

# Defense Mid-Tier Industrial Supply Base: Transformation & Consolidation

## A Case Study

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Reston, VA  
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# Agenda

1. **Defense Transformation**
  - a) Rationale and operational goals
  - b) New war fighting assets
  - c) New procurement practices
  
2. **Consolidation**
  - a) Changing demands
  - b) Consolidation
  
3. **GenMech Aerospace – a case Study**



# 1. Defense Transformation



# Rationale and Operational Goals

## ▪ **Cold War:**

➤ **Threat: Invasion from the Soviet Union (or China)**

➤ **Defense (John Foster Dulles Doctrine)**

- Design: Peace through assured mutual destruction
- Required War Fighting Assets: Forward deployment of massive arsenal of nuclear weapons delivery and detection systems capable of instantaneously destroying an entire nation.

## ▪ **War on Terrorism:**

➤ **Threat: Attacks from terrorists supported by rouge states**

➤ **Defense (Bush Doctrine)**

- Design: Peace through containment of rogue states
- Required War Fighting Assets: Expert information gathering and processing systems combined with precise, mobile, and rapidly deployable conventional munitions.

# Rationale and Operational Goals

- **New threat is the “rogue” state harboring terrorists:**
  - **Afghanistan, Iraq, Syria (?)**
  - **Hidden and hardened targets**
  - **Urban warfare**
  - **Attacks on U.S. with Weapons of Mass Destruction**
    - Chemical (VX, Mustard Gas, etc.)
    - Biological (Anthrax, Small Pox, etc.)
    - Radiological (dirty bombs)
  - **Unstable nations may become hotbed for terrorist activity**
    - Afghanistan
    - Liberia (?)

**The paradigm shift of 9/11**

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# Rationale and Operational Goals

- **U.S. Naval, Air and Ground supremacy is unchallenged**
  - US air combat loss ratios in Afghanistan were not significantly higher than peace time training losses
  - US air combat loss from enemy fire was negligible
- **U.S. ICBM arsenal now provides limited tactical benefit**
  - Nuclear arsenal of limited value in defense against terrorist attack

**U.S. Cold War Era combat equipment remains unsurpassed**

# Rationale and Operational Goals

- **Six Operational Goals for Transformation\***

1. **Protect homeland and bases**

2. **Project power**

3. **Deny sanctuary**

4. **Protect information networks**

5. **C4ISR interoperability**

6. **Unhindered access to space**

*\*As outlined by Secretary Rumsfeld, Annual Report to the President and the Congress, 2002*



# New War Fighting Assets

## ▪ Network Centric Warfare

- **Network sensors, field operatives, decision-makers and war fighters with shared awareness, increased speed of command, higher tempo operations, greater lethality and increased survivability**
- **Self-synchronization**
- **Translates information superiority into combat supremacy by linking knowledgeable entities in the battle space**

