
**SUBJECTS OF THE THREE RAND STUDIES ON
INDUSTRY INITIATIVE DESIGNED TO REDUCE THE
COST OF PRODUCING MILITARY AIRCRAFT**

MR-1370-AF, *Military Airframe Costs: The Effects of Advanced Materials and Manufacturing Processes*, by Obaid Younossi, Michael Kennedy, and John C. Graser (2001)

Automated fiber placement

Computer-aided design/computer-aided manufacturing
(CAD/CAM)

Electron beam (E-beam) curing

Filament winding

Infrared thermography

High-speed machining

High-performance machining

Hot isostatic press (HIP) investment casting

Laser forming of titanium

Laser ply alignment

Laser shearography

Laser ultrasonics

Optical laser ply alignment
Out-of-autoclave curing
Pultrusion
Resin film infusion
Resin transfer molding
Statistical process control
Stereolithography
Stitched resin film infusion
Superplastic forming/diffusion bonding
Unitization of aircraft structure
Ultrasonic inspection
Vacuum-assisted resin transfer molding

MR-1329-AF, *An Overview of Acquisition Reform Cost Savings Estimates*, by Mark A. Lorell and John C. Graser (2001)

Civil-military integration
Commercial-like programs
Commercial insertion
Commercial off-the-shelf (COTS) technology
Contractor configuration control
Cost as an independent variable (CAIV)
Defense acquisition pilot programs (DAPPs)
Federal Acquisition Reform Act (FARA)
Federal Acquisition Streamlining Act (FASA)
Integrated product teams

Military specification (mil spec) reform

“Must-cost” targets

Multiyear procurement

Other transaction authority (OTA)

Procurement price commitment curve

Regulatory and oversight burden reductions

Single-process initiative (SPI)

MR-1325-AF, *Military Airframe Acquisition Costs: The Effects of Lean Manufacturing*, by Cynthia R. Cook and John C. Graser (2001)

Cellular manufacturing

Computer-aided design/computer-aided manufacturing
(CAD/CAM)

Continuous flow production

Design for manufacturing and assembly (DFMA)

Electronic data interchange (EDI)

Electronic work instructions (EWI)

Enterprise resource planning (ERP)

First-time quality

Flexible tooling

Integrated product teams

Just-in-time (JIT) delivery

Kaizen events

Kitting of parts or tools

Lean Aerospace Initiative (LAI)

Lean enablers

Lean human resource management (HRM)

Lean pilot projects

Operator self-inspection

Production cost reduction plans (PCRPs)

Purchasing and supplier management (PSM)

Pull production

Single-piece flow production

Six-sigma quality

Six "S's" of housekeeping

Statistical process control (SPC)

Strategic sourcing agreements

Takt time

Target costing

Three-dimensional (3D) design systems

Total Productive Maintenance (TPM)

Unitization/part count reduction

Visual manufacturing controls (*Kanban*)

Value (cost) stream analysis