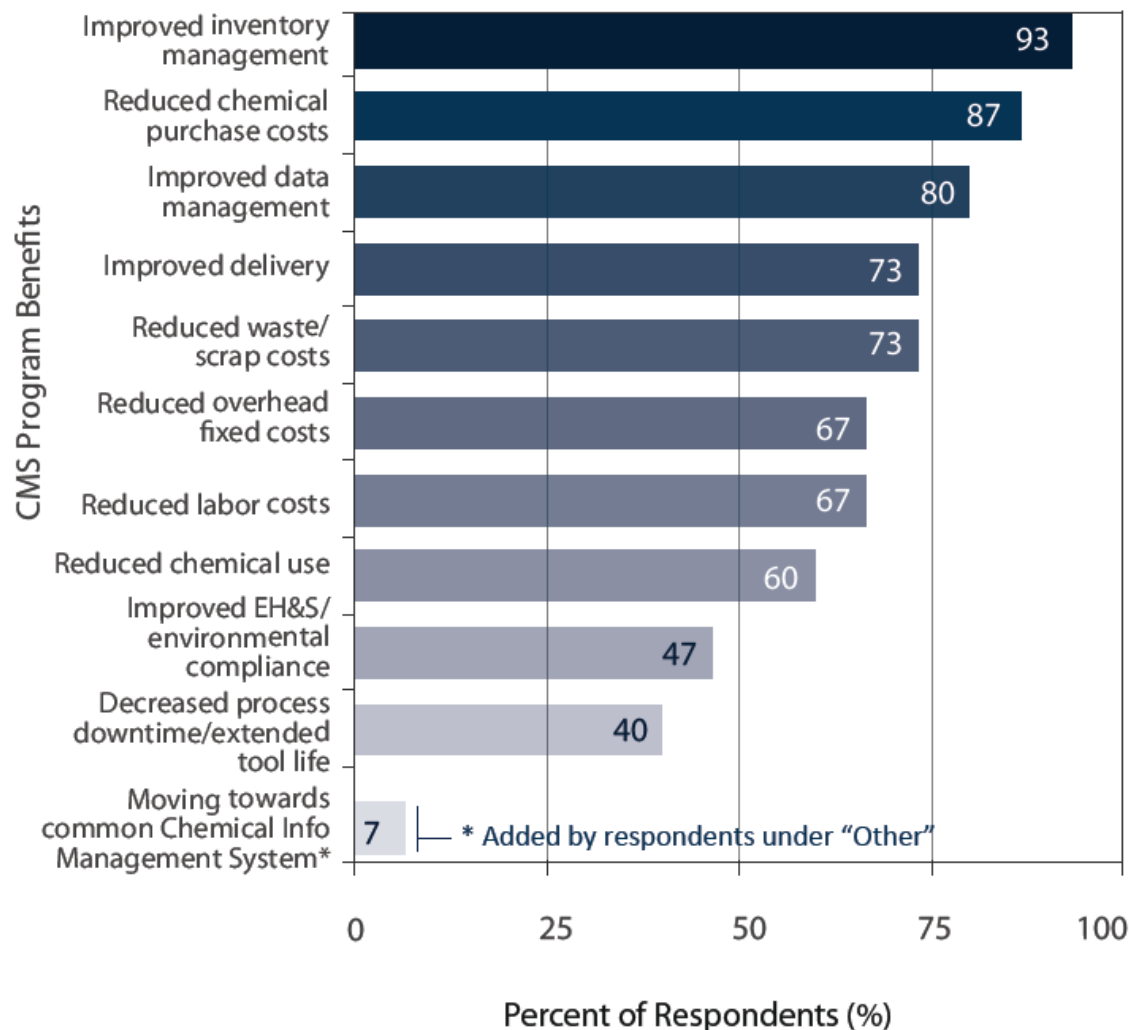
Note: 1. Added to survey in 2009

Source: *CMS Industry Report 2009*

Benefits realized from CMS programs

Improved inventory management, reduced chemical purchase costs, and improved data management are the top three benefits realized from CMS programs.

