

JSF

JOINT STRIKE FIGHTER

the next generation strike fighter



F-35 Lightning II

John Baranowski, Director, Air Systems Logistics F-35 JPO

8 November 2006

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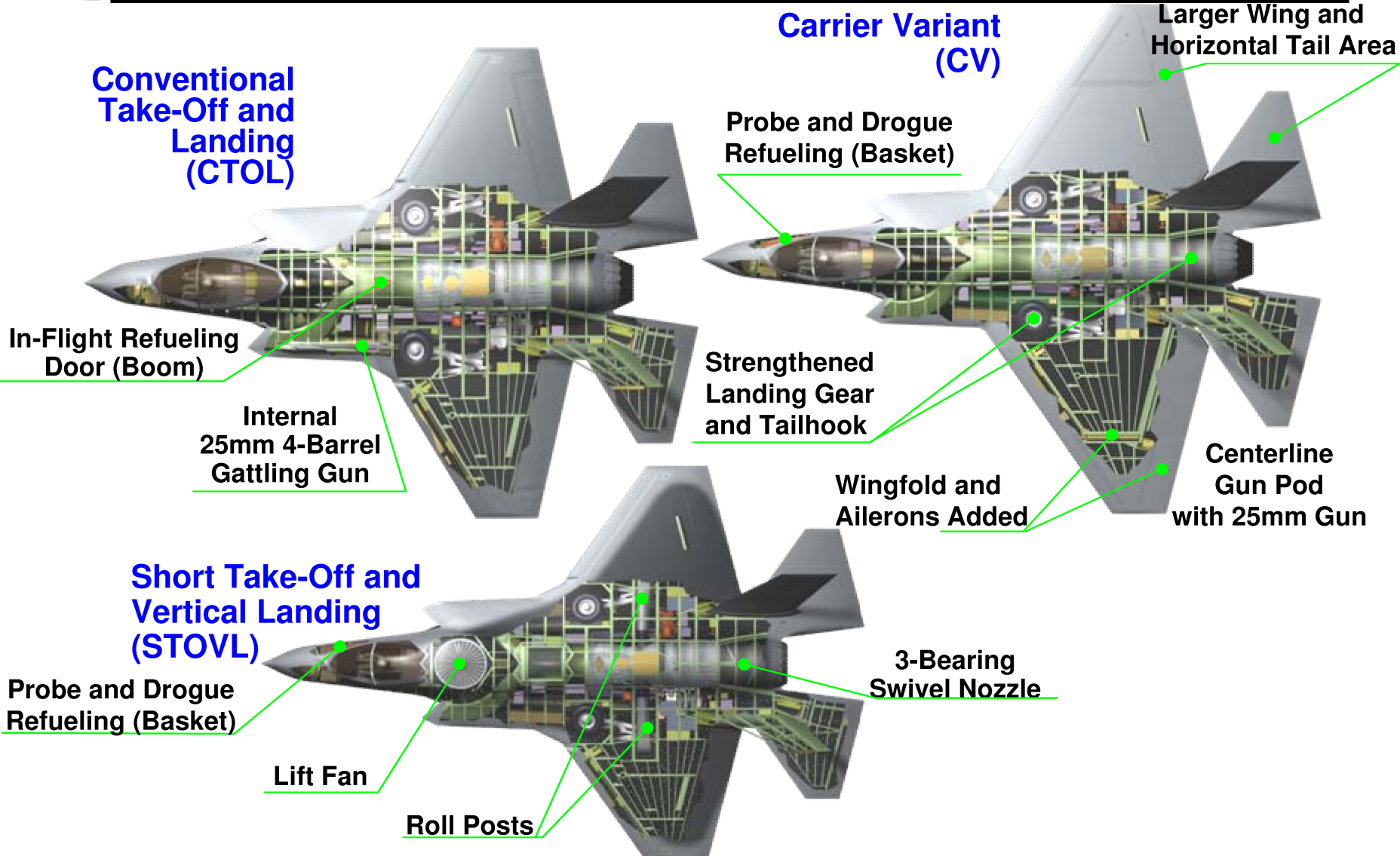
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F-35 Family Of Aircraft

