

Supply Chain Expectations

Jim Morris
Supplier Management,
Boeing Commercial Airplanes

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Topics

- **Lean global enterprise . . . a partnership**
- **Performance expectations . . . continuous improvement**
- **Tools available . . . now**
- **Summary**

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Vision 2016



The graphic features the Boeing logo and the slogan "Forever New Frontiers" in the top left. The year "2016" is displayed in large, spaced-out characters at the top right. The word "VISION" is written vertically in large, spaced-out characters on the right side. A large, stylized "Q" shape is overlaid on the left side. The main text is organized into several sections:

- People working together as a global enterprise for aerospace leadership**
- Strategies**
 - Run healthy core businesses
 - Leverage strengths into new products and services
 - Open new frontiers
- Core competencies**
 - Detailed customer knowledge and focus
 - Large-scale systems integration
 - Lean enterprise
- Values**
 - Leadership
 - Integrity
 - Quality
 - Customer satisfaction
 - People working together
 - A diverse and involved team
 - Good corporate citizenship
 - Enhancing shareholder value

A yellow callout box on the right points to the "Lean enterprise" competency. Another yellow callout box at the bottom points to the "People working together" value.

www.boeing.com/vision

Boeing and its suppliers

Our entire enterprise will be a lean operation, characterized by the efficient use of assets, high inventory turns, excellent supplier management, short cycle times, high quality, and low transaction costs.

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SMPC Strategic Focus

- **People** - Build a diverse, skilled, and involved team
- **Customers** - Understand, meet, and even anticipate their needs
- **Suppliers** - Form partnership-style relationships
- **Processes** - Employ lean, efficient practices
- **Technology** - Exploit for efficiency and speed

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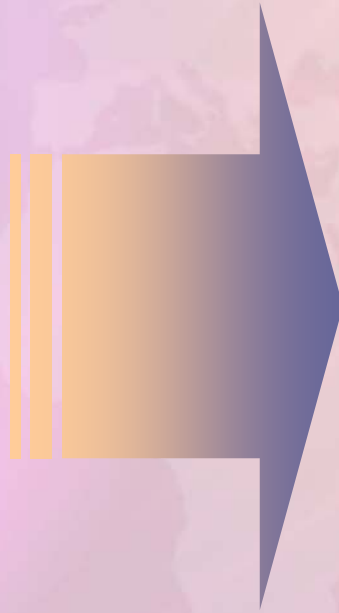
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Supplier Relationships

Traditional

- Oversight
- Arm's length
- Design passed
- Multiple connects
- Program-specific face



Partner Style

- Accountable
- Integrated
- Design participation
- Single connect
- Boeing face

Good supplier relationships enable collaborative lean actions

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Supplier Management Process Council Supplier Diversity Focus

- **Number of diverse suppliers**
 - **Dollars spent with diverse suppliers**
 - **Participation in key commodities**
 - **Participation in strategic agreements**
- **Include in electronic business initiatives**

*Succeeded at all these in 2003,
despite reduced sales and overall procurements*

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Boeing Supplier Diversity

- **Small business program established 1951**
- **Annual targets... enterprise and business unit**
- **Progress reviewed monthly**
- **Active member of National Minority Supplier Development Council (NMSDC)**
- **Business outreach events: NMSDC, NCAIED, SBA, DOD, et al**
- **Numerous awards, including: Nunn-Perry, HBCU/MI Millionaire's Club; Eisenhower SBA; NMSDC**