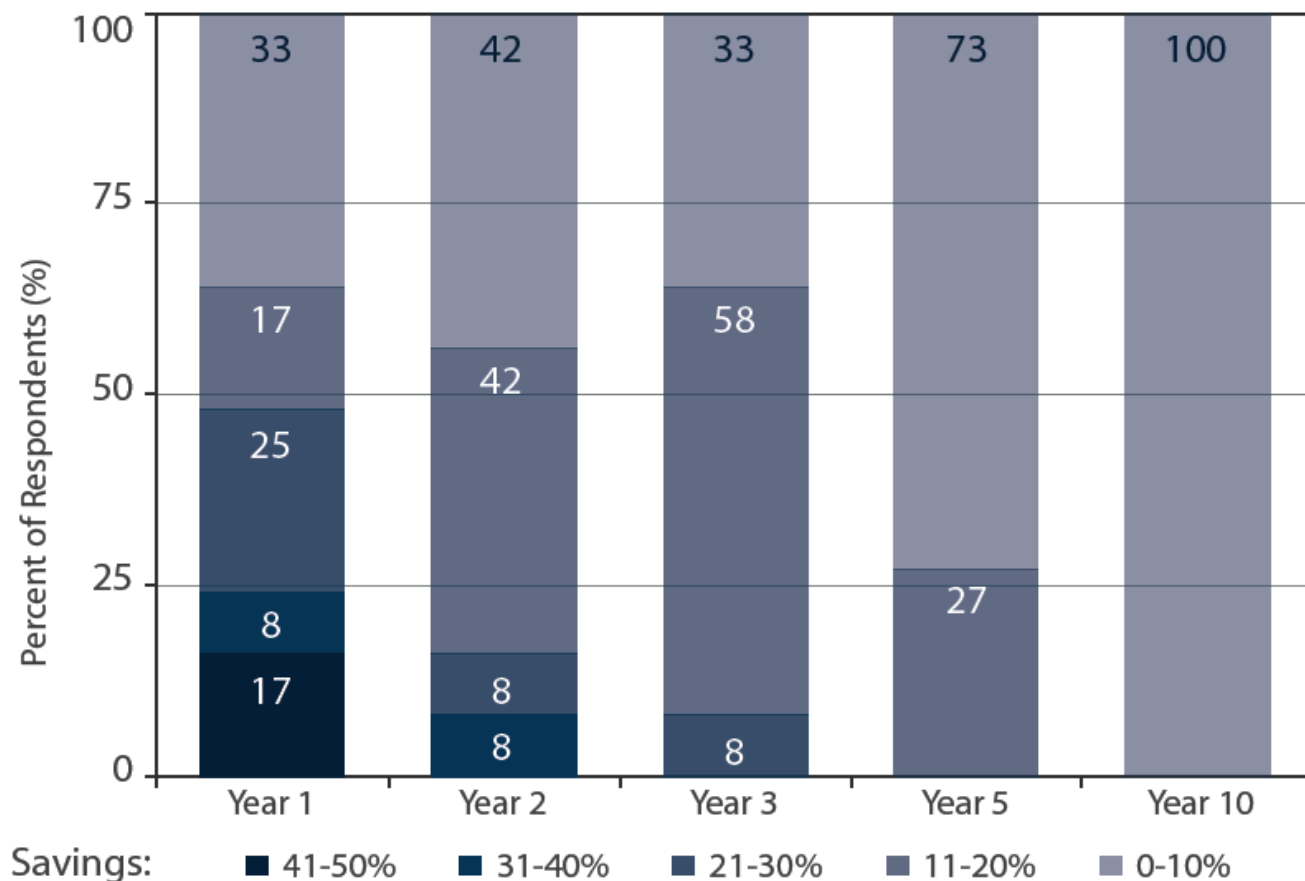
Many customers choose to expand the scope of their programs over time.



CMS program cost savings

Providers estimate their customers' Year One hard savings as a result of their CMS program to be as high as 41-50%.

Customers continue to realize savings through Year 10 of their CMS programs.