One Program – Three Variants

Meeting Service and International Needs



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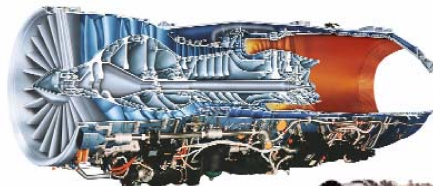
F-35 Engine Interchangeability



CTOL



- **Physically and Functionally** Interchangeable
- Any Aircraft Able to Use Any Engine
- Common JSF Autonomic Logistics System Interfaces



PRATT & WHITNEY F135

GE ROLLS-ROYCE
Fighter Engine Team F136



CV

STOVL



GE Rolls-Royce
Fighter Engine Team

COOPETITION

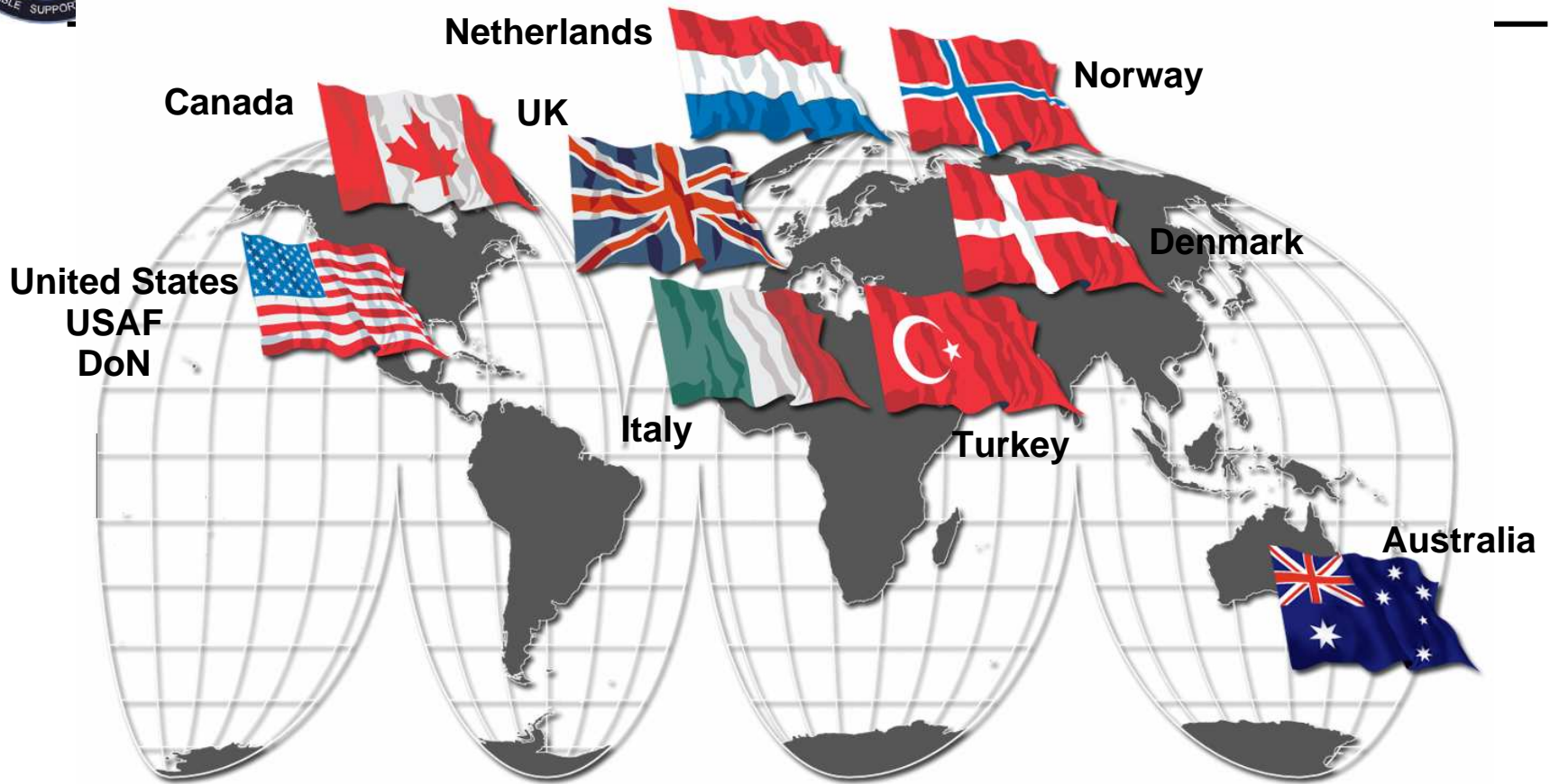
JSF Engines - - Common Core for Aircraft Variants, Competition in Production

