FARNBOROUGH INTERNATIONAL 2004
19 - 25 - JULY

TIPS

THE TRANSATLANTIC SOLUTION FOR NATO AGS

Farnborough Air Show

July 19-25, 2004

EADS · Galileo Avionica (Una Società Finmeccanica) · General Dynamics Canada · Indra · Northrop Grumman (Defining the Future) · THALES

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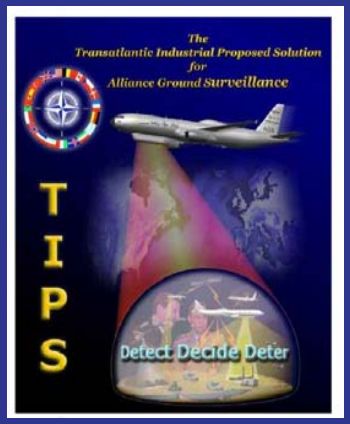
Introduction

- 1 April 2004- TIPS Unanimously Selected by NATO AGS Steering Committee
- 16 April 2004- CNAD Endorsed Decision
- Istanbul Summit- 28-29 June 2004
  - Endorsed AGS as a continuing Prague Summit commitment
- Draft Request For Proposal (RFP) Summer 2004
- AGS Memorandum Of Understanding (MOU) - Feb 2005
- Design & Development Contract Award Spring 2005



Jaap De Hoop Scheffer, Secretary General of the North Atlantic Treaty Organization – "…Alliance Ground Surveillance Is on Track… "

NATO Secretary General
Jaap de Hoop Scheffer
Aerospace Daily, 3/30/04

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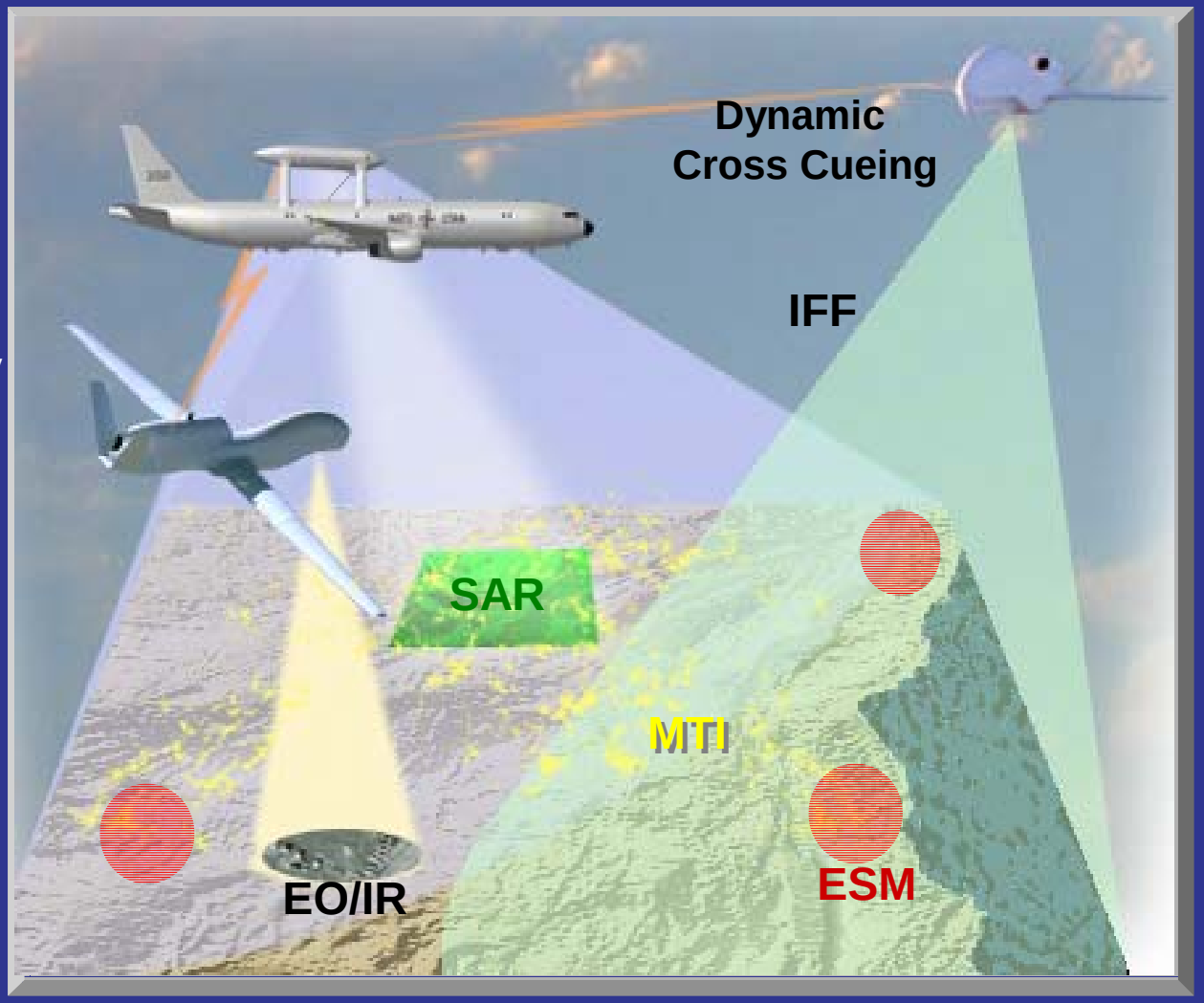
TIPS Mixed Fleet Solution Concept Of Operation

