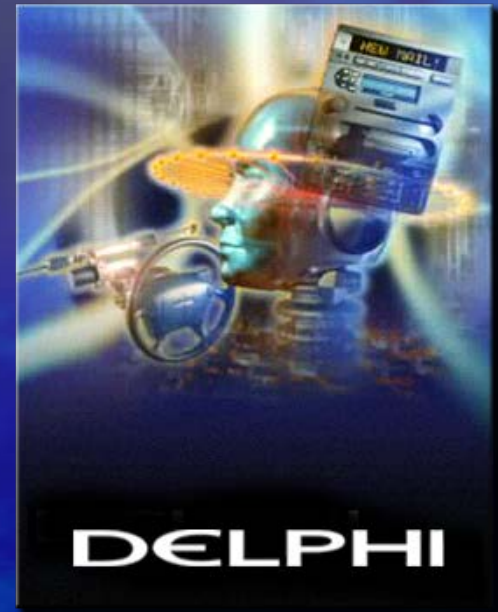
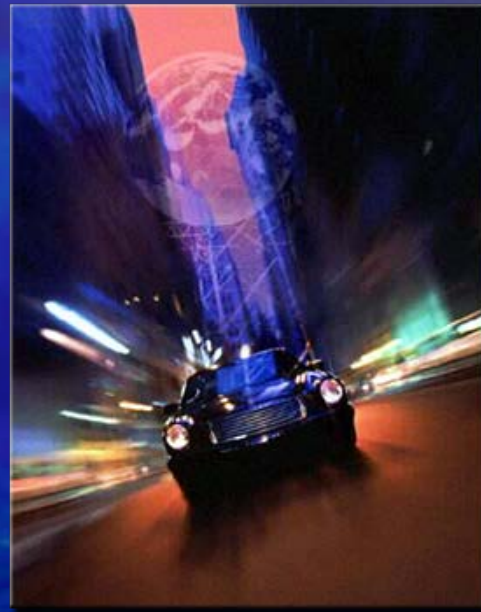


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Tomorrows Technology, Today

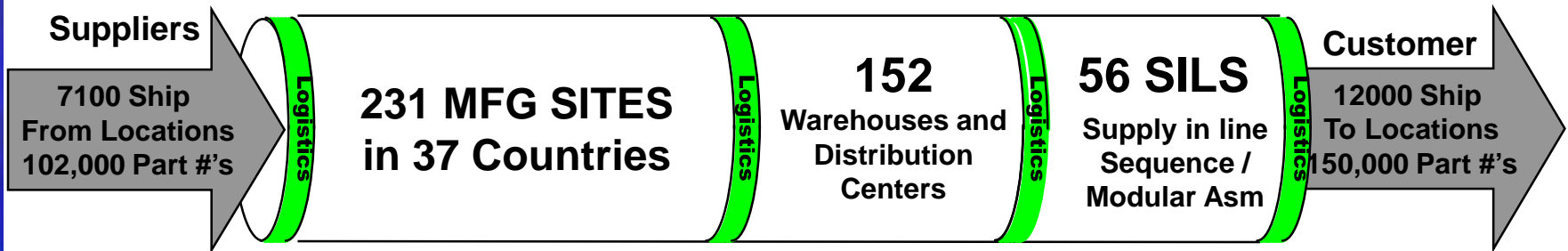
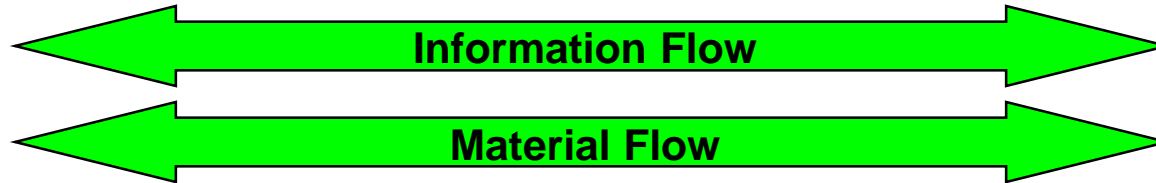
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Supply Chain Management Conference
Purdue University

