NATO
OTAN

FUTURE TRENDS in NATO on Situational Awareness and Interoperability

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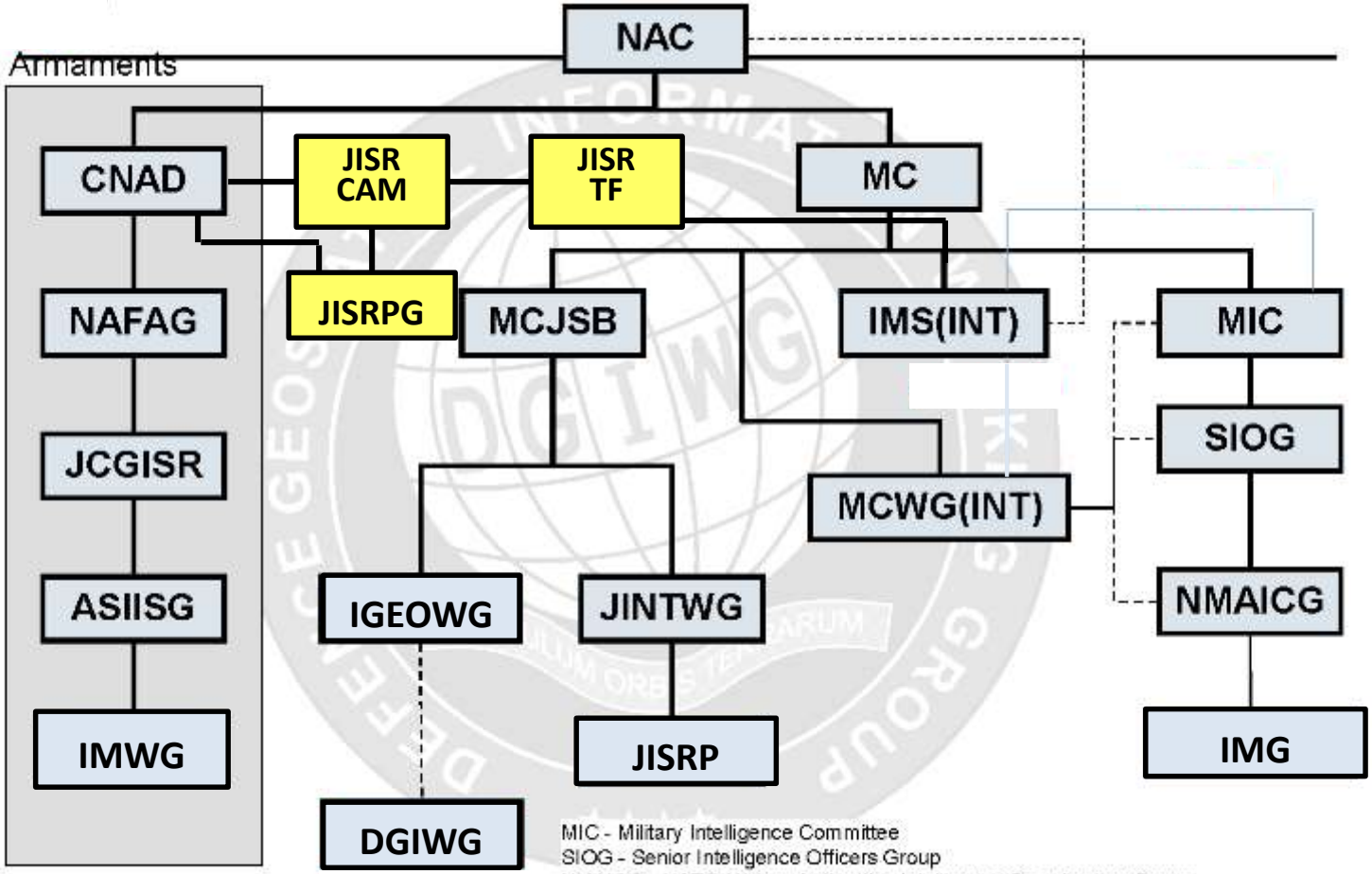
UNCLASSIFIED