- Mixed/Multi-Tier/Multiple Sensor Level Platform to Platform Cross Cueing
- Force Multiplier / Protection
- Persistent All Weather Capability Denies Enemy Sanctuaries
- Significant Decision/Engagement Timeline Reductions – Forces Enemy into Reactionary Mode
- Increased Situational Awareness
- Orbit Flexibility



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TIPS Recommendation to NATO

- **TIPS Aircraft**
  - TCAR Radar
  - Electronic Support Measures (ESM)
  - IFF Interrogator
  - Defensive Aids Suite (DAS)
  - 14 Operators
  - UAV Control
  - Full Interoperability
  - Air Refueling

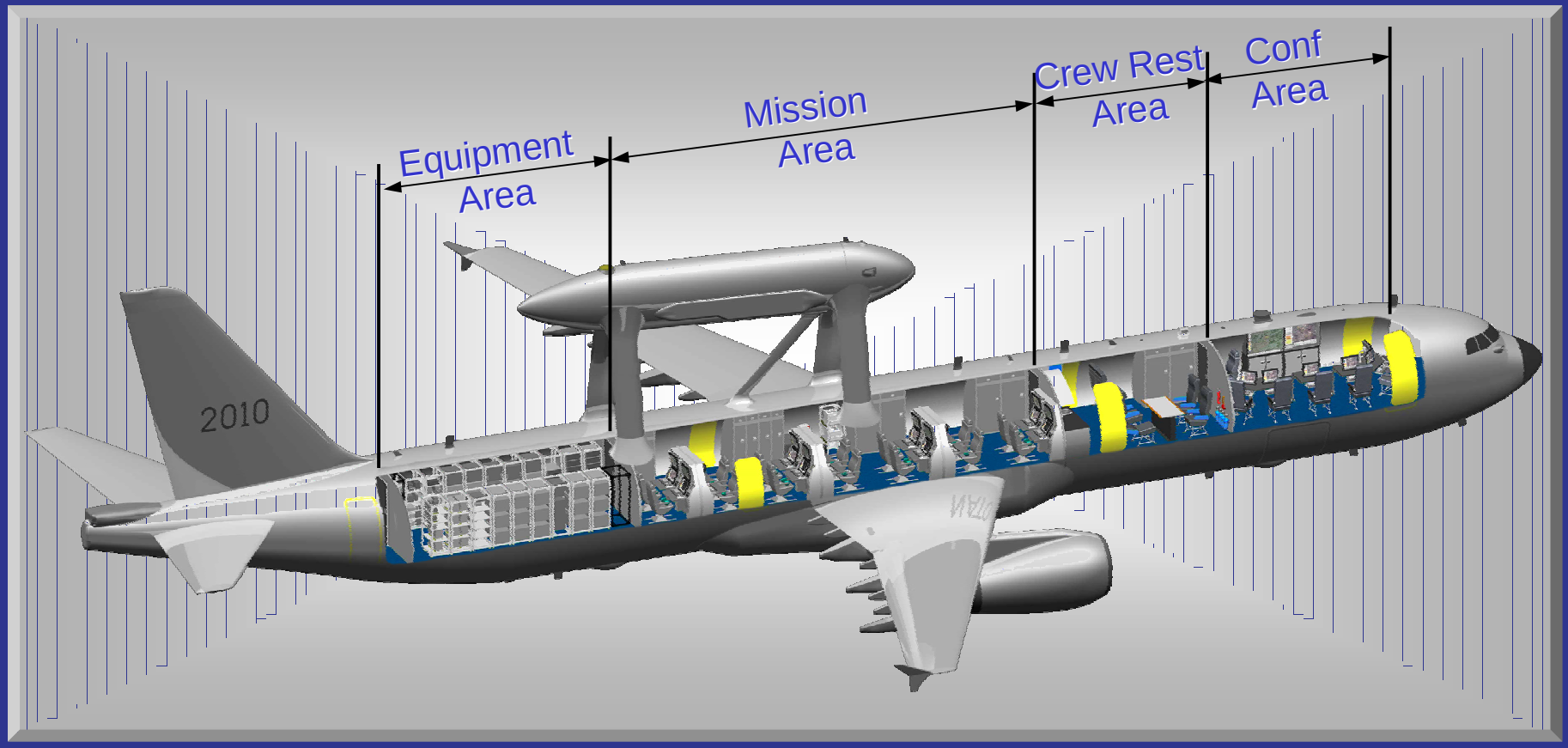
- **Airborne AGS Communications Information System**
  - 14 Operators
  - UAV Control
  - Full Interoperability