Challenge & Discovery **in a** **Global Supply Chain**

Jonathan S. Freeman
Delphi Global Logistics





Logistics \$740 million

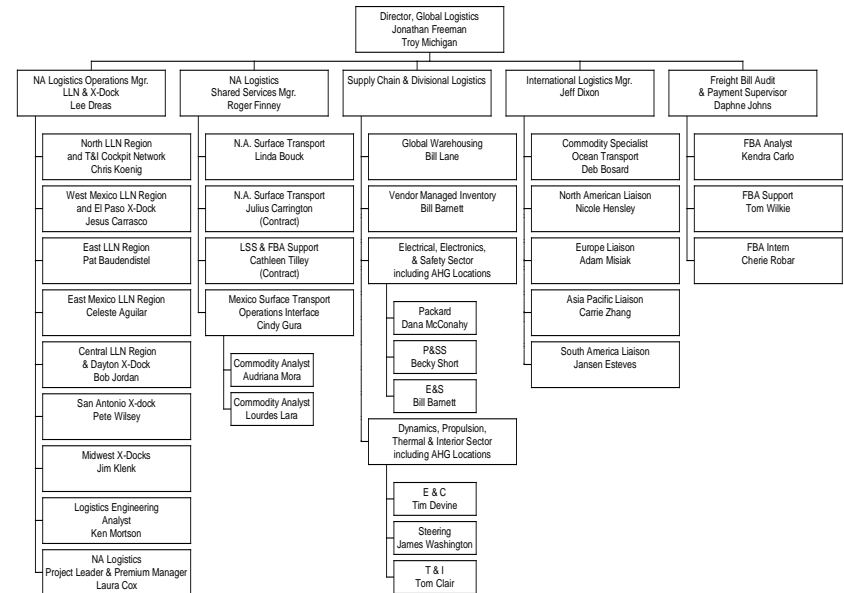
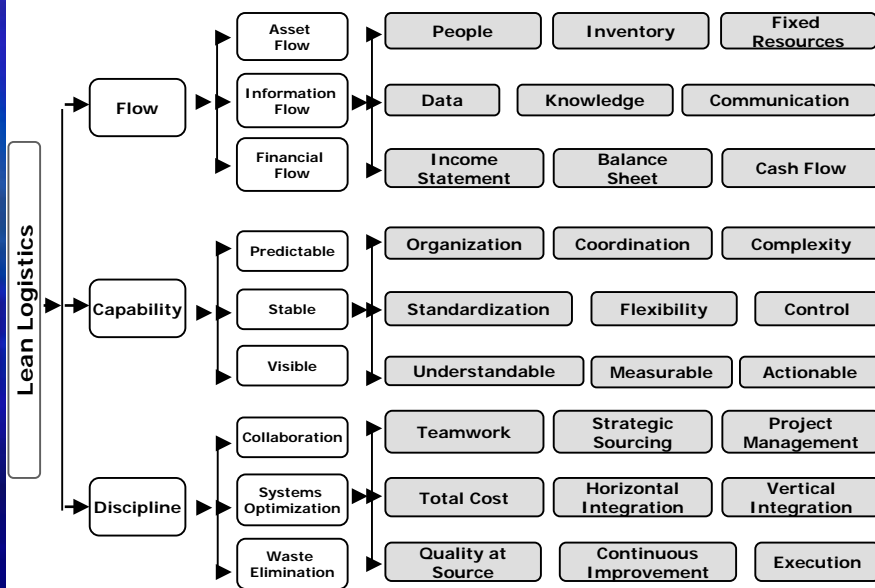
Warehousing \$125 million



