

Headquarters U.S. Air Force

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USAF Intelligence, Surveillance,
Reconnaissance, and Net-Centric War:
Tightening the Kill Chain



National Defense Industrial Association

Lt Col Fred W. Gortler III
HQ USAF XO1

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This briefing is
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Global ISR for America





Our Mission

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Find targets

Find threats

turn them into targets

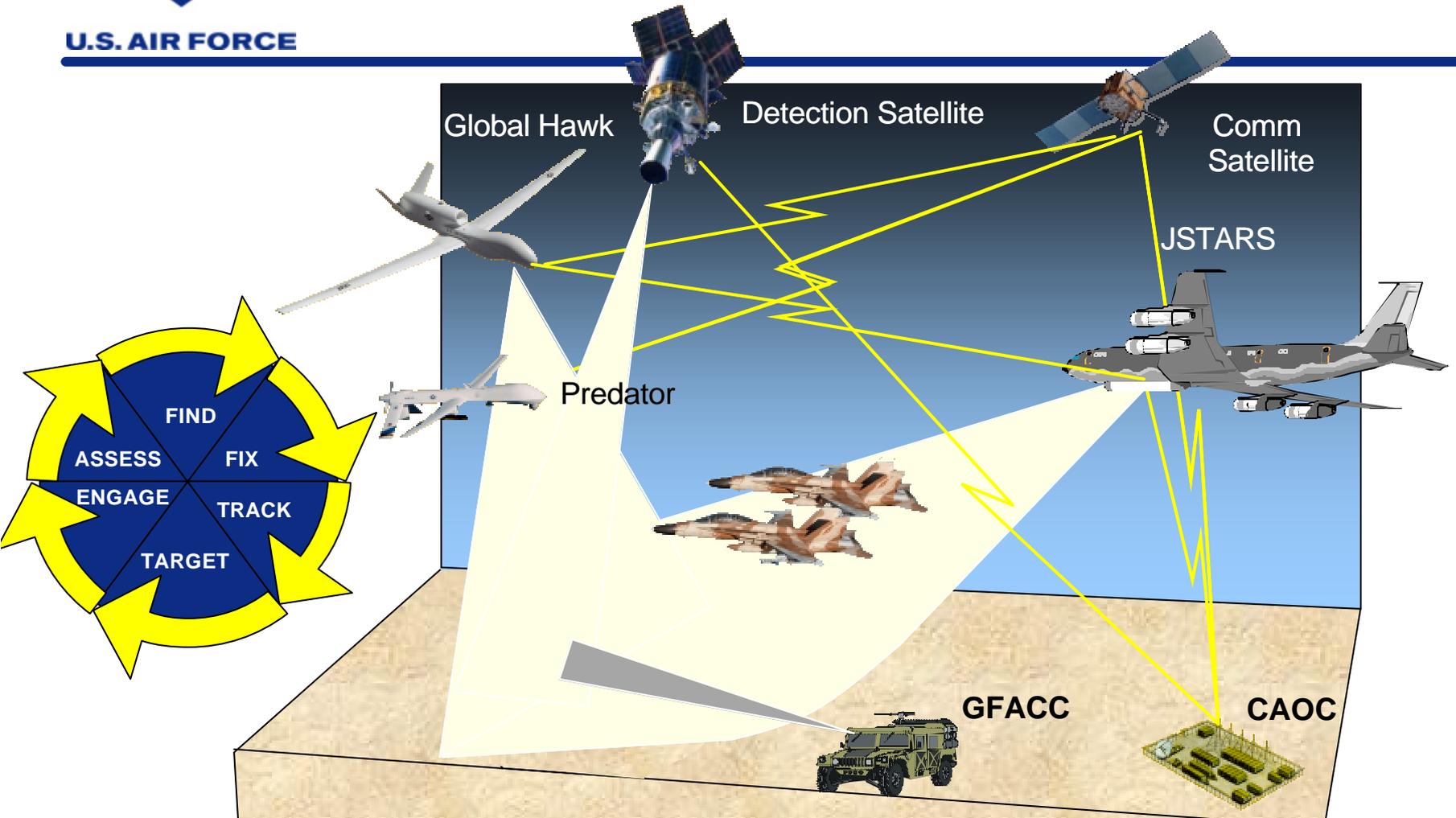
Do this decisively to WIN



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The Kill Chain



ISR Synchronization begins with Predictive Battlespace Awareness merging National, Theater, and Tactical ISR for Warfighting