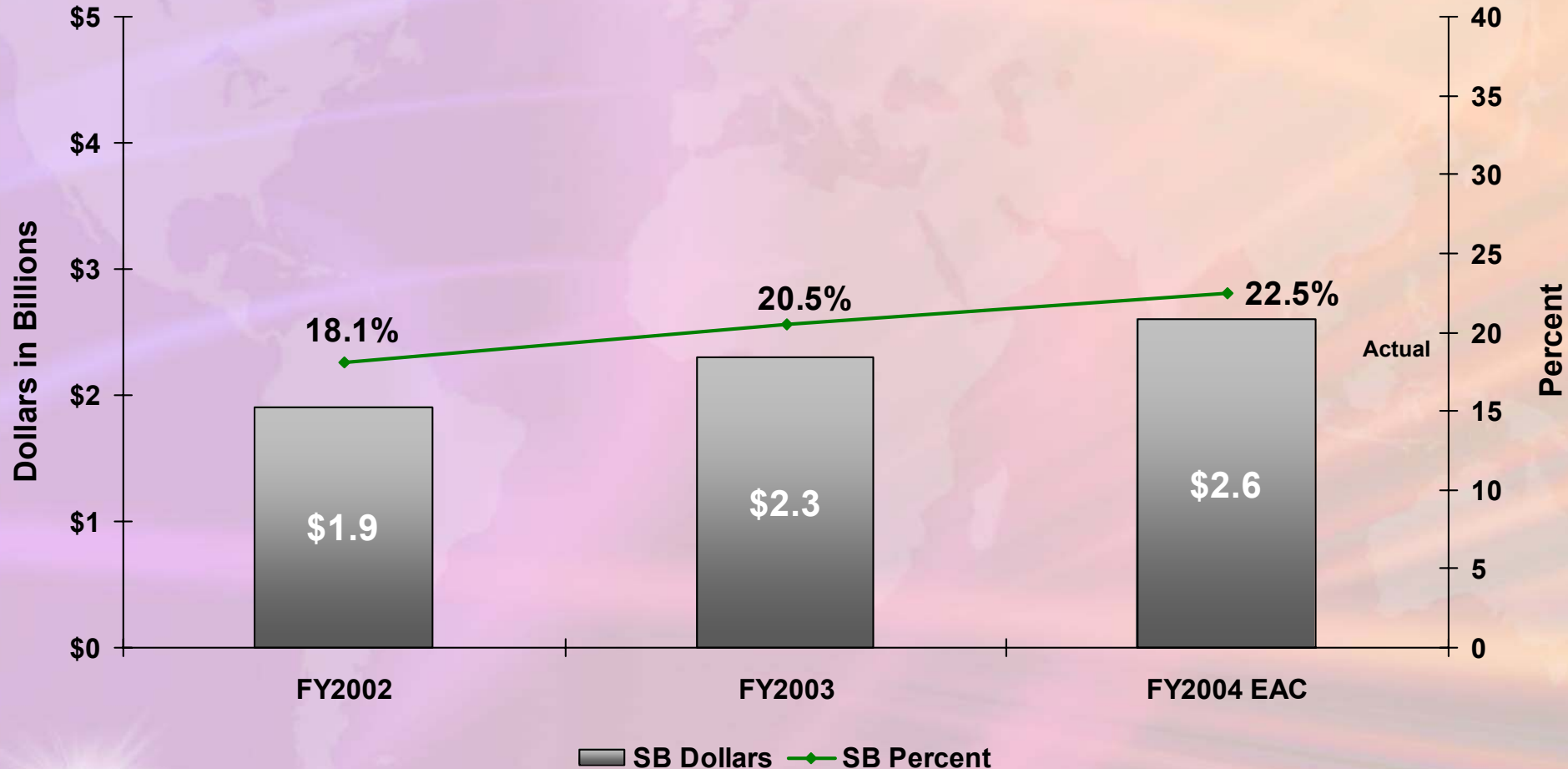
Strong support throughout the corporation

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Boeing DOD CSP Small Business Sub-Contracting



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Ex-Im Bank Financing

- **Ex-Im Bank offers competitive financing for Boeing's U.S. based suppliers**
- **Visit Ex-Im Bank at the Supplier Diversity breakout session to learn more about our programs**

Boeing Code of Conduct

- **Boeing is committed to conducting business fairly, impartially, and in an ethical and proper manner.**
- **Two clauses developed for suppliers**
 - **Contract**
 - **Solicitation**
- **Clauses available on www.boeing.com under “Ethics and Business Conduct”**

Supplier Code of Conduct Plan

- **Incorporate clause in all new contracts beginning July 04**
- **Incorporate in selected existing contracts**
- **Post Clauses on Supplier Portal and External Web (July 04)**
- **Revise GP Forms and BCA Standard GTA (Late 04)**

Intellectual Property Strategy

Partners/Suppliers

- **Permit use of Boeing IP by suppliers to perform work for Boeing**
 - **Disclosure and use permitted provided appropriate provisions in place to restrict further use**
 - **Grant back of rights for Boeing to use improvements**
 - **Product liability risk borne by supplier**
- **Use of Boeing IP by suppliers for third party sales requires license agreement with reasonable royalty or “in-kind” consideration**
- **Business case analysis demonstrates best overall value for Supplier and Boeing**

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Supply Chain Security

Customs - Trade Partnership Against Terrorism (C-TPAT)

- **C-TPAT is a Customs initiative between business and government to protect global commerce from terrorism**
- **Program calls upon importers, carriers, brokers and suppliers to establish policies to enhance their own security practices and those of business partners involved in their supply chain**
- **Goal is to secure the entire supply chain by increasing security to the flow of goods ... preventing terrorists from using cargo containers as weapons**
- **Supply chain security requirements are here to stay and may increase in the future**

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Lean Global Enterprise

- **Engineering, production and supplier management aligned and globalized**
- **Large scale system integration**
 - **Total customer solution**
 - **Preferred system concept**
 - **Sales, marketing, and program management**
 - **Product development, design and validation**
 - **Final assembly and delivery**
 - **Lifetime support**
 - **Boeing footprint reduction**
- **Align and consolidate suppliers**
 - **Identify strategic partners . . . in work**
 - **Supply-base reduction**

