

*Chemicals Management:
The Challenges of Going Global at
General Motors*

*Chemical Strategies Partnership
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Workshop
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Challenges of Going Global

Agenda

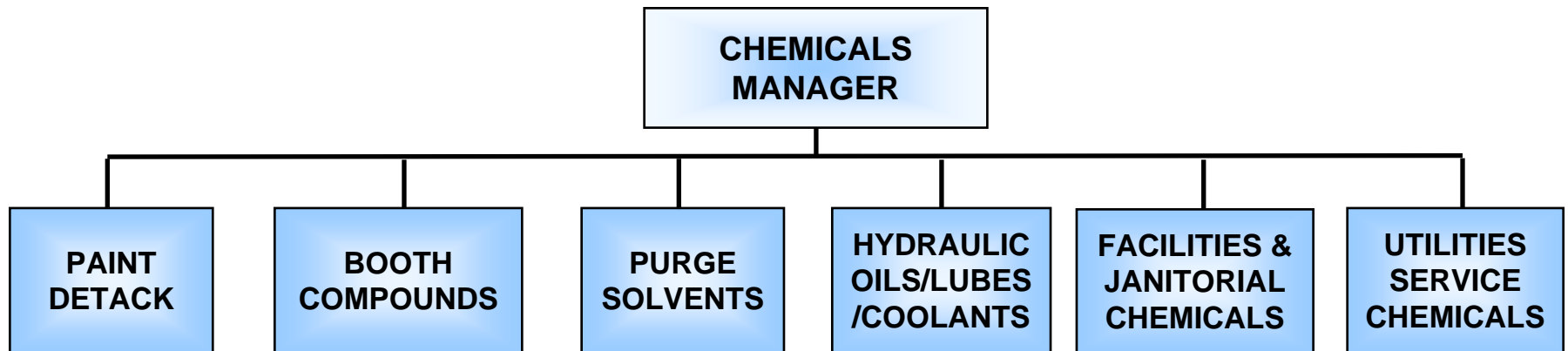
- *Scope and Definition of our Programs*
- *History of CM at General Motors*
- *Geography and Plant Readiness*
- *Challenges*
- *Enablers*



Chemicals Management Program

DEFINITION:

UNDER CHEMICALS MANAGEMENT, A SINGLE FIRST-TIER SUPPLIER PROVIDES ALL INDIRECT CHEMICALS AND PROVIDES AN ON-SITE LABORATORY STAFF TO MANAGE ALL CHEMICAL PROCESSES WITHIN THE PLANT.



CHEMICAL SERVICES INCLUDED UNDER CHEMICAL MANAGEMENT:

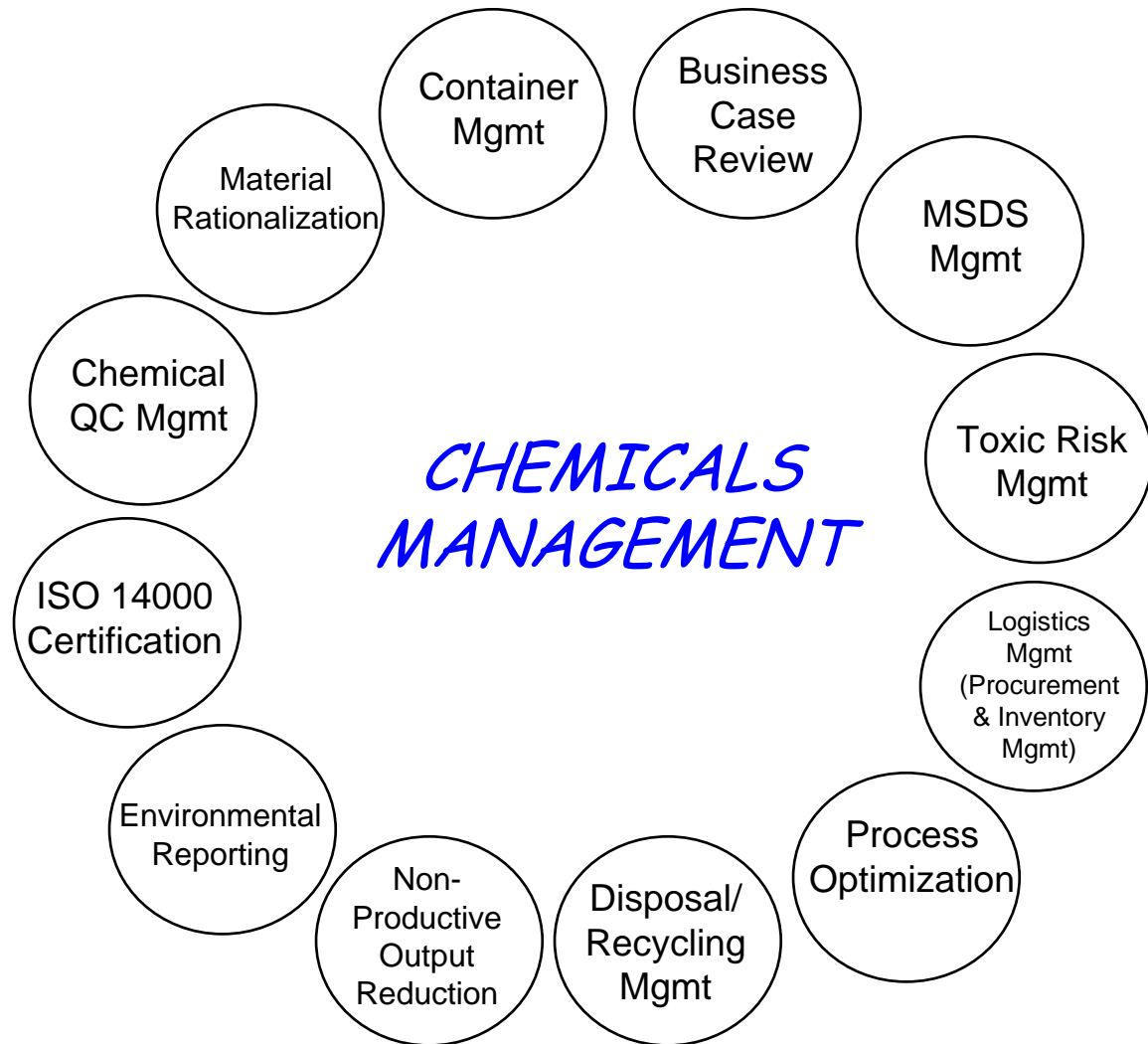
- CHEMICALS
- ON-SITE MANAGEMENT TEAM
- OFF-SITE SUPPORT
- ON-SITE CHECKS
- COMPLETE INVENTORY MANAGEMENT
- COMPLETE CHEMICAL PROCESS MANAGEMENT
- R&D PROGRAMS
- CONTAINER MANAGEMENT
- SECOND TIER DEVELOPMENT & MANAGEMENT
- PRODUCT/PROCESS ENG. DEVELOPMENT
- PREDICTIVE MAINTENANCE DEVELOPMENT
- CHEMICAL MAINTENANCE SCHEDULING
- ENVIRONMENTAL STUDIES
- SAFETY/HEALTH ISSUES
- ASSIST ENV. REPORTING \ TRAINING
- TOTAL SYSTEM ANALYSIS & TECH. MANAGEMENT
- PROBLEM SOLVING
- USAGE TRACKING
- COST REDUCTION PROGRAM
- COORDINATE OEM'S
- WASTE TREATMENT INVOLVEMENT



**INDIRECT
CHEMICALS
MANAGEMENT**

*Common Total
System Process*

**CHEMICALS
MANAGEMENT
SUBSYSTEM
OPTIMIZATION
AND
COMMONIZATION**



History of Chemicals Management at GM

- 1987** *First Engine Plant Chemicals Management Program Piloted in Romulus, Michigan*
- Program was Installed for Better Environmental Compliance
 - Significant Process Improvements Were Realized
 - Chemical Acquisition Costs were Significantly Reduced
 - Program Successes Promoted Expansion to Other Platforms
- 1989** *First Stamping Plant Program Implemented at Grand Blanc, Michigan*
- 1991** *Truck Assembly Plant Chemicals Management Program Installed at Shreveport, Louisiana*
- 1994** *Delco Electronics, Circuit Board Fabrication Plant*
- 2003** *Rationalize suppliers from 13 to 5
Re-bid in NA to a common scope of chemicals/services*
- 2006** *Re-bid to a **Global Template** of chemicals/services*



Challenges of Going Global

Geography and Plant Readiness

General Motors is organized into four geographic regions:

- North America (includes Canada & Mexico) - **72 plants**
- Europe – **30 Plants**
- Latin America, Africa and Middle East – **20 Plants**
- Asia Pacific – **22 Plants**



Challenges of Going Global

Plant Readiness

The following is a list of some of the criteria to plant readiness:

CMS Supplier

Contract Expiration Dates

Common Global Statement of Requirements

Cost book - Annual Purchase Value

List of Chemicals

CM Plant Champion and Chairperson

HMCS Implemented

CM Tool Database Developed

CMS Program Approved by Plant Manager Staff

Purchasing Lead Contact for the Region

WFG Lead Contact for the Region

Hazardous Material Control Committee

CMS Implementation Plan Steps/Timeline

CMS Supplier Pre-qualification and Assessment



Challenges of Going Global

Infrastructure

- *Inactive Hazardous Material Control Committee (HMCC) / Material approval process*
- *No automated chemical tracking systems*
- *Global Purchasing process – still regional; need global team*
- *Partial CM and/or contracted programs in place where some parts of the CM program have been implemented.*
- *Corporate or regional objectives that conflict with the process.*
- *The North American CM Model doesn't fit other countries business practices or models.*



Challenges of Going Global

Culture

- *Regions and plants are used to being autonomous*
- *New business models for both GM plants and chemical suppliers*
- *Language barrier even if they speak english*
- *Each country has different cultural diversity business etiquette, cultural understanding, and business traditions ?*



Challenges of Going Global

Program Complexity

- *Beyond Environmental, requires buy-in from manufacturing and production process owners*
- *Supply-base experience and knowledge*
- *More time required for implementation*
- *Cost book and Specification development is difficult and time consuming even when there is commitment*
- *Different rules and regulations for hiring people, taxes, etc.*
- *Communication by phone across different time zones and less face to face meetings than in North America.*
- *Different currencies in the same regions.*



Challenges of Going Global

Resources

- *Inadequate number of available, technically knowledgeable people both here and in the regions – GM and CM suppliers*
- *Distance / Cost – hard to implement when only occasionally face-to-face*



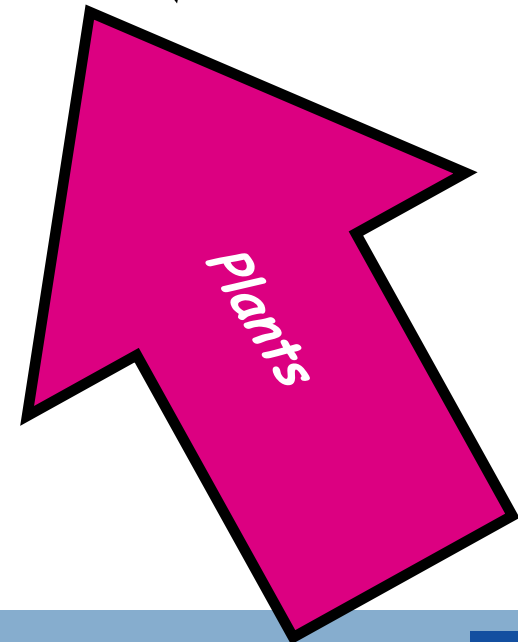
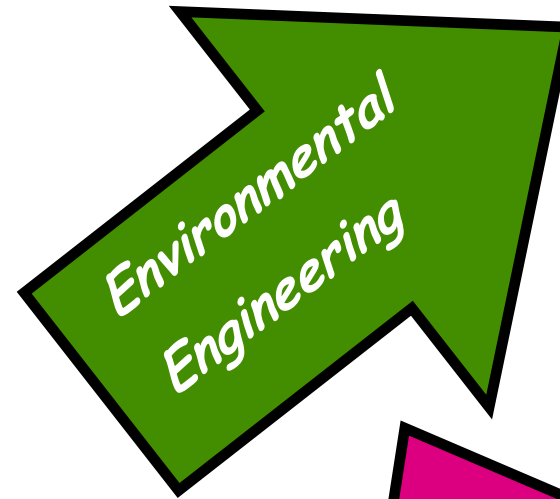
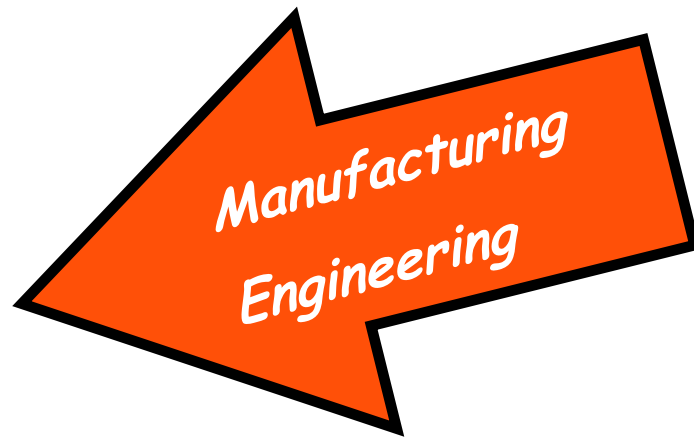
Challenges of Going Global