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Predictive Battlespace Awareness

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- Predicts events in battlespace
 - Where's the next war...prepare
 - Where's the next battle...
 - Where the target is
- Culminating methodology comprising intelligence forecast, well planned and executed ISR operations, and all other blue force actions
- Creates conditions for commander to produce desired effects, seize and maintain the initiative and influence adversary's actions...to win

"One who knows the enemy and knows himself will not be in danger in a hundred battles" Sun Tzu

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Predictive Battlespace Awareness

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Target Systems Analysis



Target Analysis

Intel Prep of the Battlespace



Systems Analysis

Priority Intel Requirements

ISR Strategy and Planning



Mission Analysis

Centers of Gravity

ISR strategy

ISR Employment

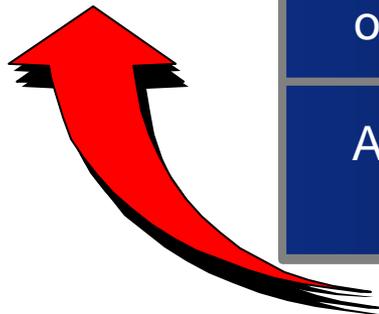
Database Validation

Named Areas of Interest

Integrated ISR Plan

C2 of ISR

Horizontal / Vertical Integration

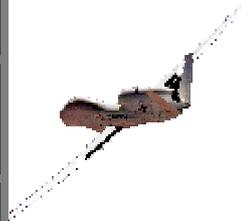


Adversary COAs

Synchronized Collection to Requirements

Target Acquisition

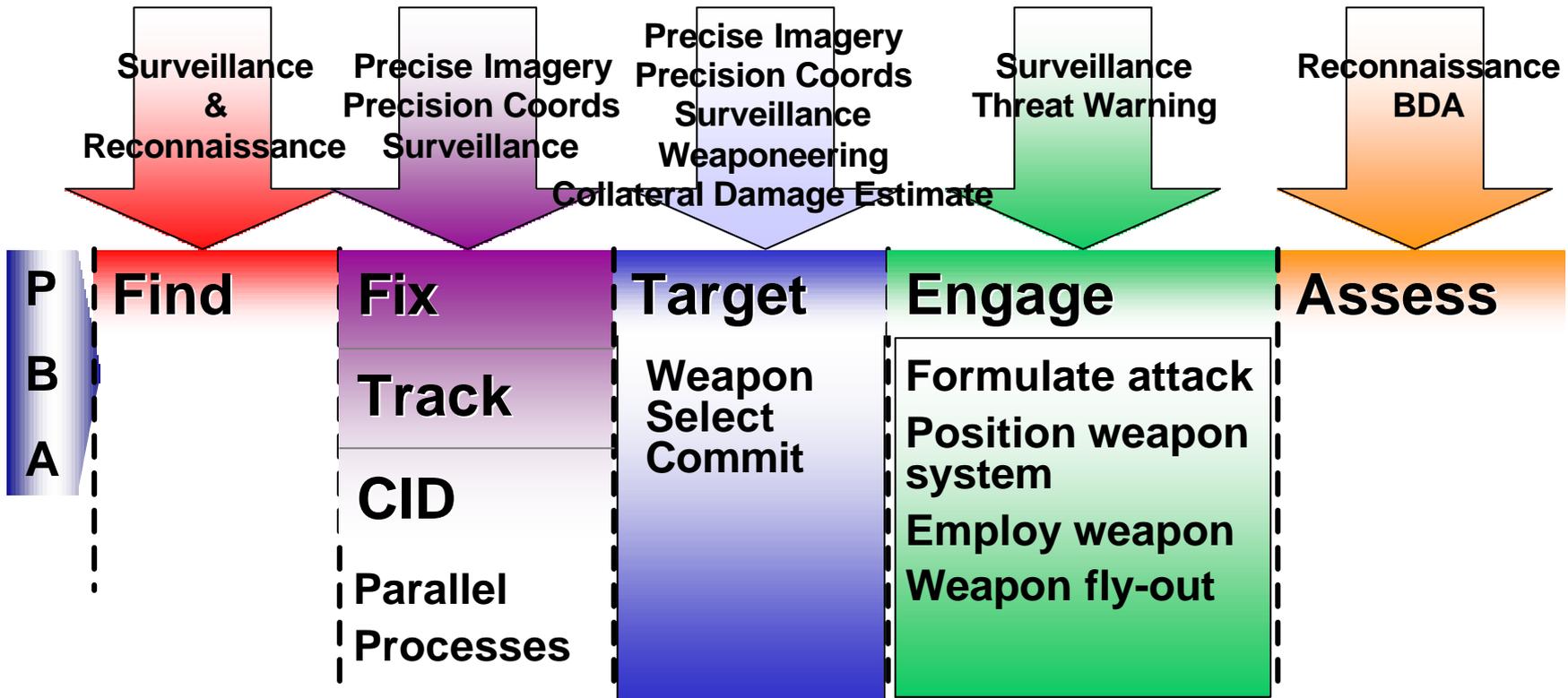
TPEDS





ISR in F2T2EA

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All Targeting Begins and Ends with ISR



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Current ISR Challenges

- Persistence
- Finding “Knowledge” from “data”
- Disseminating rapid ISR “Knowledge” for operational superiority
- Time delayed information
- More fully automated processes needed
- Seamless data exchange interfaces
- Increased predictive awareness
- Sensors as shooters
- Consolidate missions on a standard platform



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Command and Control of ISR A Core Task of the AOC

