

NCMA Los Angeles South Bay Chapter The Supply Base: How We Ensure Quality Products

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Lisa V. Kohl
Sector Vice President, Global Supply Chain
Northrop Grumman Aerospace Systems

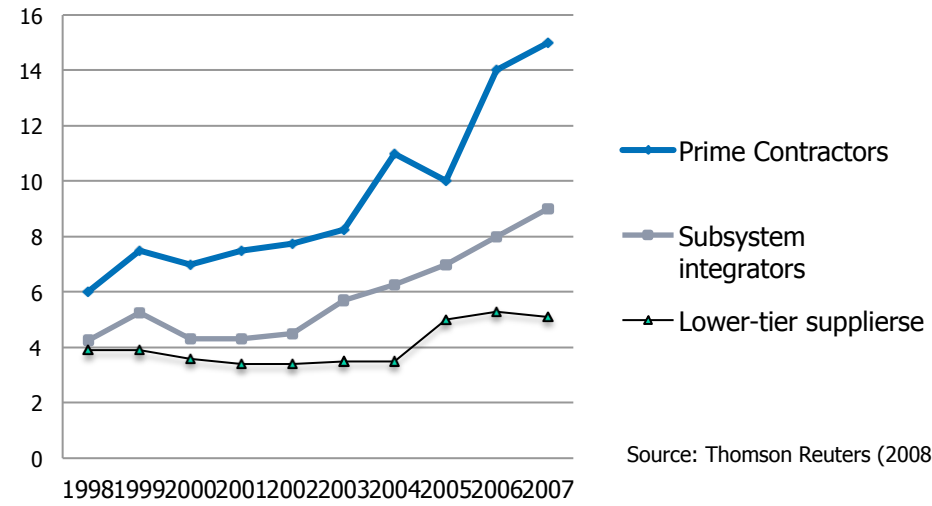


Aerospace Primes Supply Base Evolution

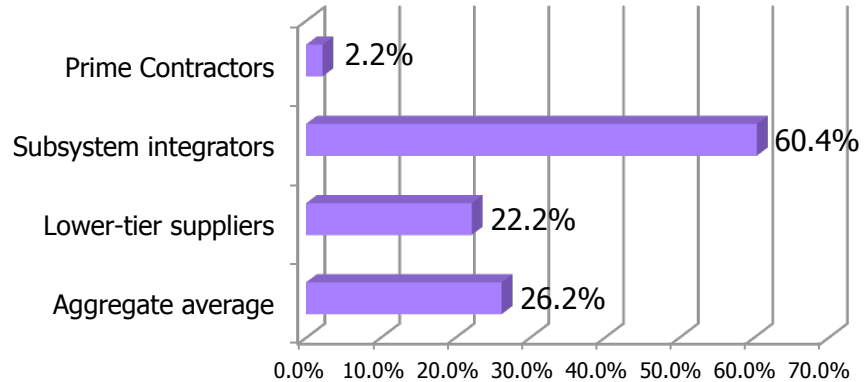
- Supply Chain reinvented
 - Outsourcing rose dramatically (80/20 to 20/80)
 - Growth in foreign markets
 - Primes/governments reduced their number of direct suppliers
 - Primes shifted costs and responsibilities to subsystem integrators and other suppliers

- Impact over last 10 Years
 - Inventory turnover grew from 6/year to 16/year
 - Prime staffing levels grew 2% while industry as a whole increased staff by 26.2%
 - New program execution risks coming from the supply base
 - New operating model where Supply Chain focus moved to helping the supply base manage its outsourced operations
 - Shift in people, skills, core competencies

