



Special Operations Forces Industry Conference

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- Presenter's Title

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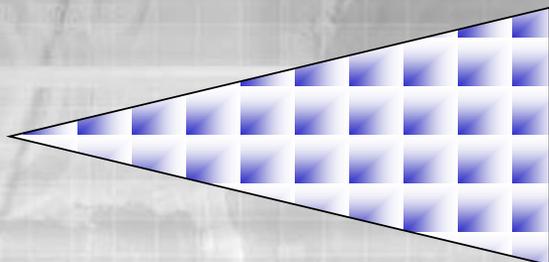
SOF ISR Challenges and Way Ahead

Special Reconnaissance Surveillance and Exploitation

The Changing Relationship Between Intelligence and Operations

FIND

FINISH

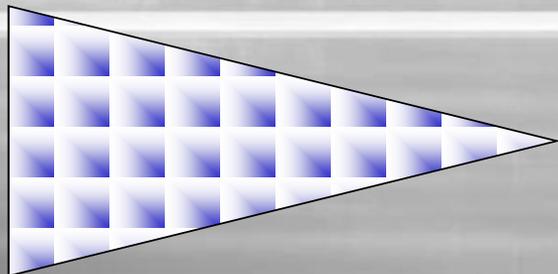


Conventional Warfare

- Minimal level of effort to find enemy
ISR focus: determine enemy status, intent
- Large, sustained effort to defeat
ISR focus: improve kill mechanism effectiveness & efficiency

FIND

FINISH



Irregular Warfare

- Large level of effort to find enemy
Where's Waldo...?
- Small, focused effort to defeat
Small footprint, combined U.S./foreign partner....

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ISR Evolution

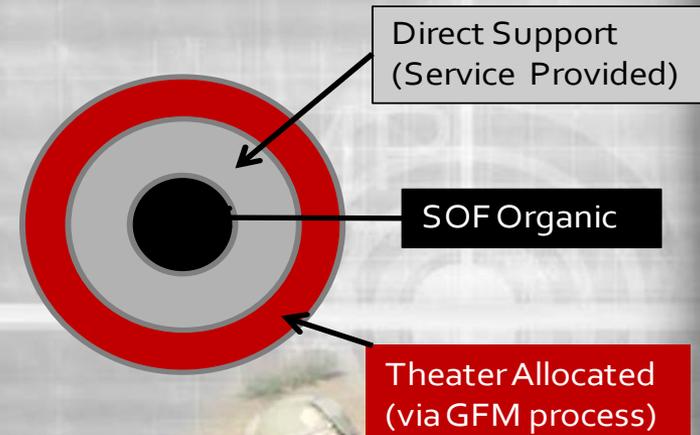
- Targets
 - From large troop concentrations and industrial sites...
 - ...to previous, *plus* critical targets within installations or formations...
- Purpose and timelines
 - From strategic and operational planning – days to weeks...
 - ...to previous, *plus* time-critical targeting for elusive targets – minutes to seconds...
 - ...to previous, *plus driving mission generation in near real time.*
- Precision and persistence
 - From periodic sampling for general battlefield awareness...
 - ...to previous, *plus* finding and engaging fleeting targets with precision weapons...
 - ...to previous, *plus continuous surveillance required to affect rapidly unfolding events and engage high-value targets* with minimal collateral effects.

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Framework – SOF ISR

- What makes SOF ISR 'Peculiar':
 - SOF ISR Capabilities must be scalable and tailorable to SOF Operators and SOF TTPs
 - Focused on identifying and actioning networks (with partners), not providing over-watch
 - SOF ISR must be dedicated, habitual, and seamless to the SOF Operator
 - SOF ISR must support the full spectrum of SOF Core activities and operations
- Tenets of SOF ISR:
 - Persistent surveillance ("Unblinking Eye")
 - Habitual relationships w/SOF Operators and TTPs
 - Detailed, specialized products tailored to mission, customer, and pace of ops
- SOF ISR Capability Requirements (Big Picture)
 - Detect, Identify, and locate targets of interest
 - Monitor and track targets of interest
 - Monitor and exploit terrorist communications
 - Link coalition and interagency within a collaborative environment



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SOF ISR Components

SOF ISR: focused on SOF operator, full spectrum of SOF mission, global



Collection



Close Access Platforms & Sensors

- HF-TTL
- SOTVS/RSTA
- JTWS – Air/Ground/Maritime
- SSE
- Biometrics
- Forensics
- DOMEX



Airborne Platforms & Sensors

- Manned
- Unmanned

FMV PED

SIGINT PED

Other PED

Databases and Tools: SIDMS, SOCRATES, DCGS FoS

Communications: SIE, Service/CSA Provided

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IW ISR Capability Requirements

- *Detect, identify, and locate* individuals and group, facilities, equipment, financial and information resources
- *Monitor and track* from initial contact through a desired end state, including destruction, capture, or exploitation.
- *Monitor and exploit* communications and surveillance methods and equipment
- *Link coalition and interagency* leaders, collectors, analysts, planners, and execution elements within a collaborative environment.