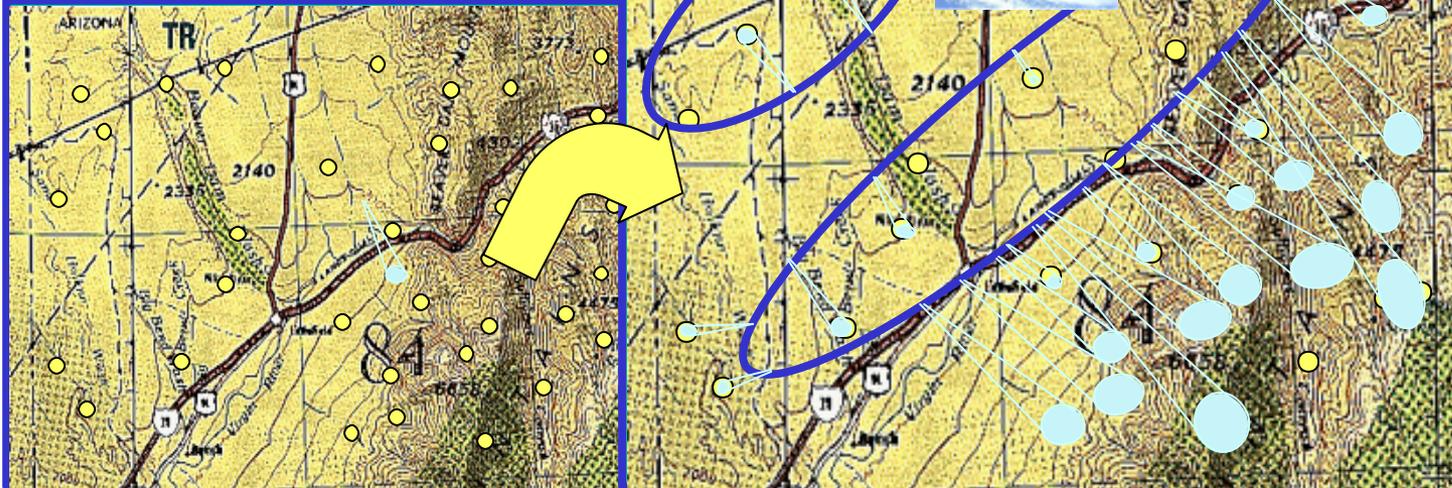


C2 of ISR
in Battle

Collection
Tasking for ISR
Platforms

Synchronize Collection
Plans With ATO

Target Nomination



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Predator Lite System