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Service & International Needs



- **USAF:** Multi-role (primary air-to-ground) fighter to replace F-16 & A-10 & to complement F/A-22
- **USMC:** Multi-role, short takeoff, vertical landing strike fighter to replace AV-8B & F/A-18C/D
- **USN:** Multi-role strike fighter to complement the F/A-18E/F
- **UK (RN and RAF):** Supersonic replacement for Sea Harrier and GR-7

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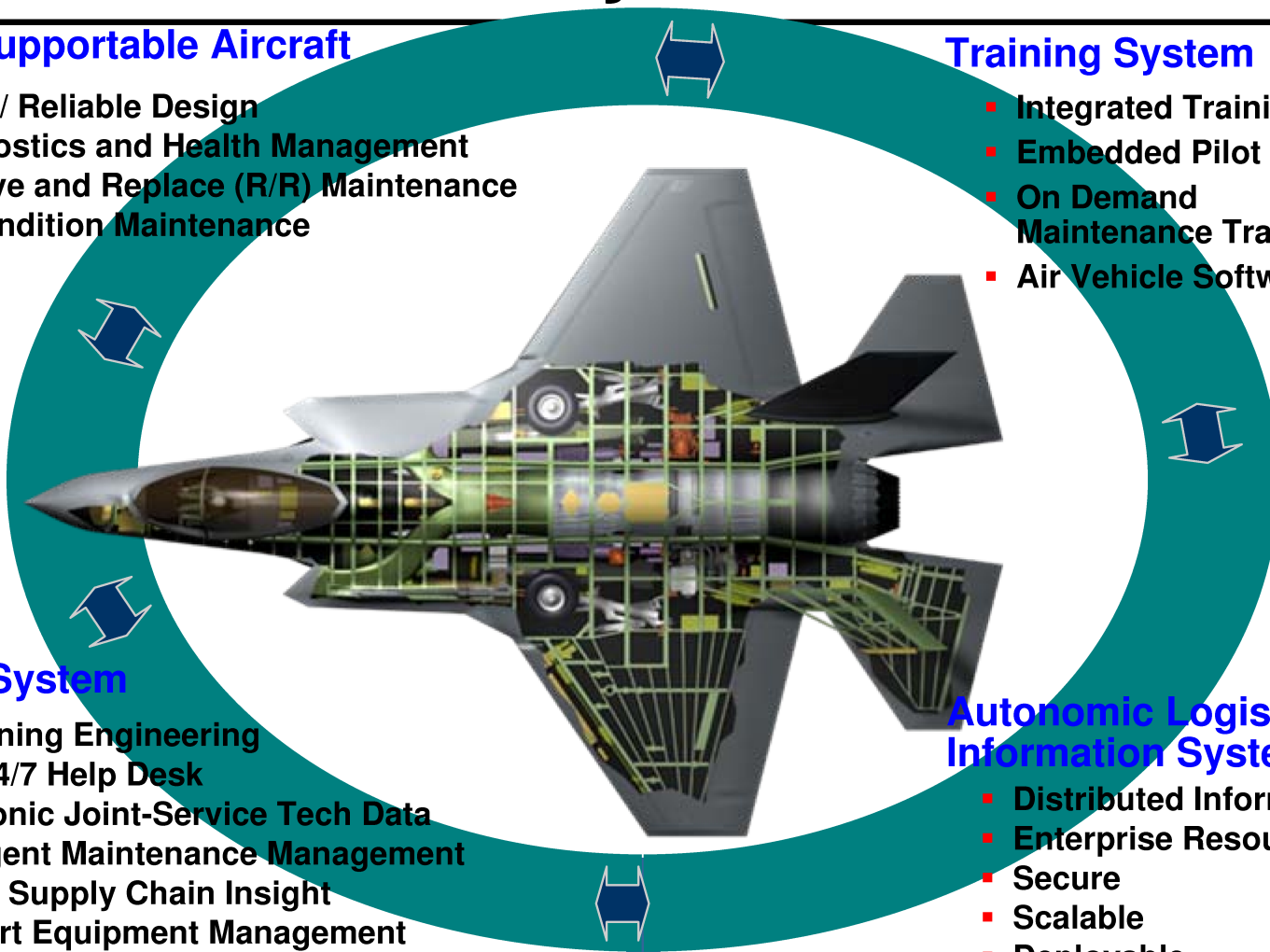
F-35 Autonomic Logistics System