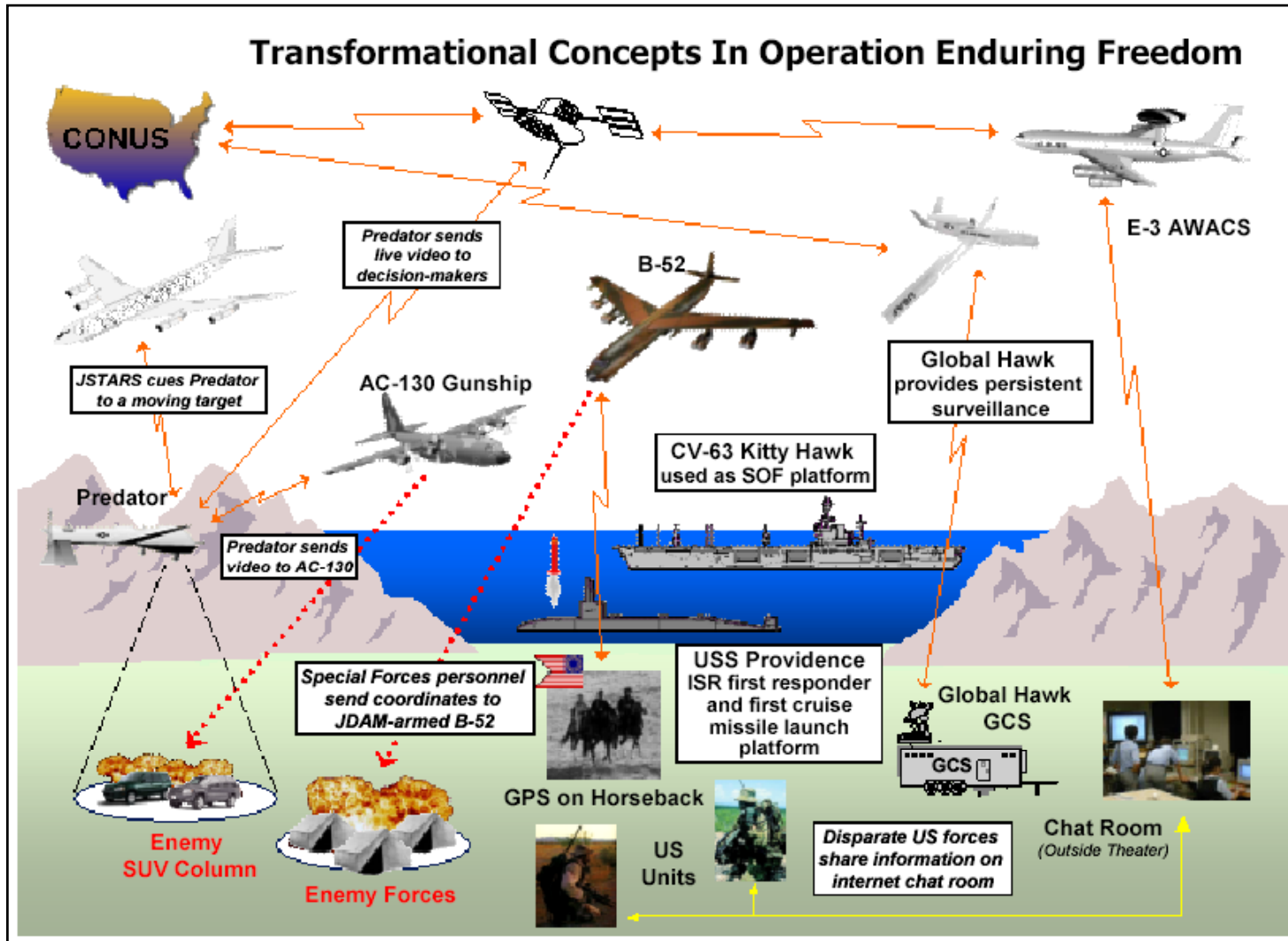
“Just 20 or 30 years ago, the airplane was the thing or the ship was the thing. Now those things are just nodes in the network, and the network is the thing.”

Stuart McCutchan, Publisher, DM&A,  
*Washington Post*, May 27, 2003.

“This is an evolving market because the technology is very dynamic. It is definitely a focus area for us as we execute our growth strategy.”