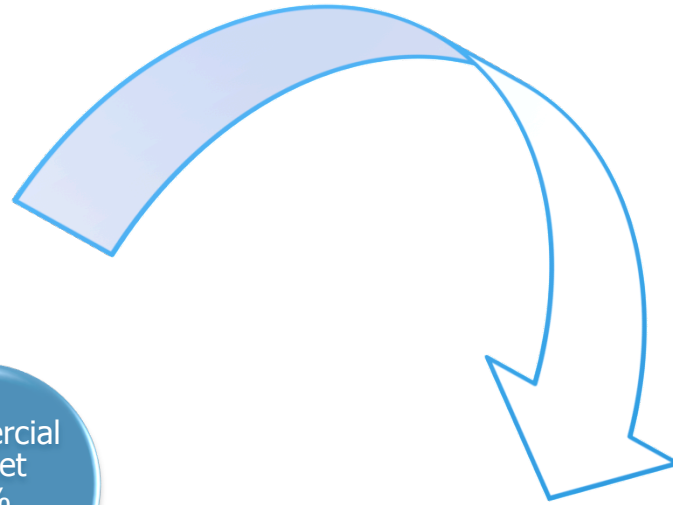
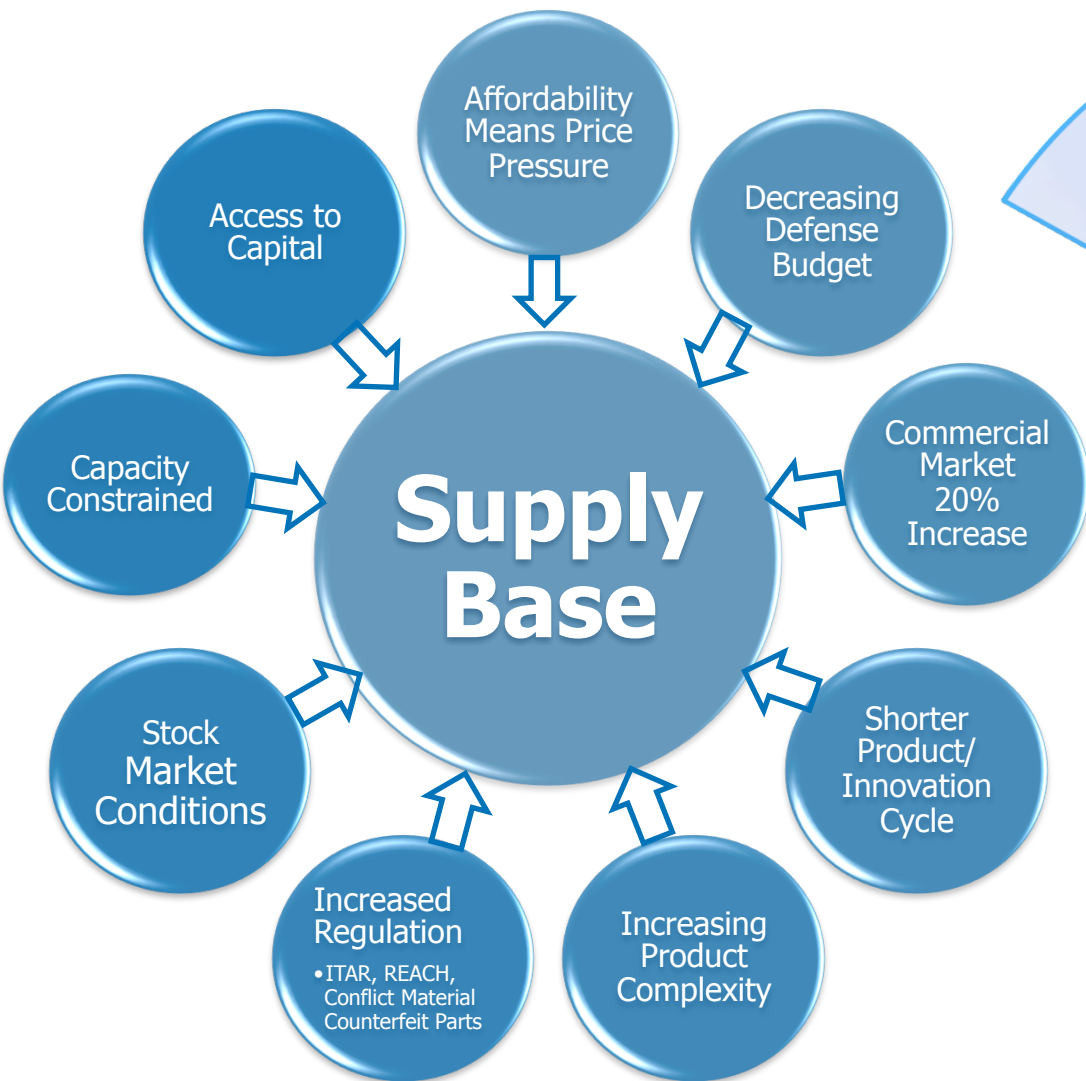
Inventory Turnover:
Number of Times Inventory is Sold & Replaced



