

Precision Strike Technology Symposium – 05, C4ISR

**Just-in-time Strike
Augmentation (JITSA)
Major Conflict through Stability and
Protection Operations**



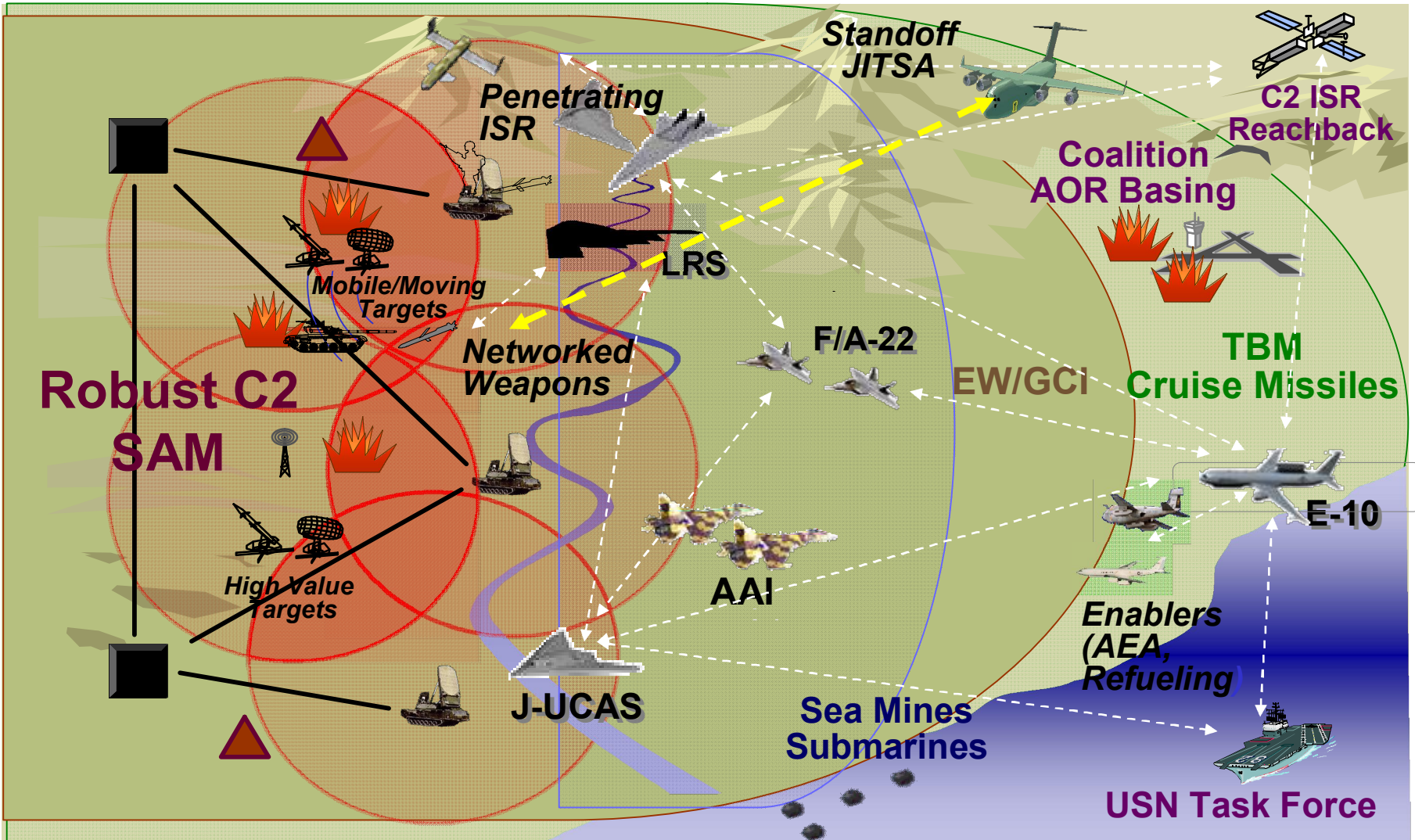
*Mr. Gregory K. Jenkins
AAC/XR
19 October 2005*