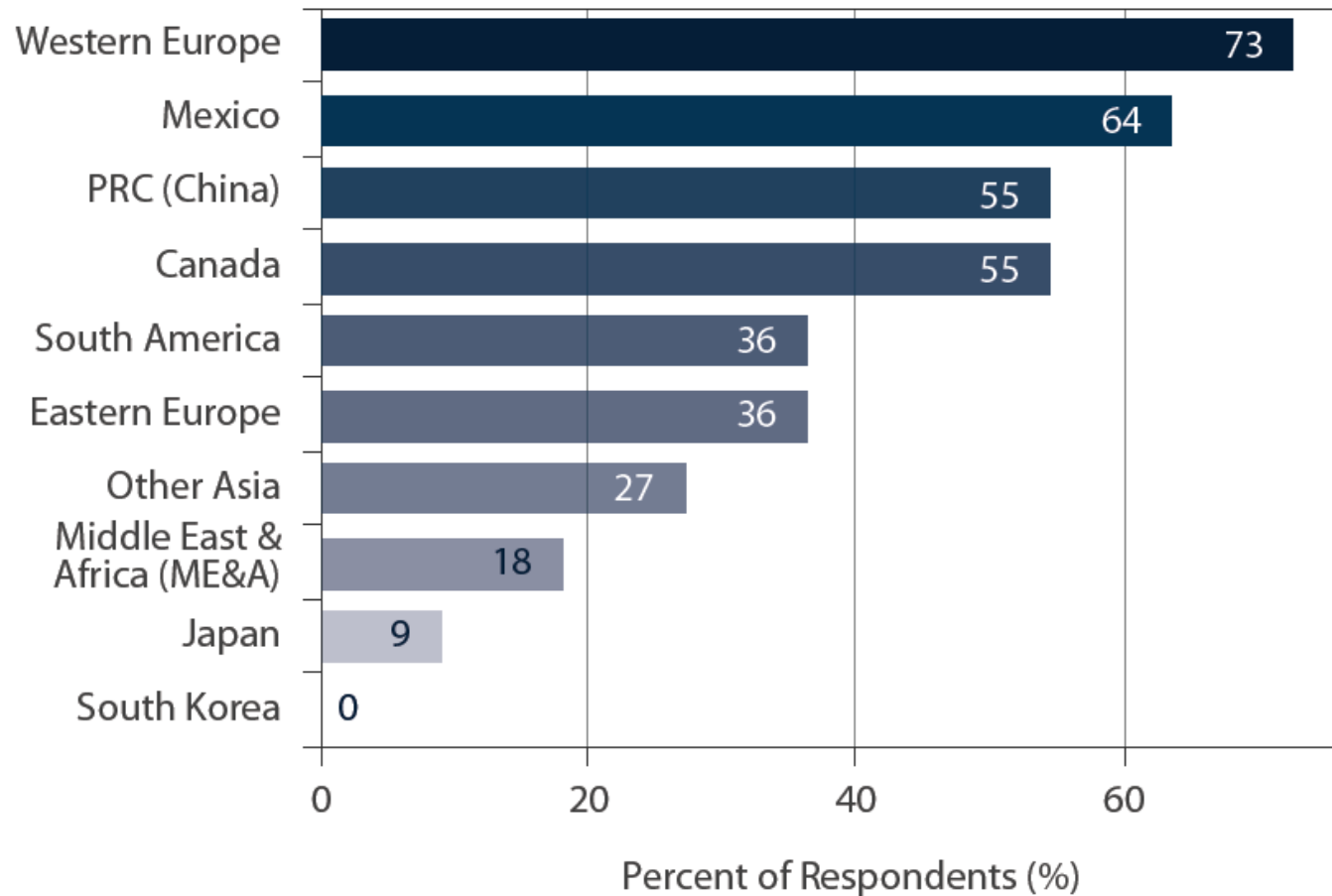


Source: CMS Industry Report 2009

International CMS activity

CMS programs have expanded to 9 countries/global regions, an increase from the 5 regions identified in 2004.

“Chemical Leasing” is an emerging model internationally



Source: *CMS Industry Report 2009*

CMS pilot case study: Raytheon Company

Scope of the CMS program

- 45 sites
- 98% of Raytheon N. America chemical spend

Improved Service and Quality

- On-time delivery increased from 82% to more than 96%
- Scrap rate reduced by greater than 90%

Reduced Costs

- Payback of the program in the first 6 months
- 18% net savings in first 2 years (5 Yr. >60% gross savings)

Streamlined Operations (~20,000 chemicals, 1,000 waste profiles)

- Automated ordering, chemical gate-keeping, consolidated sourcing
- On-line MSDS and EHS data for reporting
- Chemical use and waste generation tracking

CMS pilot case study: Raytheon Company (cont'd)

Benefits	<i>Before</i>	<i>After</i>
Commodities Cost Savings	Minimal	15.5% (greater than 40% when adjusted for CPI-Chemicals)
Accounts Payable (FTE)	5	1
Purchase Orders/Yr	43,000	0
Sites in Programme	0	45
Suppliers	1,300	1
MSDS Processed/Yr	2,000	0
Inventory Turns/Yr	3	52
Inventory Value	\$7 MM	\$0.5 MM
Warehouse Floor Space	>120,000 sq. ft.	<9,000 sq. ft. (93% reduction)
Inventory Spoilage	\$3,700,000/Yr	\$280,000/Yr
Acceptance Rate	96.93%	99.9%

CSP continues to address barriers, promote CMS

- Introduce CMS into new sectors with public/private funding (university/research labs, K-12 schools, municipalities, pharma/biotech)
- Assist in developing CMS programs to accelerate adoption in sectors already using CMS (electronics, aerospace, etc)
- Develop tools (metrics, manuals, etc)
- Disseminate information (workshops and trainings)
- International initiatives (Asia, Europe)

CSP conducts these activities with support from the US EPA, foundations and CMS Forum members

Questions

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