REACHBACK AND DISTRIBUTED OPERATIONS ISR

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A majority of Air Force global integrated intelligence, surveillance, and reconnaissance (ISR) capabilities are provided to the joint force commander (JFC) and/or Commander AF Forces via reachback and via distributed operations. Reachback and distributed operations allow for global integrated ISR capabilities to be presented with a reduced forward footprint. This puts fewer Airmen in harm's way without sacrificing operational effectiveness. The decision to establish reachback and distributed or split operations offers several tradeoffs. First, the fewer personnel/forces deployed forward, the less support is required. This may, however, limit face-to-face interaction between forward and rear decision-makers stretching decision-making timelines. Additionally, fewer personnel/forces forward also reduces security requirements. Yet, there is a possible void of expertise forward, forcing increased coordination with reachback and distributed entities. Finally, reachback and distributed operations requires expanded communications infrastructure which may increase vulnerabilities. Still, it could be argued that reachback and distributed operations may be more survivable and less vulnerable to single points of failure.

One of the most valuable attributes of airpower is its flexibility, the inherent ability to project power dynamically across the entire operational area. Flexibility of ISR operations is exponentially enhanced when remotely piloted aircraft (RPAs) are operated via a command and control (C2) technique termed remote split operations (RSO). RPA RSO missions provide a unique capability to transition RPA aircrews between missions across the globe in minutes in response to dynamic and changing requirements. As a result, RSO provides national decision makers the means to dynamically translate strategic priorities into forces and capabilities, determine where the US military should be focused, and where the nation can afford to accept risk.

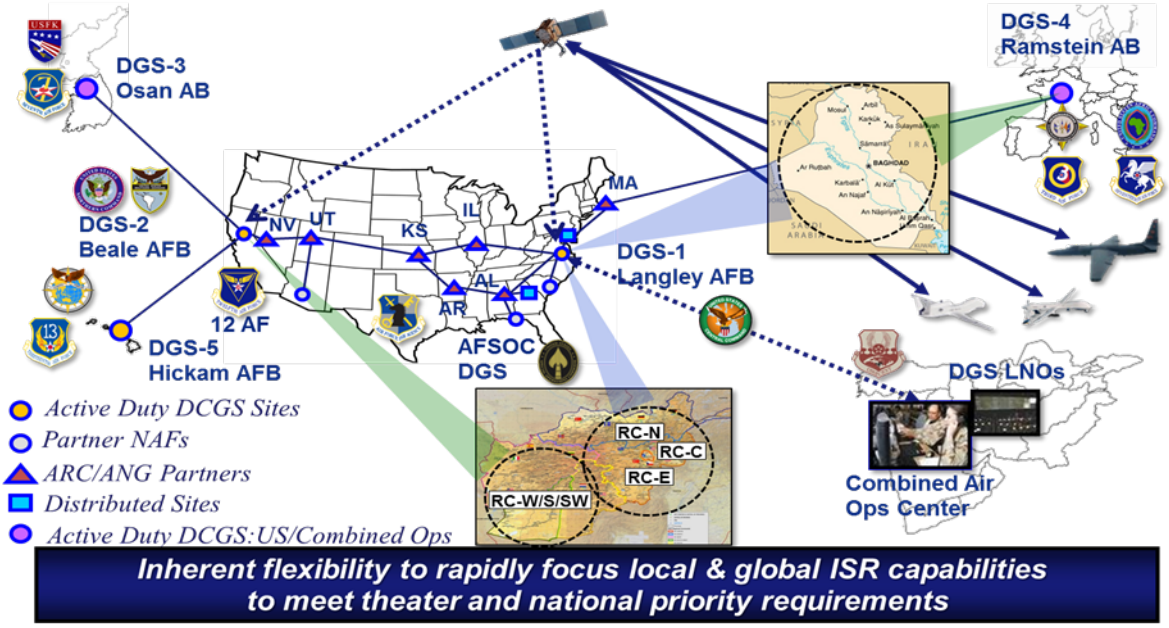
RSO, a critical element of distributed operations, employs forward-deployed, multi-role RPAs from home station via satellite links. The RSO approach has many inherent advantages. RSO reduces the deployed footprint at consolidated operating locations to only those forces required to launch, recover, and maintain aircraft. RSO does not require reconstitution of the RPAs at home station, enabling deployment of the vast majority of the RPA fleet. Thanks to RSO, the majority of the aircrew and associated personnel operate from home station and requires minimal reconstitution. Finally, asset consolidation at the forward location enables substantial maintenance efficiencies to be leveraged. While RSO decreases the need to forward deploy personnel for a given

operation, it is important to note that RSO does not decrease the global requirement for RPA aircraft and aircrews or the global requirement for ISR personnel.

RSO of RPAs is a force multiplier for the joint force that produces unparalleled economy of force and delivers increased combat power during military operations. The dynamic flexibility provided by RSO enables optimal use of scarce resources, rapid response to changing mission requirements among multiple combatant commands, and highly capable global strike and globally persistent surveillance.