- ❑ **JITSA can be a back breaker to large scale enemy operations**
- ❑ **Efficient use of force structure in large scale, stability and protection operations**
- ❑ **Not platform dependent**
 - **No Integration Costs**
 - **Shorter Time to Warfighter**
- ❑ **Potential near term DOTMLPF solution to current TCT and PISR needs**

The Golden Rule: “ This briefing is intended to stimulate discussions regarding creative ways of employing existing assets but is not a USAF-endorsed concept at this time”

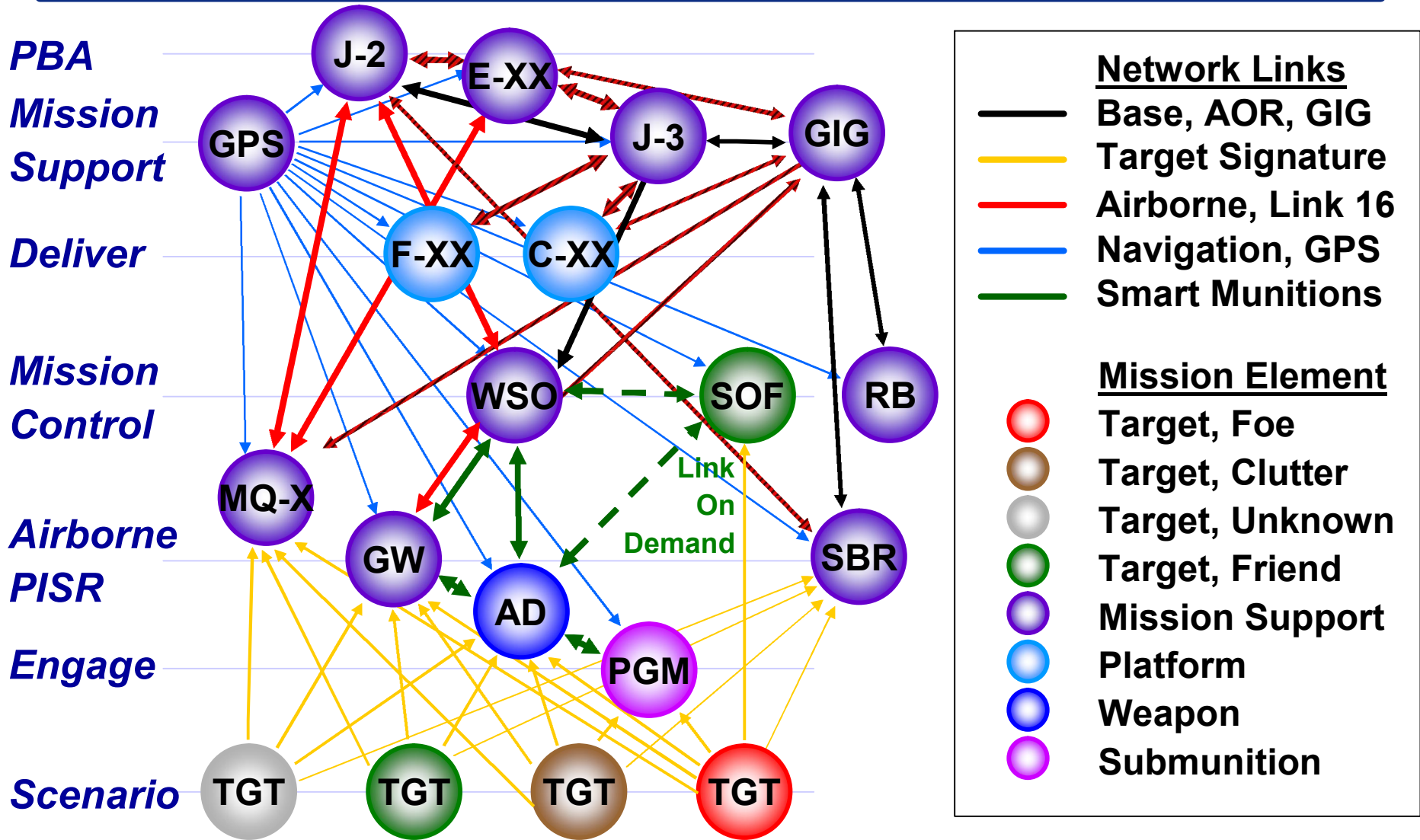
Strike OV 1

Strike Threat Environment, Modified for JITSA Delivery of LE-NCW



SV-1, Network Centric Weapons

PISR & F2T2EA Moving & Mobile Time Sensitive - Pre-emptive Model



Kill Chain Models: a Tale of 2 Dogs

Responsive Model



- Platform Centric
- Reliable – Reactive - Static
- Effective when called upon

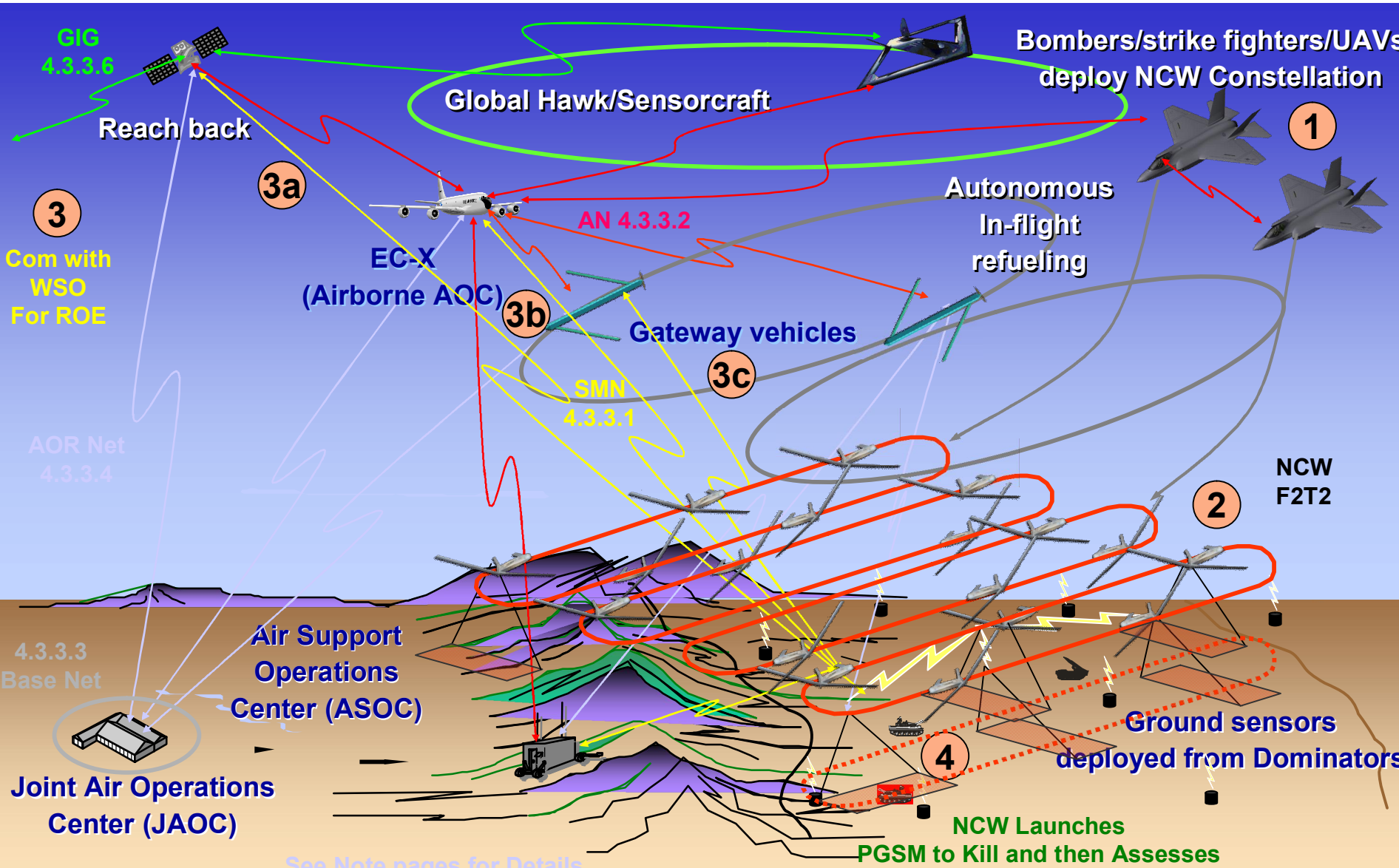
Pre-emptive Model



- Network Centric
- Agile – Quick - Persistent
- Already in Play

Long Endurance Network Centric Weapon (LE-NCW)