Enablers

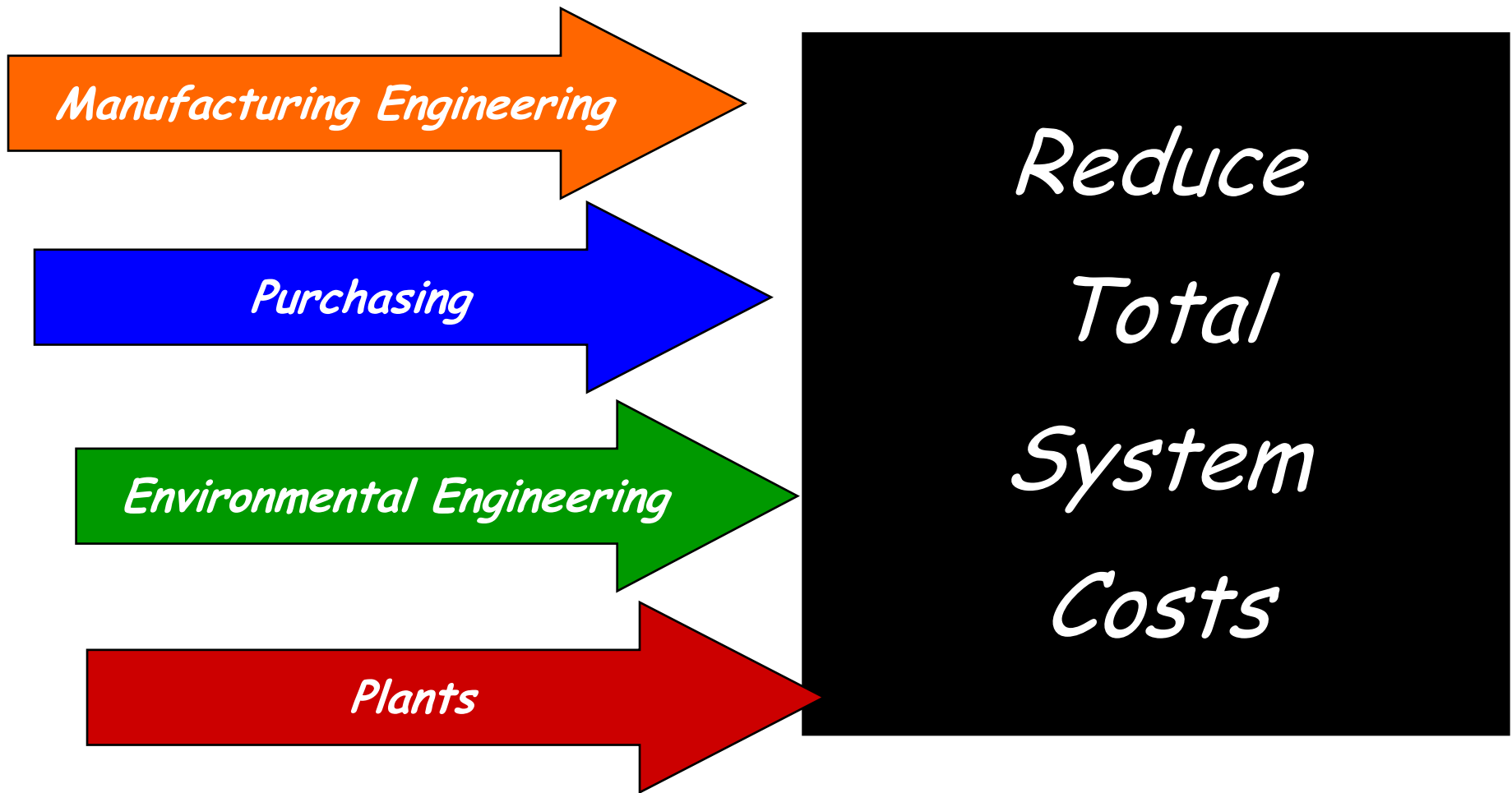
- *Plant Management Commitment*
- *Chemicals Management Team in Place with active participants*
- *Hazardous Material Control System (HMCS) Implementation*
- *Cost Book Development Procedure*
- *Statement of Requirements Templates*
- *Develop Schedule and Timeline*



Successful Strategies Need Focus



Strategies Must be Focused on Reducing Total Systems Costs



GM Chemicals Management Organizational Structure