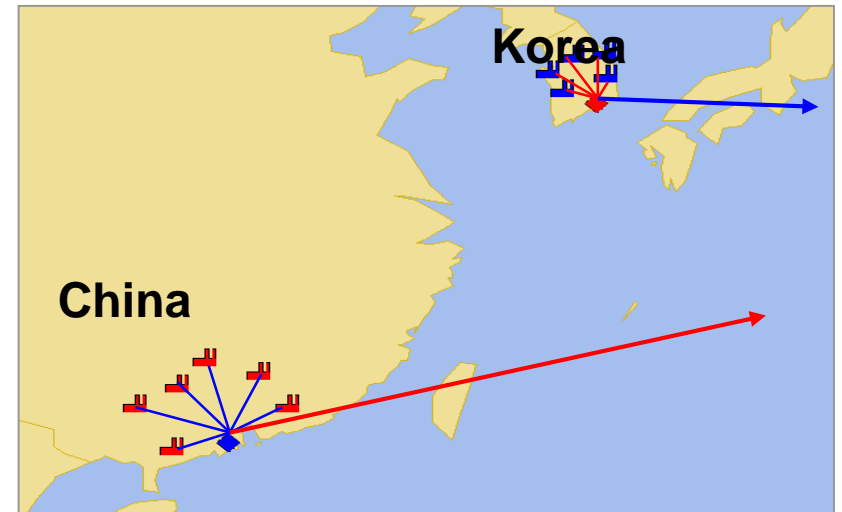
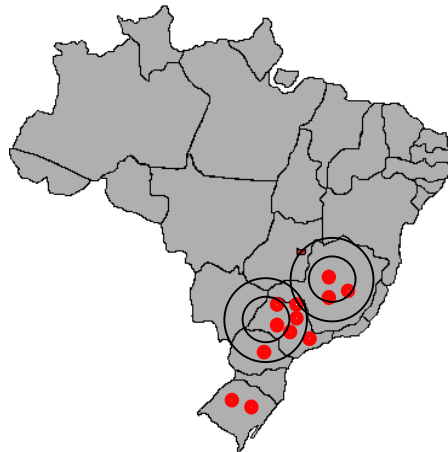
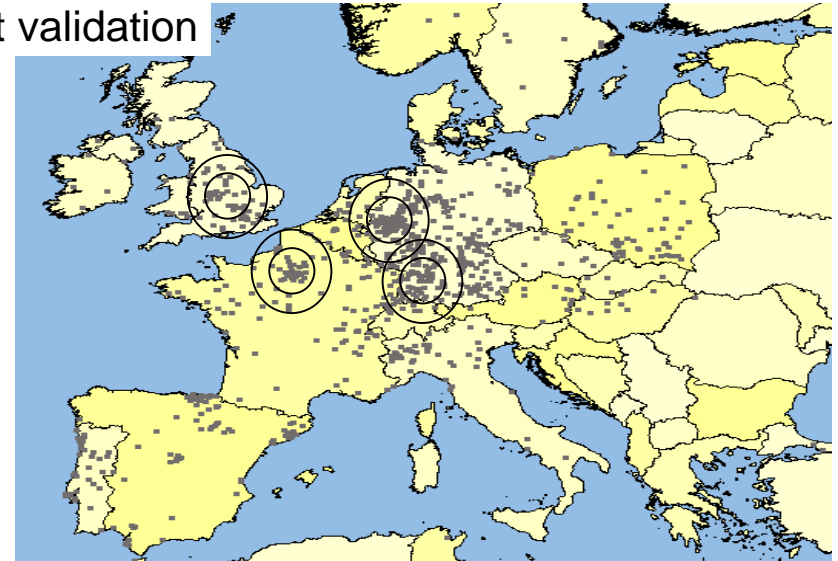
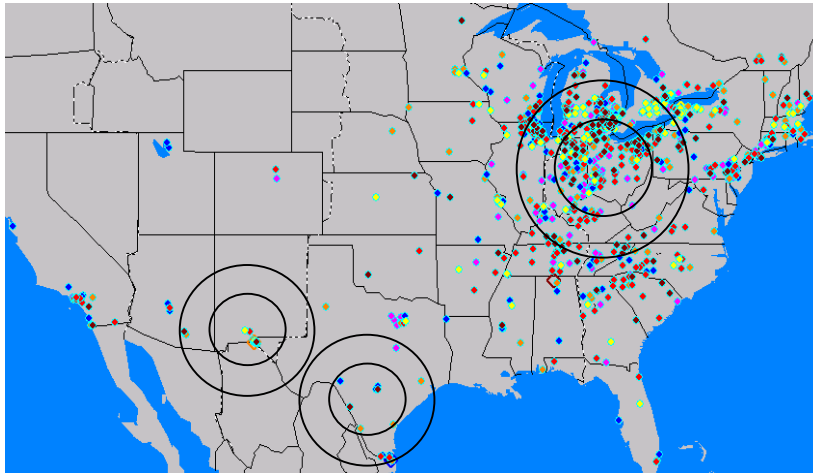
◆ Origin Based Lean Logistics Network