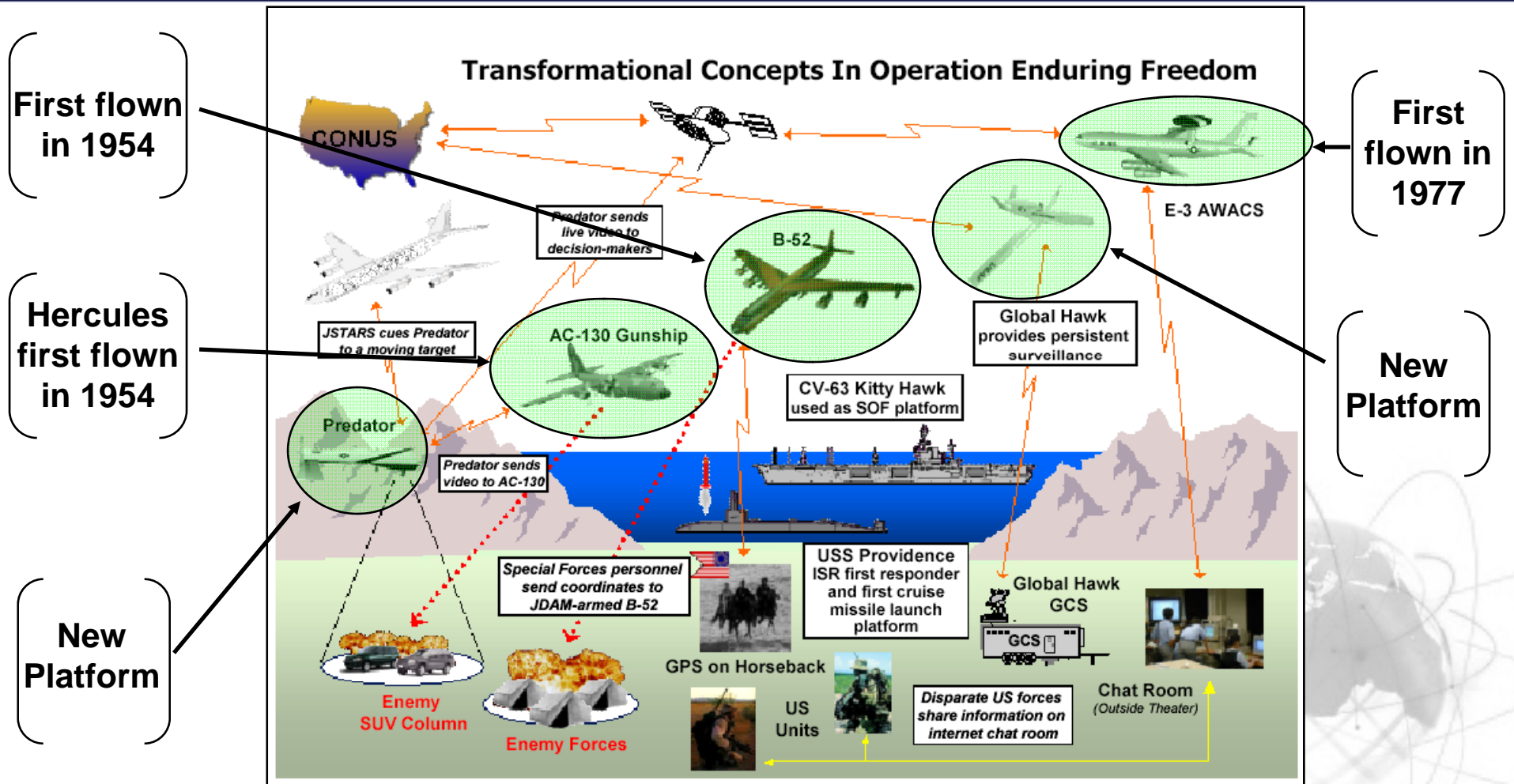
Jeffrey Maclauchlan, VP of Financial  
Strategies, Lockheed Martin.

