



# United Technologies



**TAKING CHEMICAL MANAGEMENT GLOBAL**

**Part II**

CMS FORUM

SAN FRANCISCO, CA

OCTOBER 2008

# AGENDA

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United Technologies

ACE & UT500

UTC CMS history

3 Essential building blocks

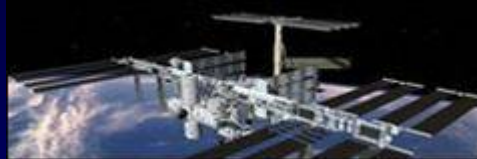
Success Stories

Summary

# UNITED TECHNOLOGIES



Aircraft engines, gas turbines & space propulsion systems



Industrial & aerospace systems



Helicopters



Heating, ventilating, cooling & refrigeration systems



Clean power, cooling / heating solutions



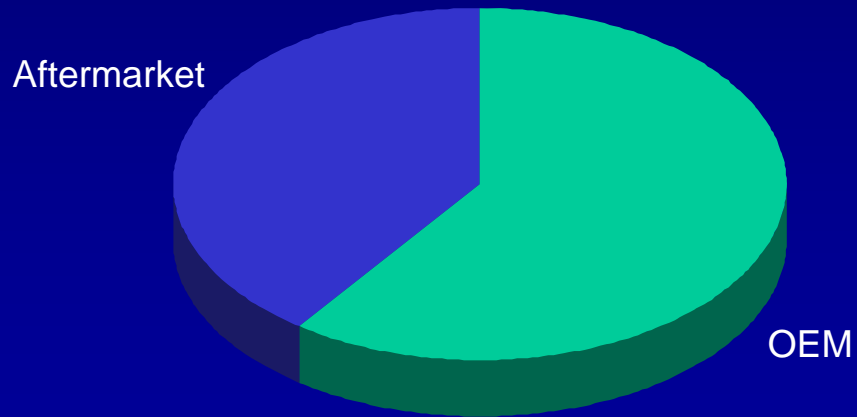
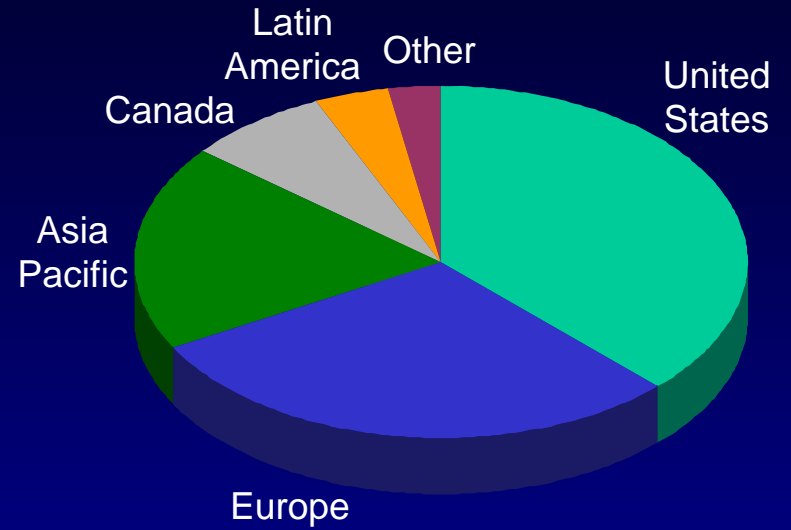
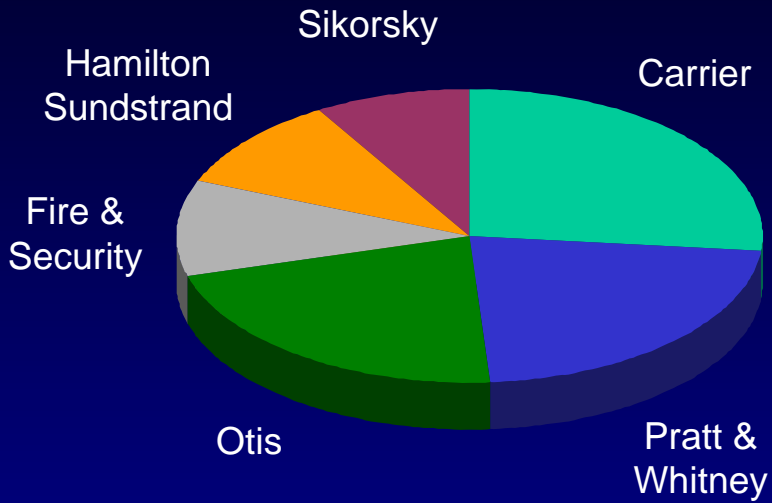
Elevators, escalators, moving walkways, people movers & horizontal transportation systems