DISTRIBUTED COMMON GROUND SYSTEM RESPONSIBILITIES/AUTHORITIES

The Distributed Common Ground System (DCGS) is a network-centric, global ISR enterprise. Its activities are tasked and managed to support CCDRs and forces—primarily at the JTF level and below—with actionable, decision-quality information, in accordance with established priorities as approved by the Secretary of Defense (SecDef) via the JS GFM process. The DCGS is the Air Force weapon system which provides PED for most Air Force airborne imagery intelligence (IMINT) and SIGINT collection. Air Force Distributed Ground Systems (DGSs) operate with the full flexibility of the established intelligence process, as detailed in JP 2-01, *Joint and National Intelligence Support to Military Operations*, in order to make usable information immediately and simultaneously available to both engaged forces and intelligence analysts. The Air Force has chosen to designate specific DGSs to focus regionally but still be able to support global operations as prioritized by SecDef. However, the strength of the DCGS weapon system is that each DGS is networked and linked. Therefore, if one DGS requires support another DGS can help support the workload thereby maximizing the effectiveness of the entire enterprise while increasing efficiency by not duplicating manpower and other resources at each site. The DCGS is centrally managed by the 480th ISR Wing. The 480th publishes a daily PED tasking order (PTO) to task the DCGS system based on individual AOC and other customer requirements. See figure on the Air Force Distributed Common Ground System.



Air Force Distributed Common Ground System

Air Force DCGS takes advantage of Air Force, other Service, national, and coalition sensors in all domains and ingests information from all sources of intelligence. Air Force DCGS then provides products which are tailored for end-user requirements, in the formats, timelines, and channels required. Most importantly, the Air Force DCGS system is scalable and capable of both forward-based and globally distributed operations. Of note, the Air Force DCGS is a component of the larger DOD DCGS family of systems.

Special Operations forces (SOF) are supported by Air Force Special Operations Command's (AFSOC's) organic SOF distributed ground station (DGS), a networked enterprise providing highly detailed intelligence products to fielded forces. This enterprise includes multiple DOD and national exploitation nodes, all focused on providing high quality, responsive intelligence to various levels of special operations entities deployed globally. This enterprise extensively leverages capabilities and products from the national intelligence community in support of SOF personnel.
25 AF executes global DCGS operations via the 480th ISR Wing, which commands six ISR Groups to access the Air Force DCGS enterprise, and the 70th ISR Wing, which commands one ISR Group to support the DCGS. These groups, their associated Intelligence Support Squadrons, and DGSs are focused regionally to a component major command (C-MAJCOM) or component Numbered Air Force (C-NAF) and combatant commander (CCDR) while also leveraging and supporting nationally tasked cryptologic missions.

Although ISR groups are aligned regionally and provide direct support to CCDRs, the power of DCGS is the ability to focus ISR PED capability where and when required based on DOD priorities. For example, a DCGS unit providing direct support to a regional theater can be directed to support another regional theater, in part or in whole, depending on the requirements levied upon it by higher DOD authorities.

DCGS conducts ISR operations throughout the planning and direction; collection; processing and exploitation; analysis and production; and dissemination (PCPAD) process and across the range of military operations, and does so in close coordination and partnership with reconnaissance squadrons and national intelligence agencies. ISR cross-cueing is one way DCGS operates. An example of cross-cueing would be a DCGS signals operator employing sensors aboard a U-2 on the other side of the planet to geo-locate a target signal and then cue a geospatial analyst working in the same room to coordinate with a Predator unit thousands of miles away to steer its video sensor to observe the source of the signal, and immediately report their findings directly to a supported unit in the area. SOF receive similar support through the SOF DGS enterprise, as executed by AFSOC.

The SOF DCGS is specifically focused on providing very detailed, tailored intelligence products and reporting to SOF deployed globally.

DCGS processing, exploitation and dissemination (PED) will support the overall Global Force Management (GFM) Allocation Plan. 25 AF presents flexible DCGS PED capabilities to the CCDR or JFC via a net-centric environment. 25 AF sites leverage

locations around the globe using personnel from diverse units. Some Guard and Reserve units are designated DCGS nodes.

Once tasked, DCGS crews perform PCPAD to include ISR fusion. DCGS capabilities are not normally presented as part of an AETF due to the global integration of Air Force DCGS operations.

Each of the five DCGS core sites forms the operational base of the ISR groups, and each group is operationally aligned with a primary C-MAJCOM/C-NAF for AOR expertise, while tasking (OPCON/TACON/ADCON) remains through the DCGS Enterprise chain of command and operations. The ISR groups and their accompanying architecture were created to possess the inherent flexibility to rapidly focus local and global capability on their area of operations while simultaneously shifting elements of global integrated ISR capability from one region to another as theater and national priorities require.

Conventional PED capabilities are primarily tasked via the supported theater air tasking order (ATO) and reconnaissance, surveillance, and target acquisition (RSTA) annex which includes platform collection decks. From this, the 480th ISR Wing generates an internal PED tasking order (PTO) for all DCGS units. The 480th ISR Wing is the lead operational Air Force DCGS wing and operates the 480th Wing Operations Center (WOC) and the AF DCGS PED Operations Center (DPOC). PED support for SOF is tasked through AFSOC or through the ISR PED tasking process.