- Strong common processes ensure the right part, at the right time, in the right quantity
- Part verification at pick-up and/or consolidation
- Consistent and accurate information flow for part level visibility
- Leverage inter-regional movements to reduce duplication of effort
- Multi Purpose Facilities that deliver small order lots at high frequency
- Optimized route design from a broad and complex supply base matrix

◆ Focus on Flow, Capability and Discipline through effective Global Teamwork

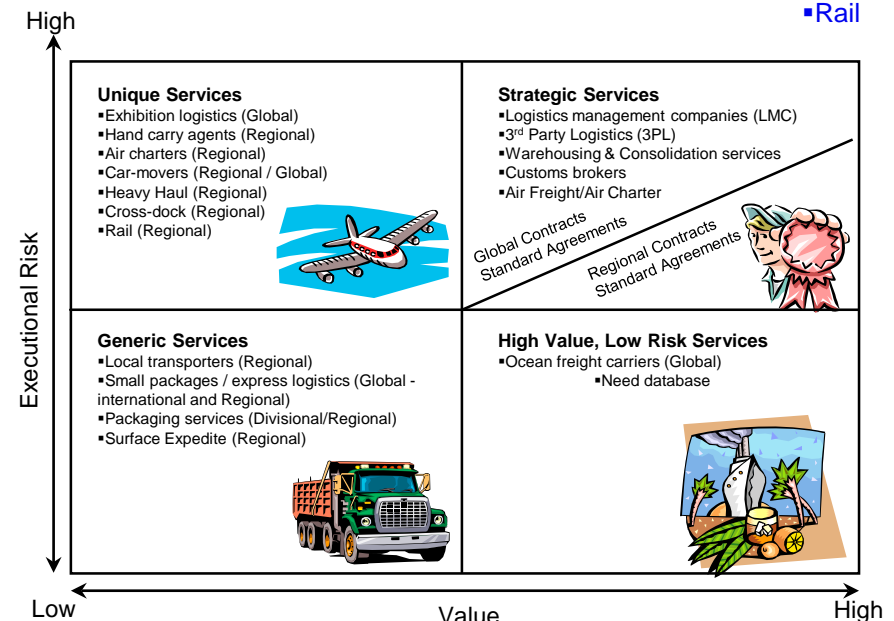
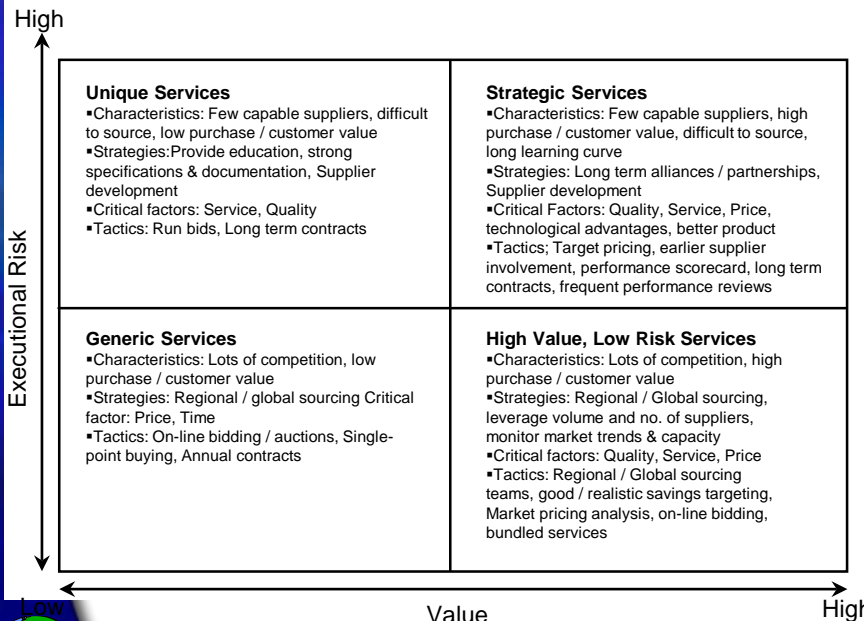