Security & fire protection services

# REVENUES

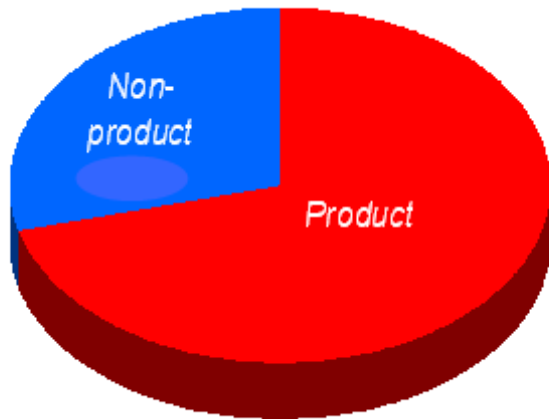
2007



\$54.8 billion

# SPEND PROFILE

Spend (\$31 billion)



Suppliers 70,000 +



20 defined non-product categories  
13 center-led categories

# ACE OPERATING SYSTEM

Disciplined process & continuous improvement

## Culture

### ACE CULTURE & LANGUAGE

Nurture good hearts, good minds and employee engagement

Process Improvement with equal emphasis on Quality and Flow

Treasure problems for their learning potential

Simple, visual approaches to Process Improvement

Feedback to discover problems, guide solutions, and validate improvements

Stretch Goals

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## Tools

### ACE TOOLS

- Process Improvement and Waste Elimination
  - 5S (visual workplace)
  - Value Stream Management
  - Process Control & Certification
  - Standard Work
  - Production Preparation Process (3P)
  - Total Productive Maintenance
  - Set-up Reduction
- Problem Solving (DIVE process)
  - Market Feedback Analysis
  - QCPC (Quality Clinic Process Charts)
  - Relentless Root Cause Analysis
  - Mistake Proofing
- Decision Making
  - Passport Process

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## Competency

### ACE COMPETENCY

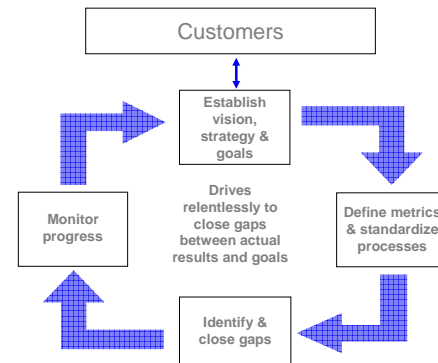
Competency is built through

- Awareness education (Ito University and ACE training)
- ACE Certification Curriculum
- Supervised action learning (high-impact ACE teams)
- Doing: experience in many improvement activities
- Sharing of best practices