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Boeing-Occupied Square Feet

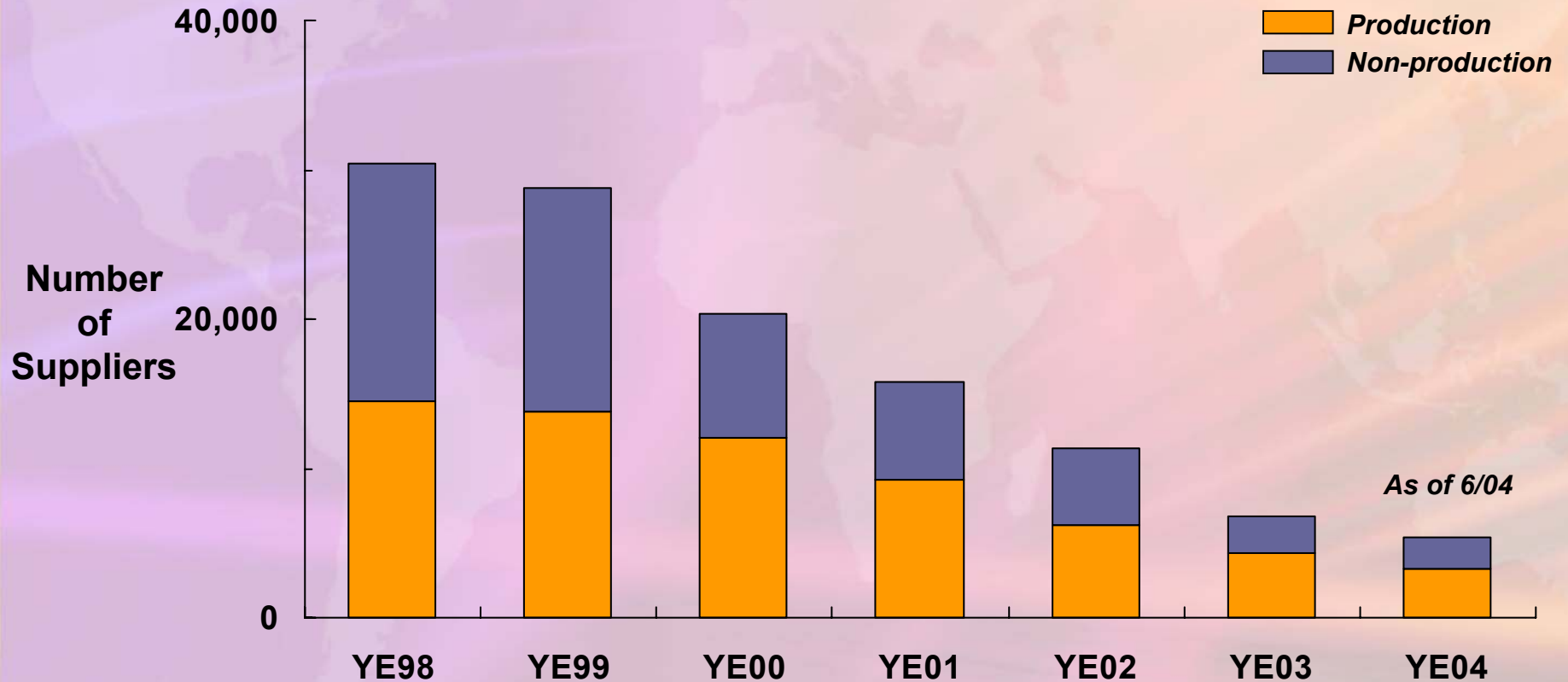


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Boeing Supplier Base



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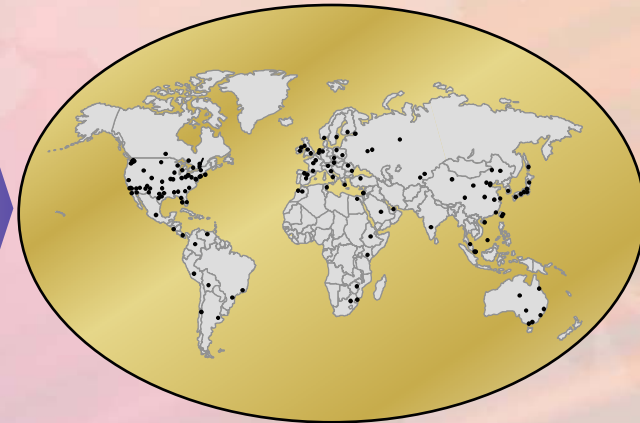


Boeing Supply Base Management

Three Key Elements

- **Supplier Management Process Council**
 - **Supply Base Management Process Action Team**
 - **Strategic Sourcing Teams**
- **Boeing Operations Council**
- **Engineering Council**

Supply Base



Supply Base Management Process Action Team

Objectives

- Increase "operational efficiency" of the Boeing Supply Base
- Promote communication of information / processes internally and externally
- Enhance tool-set for managing the Supply Base
- Improve Supply Base execution across all program phases

Key Processes

- Supplier performance measurement and reporting
- Preferred supplier certification
- Supplier Lean engagement
- Source selection
- Strategic sourcing
- Supplier profile database
- Partnership-style relationships
- Common terms and conditions
- Supplier self-assessment tools

Boeing Strategic Sourcing Teams (SST)

- **Nine commodity-based teams**
- **Enterprise focus**
- **Leaders and members from across Boeing**
- **Functional support from Engineering, Quality, Finance and Operations**

<i>Commodity</i>	<i>SST</i>
• Avionics	1
• Electro/Hydro/Mechanical	2
• Major structures	3
• Purchased outside production / outside manufacturing	4
• Propulsion	5
• Common aerospace commodities	6
• Interiors	7
• Aerospace support	8
• Non-production	9

Boeing Operation Council

- **Prime focus**
 - **Share and utilize best practices**
 - **Enterprise-wide lean and process improvements**
 - **Asset utilization strategies**
- **Process action teams**
 - **Commodities...machining, composites, sheet metal, electronics, tubes and ducts**
 - **Processes... structures/join, ramp/field, systems/integration/test, lot time, tooling**

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Engineering Council

Strategy

- **Ensure innovation and technical integrity in the creation of our products and services that satisfies our customer's needs**
- **Enable quality and productivity through continuous improvement and appropriate standardization of processes and tools**
- **Leverage intellectual capital, talent and technology to create competitive advantage**
- **Develop and utilize a high performance motivated engineering workforce to assure technical excellence**