- ◆ Focused lane optimization and increased part validation
 - Acceleration of effective closed loop milk runs
 - Targeting all areas of supplier density
 - Link & leverage international with regional

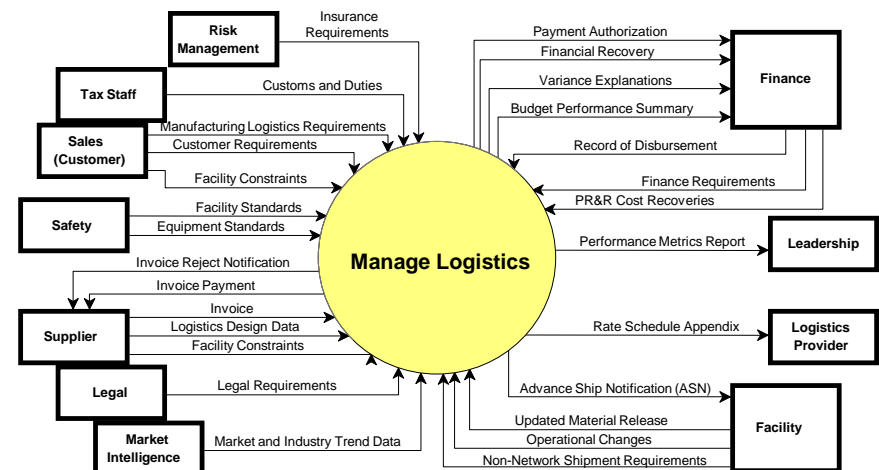


- ◆ Thorough understanding of the specific market
- ◆ Common business processes with compliance discipline
 - Continuous improvement replication process
- ◆ Clear understanding of expectations and delivering to it
- ◆ Centralized contract administration
- ◆ Building strong & balanced relationships with providers
 - Above & Beyond recognition
 - Comprehensive and proactive issue management
- ◆ Measure & manage to common performance standards

- Logistics Management Companies (3PLs)
 - Warehousing & Consolidation services
 - Small Packages / Express Logistics
 - Heavy Equipment (M&E)
 - Ocean Freight Carriers
 - Logistics Consultants
 - Packaging services
 - Local Transporters
 - Hand-carry agents
 - Exhibition logistics
 - Surface Expedite
 - Customs brokers
 - Cross docking
 - Air-charters
 - Car-movers
 - Air Freight
 - Rail



- ◆ Authority and accountability for the performance of each supply chains
- ◆ The supply chain must be configured to meet customer expectations
 - Local day to day transaction management holds it together
- ◆ Determine what can be “managed” in common and what should remain independent.
 - Examine the tradeoff between effort and attaining integration.
 - Requires balancing requirements for multiple supply chains
 - Data integration across regions, divisions and partnerships
- ◆ Centralized supplier management is critical element of an integrated approach
 - Competitive pressures require comprehensive and integrated international supply chains
- ◆ Conflicting priorities must converge in a defined total cost process
 - Service level, Inventory, Risk and lowest “piece” cost
- ◆ Premium transportation management
 - Full impact on transportation spend
 - Majority of impact is from external factors
- ◆ Logistics must quantify value
 - Frequency beyond demand
 - Lead time / Transit time
 - Consistency / Reduced Variation
 - Accurate & complete information