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## Methodology

### ACE METHODOLOGY

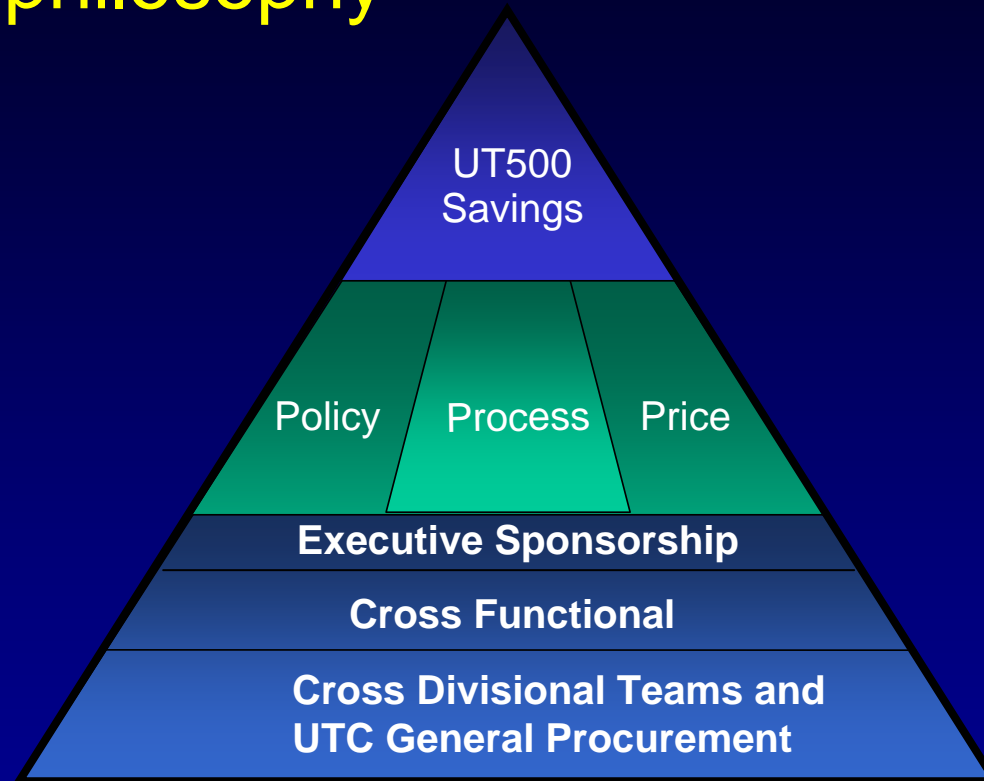


Maximize Flow of Value to Customers, Employees and Investors

# UT500

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## Founding philosophy



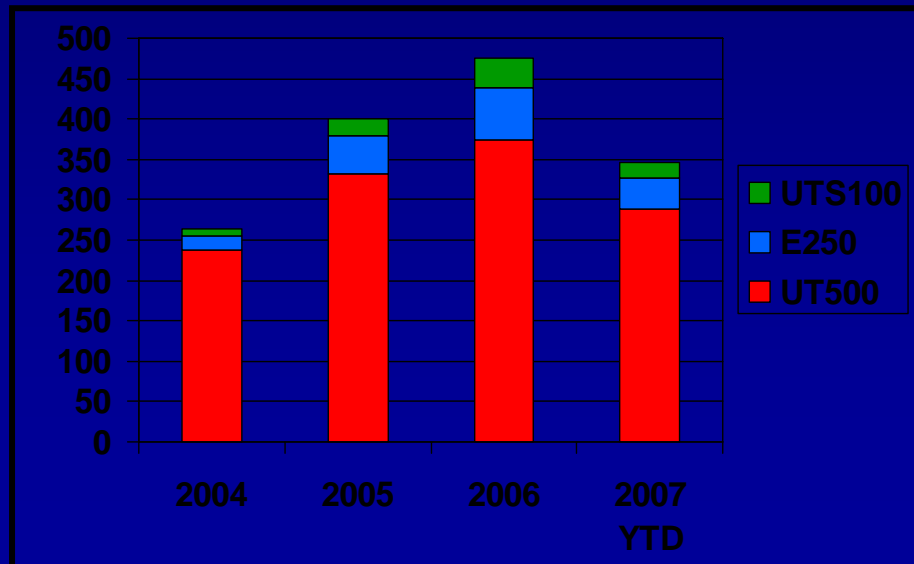
UT500 was launched in April 2001 and was the result of **Line Management, Finance and Supply Management** collaborating on ways to reduce general procurement costs *in a decentralized environment.*