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2 Air Vehicles



Roll-Off GCS
Vehicle

- Airlift= <1 x C-17 Sortie
- 15+ Personnel
- 12-16 Hr Msn Per Day



PGCS



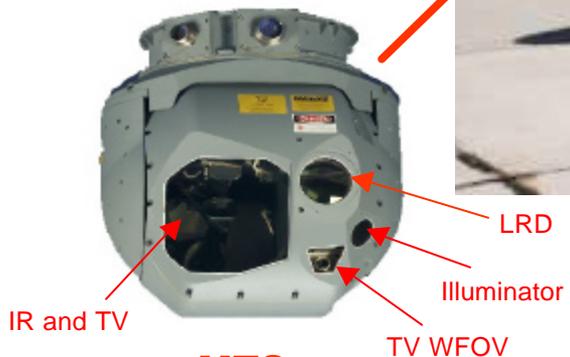
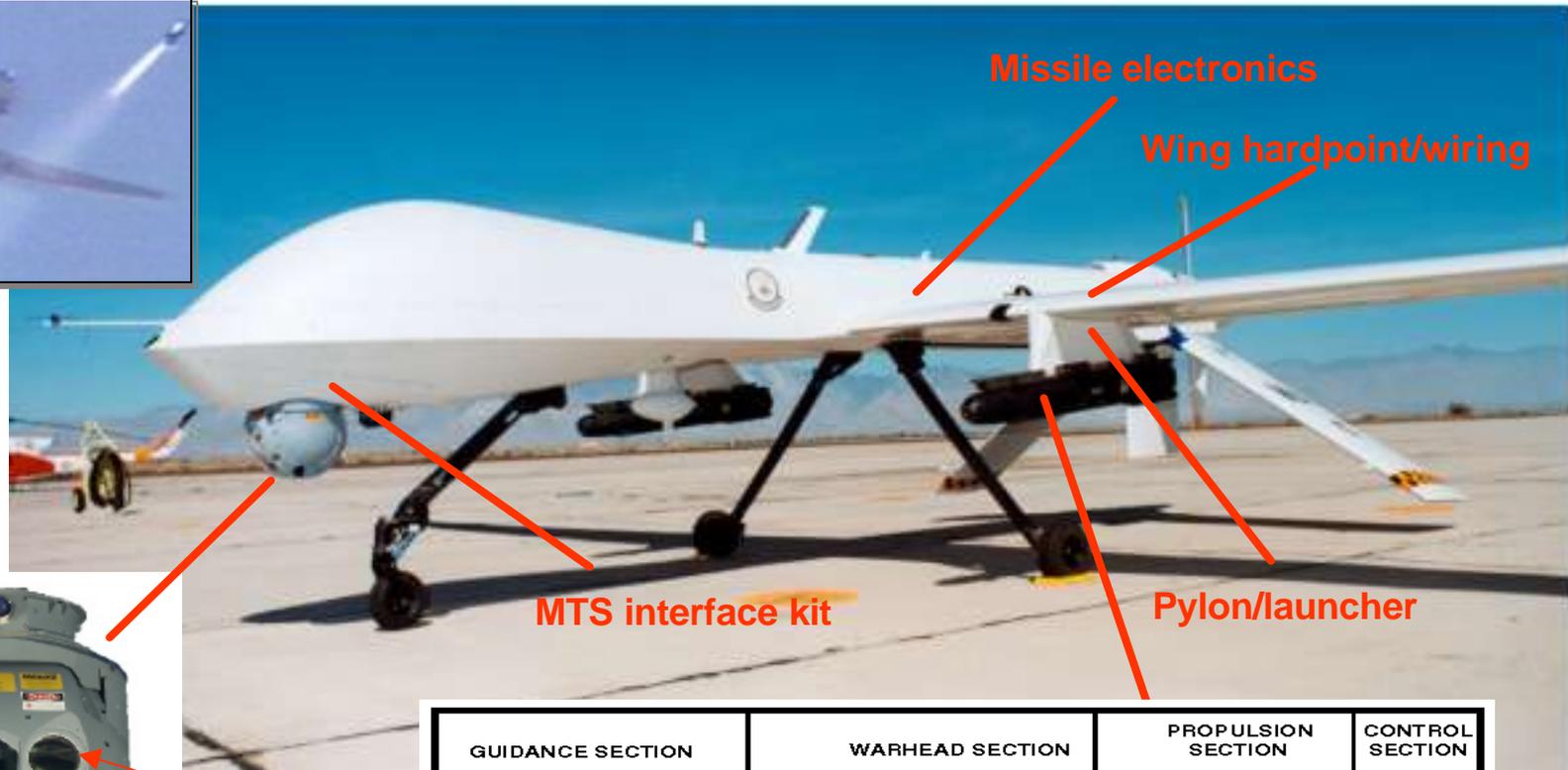
15+ Personnel