Highly Supportable Aircraft

- Smart / Reliable Design
- Prognostics and Health Management
- Remove and Replace (R/R) Maintenance
- On Condition Maintenance

Training System

- Integrated Training
- Embedded Pilot Training
- On Demand Maintenance Training
- Air Vehicle Software Reuse



Support System

- Sustaining Engineering
 - 24/7 Help Desk
- Electronic Joint-Service Tech Data
- Intelligent Maintenance Management
- Global Supply Chain Insight
- Support Equipment Management

Autonomic Logistics Information System

- Distributed Information System
- Enterprise Resource Solution
- Secure
- Scalable
- Deployable

Autonomic Logistics Provides Order Of Magnitude O&S Savings

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JSF Training

Virtual – Constructive - Live

Integrated Training Center

- Flying Syllabus
- Advanced Simulation Systems
- Interactive Multimedia Instruction
- Electronically Mediated Lecture

Electronic Classrooms



Computer Resource Centers



Advanced Simulation



Service Training Squadrons



- Service-Unique Training
- Tactics/Weapons
- Embedded Training

Operational and Deployed



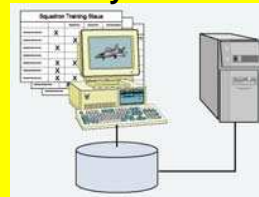
- Pilot Mission Rehearsal
- Maintainer Task Rehearsal
- Distributed Mission Training
- Web Based on Demand CBT
- Continuation Training
- Embedded Training



Deployed/On-Demand Training

- Deployable Mission Rehearsal Trainer
- Distributed Learning
- Full Access to All JSF Courseware

Training Infrastructure System



Distributed Management Records, Courseware, Software, Tech Data, Configurations

ALIS Connectivity

Feedback

Pilot Entry Criteria

- T-38
- T-45
- Fighter Qualified

Maintainers Entry Criteria

- A School
- Tech School
- Previously Qualified Tech

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Autonomic Logistics Information System

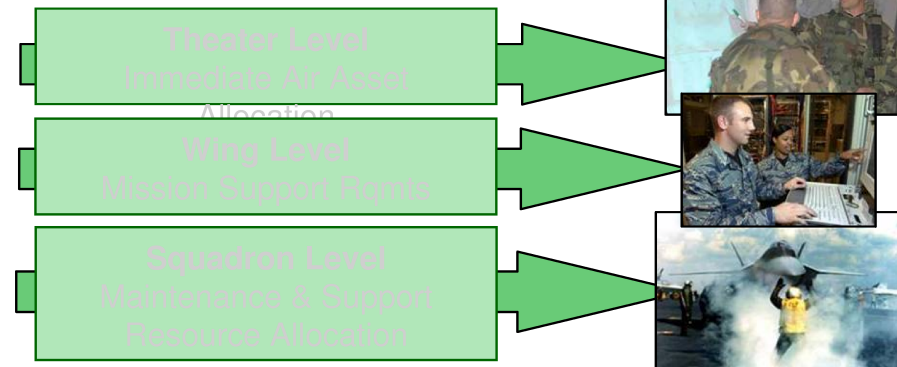
ALIS consists of the system, application and network infrastructures required to provide global integrated and autonomic support

- *Single, Secure Information Environment*
- *Distributed Network Based on Web Technologies*
- *Capabilities Integrate Broad Range of Domains*
 - Operations
 - Maintenance
 - Supply Chain
 - Customer Support Services
 - Training
 - Tech Data
 - External Interfaces