# UT500 PERFORMANCE

## Global Programs



*Delivering Value!*





# UT500 KEY SUCCESS FACTORS

## Executive sponsorship / leadership

### Executive Leadership

**Presidents  
Council**

**UT500  
Executive Steering  
Committee**

UTC CEO / COO  
CFO  
VP Operations

### Functional Leadership

**Applicable  
Executive  
Councils**

**Commodity  
Executive  
Steering Committees**

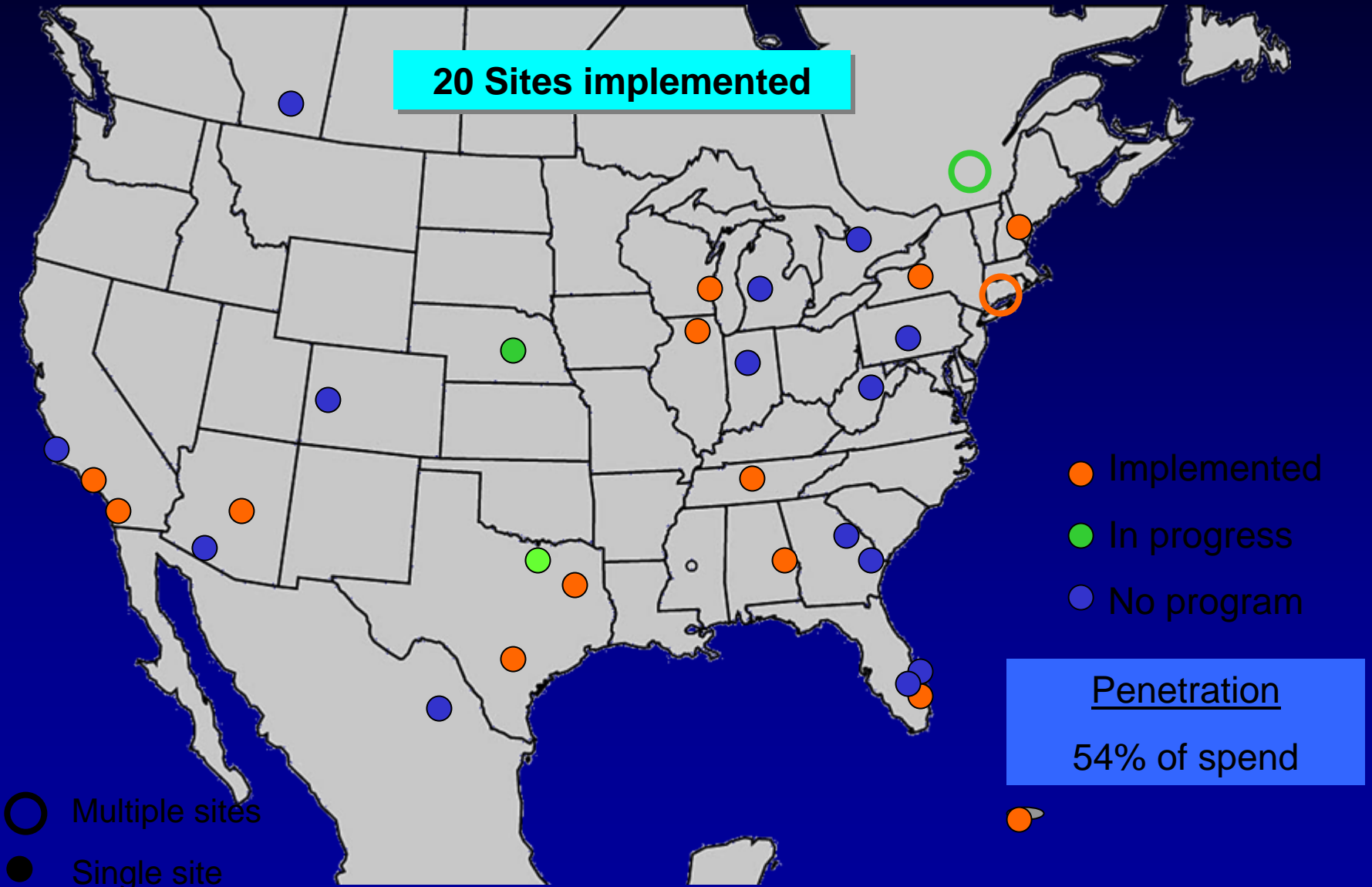
Functional Executive  
Finance Executive  
Supply Mgmt Executive

### Cross Divisional Working Teams

**Commodity  
Working Teams**

Divisional & Functional  
Representatives  
Finance Representative  
Commodity Manager

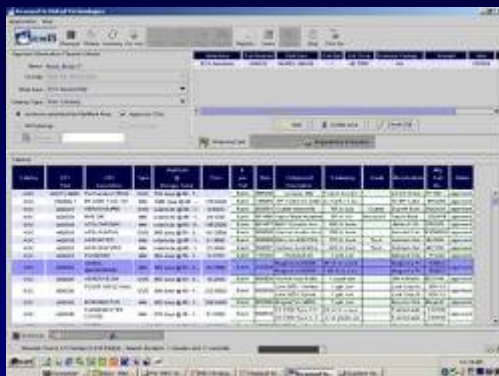
# N.A. CMS IMPLEMENTATION



# CHEMICAL MANAGEMENT

## Global service levels

e-Commerce and drop-ship



Item No.	Description	Quantity	Price
1000000000000000000	1000000000000000000	1000000000000000000	1000000000000000000
1000000000000000000	1000000000000000000	1000000000000000000	1000000000000000000
1000000000000000000	1000000000000000000	1000000000000000000	1000000000000000000
1000000000000000000	1000000000000000000	1000000000000000000	1000000000000000000

