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Continuous Process Improvement t
Achieve Logistics Transformation

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By

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The Issue at Hand

1. Why do we need to continually improve an existing supply chain?
   - Requirements change (unforeseen)
   - Dynamics in supply base
2. Why are we concerned about the supply base?
   - Increased subcontract effort by OEM
   - Suppliers must function in a global market
     - DoD smaller percentage of business base
     - Cost of working on Government projects
   - Numerous single point failures

What Does a Supply Chain Look Like?

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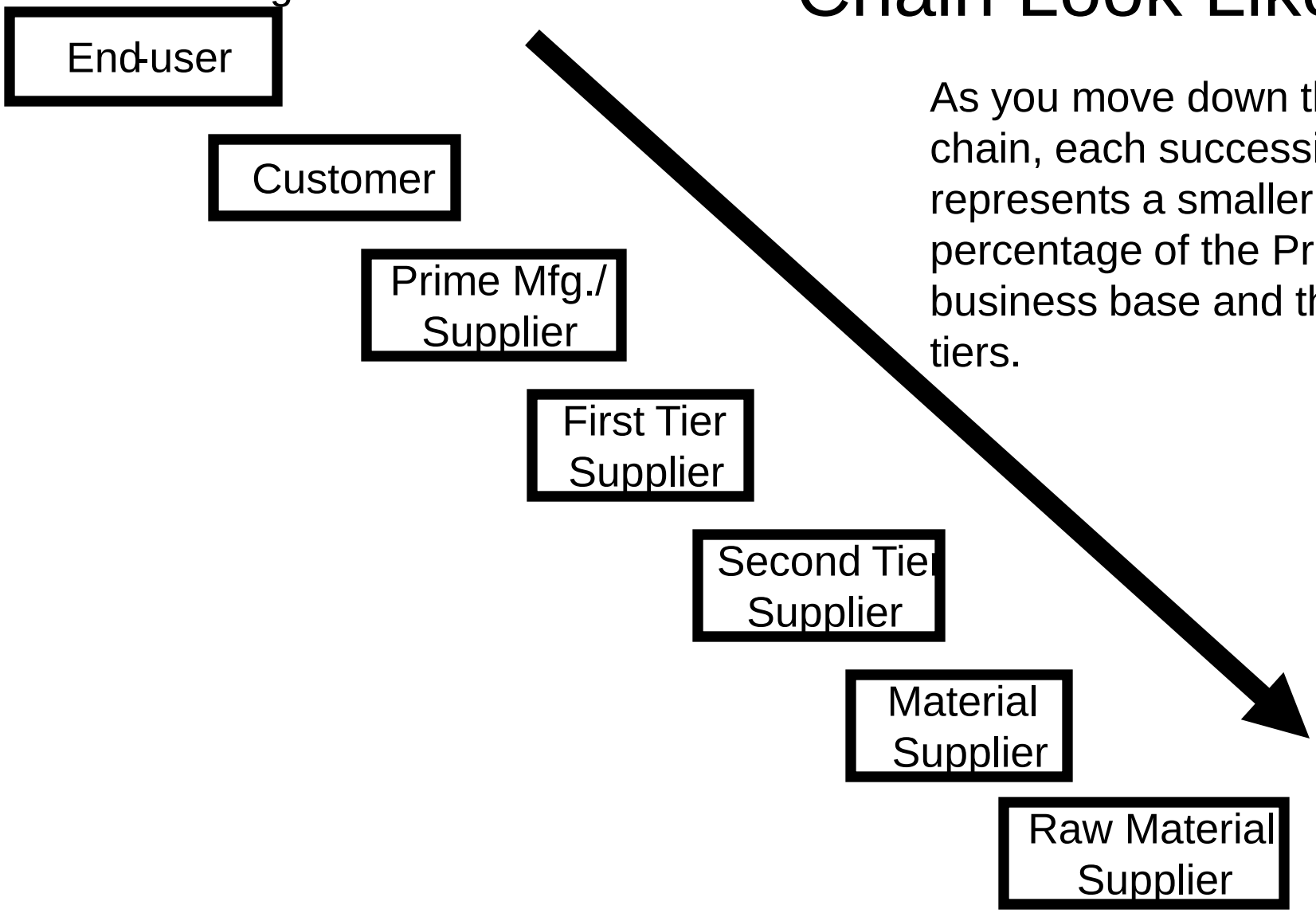

As you move down the supp chain, each successive tier represents a smaller percentage of the Prime's ma business base and the previ tiers.