# New War Fighting Assets—The Big Picture



Source: ODUSD (Industrial Policy)

# New War Fighting Assets—A Few Examples



Source: ODUSD (Industrial Policy); Alderman & Company analysis

# New War Fighting Assets

- **Next Generation: Future Combat System (FCS) Program**
  - **Network links 18 systems together: soldiers linked with manned and unmanned ground and air platforms and sensors**
  - **“...expected to generate billions of dollars in contracts during the next two decades...”** (*National Defense Magazine*, Sept. 2002)
  - **Prime Contractor: Boeing and SAIC**
    - \$14.9 billion through 2010
    - Boeing plans to add 400-500 engineers and program managers devoted to program
    - Awarded 46 sub-contracts in 2002, including BAE Systems, General Dynamics, Honeywell, Lockheed Martin, Northrop-Grumman, Raytheon Company, GM Defense and UDLP

**Massive Investments in Secure Networking**

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# New War Fighting Assets

- **Upgrade: Making old platforms more lethal**

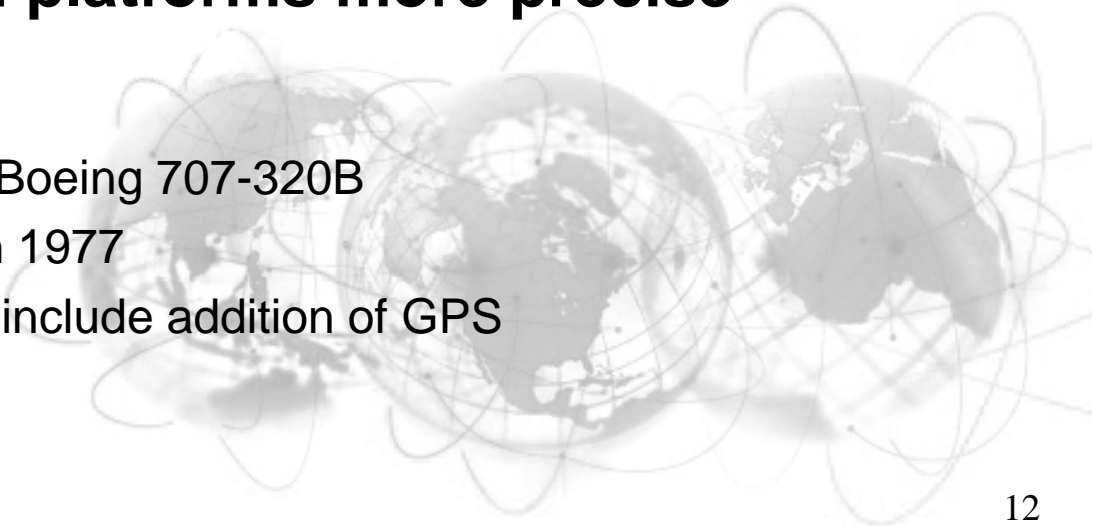
- **AC-130**

- Based on C-130
- Combat history dates to Vietnam
- Also primary role in Panama 1989