Supplier Impact

- **Collaboration processes and tools**
- **Global partnerships**

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Performance Expectations

- **Quality**
- **Cost (Affordability)**
- **Delivery**
- **Customer Satisfaction**

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Supplier Performance Measurement

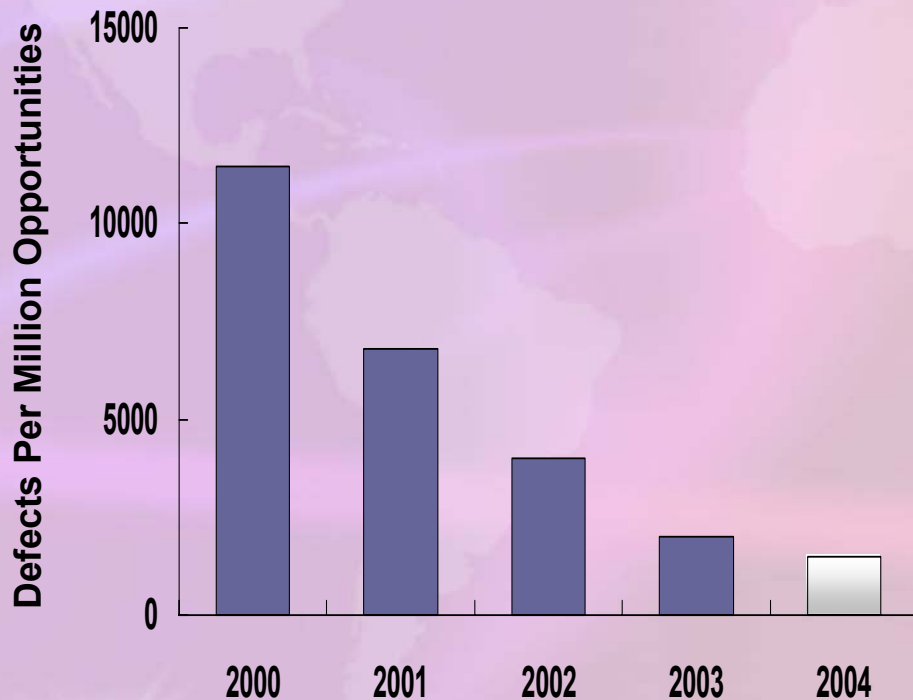
The screenshot shows the Boeing Supplier Performance Measurement website. At the top left is the Boeing logo. The main heading is "Working Together" in a script font, followed by "SUPPLIER PERFORMANCE MEASUREMENT" in a bold, sans-serif font. Below this is the tagline "ONE TEAM, ONE GLOBAL AEROSPACE LEADER". The page includes fields for "Supplier Name" and "Supplier Address", and a note "For Period Ending July 2004". A status indicator says "Supplier electronic access approved". There are several blue buttons for navigation: "Composite Performance", "Group Performance", "Military Aircraft & Missile Systems", "Boeing Commercial Aircraft", and "Space & Communications". A list of cities is displayed: Long Beach, Mesa, Oklahoma City, Philadelphia, Seattle, and St. Louis. Below the city list are buttons for "Message", "Supplier Satisfaction Rating", and "User Manual". A small image of a person working at a computer is visible in the background of the interface.

Common Criteria . . . Continuously Improving Thresholds

Common Database . . . BEST

Continuous Improvement!!

Boeing Supplier Quality Performance



Thresholds (Defects Per Million)

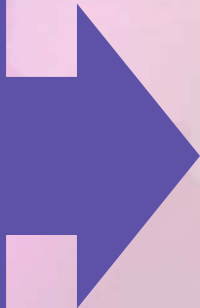
	<u>2004</u>	<u>7/1/2005</u>
Gold	0	0
Silver	5,000	2,000
Bronze	10,000	4,500

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Cost Improvement Collaboration

- Supplier Management
Process Council
Strategic Sourcing
- Business Units
- Program/Integrated
Product Teams
- Suppliers



Tools

- Strategic contracting
- Optimized part flow and delivery
- Joint cost reduction projects
- Value stream analysis
- Corporate agreements
- Value engineering

C-17 Cost Reduction



- **Lean tools being applied**
 - **Pull Signal**
 - **Supplier Alignment**
 - **Supplier Kitting**
 - **Lean Training for Procurement Agents**
- **Program Initiatives**
 - **Single Line**
 - **MYP**

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F/A 18 Cost Reduction



- **Execution better than plan**
- **Lean principles incorporated in new assembly facility**
- **Successful customer-funded cost reduction program**
- **Technology insertion programs on track**

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737 Moving Line



- **Flowtime . . . 52% reduction**
- **Inventory . . . 75% reduction**
- **Work in process . . . 52% reduction**