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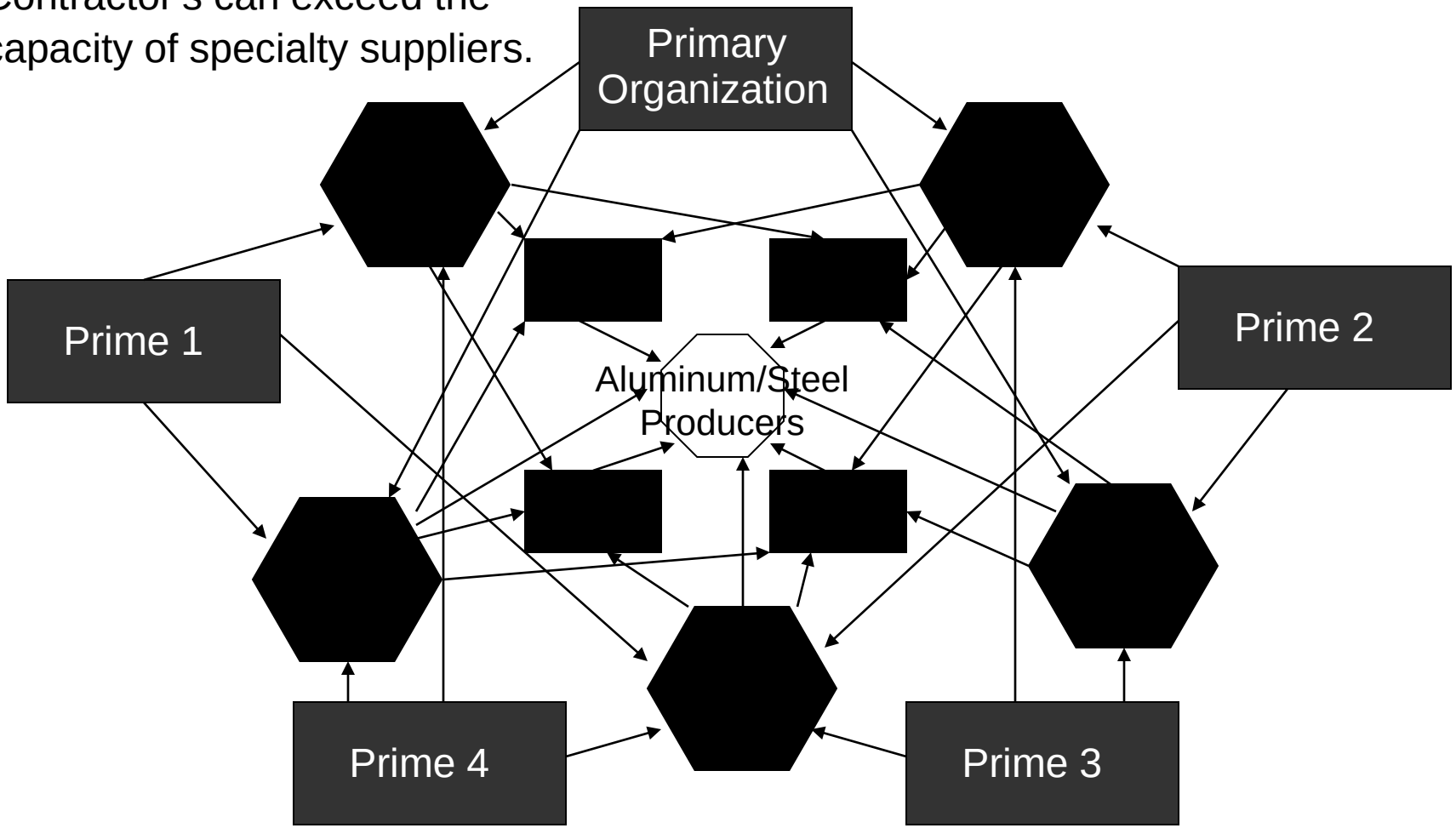
Limited providers place stress upon the Aerospace Supply Chain

Demand from multiple Prime Contractor's can exceed the capacity of specialty suppliers.