Functionality Focused on Enhancing Operations and Support

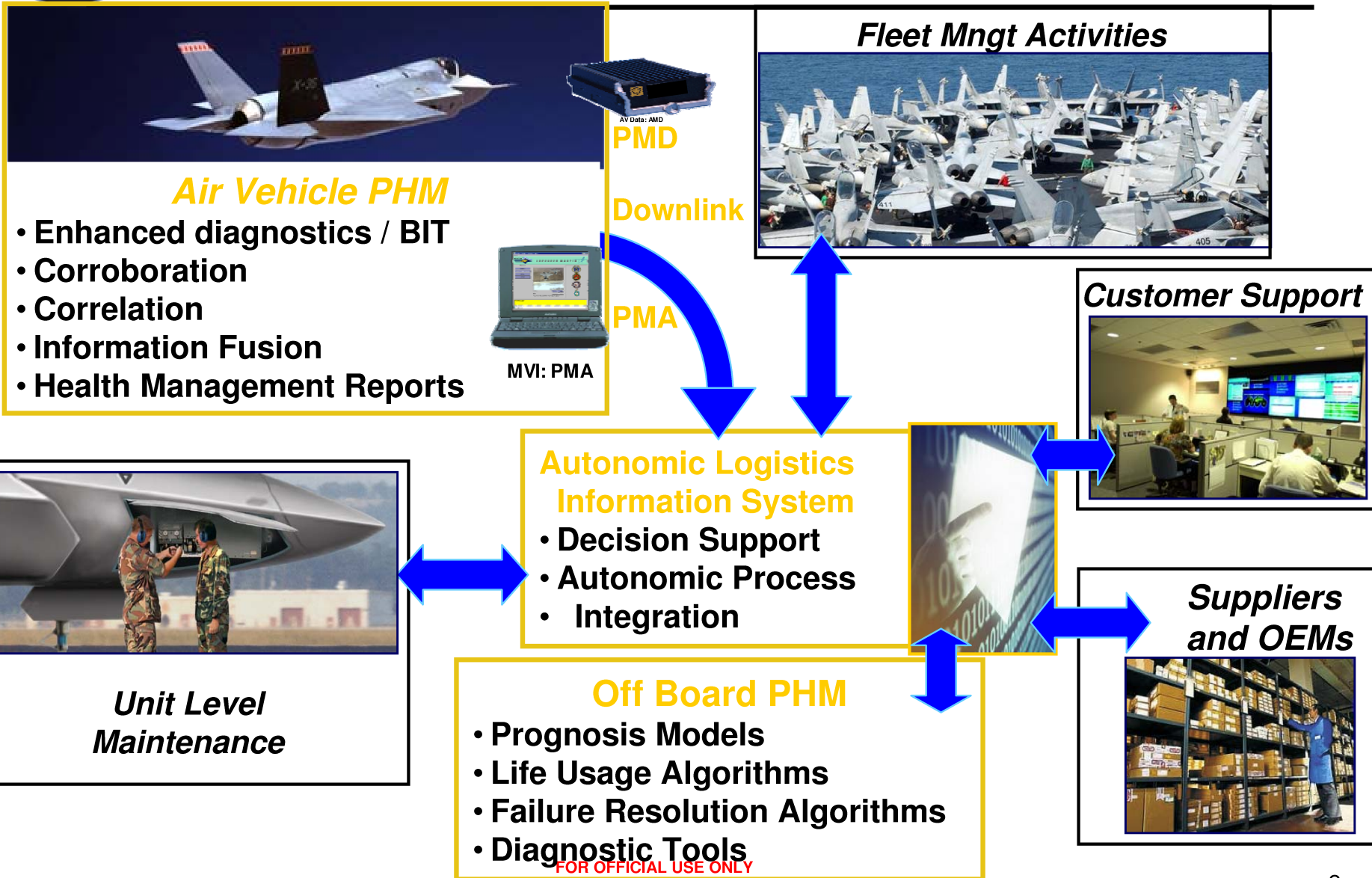
- Decision Support
- Autonomic Process Integration



“Provide All Information To Support Operations and Maintenance at Any Basing Location”