- **NATO Global Hawk**
  - TCAR Radar
  - Electronic Support Measures (ESM)
  - Electro Optical/Infrared (EO/IR) Sensor
  - Radar Warning Receiver (RWR) - (Defensive Aids Suite)

Top Mount Sensor Installation

- Leverages Proven Concepts
- Reduced Complexity to Radar Installation & Platform Modification
- Increased Operational & Aerodynamic Advantages
- Provides Increased Radar Performance
- Reduced Risk to Radar Program
- Potential Design Reuse for Other ISR Platforms

Interior Configuration



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TIPS Manned Platform Configuration

Airbus Aircraft
- In Flight Refueling
- Enhanced Power Supply
- Improved Engines / Generators
- Additional Center Tanks

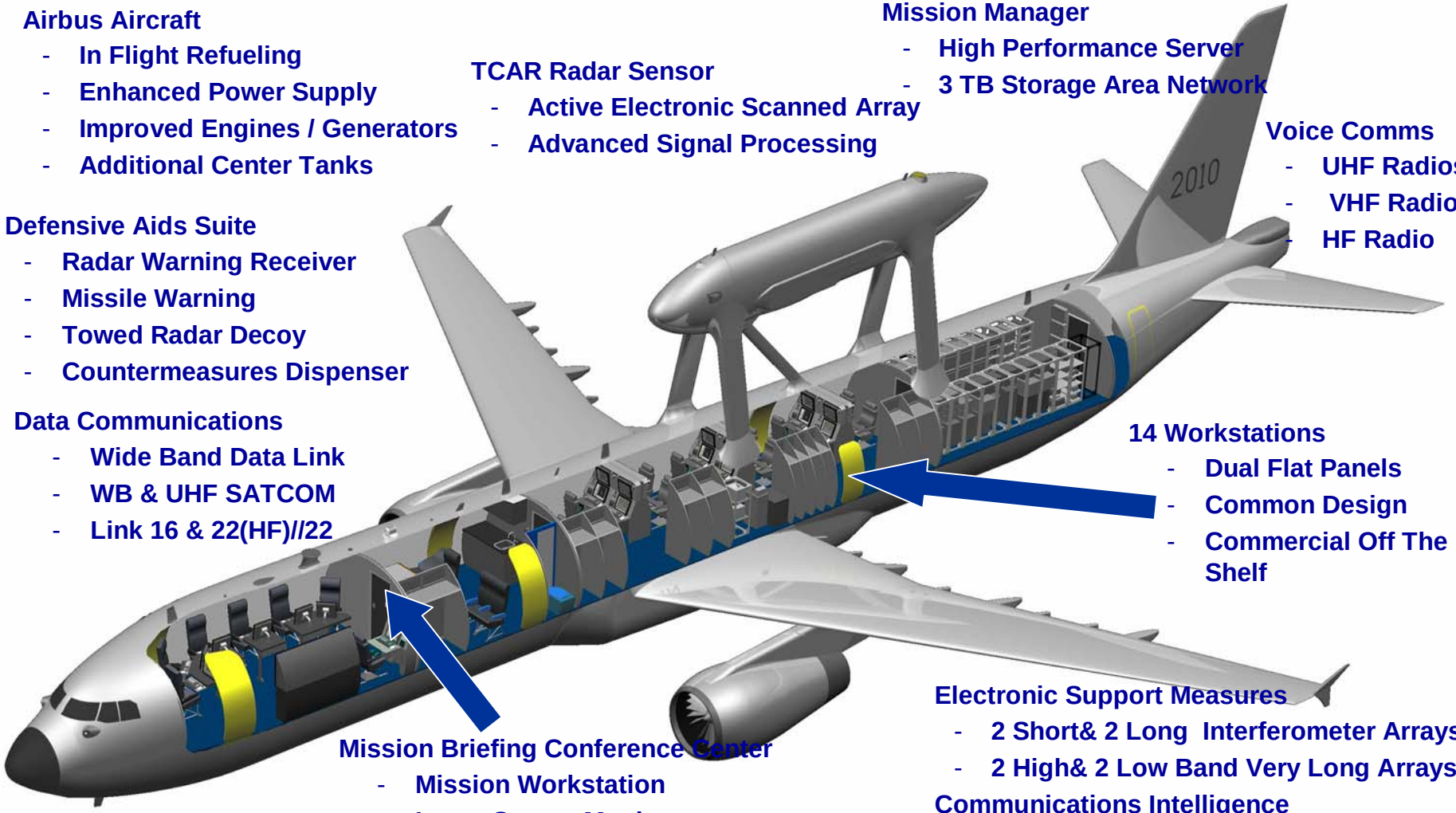
TCAR Radar Sensor
- Active Electronic Scanned Array
- Advanced Signal Processing