\$

Offsite inventory mgmt  
and JIT logistics



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Point-of Use service



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SPEND

SAVINGS

Service  
Level:

1

2

3

Standardization &  
Leverage

# ESSENTIAL BUILDING BLOCKS

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How are we going to do this....?

Business climate/Culture

Suppliers Infrastructure

Developing the supply chain



# ESSENTIAL BUILDING BLOCKS



## Changing internal culture

Traditional

vs.

Integrated Supply

Unit Price

Local relationships

Giving up control

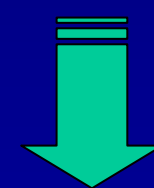
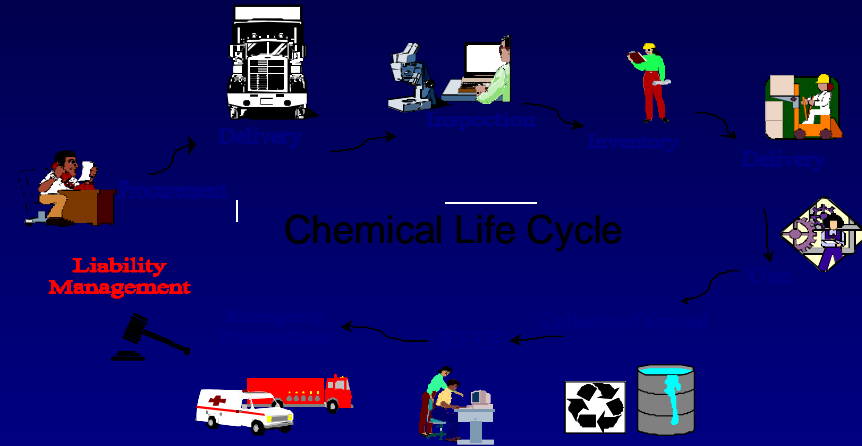
Quantifying inefficiencies

“Hard” vs. “Soft” Savings

“...another purchasing project”

Limited resources

ERP/MRP



Total Cost of Ownership



# ESSENTIAL BUILDING BLOCKS



## New Markets for US suppliers

Supplier Commitment

Market Penetration

- Merger & Acquisition

- Use of 3PLs

Business Climate

- Distributors vs. Integrators

Regulatory governance (REACH)

Cultural Diversity



# ESSENTIAL BUILDING BLOCKS



## Sound supply chain strategy

### Leverage global manufacturers

- Master agreements
- Consistent pricing methodology



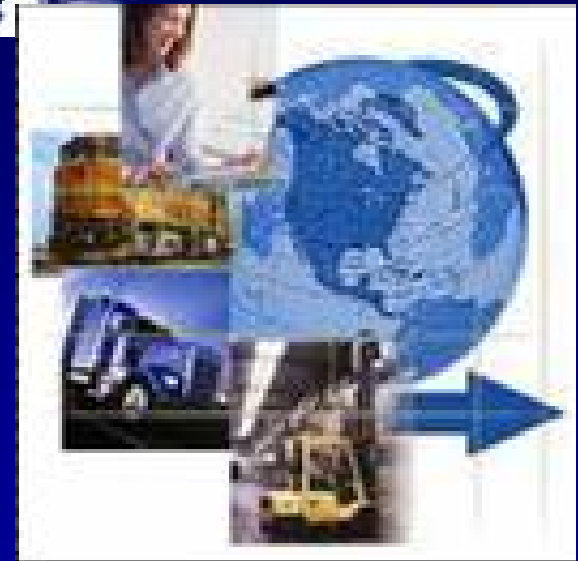
### Local manufactures & distributors

- brand acceptance/trust
- support local economies
- service & technology resources