Prognostics Health Management



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F-35 MID 917 Approach

- **Part 1: Conduct Business Case Analysis (BCA) to validate that PBL is most beneficial approach for F-35**
- **BCA process conducted Dec 04-Mar 05**
 - Two support concepts documented for evaluation
 - Organic based Alternative Concept Description (ACD) – F-35 JPO
 - F-35 Autonomic System based ACD – Lockheed Martin
 - Integrated quantitative and qualitative analyses completed
 - **PBL validated as best sustainment process for F-35**
- **Part 2: Develop a PBL Road Map phased approach for the JSF which integrates MID 917 process initiatives**
 - Will be an evolving PBL concept
 - Identify obstacles and potential mitigation strategies
 - Demonstrate F-35 ability to implement initiative in the following areas
 - Overall PBL performance
 - Contracting
 - Programming & Budgeting
 - Finance



Actual Performance against PBA

- No actual performance against PBA yet
- LRIP I contract performance begins early 2007 (Deliveries 2009)
- Full PBL expected to begin after last U.S. IOC (2013)

Cost Plus

Fixed Price

Sep '05

LRIP I
RFP

LRIP IV
RFP

FRP

PBA Metrics

- Start Collecting
- Start Tracking
- Evaluate & Perform to

“Refined” set of PBA Metrics

- Collecting
- Tracking
- Evaluate & Perform to

“Final” set of PBA Metrics

- (\$/FH) contract
- Long term contracts...