NATO Construct 2013

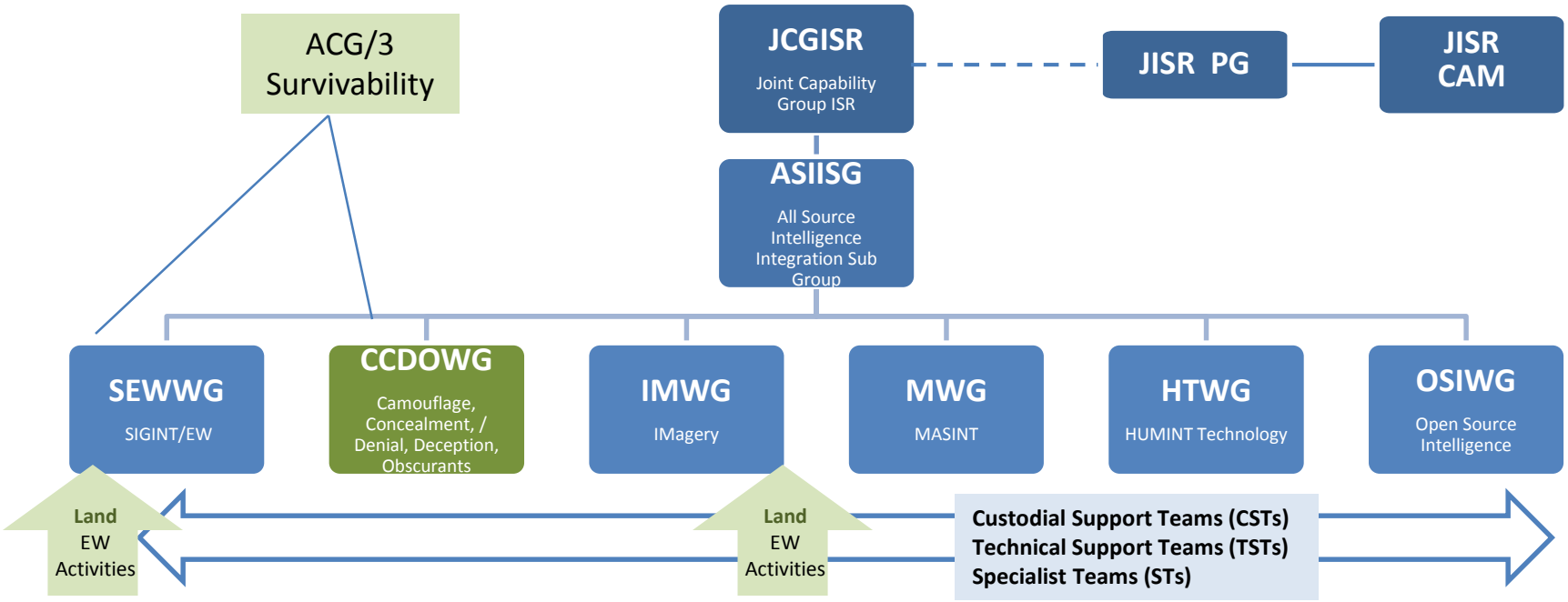


JCGISR Mission

Joint Intelligence, Surveillance and Reconnaissance are at the core of information sharing in NATO. Built upon a structure of intelligence driven working groups, the JCGISR is the only group within the CNAD covering all aspects of intelligence, surveillance and reconnaissance.

MISSION:

Its mission is to support achievement of Intelligence, Surveillance and Reconnaissance (ISR) within NATO and between NATO and national forces by developing and providing technical interoperability through standardization and technical capabilities demonstrations that support ISR in operationally-relevant situations. Achieving Information Superiority requires integration and interoperability of collection, exploitation, analysis, correlation, fusion and dissemination of data and information. The JCGISR Programme of Work is capabilities focused and output oriented; implementing jointness through participation of Air Force, Army, Navy and SOF representatives and systems. JCGISR will formulate its work in conjunction with the NATO Air Force Armaments Group (NAFAG)/Joint Capability Implementation Group (JCIG), as directed, to periodically test and demonstrate achievements in operationally relevant environments.