Steps in Designing the Appropriate Supply Chain for DOD Aviation

- Mapping the Existing Supply chain
- Capturing the Information and Funding Supply Chains
- Identifying and Removing Production and Administrative Constraints and Bottlenecks
  - Value Stream Mapping
  - Enterprise Value Stream Mapping
  - Kaizen Events
- Determining Optimal Inventory Strategies

Example Supply Chain Map

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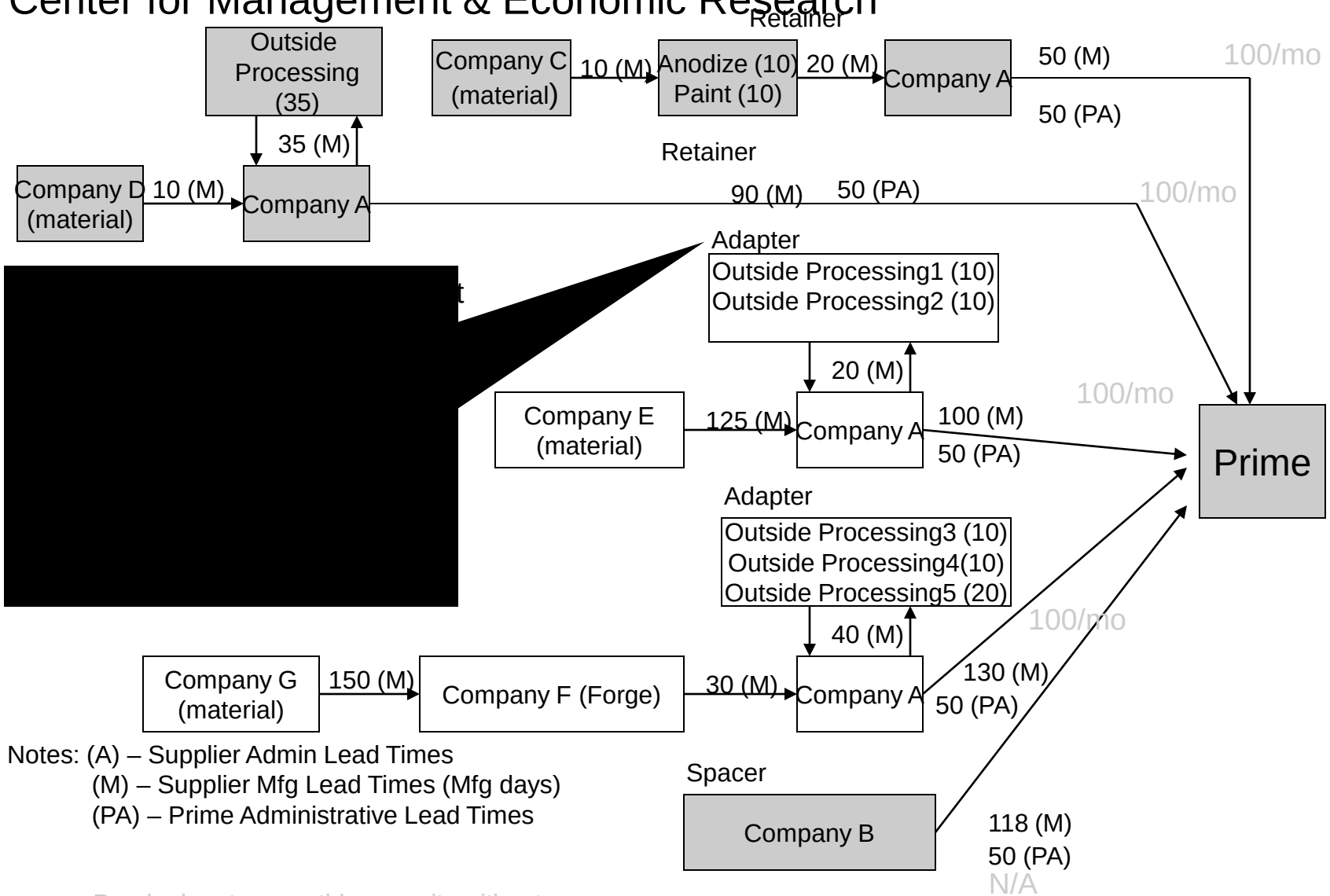

Notes: (A) – Supplier Admin Lead Times
(M) – Supplier Mfg Lead Times (Mfg days)
(PA) – Prime Administrative Lead Times