Decision Point

- Review Metrics
- Review calculations
- Evaluate costs

Decision Points

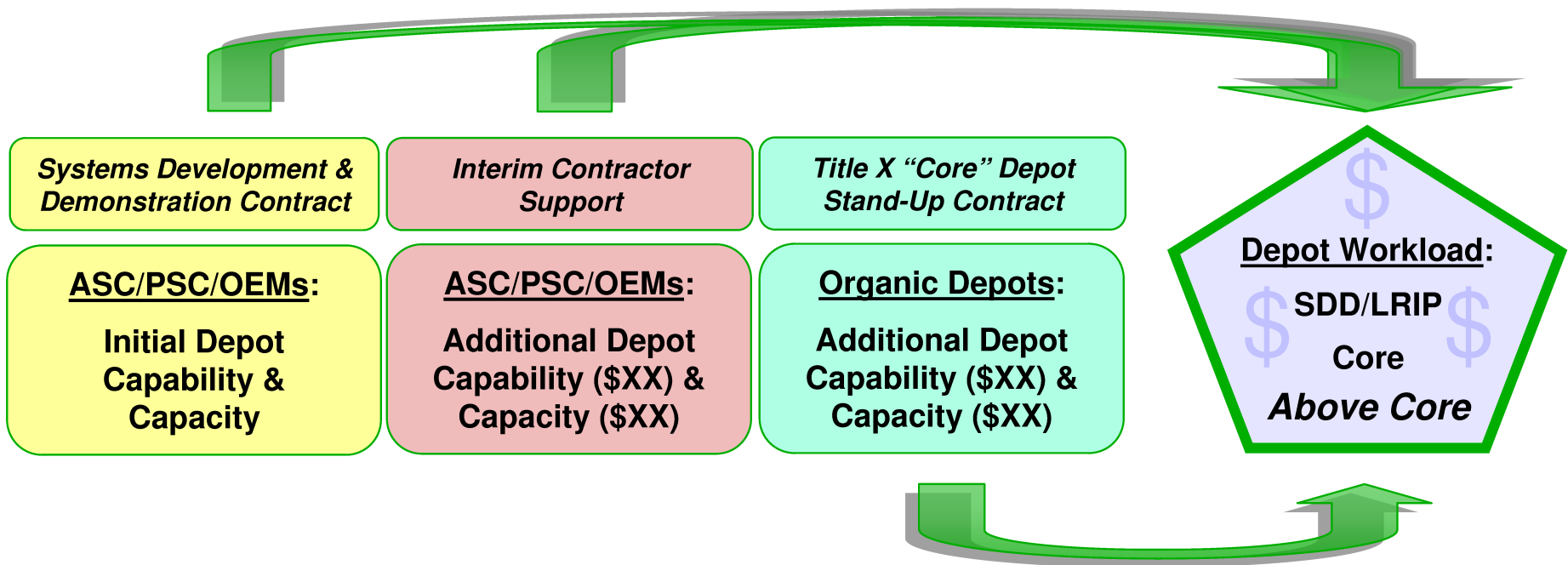
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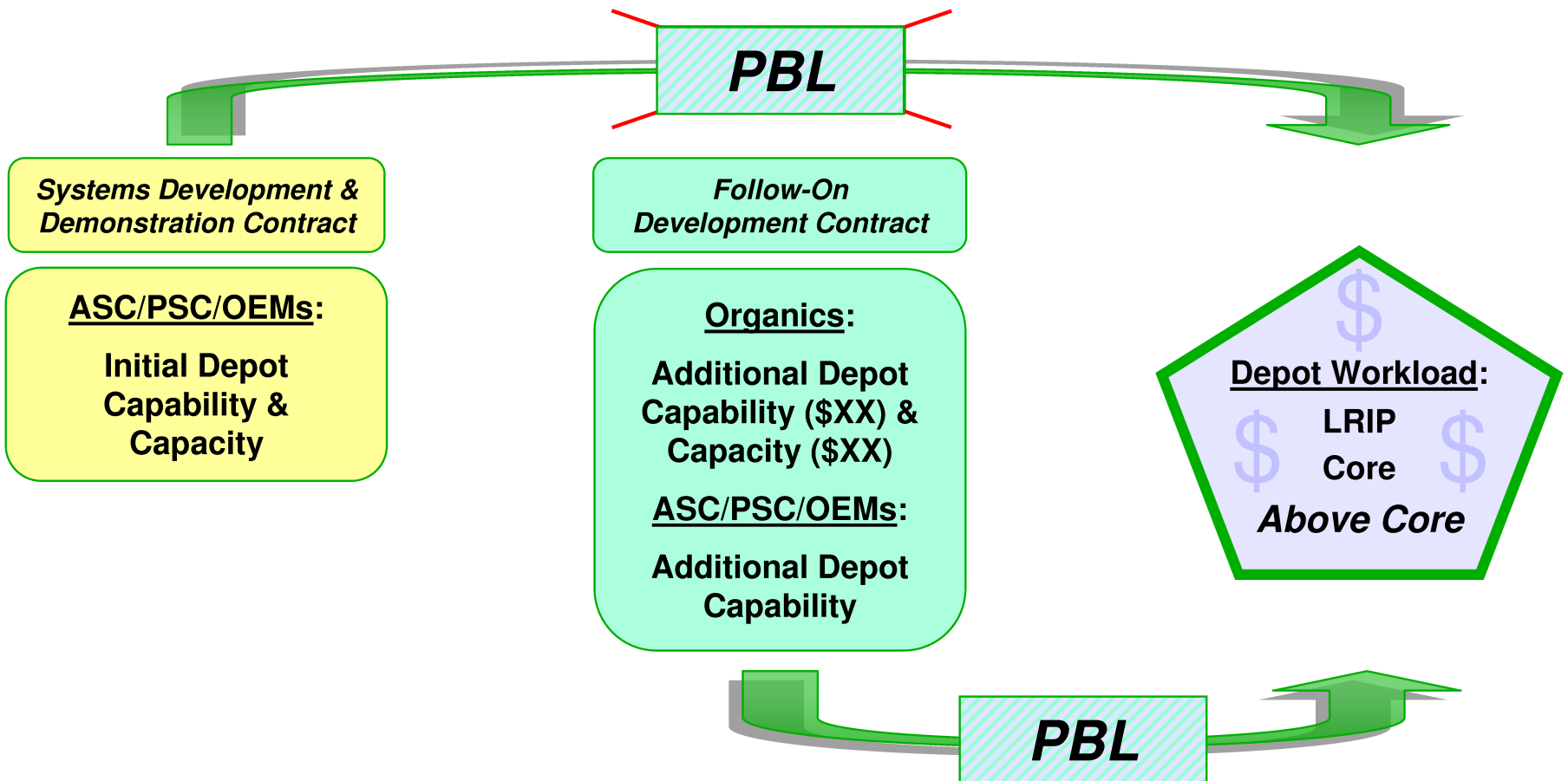
Interim Contractor Support (ICS) Non-Recurring Depot Costs



Legacy ICS Approach... Financially Motivates ASC/PSC/OEMs to Defer Additional Depot Capability to ICS Contract... Results in Duplicate Cost for Organic Stand-Up and Excess Capacity