Mission Manager
- High Performance Server
- 3 TB Storage Area Network

Voice Comms
- UHF Radios
- VHF Radios
- HF Radio

Defensive Aids Suite
- Radar Warning Receiver
- Missile Warning
- Towed Radar Decoy
- Countermeasures Dispenser

Data Communications
- Wide Band Data Link
- WB & UHF SATCOM
- Link 16 & 22(HF)//22



14 Workstations
- Dual Flat Panels
- Common Design
- Commercial Off The Shelf

Mission Briefing Conference Center
- Mission Workstation
- Large Screen Monitor

Electronic Support Measures
- 2 Short& 2 Long Interferometer Arrays
- 2 High& 2 Low Band Very Long Arrays

Communications Intelligence

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TIPS Transformational Capability To Network Centric Warfare

Communication Relay

Remote sensor

Growth to Support New Missions

System Design Leverages Proven Systems & US Technology Investments

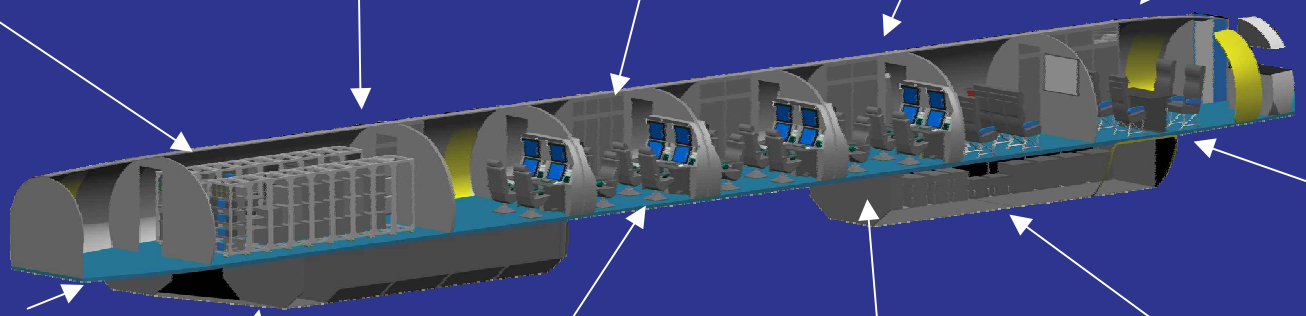
Multinational Crews Support Coalition Warfare

Flexible Crew to Match Mission Needs

Extended Mission Capability

Assured Interoperability With NRF Forces

Consistent With NATO Warfighting Doctrine



Real-time Battle Space Awareness & Targetable Quality Information

Standalone Capability for Forward Deployment

Onboard C2 & Remote Sensor Control

Sensor to Shooter For Precision Targeting & Avoidance of Collateral Damage & Reduced Fratricide