Once tasked, DCGS forces present flexible Air Force, joint, and combined PED. The flexibility/strength of Air Force DCGS forces are enhanced by:

Logistics: Presentation of DCGS capabilities does not normally require an extensive or costly logistics tail unless there is a requirement to physically deploy personnel and hardware or to support platforms and sensors not already incorporated into the AF DCGS weapon system.

Continuity of Operations: Each Air Force DGS has cyberspace redundancy. The degradation of one or more core sites normally will not negatively affect the presentation of DCGS PED capability to the CCDR or the JFC. For example, imagery exploitation can be transferred from a Virginia site to a California site instantly, without moving personnel.

NATIONAL AIR AND SPACE INTELLIGENCE CENTER (NASIC)

A field operating agency (FOA) subordinate to AF/A2 and is the principal service production center for assessing foreign air and space threats. NASIC produces integrated, predictive air and space intelligence to enable military operations, force modernization, and policymaking.

AIR FORCE TARGETING CENTER (AFTC)[1]

[1] Note: IAW PAD 14-02 (yet to be approved), the AFTC is being inactivated concurrent with the stand-up of the 363ISRW, to be assigned to 25AF.

The AFTC provides targeting products and services that exceed C-NAF and/or COMAFFOR capacity or expertise in target related planning and execution support. This support extends across the joint targeting cycle to include target materials production, target system analysis, target development, weaponeering, assessment, geospatial production, comprehensive targeting subject matter expertise, and forward deployed LNOs. Dissemination of AFTC products and services is predicated on access to theater target systems (JTT, GCCS-13, IPL, etc.) or ability of the AOC to pull from AFTC databases. The AOC is responsible for facilitating access to theater or AFTC systems for dissemination of targeting products. As required to facilitate crisis/contingency support for the COMAFFOR, the AFTC will stand up a 24/7 reachback crisis management element (CME). The AFTC establishes/maintains peacetime relationships with each air component's AOC to ensure successful crisis/contingency support through synchronization of capabilities, training/exercises, and production activities.

ISR LIAISONS AT KEY JOINT AND COALITION OPERATIONAL HUBS

ISR liaison officers (LNOs) support air operations centers (AOCs) and other organizations conducting major global integrated ISR operations. ISR LNOs may be integrated with other components from the operational level down to the tactical level if necessary. ISR LNOs provide recommendations on how to best integrate and synchronize DCGS, AFTC, and other ISR capabilities into theater operations. They provide expertise on ISR operations and may act as a conduit for ISR requirements between ground commanders, intelligence staffs, AOC ISR division (ISRD) analysts, AFTC proper, DCGS proper, and other ISR organizations that provided LNOs. Additionally, ISR LNOs increase situational awareness for ISR crews regarding the details of current operations in which they will participate.

DISTRIBUTED COMMON GROUND SYSTEM ANALYSIS AND REPORTING TEAMS (DART)

The DART provides the capability for the DGS to focus regionally. DARTs assigned to each active-duty DGS specialize in one or more geographic regions. They provide DCGS crews with situational awareness on the targets, operations, and requirements that they will execute during the course of their mission.

The DARTs provide detailed, precise regional analysis that fully leverages all source intelligence to provide insight into theater activities and aids in shaping the battlespace to advantage. “While [the Air Force ISR enterprise] seek[s] to have DCGS crews cover targets in their global integrated ISR group’s area of operation for target continuity, it is not uncommon to have the DART working issues for its respective area while their collocated crews execute missions for one or more areas.”[2]

DCGS CREWS

[2] “Global Distributed ISR operations—The Changing Face of Warfare,” David A. Deptula and James R. Marr—JFQ, Issue 54, 3d Quarter 2009.

Perhaps the most enduring aspect of the DCGS architecture is the exploitation crew. Exploitation crews data-condition (metadata tag) and interpret collected data from a variety of air and space platforms (e.g., U–2, RQ–4, MC-12, MQ–1, and MQ–9) and turn it into usable intelligence. Tailored crews are assembled based on the type of platform and the nature of the mission. Within each crew, a C2 element ensures accomplishment of mission tasks, while an analytical team works through individual exploitation assignments. Many of these crews are not part of an air expeditionary task force (AETF) which means that they do not turn over every six months. This allows for DCGS crews to maintain continuity and expertise for the duration of an operation.

480th WING OPERATIONS CENTER (WOC)

The 480th WOC coordinates and manages worldwide DCGS operations. The 480th WOC mission is to ensure the DCGS weapons system is synchronized to meet warfighter requirements around the globe. To facilitate DCGS operations, the 480th WOC produces a daily PTO. The PTO is a sliding 3-day schedule assigning DCGS crews around the globe to planned ISR missions. While the tasking order serves as the foundation for mission accomplishment, it is the WOC's agility which makes it such a powerful element in distributed operations. As global crises emerge, the WOC is able to react instantly to related combatant command and air component operational requirements. In addition, DPOC expertise in managing the global DCGS communications architecture promotes flexibility if any portion of the enterprise suffers degradation or an outage.