- **Upgrade: Making old platforms more precise**

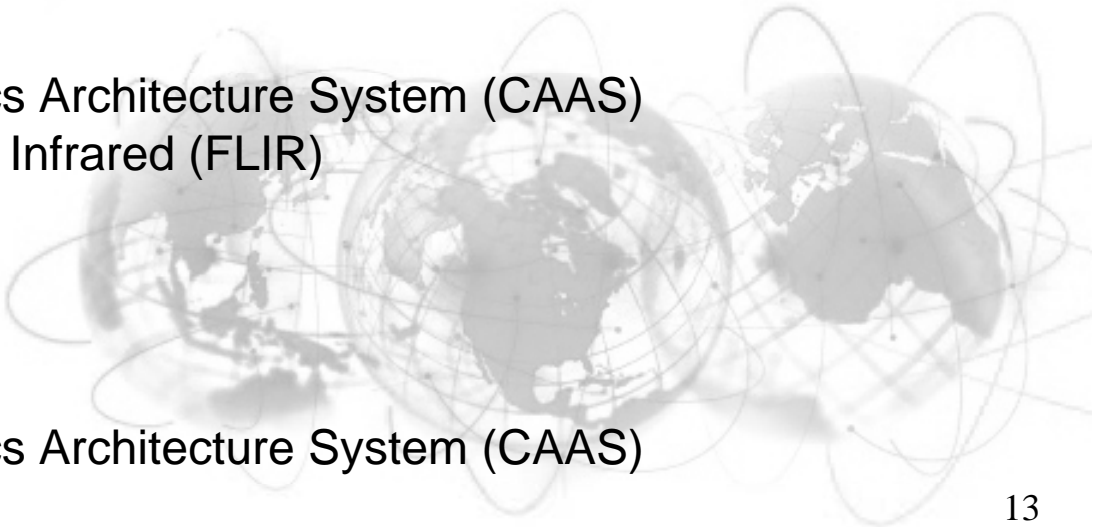
- **E-3 AWACS**

- Militarized version of Boeing 707-320B
- First E-3's received in 1977
- Recent modifications include addition of GPS



# New War Fighting Assets

- **Upgrade: Making “dumb” equipment “smarter”**
  - **C130 Avionics Modernization Program (AMP)**
    - Avionics upgrades (500 aircraft)
      - Six digital displays and new flight management system
      - Boeing chosen to design, develop, **integrate**, test, fabricate and install the new system
  - **CH-47 Chinook**
    - First delivered 1962
    - Avionics upgrades
      - Common Avionics Architecture System (CAAS)
      - Forward Looking Infrared (FLIR)
  - **UH-60 Black Hawk**
    - First delivered 1974
    - Avionics upgrades
      - Common Avionics Architecture System (CAAS)
      - Multi-node radar



# New War Fighting Assets

## ▪ The New Platforms

### ➤ Predator (UAV)

- Medium altitude surveillance and reconnaissance
- Flown by two operators from ground control station
- Packed into six containers for quick deployment worldwide
- Will carry Hellfire missiles in the future

### ➤ Global Hawk (UAV)

- High altitude surveillance and reconnaissance
- Relay ground imagery to battlefield commanders in near-real time
- Image area the size of Illinois in 24 hours

### ➤ Stryker (Interim Attack Vehicle)

- Lightweight for mobility at only 19 tons (air transport)

# New War Fighting Assets

## ▪ Precision guidance munitions

### ➤ JDAM

- Desert Storm highlighted lack of air-to-surface weaponry in adverse weather conditions
- Guidance tail kit attached to old MK83 and MK84 warheads (“dumb bombs”)
- GPS, aircraft systems provide velocity vectors
- Capable of hitting targets within 13 meter circular area
- Dropped through clouds, rain and snow

### ➤ Patriot Missile

- First used in 1981 as “dumb” missile
- Defensive weapon in Gulf War
  - Software failure led to deaths of 28 U.S. soldiers
- Used in Iraq with mixed results
  - Shot down U.S. Navy plane

# New Procurement Practices

- **Faster**

- **“The legacy of obsolescent institutional...processes and organizations does not merely create unnecessary costs, it imposes an unacceptable burden on the national defense...[W]e are...disarming ourselves by our failure to reform the acquisition processes and to shed unneeded organizations and facilities...I will examine...omnibus approaches to changing the statutory and regulatory basis for the most significant obstacles to reform.”** (Sec. Rumsfeld, Senate confirmation hearing, January 2001.)
- **“Our forces need to be flexible, light and agile, so they can respond quickly and deal with surprise...[T]he men and women who support them in the Department of Defense...also need flexibility, so that they can move money, shift people, design and deploy new weapons more rapidly and respond to the continuing changes in our security environment.”** (Sec. Rumsfeld, statement before the Senate Appropriations Subcommittee, May 14, 2003.)

# New Procurement Practices

## ▪ **Faster**

### ➤ **Spiral Development**

- “...a desired capability is identified, but...end-state requirements are not known at program initiation.”
- “Requirements refined through demonstration and risk management...”
- “...continuous user feedback; and each increment provides the user the best possible capability.”
- “...requirements for future increments depend on feedback from users and technology maturation.”
- Place products onto the field that don't yet offer a perfect solution.
- Emphasis is on speed--avoiding the delay required to gain 100% compliance with all requirements.