Pre-emptive Kill Chain Model, Showing COM interactions for Single or Multi-Tier Weapons Operations



See Note pages for Details

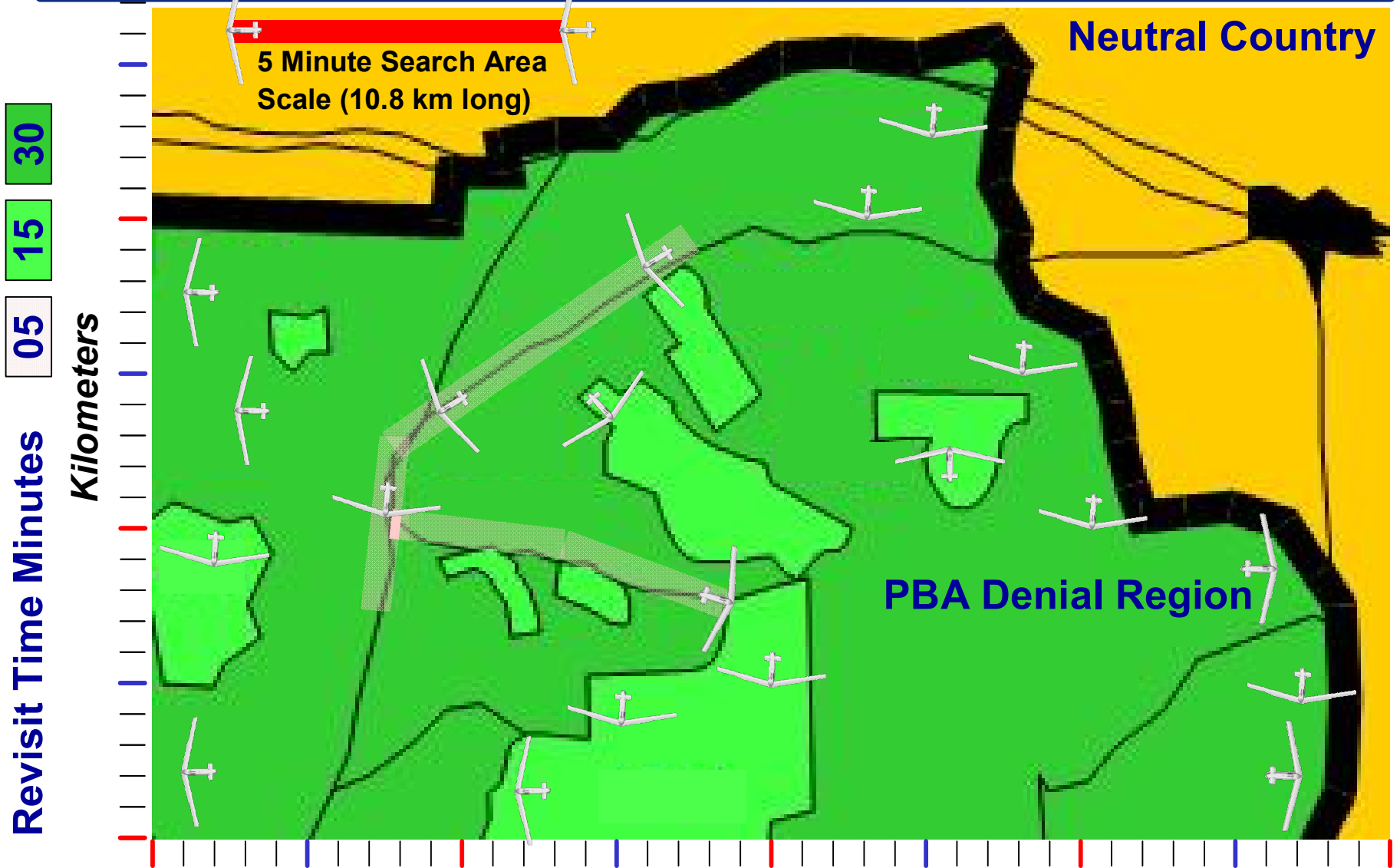
Sensor Fusion

Collection and some ATR Functions onboard NCW, WSO Workstation Fusion

- ❑ **Acoustical: Primary situation awareness aid**
 - Ballistic shock and SIGINT detection events reported to WSO
 - Defensive action either pre-planned or command directed
- ❑ **Secondary target cuing and identification sensor**
 - ELINT Detection event with spectral analysis reported to WSO
 - Targeting action dependent on mission profile
 - Cue for engage, according to prescribed tactics