- Not intended for long duration deployments
- *Setup and Ready in 2 Hours*



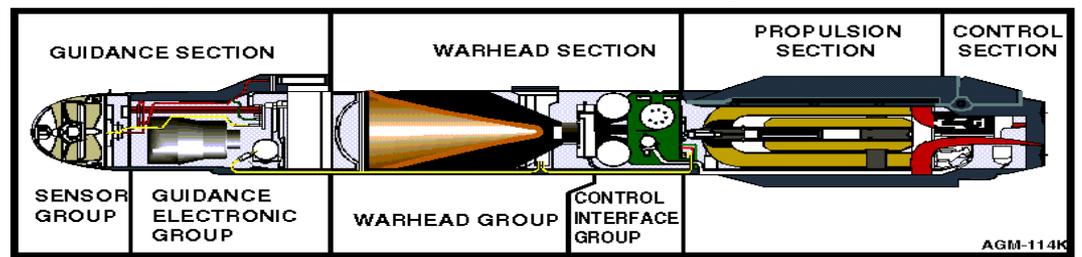
Hellfire-Equipped Predator

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MTS

(Multispectral Targeting System)





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RQ-4A Global Hawk Vital Statistics



Milestones

- Advanced concept technology demonstration: FY95 - FY00
- 32 months to 1st flight - Feb 98
- AF assumed program responsibility - 1 Oct 98

General Design

- Specifications
 - Wing span: 116 ft
 - Length: 44 ft
 - Height: 15 ft
- Performance Goals
 - Range: 12,500 nmi
 - Endurance: 35 hrs
 - Endurance @1200nm: 24 hrs
 - Altitude: 65,000 ft
 - True airspeed: 350 kts
 - Gross T/O wt: 25,600 lbs
 - Payload wt: 2,000 lbs
- Payloads: EO/IR and SAR
- Comms: SATCOM: UHF/Ku-Band
LOS: UHF and CDL