NAFAG NIAG STUDIES

2012 Accomplishments:
NIAG Study Group – 164 UV12 Support

STUDIES FOR 2013

1. NATO DGNSS and PALS: Data Generation and Broadcast (Sponsor ACG5);
2. Standardization of Measurement Units and Reference Frames (Sponsor ACG 2);
3. Processes and Technologies to exploit Open Source data from social networks, for early indications and warning (Sponsor JCGISR);
4. NATO Special Operations Aviation Battlespace Awareness (sponsor ACG5);
5. NIAG Support to UV14 (Sponsor JCGISR)

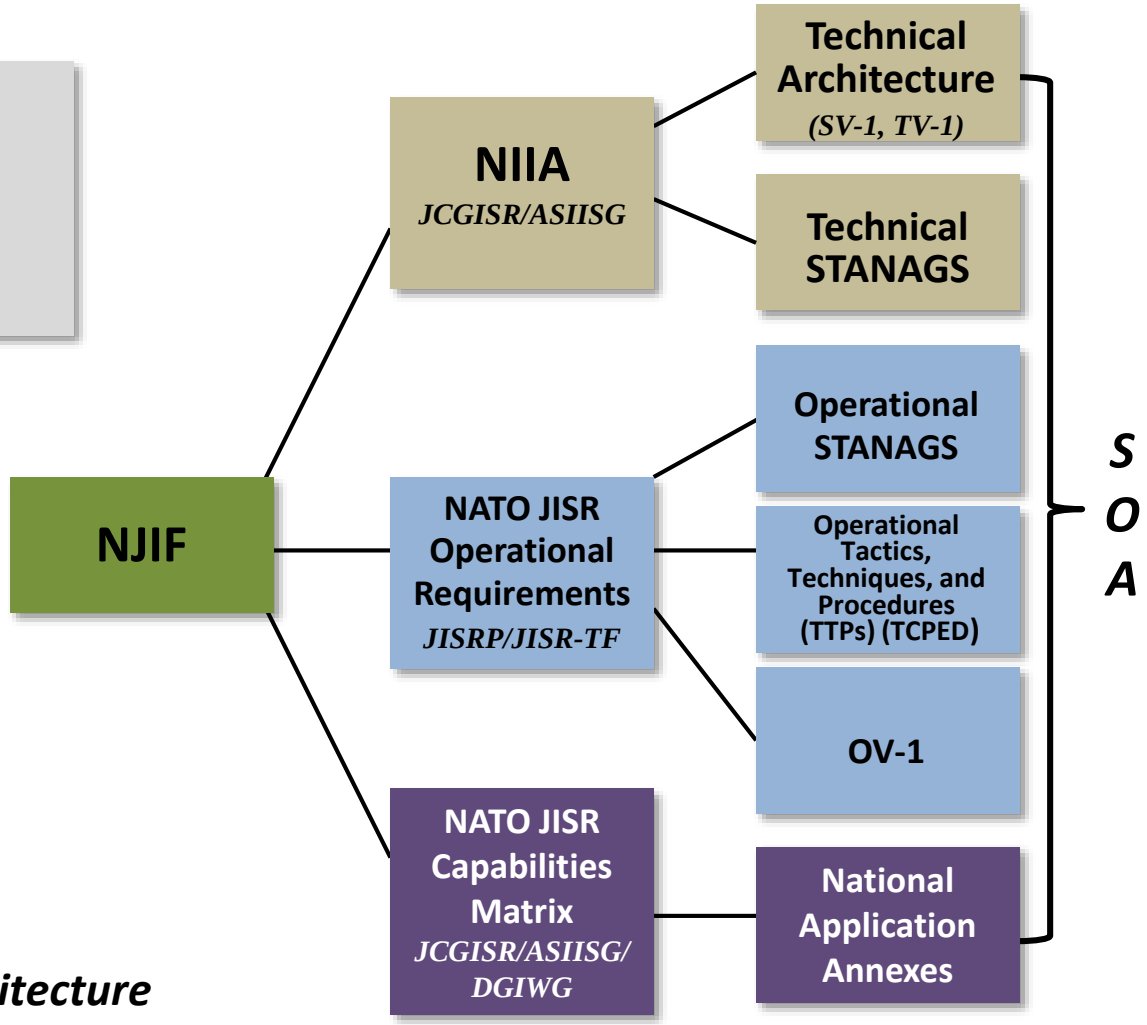
Proposed NIAG Study for PED of Imagery ISR Products

- **The basic study objective is recommendation for:**
  - Improvements to existing process for PED of the massive amounts of the collected imagery intelligence raw data and
  - The supporting technologies required to improve the efficiency and effectiveness of the process.
- **The study result should identify a process and the supporting automated tools which focus the analyst on what matters rather then having him "sift" through massive amounts of "raw" imagery data.**

Collaborative Effort Between JCGUAS and JCGISR

JISR Capabilities Matrix / ASIISG NIIA Status Update

Proposed NATO Joint ISR Interoperability Framework (NJIF) Concept



SOA = Services Oriented Architecture

Future Threat Challenge

- Asymmetric to Nation State and Hybrid
- Full Spectrum of Conflicts
- All Phases of Operation
- Enabled by Diverse Military and Commercial Technologies
- Cyber Is a Factor