 - Defensive action may be required until command direction decision
- ❑ **LADAR: Primary target identification and cuing using range, spatial and thermal contrast data (Tri-Mode Near term)**
 - Detection reported with IMINT and ATR resolution etc.
 - Engages high priority targets, WSO has ROE over ride
- ❑ **SAR: Secondary target cuing and GMTI from Gateway**
 - Machine to Machine cuing and tasking with WSO over ride
 - SIGINT also processed and reported
- ❑ **Navigation: INS/GPS with DTED aided terrain roughness and avoidance**

Single Tier CONEMP Mission Management

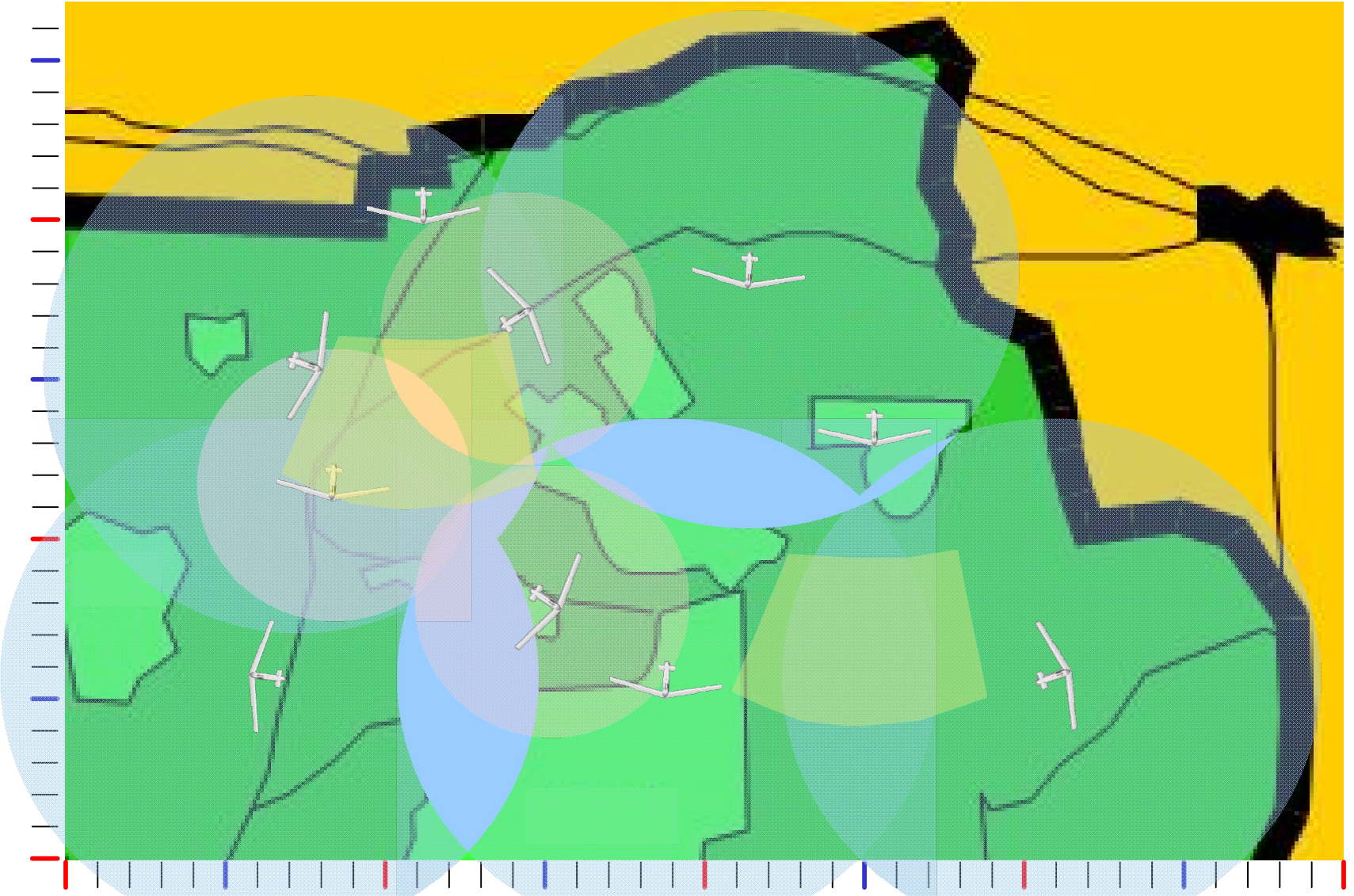
Objective: Manage Revisit Time, Ensuring Enemy OODA Loop Denied