Partner Nation may comprise point of detection and execution arm

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SOF Airborne ISR Capability Requirements

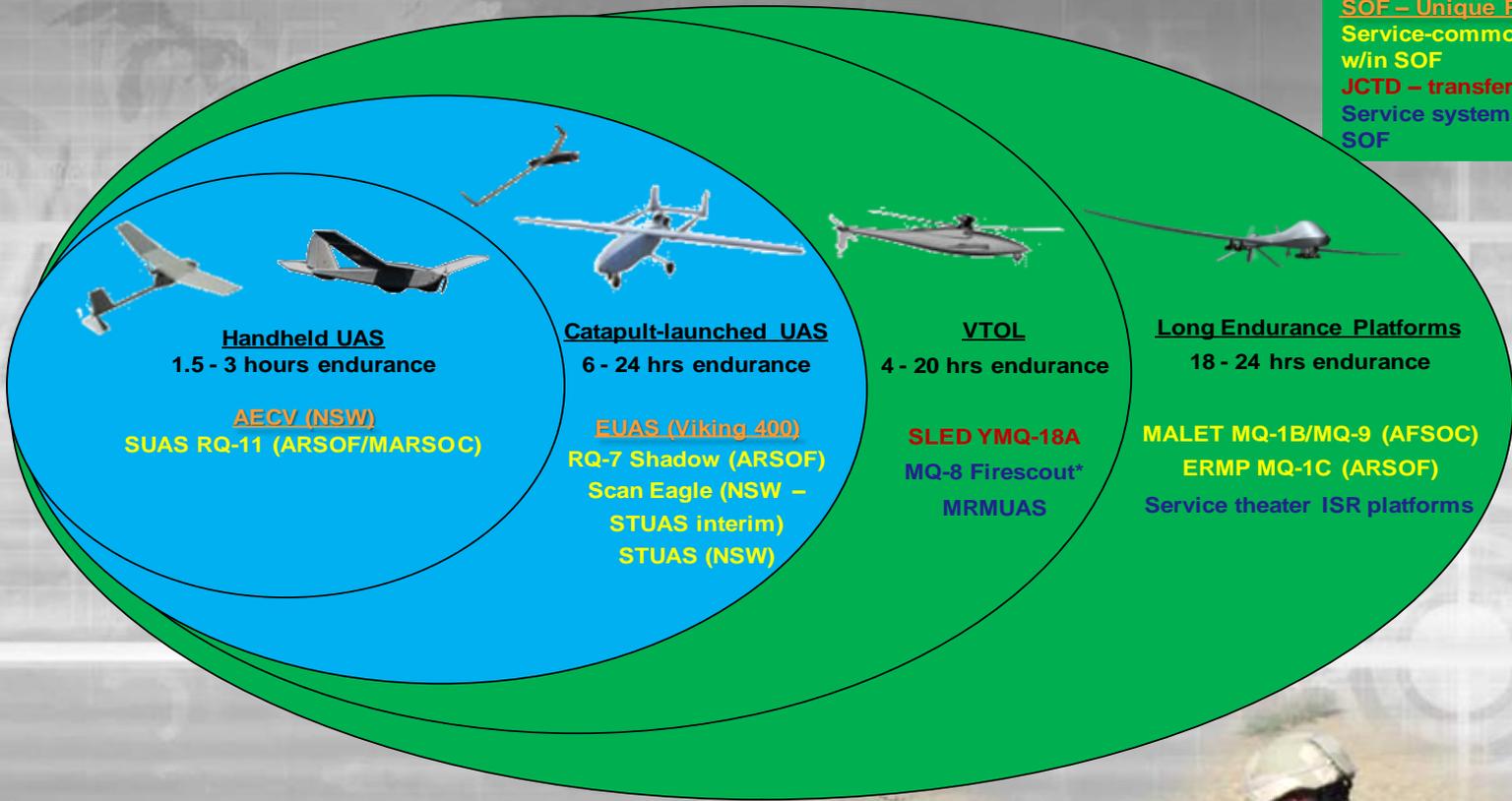
- **Vehicles**
 - *All-weather, day and night*
 - *Long on-station loiter*
 - *Multi-sensor* modularity (currently, FMV+others)
 - System “stretch” to *support emerging capabilities*
 - *Expeditionary* – rapid/self-deploy; operate from unimproved sites and afloat platforms
 - *Suppressed signature* – noise and visual
- **C2**
 - Flexible command and control – *line-of-sight and beyond*
 - Sensor and target analysis *tools to rapidly plan and cue or re-task* capabilities
 - *Interoperable with services, ICs and coalition/partner nations*
- **Sensor systems**
 - *All-weather day and night*
 - Networked and deployable sensor *data processing and exploitation*
 - Sensor *data integration/fusion*
 - *Interoperable with services, ICs and coalition/partner nations*