*Source: DoD Instruction 5000.2 3.3.2.1, issued by Under Sec. of Defense Pete Aldridge*

**Emphasis is on speed**

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# New Procurement Practices

- **Smarter**

- **"We have reduced management and headquarters staffs by 11 percent, streamlined the acquisition process by eliminating hundreds of pages of unnecessary rules and red tape, and begun implementing a new business management structure."** (Sec. Rumsfeld, Statement before the Senate Appropriations Subcommittee, May 14, 2003)
- **"...embrace 'best value' procurement. There has been considerable progress in allowing more discretion among procurement officers to choose 'life-cycle' costs over the 'lowest bidder' approach."** (Vance Coffman, "Reinventing the Arsenal of Democracy," *Defense Daily*, March, 2001)

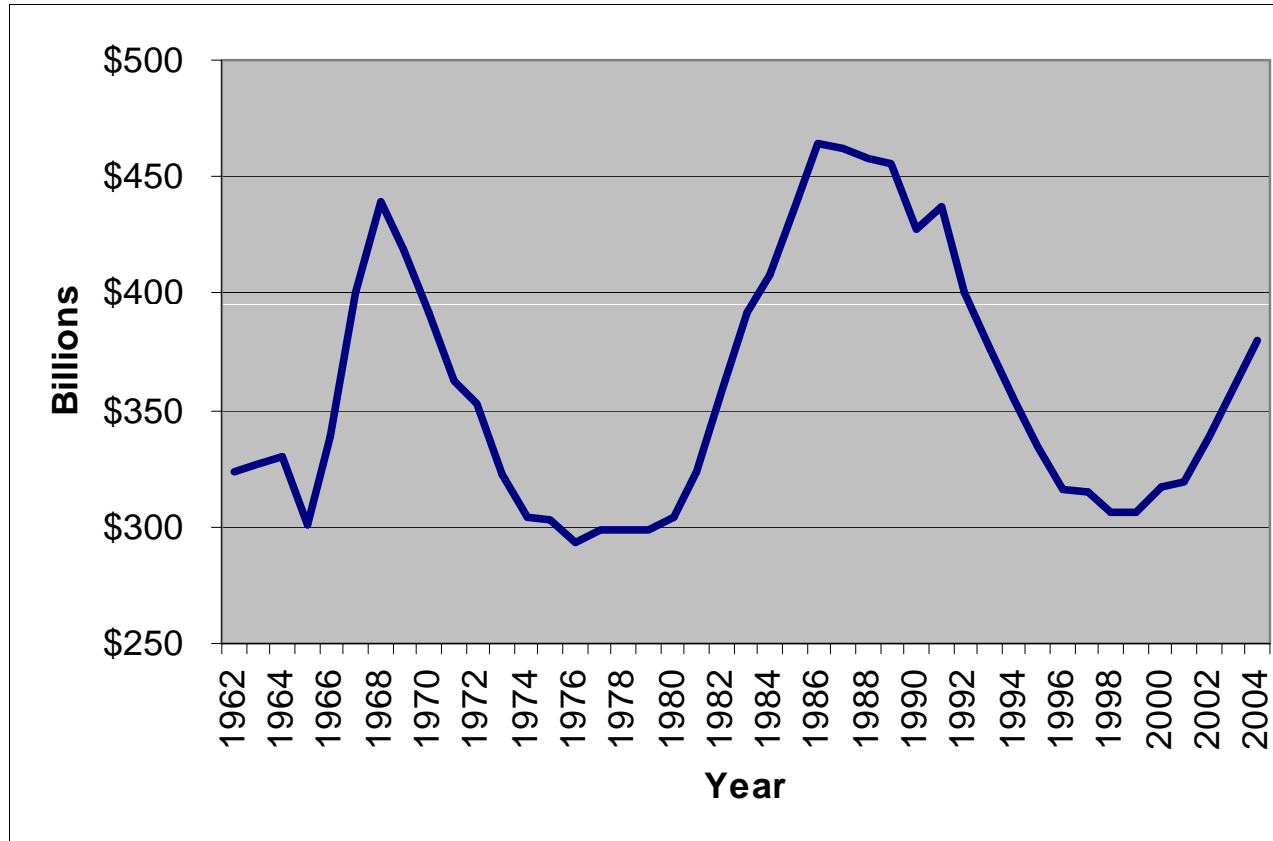
# New Procurement Practices

- **Smarter**

- **Seeking "expanded authority for competitive outsourcing so that we can get military personnel out of nonmilitary tasks and back into the field."** (Sec. Rumsfeld, "Defense for the 21<sup>st</sup> Century," *Washington Post*, May 22, 2003 )
  - 320,000 uniformed servicemen perform non-military jobs