Two Tier CONEMP Mission Management

Objective: Manage Time to Target, Architecture Includes Cuing System

4
2
Time to Target Minutes



Potential JITSA Near Term Airlifter Platforms



Just-in-Time Strike Augmentation (JITSA)

- Requires no new OFP software
- No New Aircraft modifications
- Limited to No crew special training
- No impacts on Airlifter program
- Does Require WSO & Roll-on/off support equipment
- Additional Airlifter Force Structure eliminates potential burden on Airlift
- NO Transshipment – Direct delivery
- Doesn't Need Air Bridge End Node

LE-NCW Storage / Shipping Container Configuration

Standard Air Drop Palette, BIT etc., Incorporated to Facilitate JITSA Operations



Area Dominator (18)



Area Dominator Based Gateway (2)



Delivery Palette / Storage Container

48" Wide, 48" High, 48" Deep

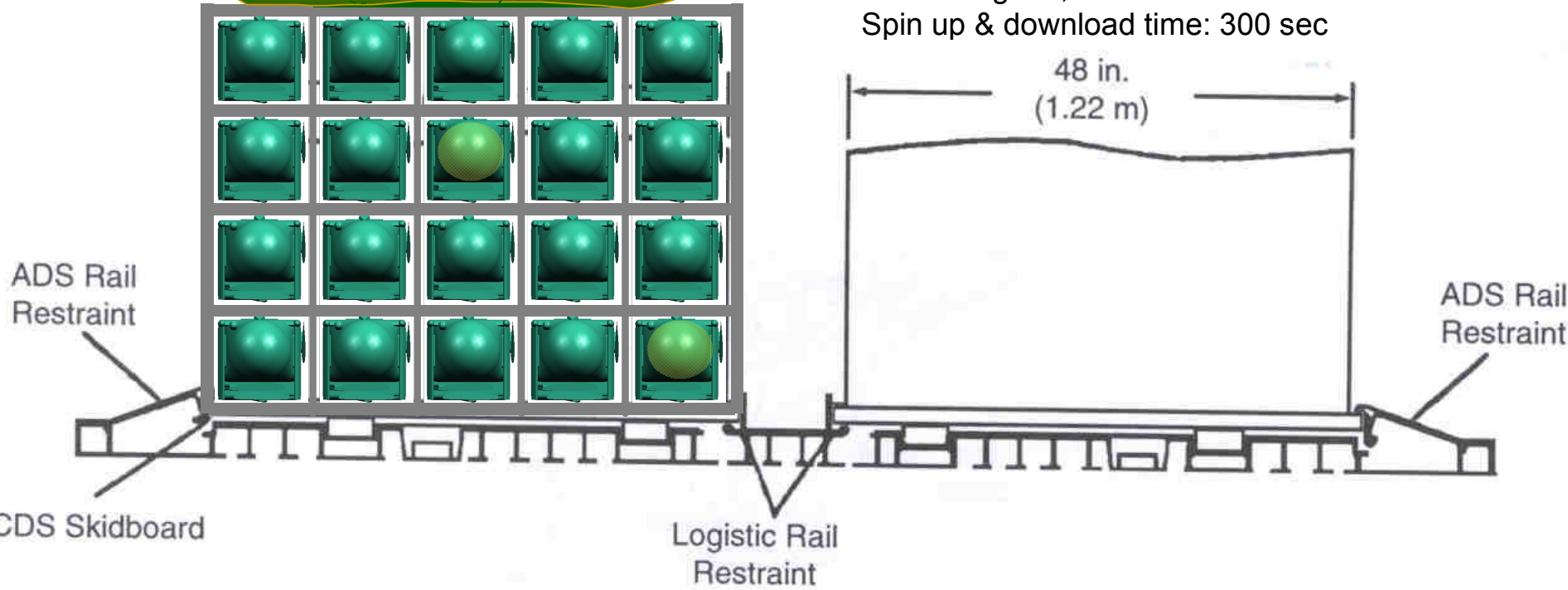
Missile Weight: 2,100 lbs

Frame & Chute Weight: 230 lbs

Power Shoe or Battery: 8 lbs

Total Weight 2,338 lbs

Spin up & download time: 300 sec

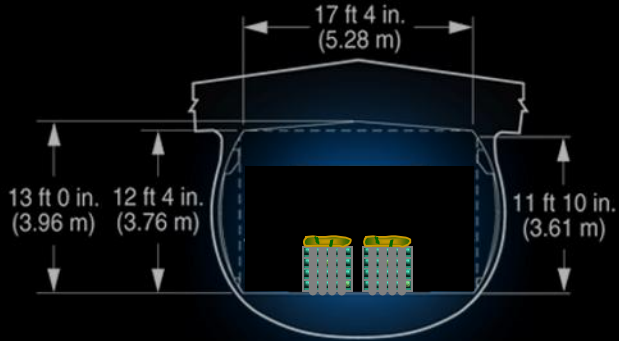


Rail Configuration for Container Delivery System Restraint

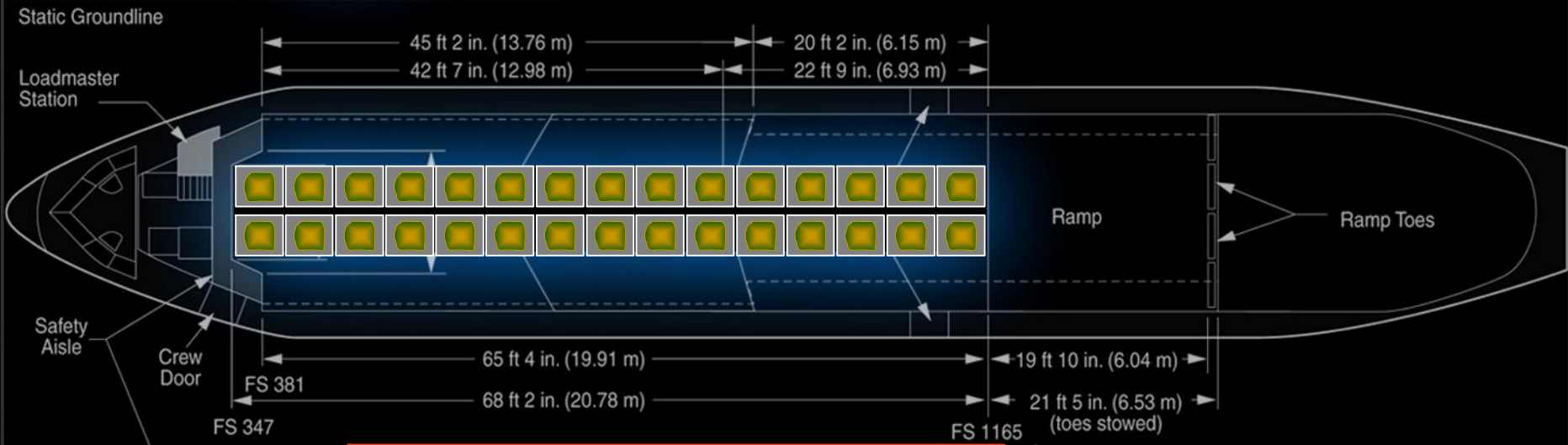
Example Large Airlifter LE-NCW Potential Loadouts