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SOF AIRSR Integrated Capabilities

SOF – Unique Programs
 Service-common systems
 w/in SOF
 JCTD – transfer to service
 Service systems supporting
 SOF



Handheld UAS
 1.5 - 3 hours endurance

AECV (NSW)
 SUAS RQ-11 (ARSOF/MARSOC)

Catapult-launched UAS
 6 - 24 hrs endurance

EUAS (Viking 400)
 RQ-7 Shadow (ARSOF)
 Scan Eagle (NSW –
 STUAS interim)
 STUAS (NSW)

VTOL
 4 - 20 hrs endurance

SLED YMQ-18A
 MQ-8 Fire Scout*
 MRMUAS

Long Endurance Platforms
 18 - 24 hrs endurance

MALET MQ-1B/MQ-9 (AFSOC)
ERMP MQ-1C (ARSOF)
 Service theater ISR platforms

LOS, FMV only

BLOS, Multi-sensor

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ISR PED Modernization

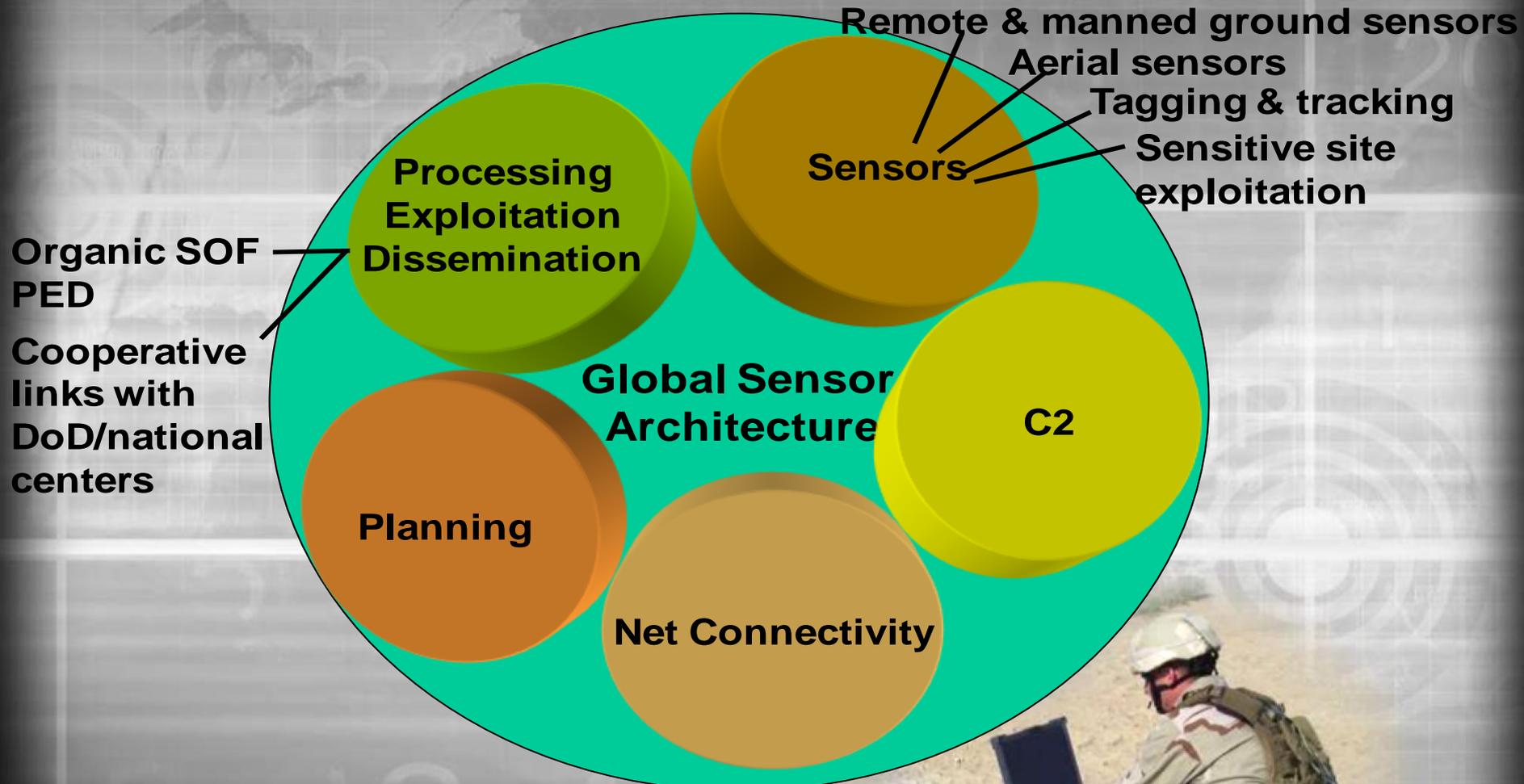
- Enable SOF PED enterprise to handle significant increase in workload from future collection, increased orbits & new sensors
- Community fields sensors which maximize PED effectiveness & efficiency
- Eliminate nugwork, enable analysts to focus on high payoff activities – 80/20
- Fat-fingering geo-coords across networks into chat; multiple local unique databases; proprietary LIMFACs; lack of automated dataflow
- Levels of PED varies significantly – match PED to mission
- Define ISR architecture, workflow, dataflow, and associated metadata – End to end – starting from sensor, through all phases of PED – includes ITCs and sensor operators
- Priorities: successful automated dataflow – geocoords, timestamp, mission ID, source ID/releasability rules