Purple denotes monthly capacity without impact to normal through put

Current State Enterprise VSM

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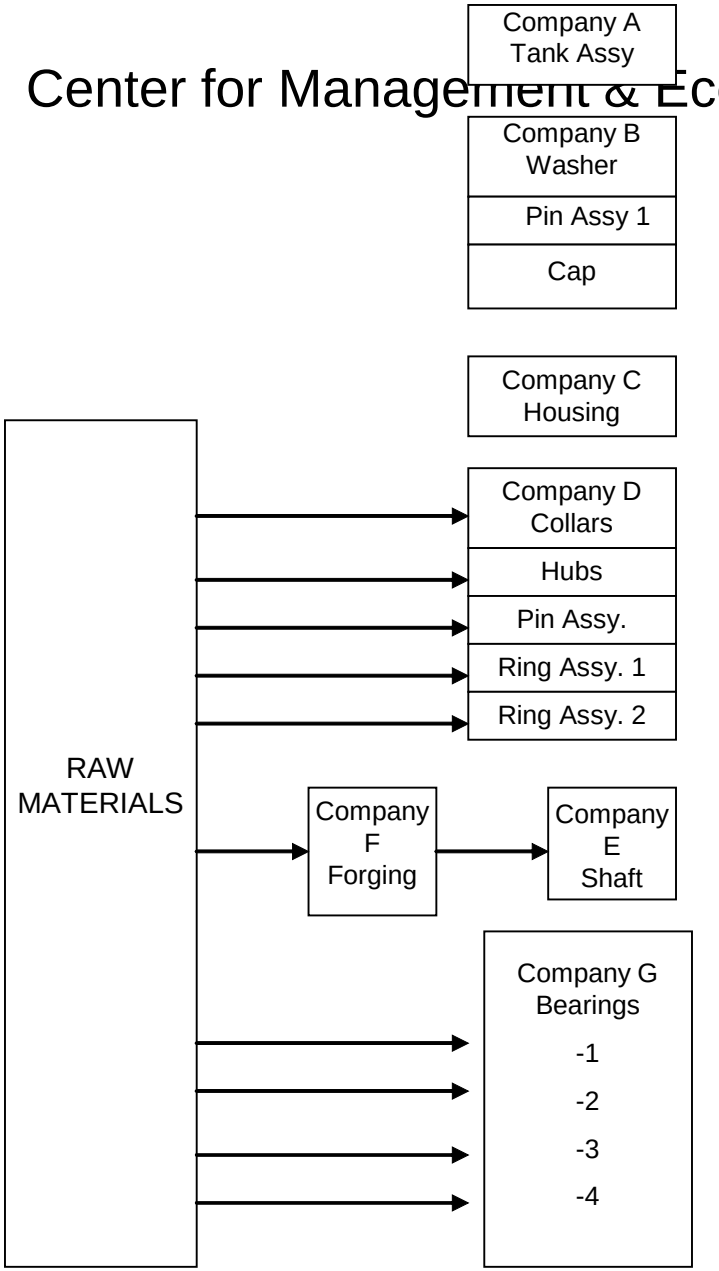

A final thought – implementing continuous improvement in the DoD environment

- Roadblocks?
  - Legislation
  - Policies and Procedures
  - Folklore
- Culture?
  - Interpretation of roadblocks
  - “Not invented here” mentality?
  - Proactive versus reactive