Implementation on all models

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CH-47F Affordable Fuselage

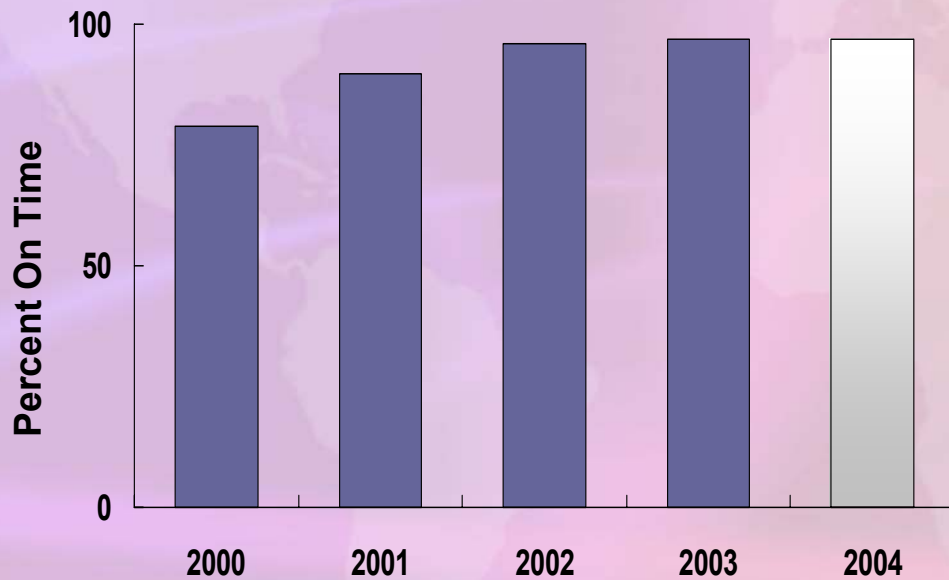


- Outsourced the major subassemblies for the cabin section and improved assembly techniques
- Outsourcing the unit assemblies, lot time assemblies and end item details
- Part consolidation and improved assembly techniques due to redesign of the 46 section, ramp and aft pylon
- Redesign of the STA160 frame in the cockpit
- Reduced airframe supply base from 60+ suppliers to less than 10

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Boeing Supplier Delivery Trend



Thresholds

	<u>2004</u>	<u>7/1/2005</u>
Gold	100%	100%
Silver	97%	98%
Bronze	93%	96%

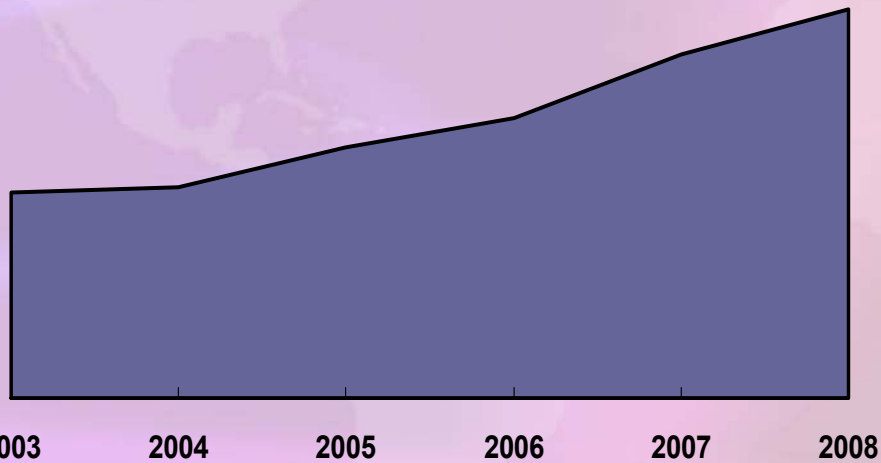
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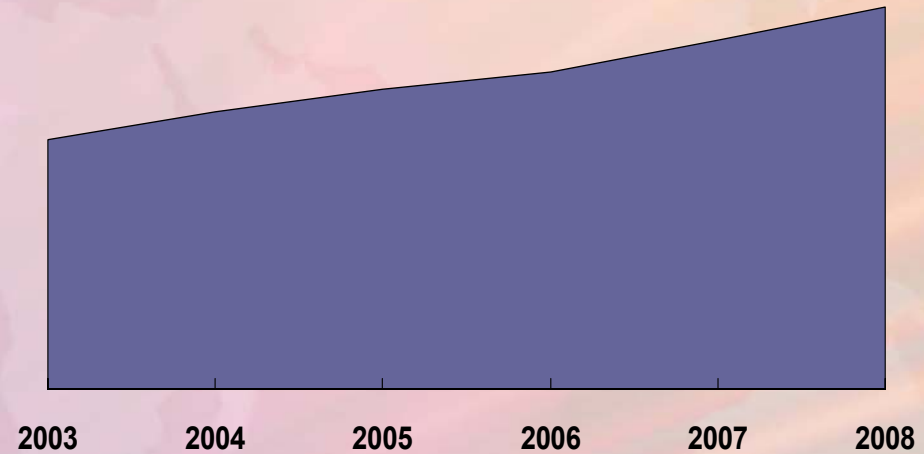


The Aerospace Upturn – Get Ready!