JSF Approach: Leverage SDD Contract...Right Size Capacity

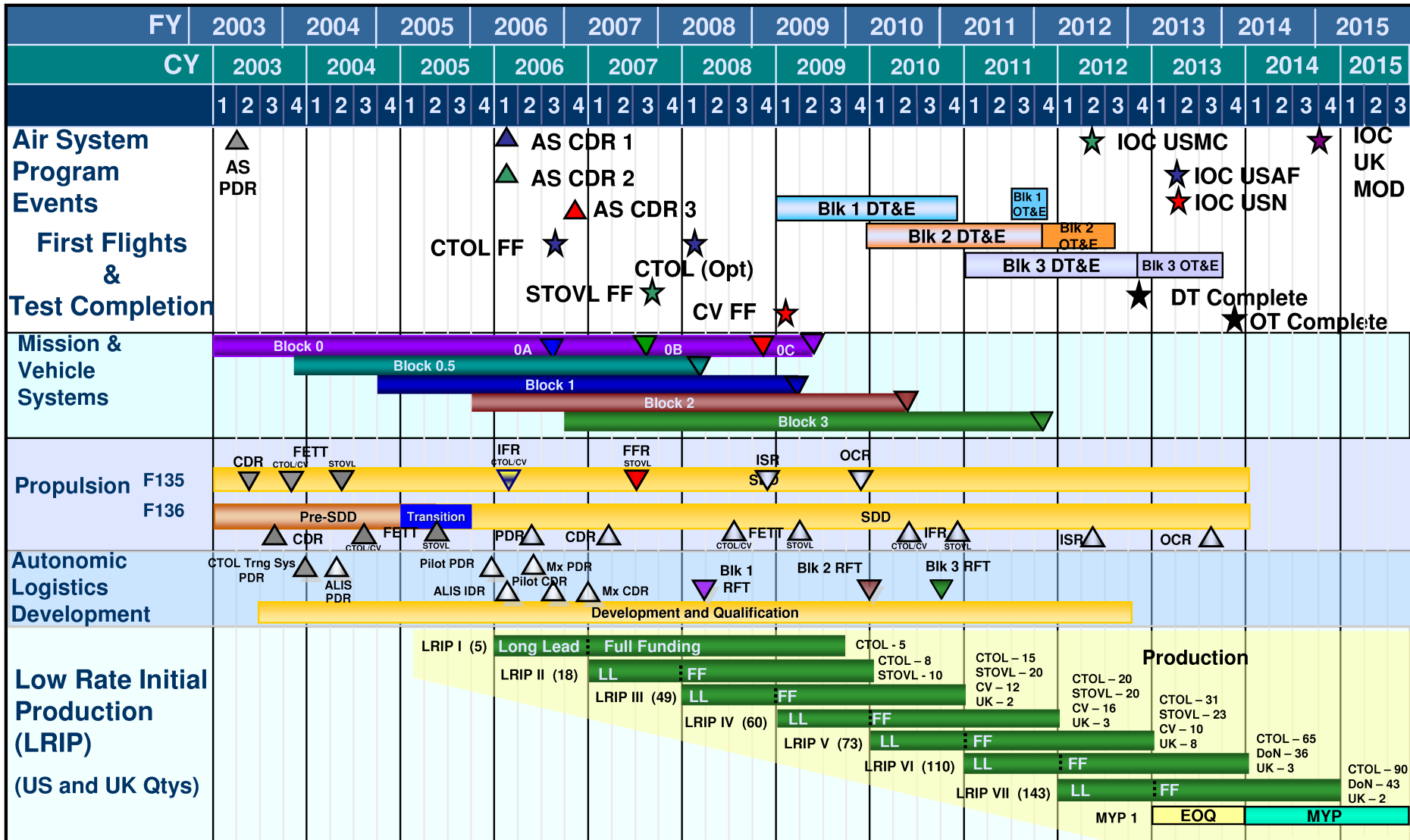


JSF Approach Breaks Interim Contractor Support (ICS) Paradigm... Financially Motivates ASC/PSC/OEMs to Maximize SDD Developed Capacity



F-35 SDD Program Schedule

(With PB-06 US and Apr 05 UK Quantities)





Questions?