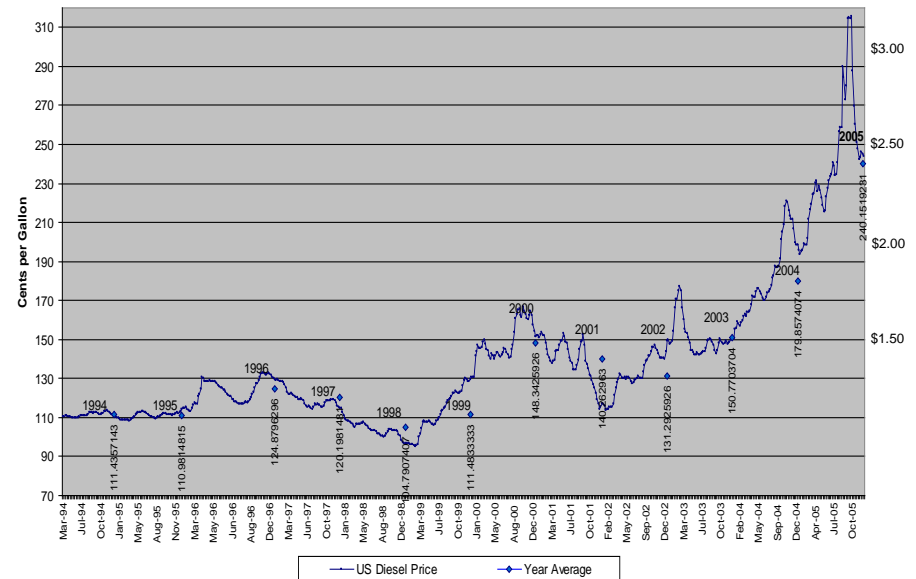


- ◆ Be a good customer
 - Performance focus has to be on controllable costs
 - Tight capacity is allowing carriers to choose what they will carry and for whom
 - Closer cooperation with carriers is the best ways to ensure capacity

- ◆ Pure cost of transportation will increase
 - Increases expected the first half of 2006
 - Fuel will remain high and vary higher
 - Capacity will remain tight
 - Driver wages will increase
 - 2007 engines regulation will drive cost up
 - » Carriers are making heavy pre-buys
 - » Risk inconsistent performance
 - » Drop in fuel efficiency expected

- ◆ Transportation planning and scheduling are critical to make up the difference
 - Special attention to ways of improving supply chain operations and efficiency
 - Greater efficiency reduces cost and potentially inventory
 - Internal improvements to contain costs must interface with carriers
 - DOT hours of service regulations make scheduling even more critical

US Diesel Price History



- ◆ Logistics team must take ownership and responsibility for change
 - Logistics budget performance and operations
 - Executing to the overall lean logistics strategy
 - Interface to lean operating system
- ◆ Each transportation market has unique requirements and demands
 - Strict timing, predictability & consistency are all critical in the automotive market
- ◆ Logistics costs are not independent
 - Customer changes, supply & manufacturing footprint, scheduling practices, global politics & weather all directly affect flow and cost
- ◆ Logistics is not a pure commercial decision
 - Transit time, inventory, frequency, lead time, responsiveness, accuracy, etc.
- ◆ Governmental policy awareness & understanding
 - Haz-Mat certification and compliance, Homeland security innovations, DOT driver regulations
- ◆ Logistic costs are not product line specific
 - While reviews may be made by product line, inter-linkage across region must be reviewed for synergies in the same geographic areas



- ◆ Logistics sourcing must be closely tied to operations
 - Responsiveness to the unplanned and 24/7 availability is imperative
 - Resolving issues on a daily basis, including freight billing concerns, delivery, and level of service
 - Integrating with the lean operating system is vital to making significant improvement
 - Continually gaining & sharing lean knowledge

- ◆ Supplier localization and manufacturing footprint requires strategic discussions
 - Logistics impact of site selection
 - Current design impact and infrastructure to support new

- ◆ Significant external impediments to improving utilization efficiency
 - Packaging and pallet configuration
 - » Defined container menu and required strength
 - » Pallet footprint and stackability
 - » Readiness for alternative modes
 - Percentage of freight under management
 - Consolidation center accessibility and configuration