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AF DCGS

Sources & Missions



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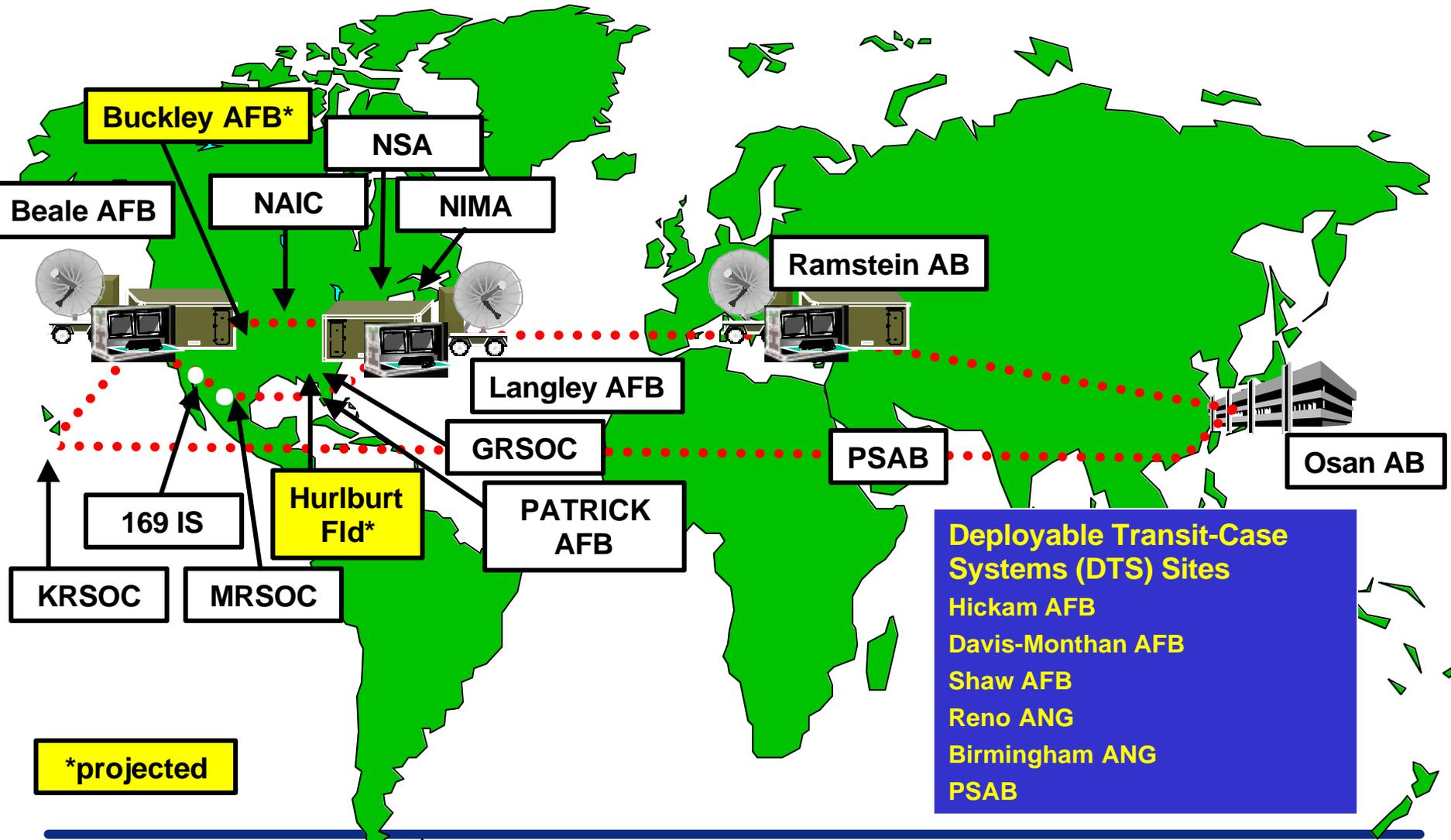
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DCGS End State Structure