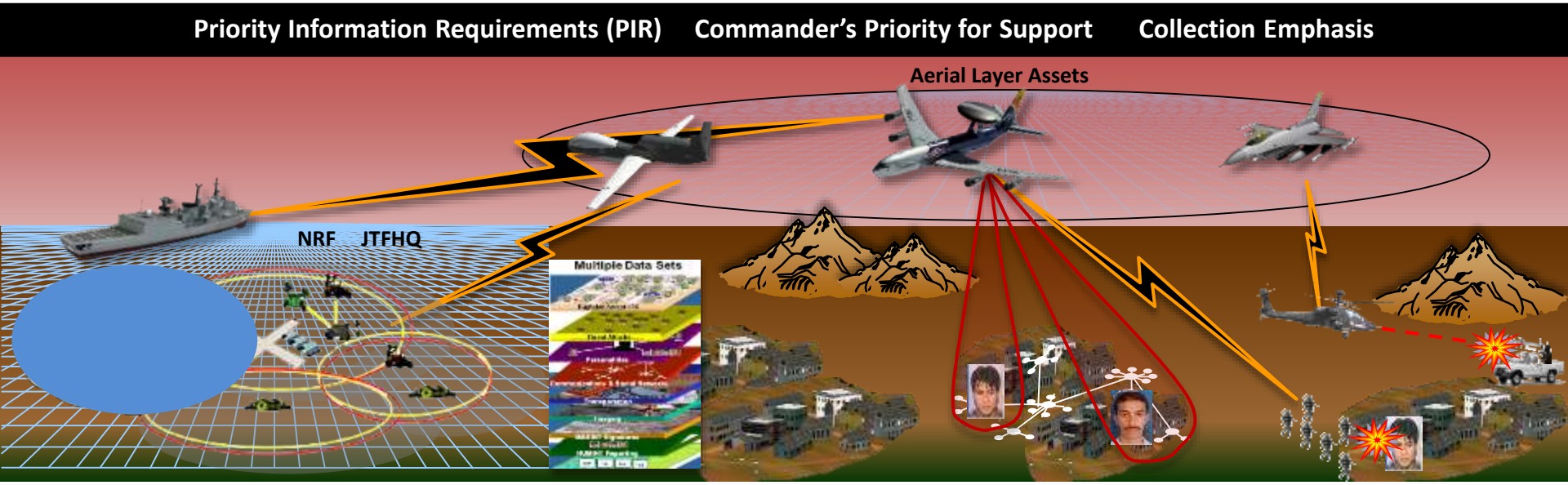
Advancing ISR Sensor Performance

- ***Traditional Sensors*** *(Radar, Active/Passive RF, EO/IR)*
- ***Added Phenomenologies*** *(FOPEN, HSI, LIDAR, WAAS…)*
- **Increase Range, Higher Resolution, Wider Coverage, Increased Spectrum, Lower MDV, Reduced FAR, Robust Interference Rejection, Better ID, More Precision**
- **Multi-Intelligence Fusion to Generate a Complex Entity Data Base Environment**

Joint ISR Operations

- Driven by the commander's needs
- Joint collection plan
- Dynamic CCIRM
- Collaboration during all phases
- Multiple PED sites feed a large common entity database environment (data immersion)
- Users/Providers feed/collaborate as required
- Focus on providing best SA, Force Protection and Targeting
- ISR seamlessly feeds Operations via Alerts/COP

Joint ISR Operations



Joint Connectivity Is Key

- Terrestrial Networks Evolving
- Opportunity for Robust Aerial Network
- Connectivity via Space Layer Provides Extended Reach
- Need to get to seamless Joint Immersion

Other Enablers

- **Modular Open System Architectures** *(Software driven, upgradable)*
- **Joint Standards** *(STANAG, AEDP…)*
- **Joint Trials/Exercises** *(Unified Vision; MAJEX; CWIX)*
- **Multi-Intelligence**
- **Advanced Analytics**
- **Cloud Technology** *(SOA)*

Conclusion

- **Dynamic CCIRM** *(tools; CONOPS)*
- **Common Services Oriented Architecture**
- **Multi-Intelligence Fusion**
- **Data Immersion**
- **Trials/Exercises are a critical path to NRFXX**