Contact Information

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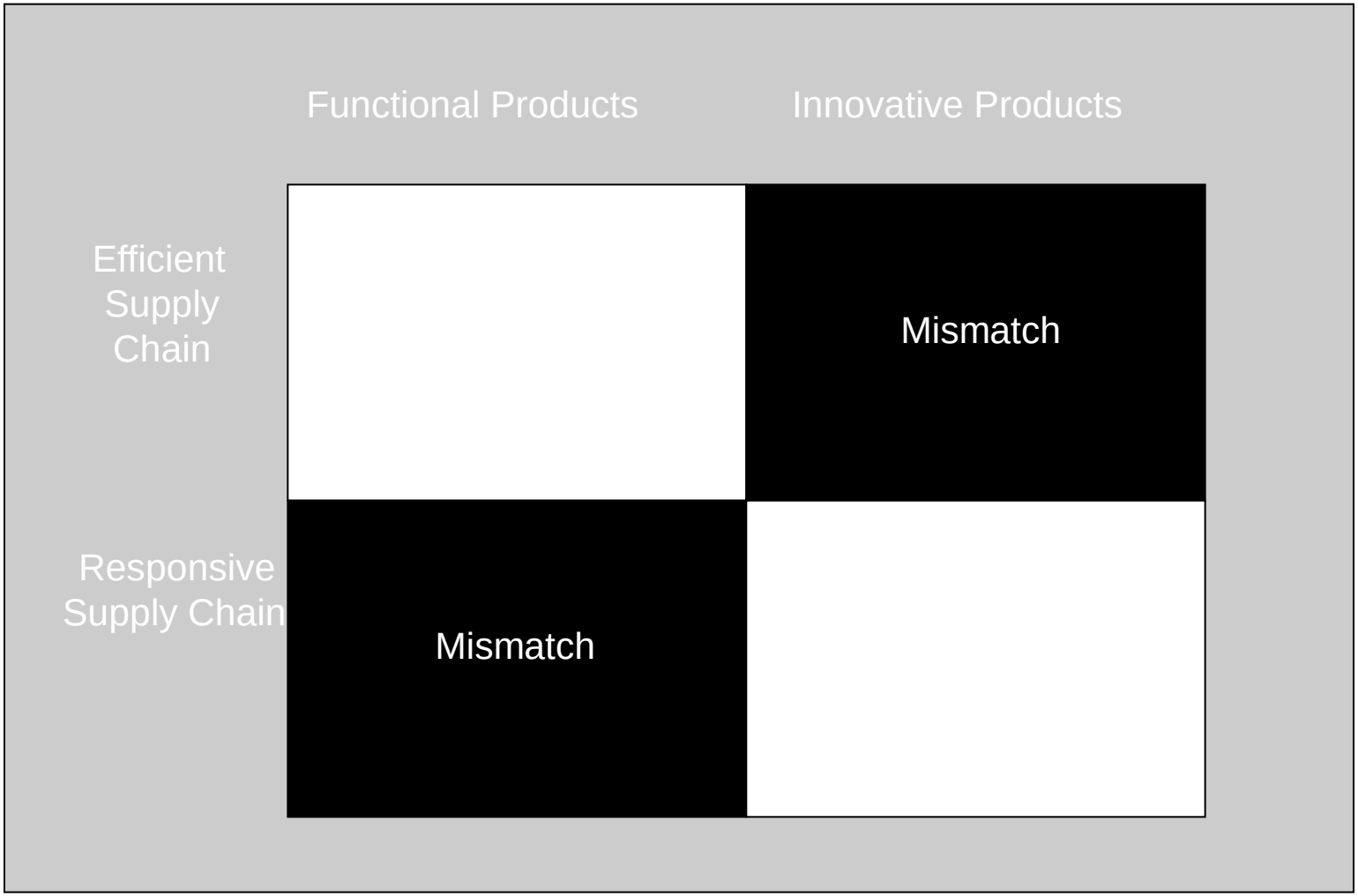

So why not let the OEM design the supply chain in a vacuum? It's part of their contract?

1. Approximately 70% of the parts assembled by the OEM are purchased/manufactured from suppliers
2. Recent research has proven that the OEM and their suppliers do not necessarily agree on the product characteristics to design the supply chain(s)

Source: MIT Forum for Supply Chain Innovation

Problems that have Plagued the Aerospace Indu

- Long and growing lead times (raw material driver)
- Few long term contracts exist in the supply chain
- Essentially no visibility of demand in the supply chain
- Continuous improvement programs are focused on localized manufacturing processes
- Many issues cut across multiple aerospace platforms
- Reduction in the aerospace industrial base

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Best Practices/Strategic Areas of Research

- Risk Management in Global Supply Chains
  - Supply Risks
  - Demand Risks
  - Network Design: Manufacturing & Distribution Centers and Customer Location
  - Development of Mitigation Strategies
- Environmental Issues in Supply Chains

Source: MIT Forum for Supply Chain Innovation

Integration and Adaptability Via Structure of Contracts

- Balance long term contracts with flexibility and adaptability;
- Incorporate provisions for volatile energy and commodity prices
  - Reduce risk to small businesses with long term contracts
  - Reduce risk of late deliveries due to funding
- Delivery Performance Incentives