Percentage Change in Aerospace & Defense Employees, 1998-2007



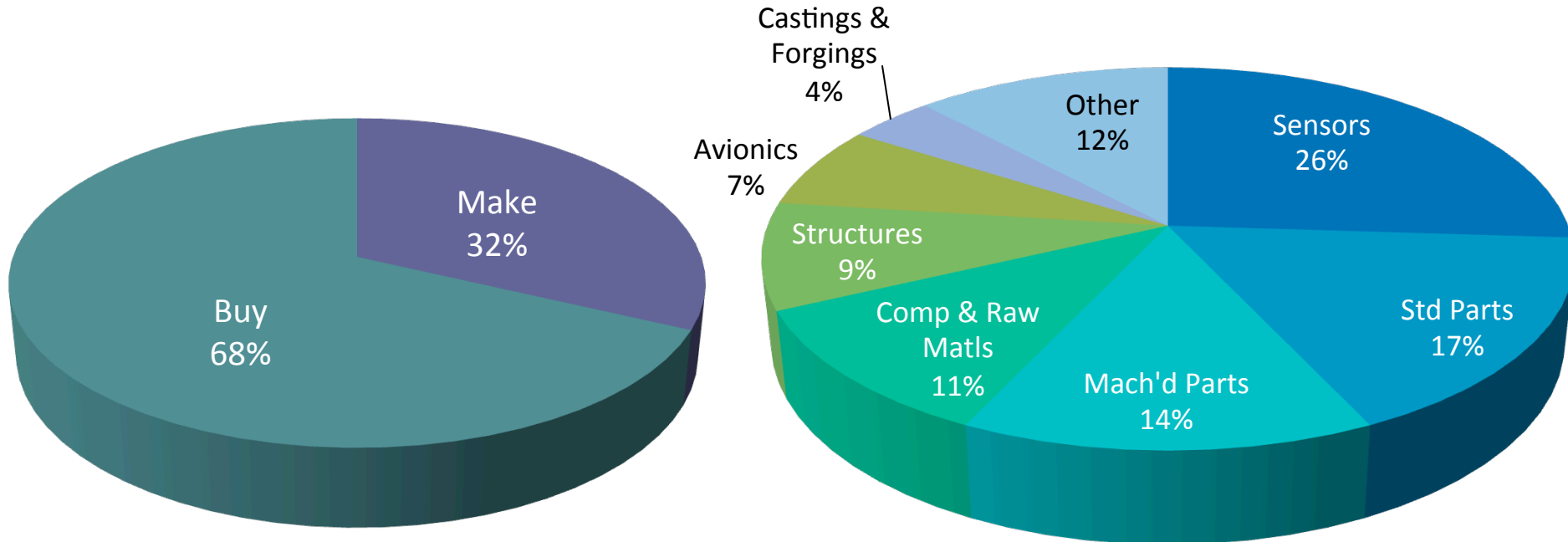
Current Supply Base Environment Under Pressure