Information Available to All Coalition Forces Simultaneously

NATO Global Hawk Platform Configuration

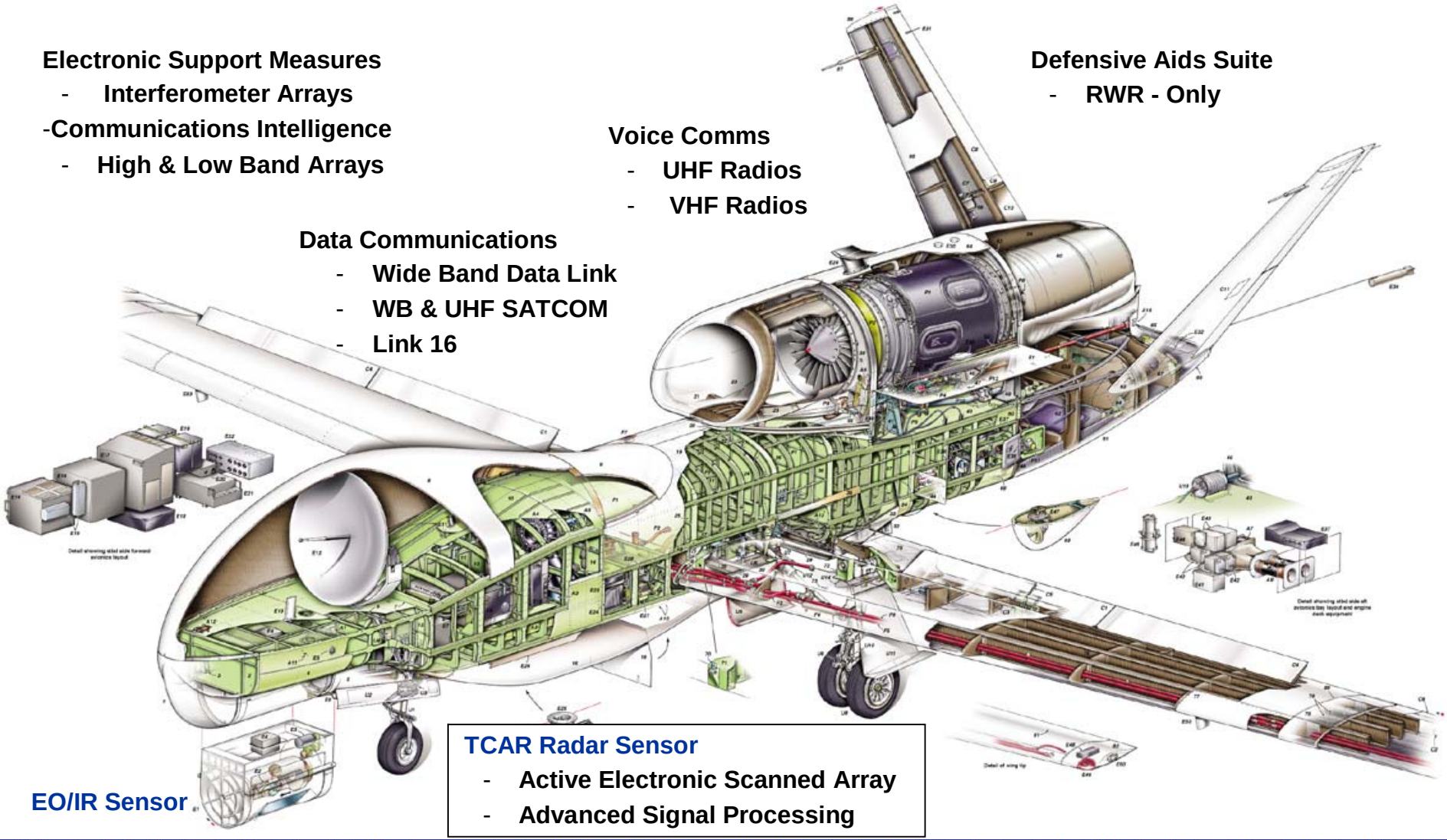
Electronic Support Measures
- Interferometer Arrays

-Communications Intelligence
- High & Low Band Arrays

Voice Comms
- UHF Radios
- VHF Radios

Data Communications
- Wide Band Data Link
- WB & UHF SATCOM
- Link 16

Defensive Aids Suite
- RWR - Only



EO/IR Sensor

TCAR Radar Sensor
- Active Electronic Scanned Array
- Advanced Signal Processing

A2CIS Configuration

- Full Battle Management Mission Suite Capable
- Meets NATO Time On Station Requirement
- Deployable For Early NRF Capability (2008)