Long Endurance- Network Centric Weapons can exploit JITSA delivery capabilities

Under Center of Wingbox



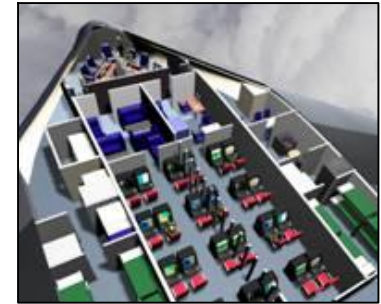
30 Palettes
 20 Missiles / Palette
 600 Missiles / Aircraft
 (60 Gateway Vehicles
 540 Multiple warhead
 Strike Vehicles)
 Delivered Weight:
 2,338 x 30 = 70,140 lbs



Carriage Trades	Bomber	FB-X	Fighter
ADM (6)	~ 120	~30	~12
Airlifter Sortie Equiv	5	20	50

Weapon System Operator (WSO)

- ❑ Rules Of Engagement (ROE) responsibility
- ❑ Manages Array of Weapons delivered by JITSA platforms
- ❑ Control releasable to forward ROE capable agents
 - Support CAS and Urban Environments
 - Support Special Tactics Forces
- ❑ Potential for Free Personnel Resources
 - Create Combat WSO UTC to support AEF rotations
 - Fill with AFMC UTC personnel (No new personnel required)
 - PC based training and certification
- ❑ Roll-on Roll-off WSO support system
 - Maximum exploitation of COTS equipment
 - Aircraft Based Communication interfaces & Environmental protection
 - WSOs potentially onboard MC, KC, BC and AC aircraft or in CAOC



- Control Station NOT rigid or expensive
- Flexible Software essential
- Common JTRS radios for weapon LAN

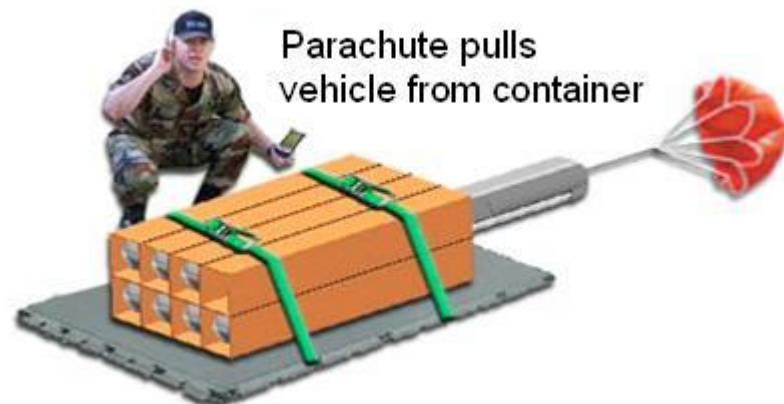


Weapon Launch Operator (WLO)

- **Airlifter Loadmaster Responsibilities**
 - **All Cargo Deck Operations**
 - **Container Delivery System Operations**
- **Airlifter Crewmember or Potential AFMC Crew Augmentee**
 - **Manages Contained Pre-launch activities**
 - **Weapon Power up**
 - **Weapon Transfer Alignment**
 - **Weapon BIT**
 - **Weapon Mission Load Verification**
 - **Weapon Launch and Release Envelop Advisor**
 - **Re-targeting Data loader**
 - **Resourced from AFMC resources on AEF UTC rotation**
 - **Control Station NOT ridge or expensive – like Rental Car turn in terminal with GPS for Transfer Alignment**
 - **Virtual Umbilical Controller**
 - **Flexible Software essential**
 - **Common JTRS radios for weapon LAN**

Stability and Protection Operations

- **Ground launch and recovery operations**
 - Proven technology
 - Couples 24/7 PISR with immediate Low Collateral Damage Lethality
 - WSO services can be provided by AF personnel or chopped to Stability & Protection forces on demand
- **Tactical Airlifter based operations**
 - Launch services similar to other Airlifter deliveries can be user specified or individually launched
 - WLO/WSO services can remain with delivery platform
 - Two Tier cueing capability teamed with a system like RQ-1 using GMTI SAR reduces on-orbit array quantity



- ❑ **JITSA can be a back breaker to large scale enemy operations**
- ❑ **Efficient use of force structure in large scale, stability and protection operations**
- ❑ **Not platform dependent**
 - **No Integration Costs**
 - **Shorter Time to Warfighter**
- ❑ **Potential near term DOTMLPF solution to current TCT and PISR needs**