Commercial Deliveries



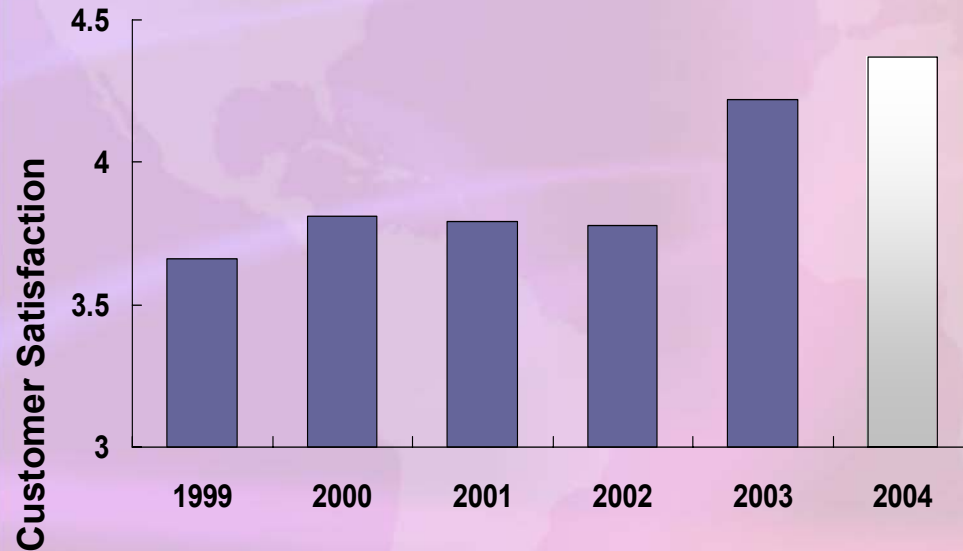
Defense & Space Sales



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Customer Satisfaction



Expectations

	<u>2004</u>	<u>7/01/2005</u>
Gold	>4.4	>4.4
Silver	3.8 - 4.3	3.8 - 4.3
Bronze	2.8 - 3.7	2.8 - 3.7

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Tools Available . . . Now

- **Lean**
- **E-Buy**
- **Common Systems and Standards**
 - **Quality**
 - **Preferred Supplier Certification**
 - **Terms and Conditions**
 - **Source Selection**
- **Common Performance Measurement**
- **Cost Improvement Collaboration**

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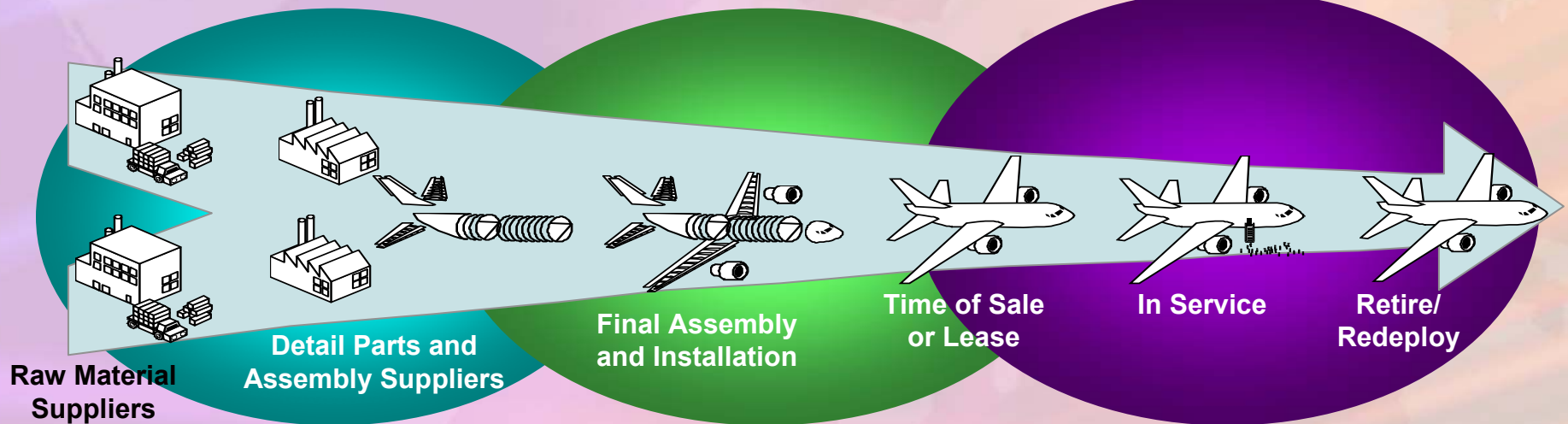


Integrating Our Lean Activities

Lean Supplier Operations

Lean Boeing Operations

Lean Boeing Services



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e-Enabling the Supply Chain



- Product definition data
- Common ordering/scheduling
- Demand forecast
- Profile & Performance data
- Purchase order notes on-line
- Value engineering
- eRFX
- Integrated
- Collaborative