### Low cost sourcing

### Establish appropriate logistics model and protocol

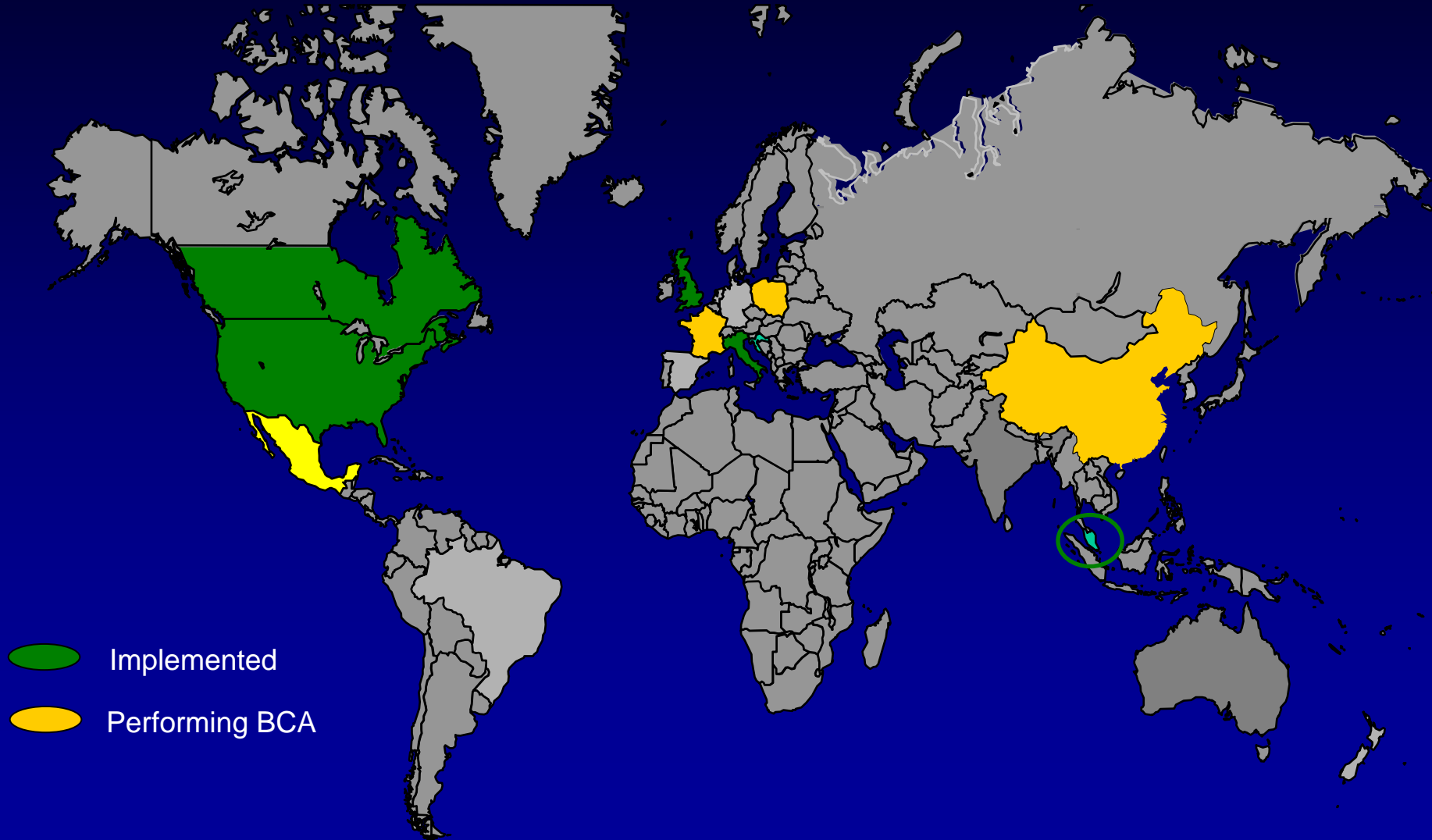
- Export vs. Import
- 3PLS & Freight forwarder
- Export Control/ ITAR/Tax/etc. considerations



# INT'L IMPLEMENTATION

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## Success Stories





# SUMMARY

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Growth and opportunity for UTC lies offshore

ACE & UT500 provides internal infrastructure and ownership

Supplier commitment

Essential building blocks

Execution & measurement

Publicize and reward efforts



**United  
Technologies**