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Global Sensor Architecture



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ISR Data

- **Overarching requirement: Knowledge Management Roadmap**
 - Bringing together DATA, Information and Knowledge
 - Discoverable, retrievable, sustainable
 - Enhance Communication/Collaboration/Dissemination
- **Data strategy is at the heart**
 - What is it? Where is it? Who owns it? How do we get it if we need it? How do we use it? How do we tie it all together?
(FUSION)
 - Acceptable, enforceable and adaptable Standards

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SOF Way Ahead

- CONOPS
 - *Small SOF elements* deployed in many locations -- advisory/assistance efforts, building partner nation capacities against terrorist networks
 - *Small, select SOF operations* in lawless, paramilitary environments to disrupt/deny adversary sanctuary areas
- *Increase organic SOF ISR capabilities*
 - *Communications* systems and architectures
 - *Processing, Exploitation, and Dissemination (PED)* of networked information
 - *Ground, air, maritime sensor* capacities
 - Better *utilization and synchronization of SOF human sensor* activities
- *Increase partnerships* with Combat Support Agencies
 - Cooperative PED; integrate SOF into national agency architectures
- *Solicit support* from the services
 - Support through the Joint Staff for *GCC-requested ISR assets* ISO SOF
 - Provide needed *communications architecture/bandwidth* to support SOF ISR needs
 - Provide additional *manpower* to support ISR platforms (aircrew, PED)
 - *Accelerate fielding* of service-programmed ISR to SOF
- *Grow allied/partner nation* ISR capabilities
 - *Partner with established allied nations* to improve regional capabilities
 - i.e. our sensors, their platforms and personnel
 - *Tailored enhancement of PN/HN capabilities* through train, equip, and advise activities

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SOF Way Ahead – Technology Challenges

- *Counter-insurgency Ops are changing the face of ISR*
 - High demand for *readily-exploitable data*
 - Rapid *access to multiple data sources* drives *intelligence...intelligence drives decisions and actions*
- *More diverse operational environments will drive sensor and PED requirements beyond FMV*
 - *Sense and exploit* to detect/identify/track through cover and weather in high-clutter environments
 - *Track* HVIs over *global distances*
 - Datalinks need to accommodate increasing amounts of *raw data from multiple sensors*
 - *Limited forward footprint* will stress operational coordination – need assured comms and presentation methods in quantity
- *Future operations will present new challenges in host/partner nation cooperation*

Requires an integrated Joint, Service, Interagency effort

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Questions?

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