- ◆ Effective import / export oversight and execution
 - Permanent vs. temporary importation
 - Compliant and effective trade agreement and classification management



- ◆ Few companies can dictate transportation lanes
 - Routes and patterns vary by provider
 - Planned and unplanned movements must be considered
- ◆ Geo-Economic impacts are immediate
 - Wars, weather and trade balance all play a role
- ◆ Portfolio and business change impact
 - Leverage can swing dramatically
- ◆ Balance is required
 - Frequency, Design, Efficiency and Cost Optimization



- ◆ Must manage change continuously
 - Capacity, volumes, mix & rates



- ◆ Logistics is not for the insecure or under-motivated
 - You will never get a thank you call for an “On Time Delivery”
 - Every issue becomes a Logistics issue – until you know the facts
 - It does not matter what time zone you live in if you work in all of them
 - Readiness for the unplanned is required

- ◆ Treasure good data
 - Does not occur naturally in most organizations
 - Makes planning effective
 - Required for making solid judgment

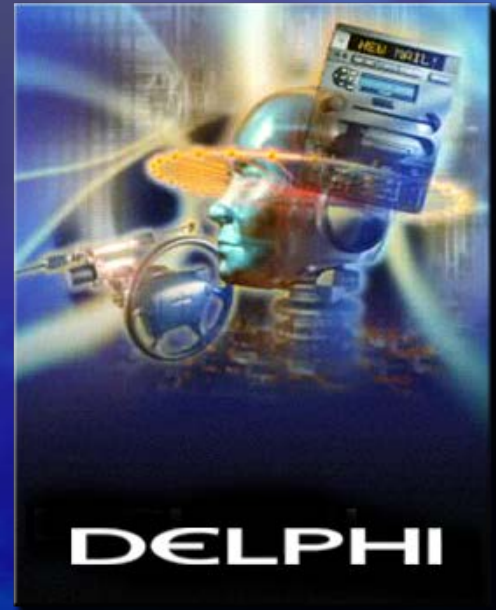
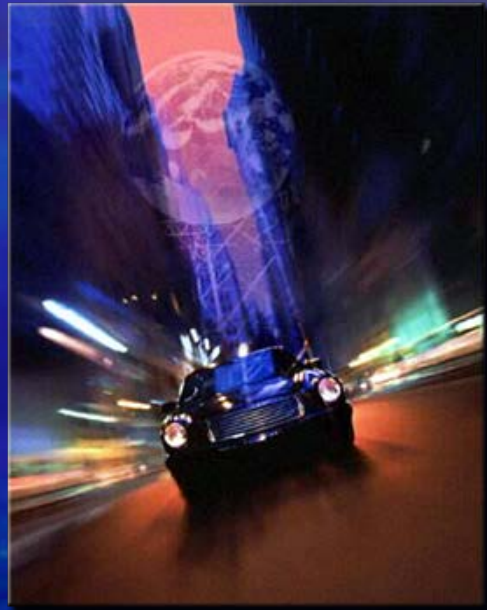
- ◆ Variation is a reality – you must understand it
 - Application of strong problem solving skills
 - Demonstrating the value of elimination is our challenge

- ◆ Logistic is the differentiator in the success of a truly global company
 - Pipelines will get longer and more complex
 - Expectations for improved cost, consistency and visibility will increase
 - Linkage with the corporate operating system is imperative

- ◆ **Those who move “It” best – will win!**



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Thank You



Jonathan S. Freeman
Troy, Michigan

Bachelor of Science in Industrial Education & Technology
Iowa State University – Ames, Iowa
Master of Science in Manufacturing Management
Kettering University – Flint, Michigan

Jon started with Packard Electric Division of General Motors in 1985 and worked in various manufacturing and supply chain roles within the U.S. and Mexico, including two years as Plant Manager.

In 1998, as divisional Director of Production Control & Logistics, he began the integration of an international team to link the regions to manage the rapidly expanding global value streams.

Prior to his current position as Director of Global Logistics for the Corporation, Jon was the divisional Director of Lean PC&L, implementing information & material flow excellence throughout Europe, Middle East and Africa.