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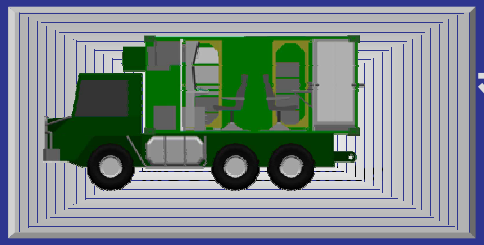
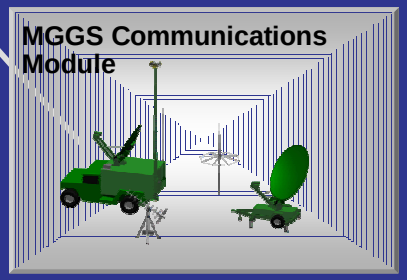
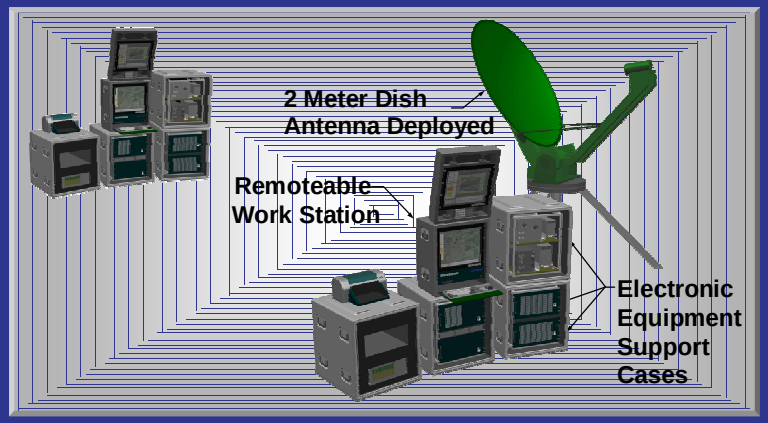
Ground Segment



Mobile General Ground Station



Main Operating Base (MOB)



Transportable / Fixed / Maritime* GGS

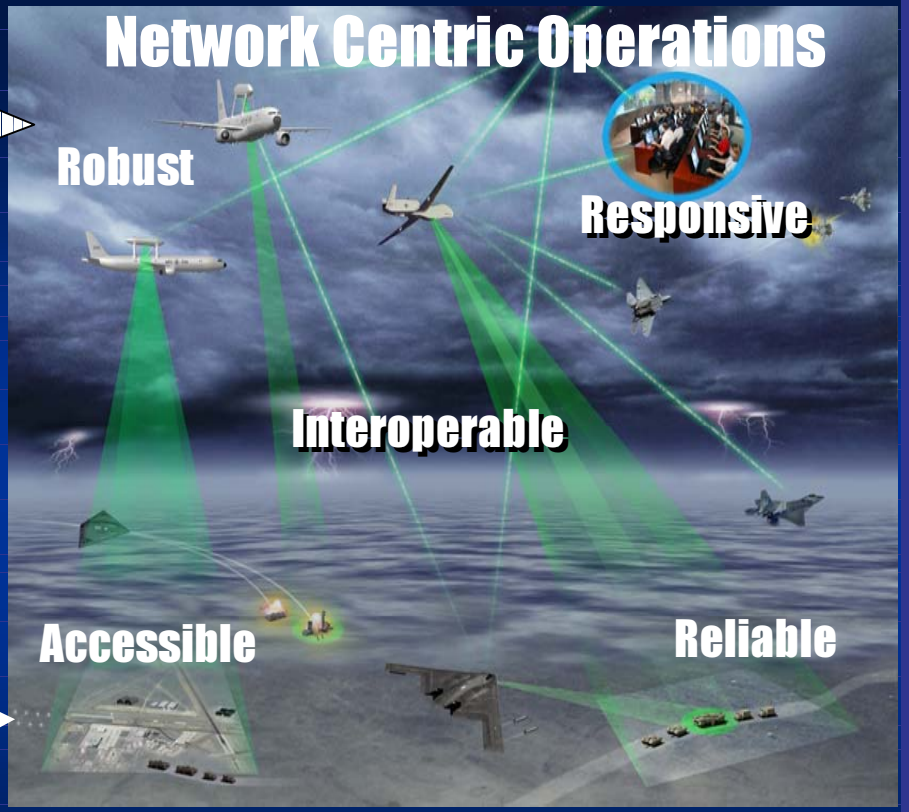
* Tailored for Shipboard Operations

Forward Operating Location (FOL) Kit

Implementation Consideration - Network Centric Environment

Horizontal Integration

- Collaborative C2
- Distributed Computing
- Dynamic Networks
- Automated Decision Aids
- Multi-Tiered Sensors



