

# Fasteners Breakout Session

- Remaining Needs
  - Stakeholder buy-in
  - Exposure data
  - Alternatives Development
  - Alternatives Testing and Data
  - Implementation
  - Education
  - Whitepaper

# Fasteners Breakout Session

- Drivers
  - Environmental/OSH regulations
  - Diminishing Sources
  - Changes in industry
- Barriers
  - Stakeholder buy-in
  - Everybody's problem, nobody's responsibility
  - Cost
  - Not one solution, but a family of solutions

# Fasteners Breakout Session

- Adoption of Alternatives
  - Individual programs have adopted alternatives (F35, Stryker)
  - General program needed, doesn't exist
  - "Family of Alternatives"
    - Fasteners are common
    - No known alternative good for every situation
  - Cost

# Fasteners Breakout Session

- Requirements
  - NLOS
  - Complex shapes
  - Bulk processes
  - Fastener specific properties
- Worker Exposure
  - Process
  - Maintenance
    - Data needed

# Fasteners Breakout Session

- Current usage
  - Every program and system uses cadmium plated or hexavalent chromium coated steel fasteners