...still a work in progress

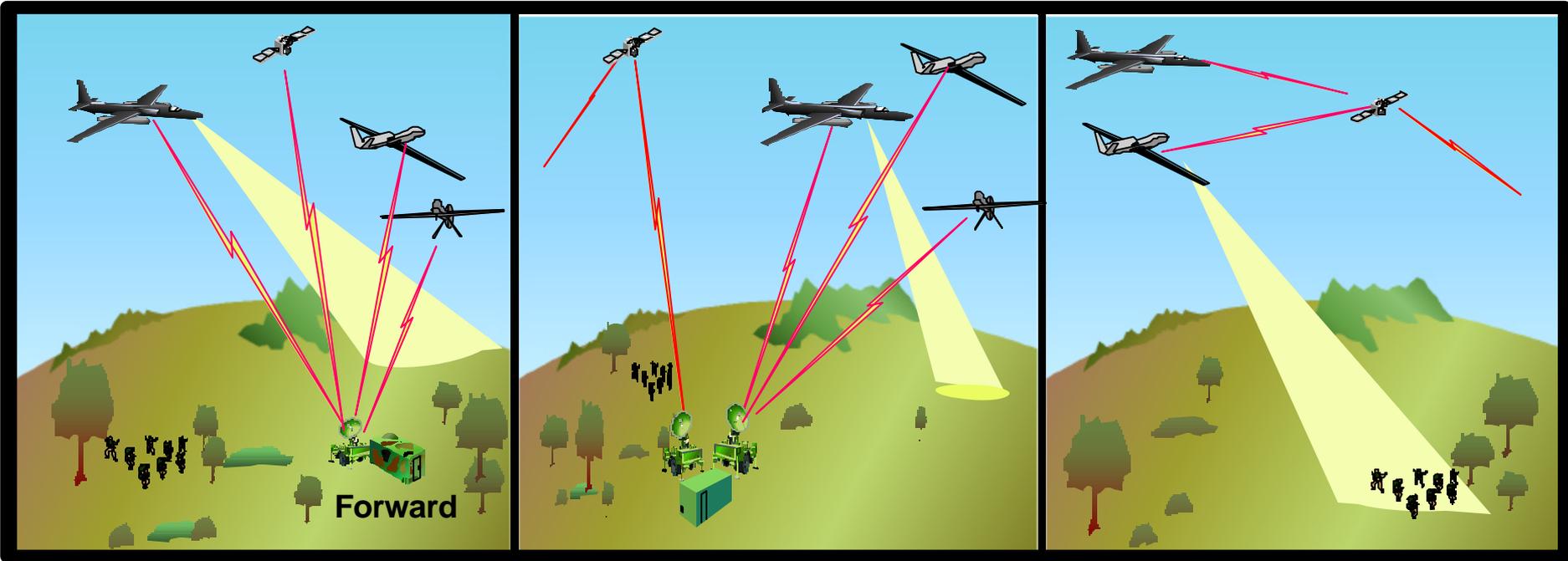




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Data Link Architectures



Line of Sight

Relay

ETP

Dynamic Capability to Support Ops World-wide

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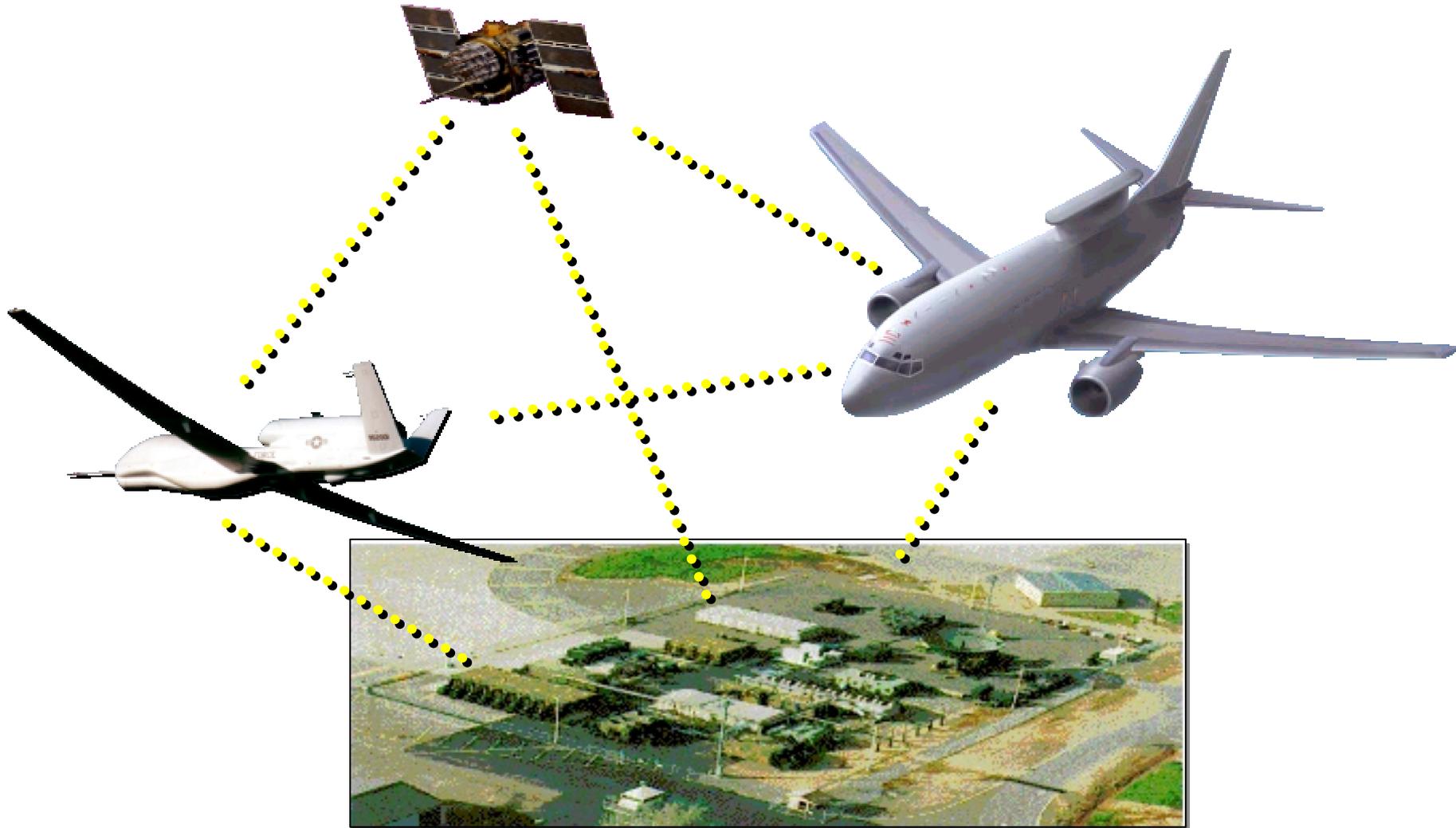
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Multi-sensor C2 Constellation



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Sample of Required Capabilities

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- Multi-sensor C2 and ISR constellation
- Immediate and continuous access to shared, scalable, accurate, timely visualization of the battlespace
- Predictive awareness of adversary intentions and reactions
- Distributed ISR operations
- Collaborative environment that allows decision-makers and analysts to interact real-time
- Knowledge dissemination that allows rapid reaction to operational requirements and promotes knowledge superiority
- Responsive planning to established and emerging requirements



Transforming ISR

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- Horizontally and vertically integrated C2ISR constellation
- Automation and analysis tools
- Continuously updated air and ground picture
- C2 of ISR
- Web-based data access
- Complete Distributed Common Ground System (DCGS) network
- Multi-level security
- Data collection, validation, and database management
- PBA ops and displays
- Automated ISR planning and execution tools



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Future Globally Responsive Kill Force *including C2ISR with an Attitude*



A poised force ready to find, fix, track, target, engage, and assess any target in any AOR