Open, Integrated, Fused Architecture

TCAR

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TIPS / TCAR Cooperation

- **TIPS Fully Supports TCAR As The Only Option For AGS Radar Solution**
  - Workshare Defined
  - No Technology Transfer Issues
- **Participation Of TIPS / TCAR Industries In Sensor & System Programmes Ensures Lowest Risk Approach**
  - EADS, Galileo, Indra & Thales SOSTAR Radar Industry
  - Northrop Grumman Prime Contractor For MP-RTIP & Joint STARS
- **TIPS is Ready to Accommodate TCAR Integrated Programme (TCAR First Tier Major Subcontract)**

TIPS Industries System Integration & Radar Development Ensures A Successful NATO AGS Program

TIPS System Architecture

CNAD Decision Sheet- Key Points

NATO UNCLASSIFIED

10 May 2004

DECISION SHEET
AC/259-DS(2004)0001

CONFERENCE OF NATIONAL ARMAMENTS DIRECTORS

6.3. directed the Steering Committee to move the AGS programme forward into Design and Development, in accordance with the decision endorsed at reference;

DECISION SHEET

6. ALLIANCE GROUND SURVEILLANCE (AGS)

Reference: AC/259-D(2004)0013

The CONFERENCE:

6.3. directed the Steering Committee to move the AGS programme forward into Design and Development, in accordance with the decision endorsed at reference;

6.4. directed the Steering Committee to finalize the overarching Memorandum of Understanding for the AGS Programme and the supplement for the full Design and Development phase in time to enable signing of a contract with the TIPS consortium, at or before the Spring 2005 CNAD;

Expeditiously Moving Forward to Achieve IOC 2010

CNAD Decision Sheet- Continued

6.5. directed the Steering Committee to develop a procurement strategy which identifies how to address total programme integration and risk reduction, including issues such as cost reduction, harmonization with NAEW&C modernization, integration of TCAR, interoperability of national assets, global C2ISR architecture – including the ground segment. The procurement strategy is to provide a decision point in the D & D phase for terminating after the first 100m€ of liability.

CNAD Decision Sheet- Assessment

- CNAD Decision Sheet, overall, aligns well with TIPS approach
- AGS3 is developing a procurement strategy to implement the CNAD direction
- Proposed procurement strategy may impact:
  - Program/Contract structure
  - Design & Development tasks and the scope of the RFP
- TIPS is working with AGS3 on the program structure and procurement strategy

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Industrial Participation

Industrial Participation

- **TIPS Industries are Committed to Meeting the Goal of 100% High Quality Direct Work Share for Participating Nations**
- **Long Standing Industrial Working Group Focused on Offering NATO the Best Value Solution**
  - Established 1995
  - Grown from Initial 7 Industries Group to Today's Count of Over 80 Qualified Industries
  - Used to Inform Nations of NATO AGS Evolution
  - Company Capability / Work Package Matrix Established
- **Broad Industrial Base Ensures Optimum Balance of Schedule, Risk & Cost**