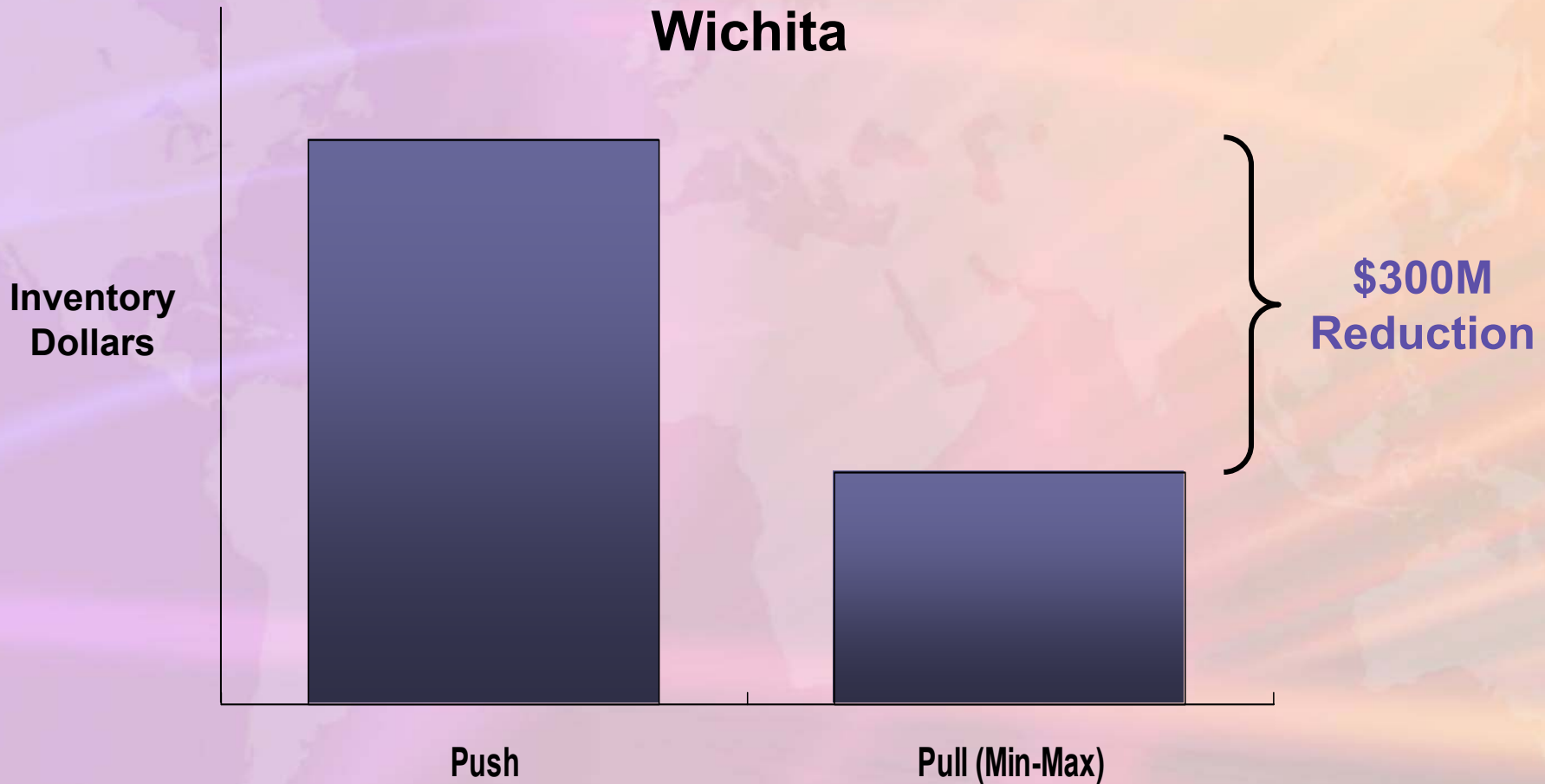
Moving from document-based systems to simplified electronic signals

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Min-Max Ordering

Wichita



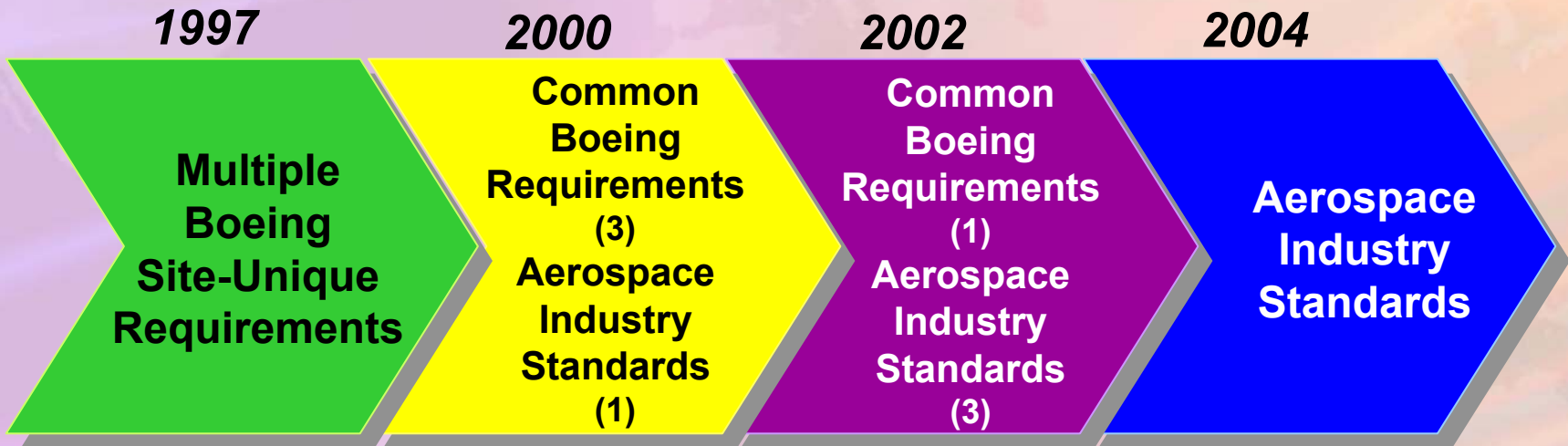
Over 500 suppliers using the new enterprise Min-Max application

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Common Boeing Quality Requirements