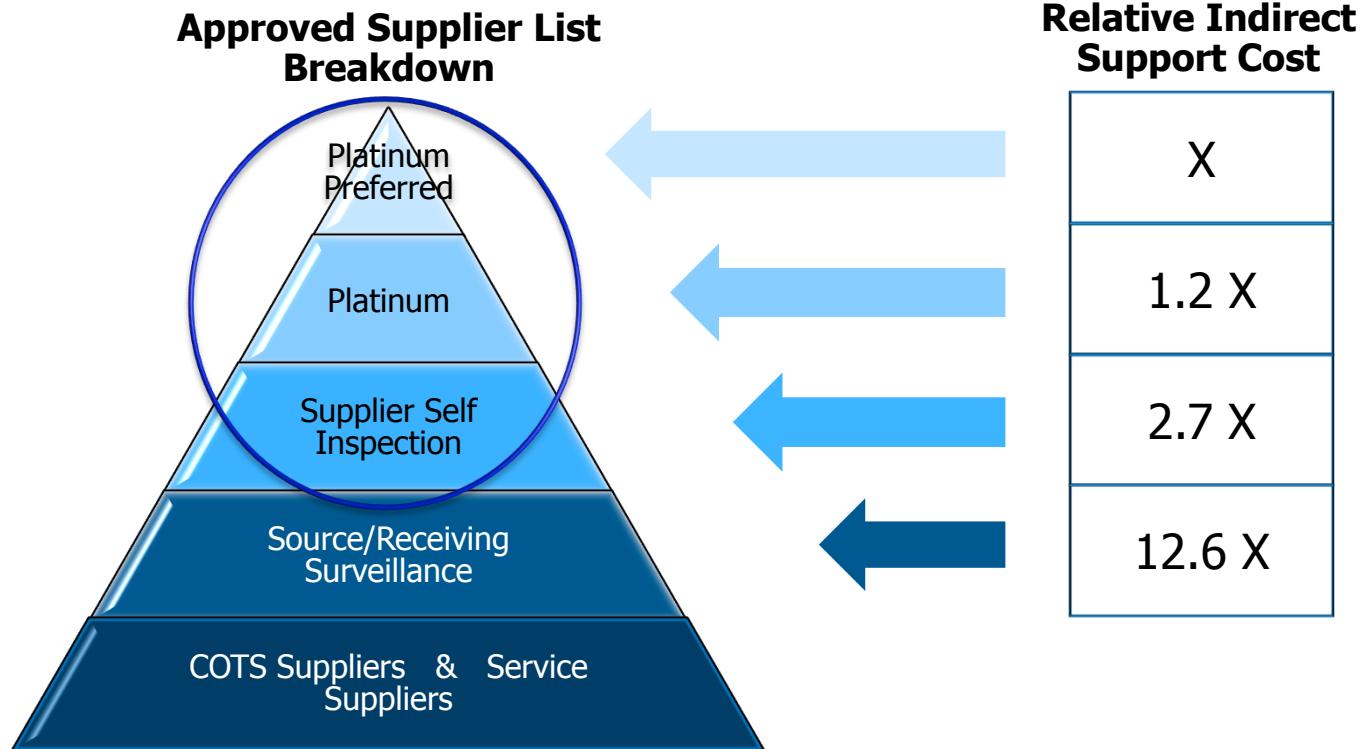
RESULTS
<ul style="list-style-type: none">• Election to focus on commercial• Financial instability• Workforce reductions in both numbers and skill level• Profit margins drop• Quality at risk

Snapshot of NGAS Supply Base

1546 Suppliers



Total Suppliers	1546
Red Suppliers	87
Percentile Red	6%



Aerospace primes have a well developed quality rating system for their supply base

Aerospace primes focus their awards on suppliers that have historically provided high quality products

Supplier Quality Requires Increased Emphasis

- Supplier quality failures are 2nd highest supply chain risk behind volatile orders
 - Up 24% from 2010; additional 21% increase expected in 2012
- Recommended focus on:
 - Supplier involvement in design process
 - Observe supplier production process in real time and facilitate continuous improvement
 - Link supplier quality to broader supplier risk mitigation efforts

Supplier Quality Migrating to Supply Chain
From Pure-Play, Quality Function

NORTHROP GRUMMAN