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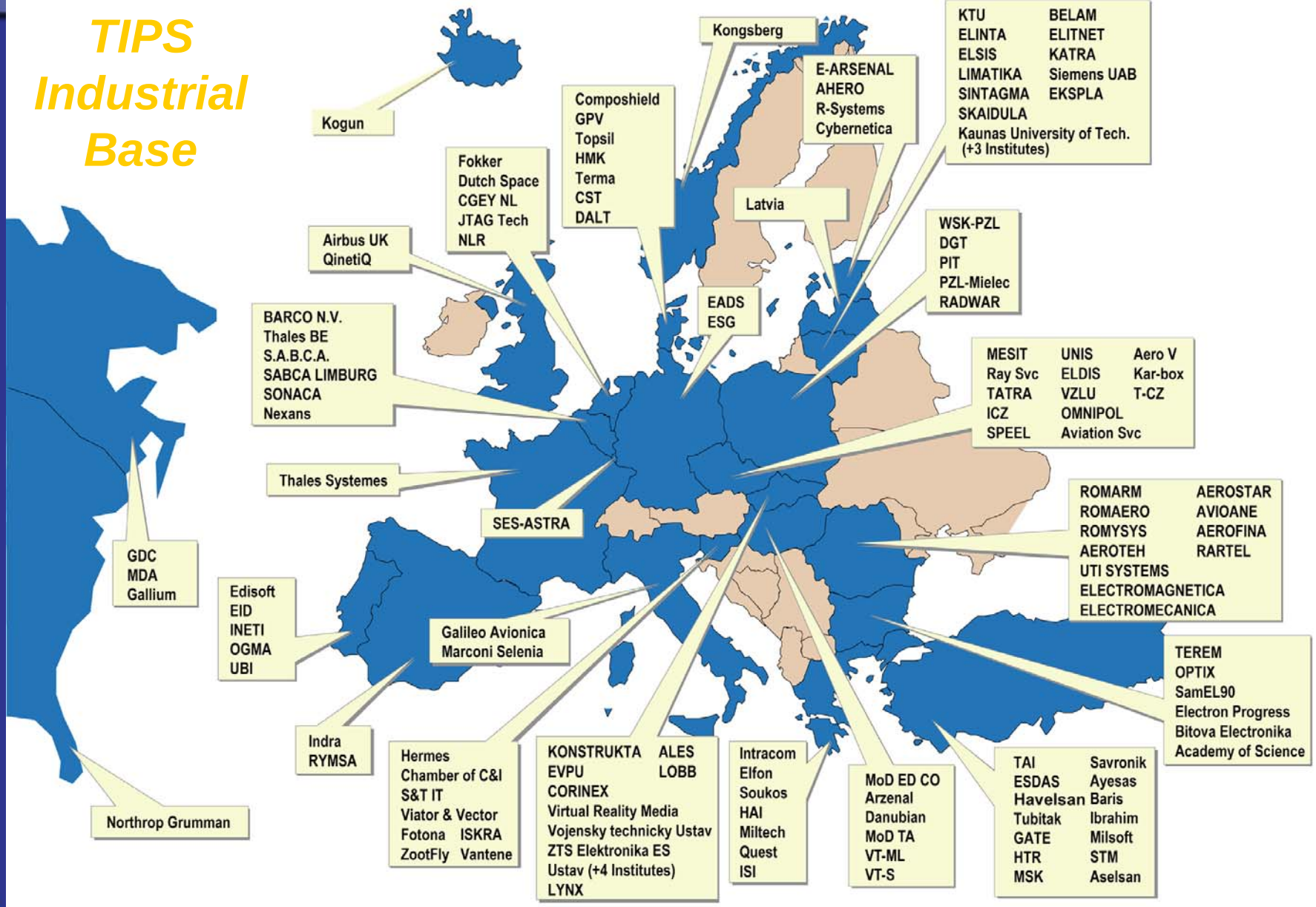
TIPS Industrial Base



Industrial Participation Way Ahead

- **Maintain Government Support for NATO AGS & TIPS**
  - Funding
  - Finalize Governments AGS MOU
- **Define Appropriate Work Packages/Industry Allocations**
  - TAAs In-Work
- **Industry Involvement Depends On Final/Firm Cost Shares per AGS MOU IP approach**
- **Define Design & Development Workscope**
- **Follow-on Proposal Included in D&D Scope**
  - Start Mid-2005

Near Term Actions/Issues

- **Governments Funding Support**
- **Governments NATO AGS MOU**
- **TCAR Radar Merge With TIPS**
  - Technology Transfer Issues Settled
- **Industrial Participation Consistent With Contract Structure**
- **Affordability**
- **Risk Reduction**
- **Management Organization/Agency**
- **NAEW&C Harmonization**
- **C2ISR Architecture**

Summary

- **Urgent Military/Operational Demand For AGS Capability (IOC 2010) Is Very Clear (NATO Response Force Support)**
- **Support from Istanbul Summit**
  - Istanbul Summit endorsed AGS as a continuing Prague Summit commitment
- **NATO Nations Pressing To Maintain Momentum**
- **TIPS Is CNAD Consensus Solution For Long Standing AGS Requirement**
- **AGS3 & Steering Committee Implementing CNAD Decisions**
  - Addressing all issues with plans and roadmaps
- **NATO AGS MOU Is Key**

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