- **"I am pleased to see that DoD is moving towards commercial practices wherever possible: putting emphasis on past performance when awarding contracts...However, DoD needs to redouble its efforts in these critical reform areas."** (Vance Coffman, "Reinventing the Arsenal of Democracy," *Defense Daily*, March 2001)

# New Procurement Practices

## Defense Spending Since 1962



**24% increase since 1999**

## 2. Consolidation



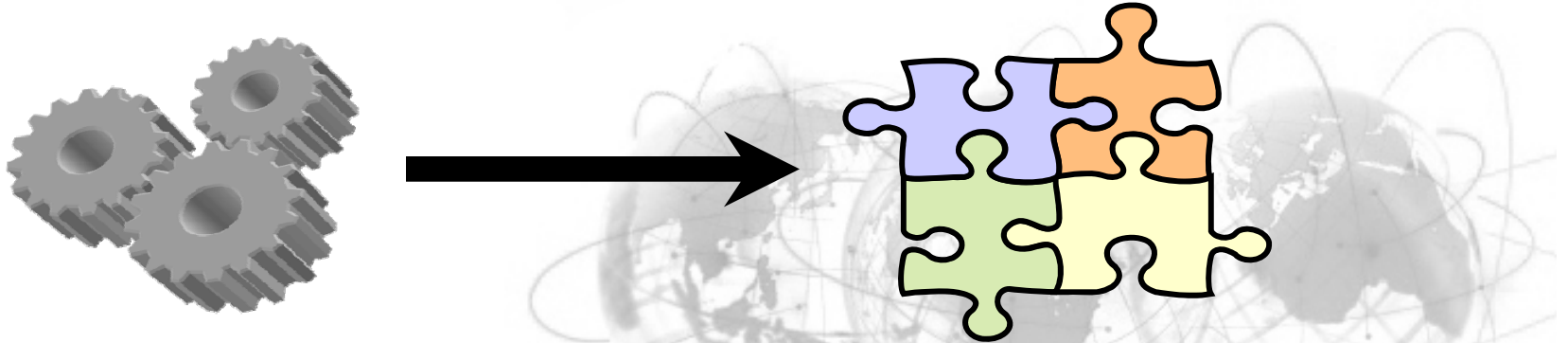
# Intense Margin Pressure in Mid-Tier

- **The Obvious: Defense spending is up. But mid-tier suppliers continue to see intense margin pressure.**
- **The Complex: Dollars are being spent on selected programs that meet the current threat.**
  - **Old Generation programs are being cut**
    - Army Crusader Artillery Program
      - Cancelled on May 29, 2002
      - Too heavy (60 tons) for quick transport
      - Designed for heavy land battles (a Cold War strategy)
      - Money reallocated to advanced technologies



# Integrators Control Programs

- **New threats, new assets and new procurement practices demand new changes in the supply chain**
  - Prime defense contractors
    - No longer platform specialists, but integrators
    - Now deliver systems/functionality
    - Control programs and win higher margin activities
- **Defense companies are no longer just parts suppliers.**