Quality Management System



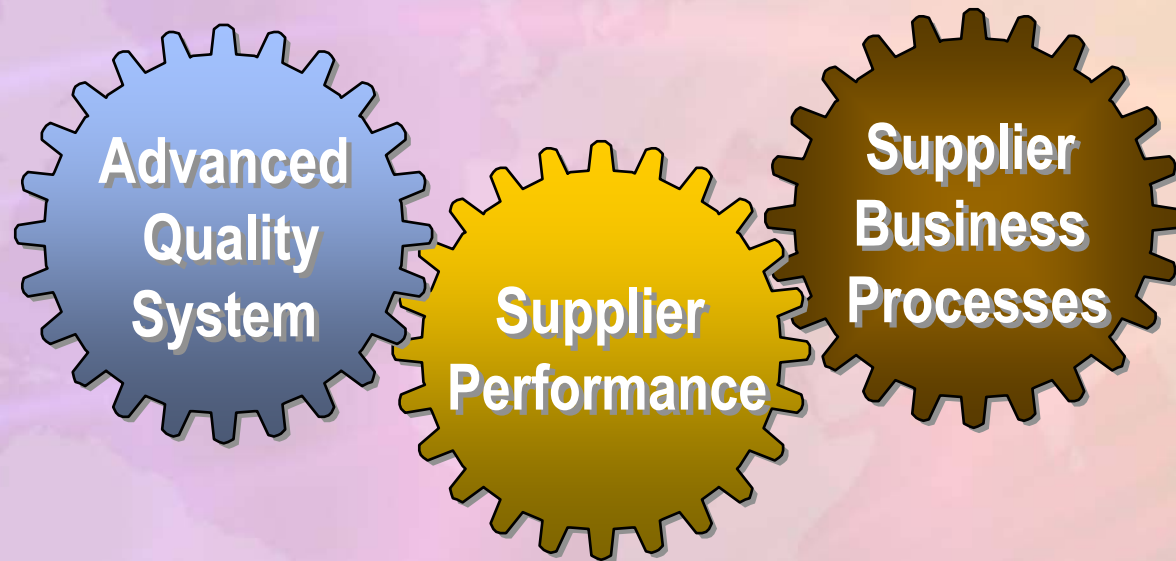
BQMS

- SAE AS9100
- SAE AS9003
- SAE AS9103
- SAE AS9102

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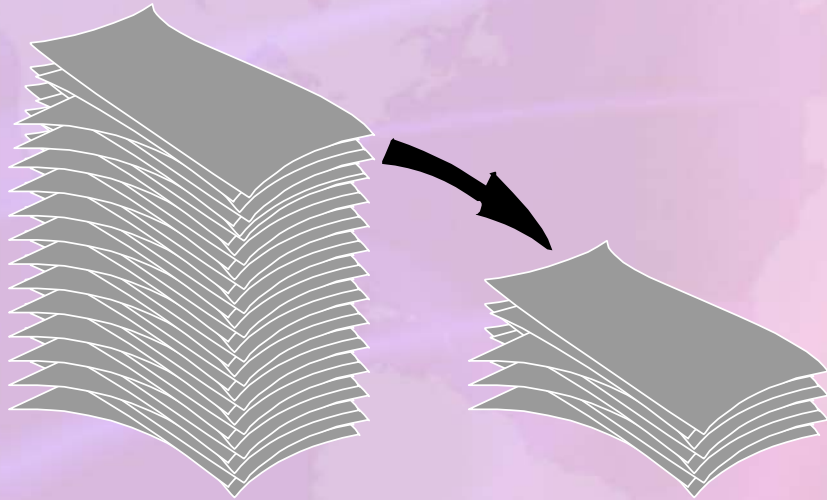
Preferred Supplier Certification



Benefits to suppliers:

- ***Accelerates and sustains performance improvements***
- ***Improves competitiveness and industry recognition***
- ***Provides bidder and source selection preference***
- ***Facilitates Boeing/supplier integration***

Common Terms and Conditions



General Provisions

- Fixed-price goods
 - Fixed-price services
 - Labor-hour/time and material
 - Cost reimbursement
 - Consolidated Enterprise Contract
 - Universities
-
- **Reduces non-value-added time in contract negotiations**
 - **Affords opportunity to establish an overriding agreement between our companies**

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Common Source Selection

Proposal Evaluation Options

<i>Proposal Input</i>	<i>Price</i>	<i>Mgmt</i>	<i>Technical</i>	<i>Performance</i>
Price and Contract Terms Only	70-90%			
Price and Contract Terms and Management	30-60%	10-40%		
Price and Contract Terms, Management and Technical	30-60%	10-40%	10-40%	

- *Available supply base maintained by Strategic Sourcing Teams*
- *Source selection team determines best-value evaluation approach*
- *Team has evaluation flexibility within ranges shown above*



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Preparing Our People “Supplier Management University”



SMU
SUPPLIER MANAGEMENT UNIVERSITY

- Provides a forum to allow the blending of cultures, practices, tools, and techniques
- Supports “one voice to suppliers”
- Common expectations, processes, and tools
- Engaged Participants
 - Over 1,700

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Challenges

- **Continue to develop a strong relationship/partnership**
- **Develop a strong, diverse, global and financially healthy supply base**
- **Continue to e-enable our relationships**
- **Work together to continuously improve quality, cost, and delivery**

Summary

- **Great relationships . . . a partnership**
- **Great performance . . . as a team**
- **Lean . . . working together**
- **eConnected . . . across the industry**

Shared success through market leadership


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Thank You!!!



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