**The DoD wants suppliers to put the puzzle pieces together**

# Integrators Control the Value Chain

## ▪ **Systems vs. Parts**

- **Primes are expanding integration capabilities organically and through acquisitions.**
- **Primes are demanding better products and service as well as price reductions from their own suppliers.**
- **Like DoD, the primes also want “system solutions”**
  - Not just parts
  - Higher level assemblies
  - Integrated subsystems
  - Plug and play components

**Suppliers must offer integrated solutions to maintain healthy margins**

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# Margin Pressure is driving Consolidation

## ▪ **Defense industry consolidation**

### ➤ **Started in 1993 at the prime level**

- Substantial reductions in defense spending due to need to reduce capacity and fixed overhead in the supply chain
- The “Last Supper”

### ➤ **Now in the heart of the Mid-Tier**

- Defense transformation and the emphasis on systems integration
  - Selling parts is no longer viable – margins are simply too low
  - System integrators are demanding subsystems from their suppliers
  - The supply chain is shrinking
  - Mid-tier Suppliers need a broader and deeper capabilities to meet the demands of the primes/integrators and maintain healthy margins

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# Consolidation

## ■ Sample of Mid-Tier Acquisitions Since 2000

<b>L-3 Communications</b>			
LNR TrexCom, EMP TrexCom Core Software Technology, Inc. MPRI Final Analysis (equity) Coleman Research Corp. ATK Integrated Defense Co. (div) KDI Precision Products, Inc. EER Systems Corp.	Software Technical Systems, Inc. Datron Systems, Inc. EnvisionNet Computer Services Emergent Government Services SY Technology, Inc. Bulova Technologies, LLC (div) Spar Aerospace Ltd. PerkinElmer, Inc.(division)	Telos Corp. (div) ComCept, Inc. Technology, Management and Analysis Corp. International Microwave Corp. Millivision, Inc. (partial) Westwood Corp. Wescam Ltd. Ship Analytics, Inc.	Haven Automation Ltd. Goodrich Avionics Systems Aeromet, Inc.
<b>United Technologies Corp.</b>			
LG Otis Elevator Co. (partial) Cade Industries, Inc. Braathens ASA (div) Space Power, Inc. Specialty Equipment Cos. Shollmier Distributing, Inc.	Adroit Systems, Inc. Claverham Group Ltd. Turbotech Repairs, Inc. Climatic Corp. Caribe Aviation, Inc. Andrews Distributing Co.	Orbital Sciences Corp. (div) Altair Avionics Corp. Magnaghi Aerospace S.p.A. (div) Derco Aerospace, Inc. WSK PZL Rzeszow S.A. (85%) Champion Compressors	Perm Motorbuilding Plant (equity) Helitech Pty., Ltd.(div)
<b>Northrop Grumman</b>			
DaimlerChrysler Aerospace AG Navia Aviation AS Alvis PLC (div)	Comptek Research, Inc. EADS Aerofram Services, LLC Sterling Software, Inc. (div)	Federal Data Corp. Litton Industries, Inc. Mannesmann Dematic Postal	GenCorp, Inc. (div) HDW AG (equity) Fibersense Technology Corp.

# Case Study

## ▪ Mid-Tier Transactions: Case Study

### ➤ **SPX Acquisition of GenMech Aerospace**

- \$14 million annual revenues
- Flight critical rotorhead components
- Complex components and higher level assemblies for fixed and rotary wing aircraft

\*Alderman & Company acted as exclusive financial advisor to GenMech Aerospace on this transaction.

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## Case Study

- Why was GenMech sold?
  - Did Transformation play a role?
  - Is our Mid-Tier aerospace and defense industrial base at risk of economic decline?

## Case Study

- How was GenMech sold?
  - Why was this method selected?
  - What were the greatest hurdles?



## Case Study

- How can Mid-Tier suppliers create shareholder value in light of the current wave of defense transformation and industry consolidation?



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