



NORTH ATLANTIC TREATY ORGANIZATION

Alliance Ground Surveillance (AGS)



NATO is acquiring an Alliance Ground Surveillance (AGS) system that will give commanders a comprehensive picture of the situation on the ground. NATO's operation to protect civilians in Libya showed how important such a capability is. A group of Allies will acquire five reconnaissance unmanned aerial vehicles (UAVs) and the associated command and control base stations. NATO will then maintain and operate them on behalf of all 28 Allies.

The AGS system will be acquired by 13 Allies (Bulgaria, Czech Republic, Estonia, Germany, Italy, Latvia, Lithuania, Luxembourg, Norway, Romania, Slovakia, Slovenia and the United States), and will be made available to the Alliance in the 2015-2017 timeframe.

On 2 February 2012, the North Atlantic Council (NAC) decided to collectively cover the costs for operating AGS as a NATO-owned and operated capability. The decision to engage NATO common funding for infrastructure, satellite communications, operation and support paves the way for awarding the AGS acquisition contract by 13 Allies. In addition, an agreement was reached to make the United Kingdom Sentinel system and the future French Heron TP system available as a national contribution-in-kind, partly replacing financial contributions from those two Allies.

The NATO-owned and -operated AGS core capability will enable the Alliance to perform persistent surveillance over wide areas from high-altitude, long-endurance, unmanned aerial platforms operating at considerable stand-off distances and in any weather or light condition. Using advanced radar sensors, these systems will continuously detect and track moving objects throughout observed areas and will provide radar imagery of areas and stationary objects.

The main operating base for AGS will be located at Sigonella Air Base in Italy, which will serve a dual purpose as a NATO Joint Intelligence, Surveillance & Reconnaissance (JISR) deployment base and data exploitation training centre.

Just as NATO's Airborne Early Warning & Control (NAEW&C) radar aircraft – also known as AWACS – monitor Alliance airspace, AGS will be able to look at what is happening on the earth's surface, providing situational awareness before, during and, if needed, after NATO operations.

AGS responds to the one of the capabilities commitments of the Lisbon Summit.

Components

The AGS Core will be an integrated system consisting of an air segment and a ground segment.

The air segment consists of five Global Hawk Block 40 high-altitude, long-endurance UAVs. The UAVs will be equipped with a state-of-the-art, multi-platform radar technology insertion program (MP-RTIP) ground surveillance radar sensor, as well as an extensive suite of line-of-sight and beyond-line-of-sight, long-range, wideband data links.

The ground segment will provide an interface between the AGS Core system and a wide range of command, control, intelligence, surveillance and reconnaissance (C2ISR) systems to interconnect with and provide data to multiple deployed and non-deployed operational users, including reach-back facilities remote from the surveillance area.

The primary ground segment component will consist of a number of ground stations in various configurations, such as mobile and transportable, which will provide data-link connectivity, data-processing and -exploitation capabilities, and interfaces for interoperability with C2ISR systems. The AGS Core ground segment will also include dedicated mission support facilities at

the AGS main operating base (MOB) in Sigonella, Italy, and ground stations for flight control of the UAVs.

Contributions-in-kind provided by France and the United Kingdom will complement the AGS with additional surveillance systems.

The composition of the AGS Core system and these contributions-in-kind will provide NATO with considerable flexibility in employing its surveillance capabilities.

This will be supplemented by additional interoperable national airborne surveillance systems from NATO nations, tailored to the needs of a specific operation or mission conducted by the Alliance.

Mechanisms

The NATO Alliance Ground Surveillance Management Organization (NAGSMO) is responsible for the acquisition of the AGS core capability on behalf of the 13 participating nations. The AGS Implementation Office (AGS IO) at Supreme Headquarters Allied Powers Europe (SHAPE) is responsible for ensuring the successful operational integration and employment of the NATO AGS core capability.

The NATO Alliance Ground Surveillance Management Agency (NAGSMA), representing the 13 AGS acquisition nations, has received the final AGS system proposal from the prime contractor and the contractual negotiation has been successfully finalised. The contractual arrangements are being evaluated and staffed by procurement nations. The contract award is expected in 2012.

The engagement of NATO common funds for infrastructure, communications, operation and support will follow normal funding authorisation procedures applicable within the Alliance.

By the time AGS becomes fully operational in 2017, France and the United Kingdom will sign a Memorandum of Understanding (MOU) with the Strategic Allied Commander Europe (SACEUR), outlining the modalities for making their contributions-in-kind available to the Alliance.

How AGS addresses core tasks

The Lisbon Summit set out the vision of Allied heads of state and government for the evolution of NATO and the security of its member nations. This vision is based on three core tasks, which are detailed in the new Strategic Concept:

-  cooperative security
-  crisis management
-  collective defence

AGS was recognised at Lisbon as a critical capability for the Alliance and is planned to be a major contributor to NATO's Joint Intelligence, Surveillance & Reconnaissance (JISR) ambition.

With the adoption of NATO's new Strategic Concept, Alliance leaders committed to ensure that NATO has the full range of capabilities necessary to deter and defend NATO against any threat to the security of Allied nations:

Cooperative Security

AGS will contribute to cooperative security through using its Swath & Spot Synthetic Aperture Radar (SAR) and its Ground Moving Target Indicator (GMTI) capabilities to collect data and imagery on potential threats. It will also be used by NATO analysts to detect changes or identify patterns of life and developing situations, both in near-real-time and as part of longer-term efforts. The products derived from such knowledge can then be used at political, strategic, operational or tactical level to inform NATO decision makers. AGS data can also be merged with other NATO or national information to corroborate or enhance existing information. Here, SHAPE envisages that the Intelligence Fusion Centre will have a significant role to play. All of the products derived from AGS data and imagery would be available to NATO nations.

Another significant benefit of AGS is the spin-off from training provided to the AGS force personnel. The NATO AGS Force will train NATO personnel in the skills necessary to become accomplished SAR and GMTI analysts and UAV operators. These skilled personnel will ultimately return to their nations. This benefit will provide every NATO nation with a core of highly sought-after trained SAR and GMTI analysts.

Some examples of cooperative security activities that AGS would contribute to include the following:

- arms control, non-proliferation and disarmament
- territorial integrity, border control and security
- trade routes and trade embargos
- fishery monitoring and protection
- oil and gas infrastructure monitoring and protection
- humanitarian relief

Crisis Management

AGS' unique SAR and GMTI capabilities could contribute to crisis management through detection and persistent monitoring of developing situations. The ability to have "eyes on target" at strategic ranges, around the clock and in all weather is a vital requirement. The AGS system would be able to contribute to all of the following areas:

- weapons of mass destruction (WMD) monitoring activities
- anti-terrorism or defence against terrorism (DAT)
- non-combatant evacuation operations (NEO)
- civil unrest
- natural disasters
- anti-piracy

Examples of missions the AGS system could support in this regard would include Operation Active Endeavour (OAE) in the Mediterranean, the anti-piracy Operation Ocean Shield (OOS) off the Horn of Africa and potential missions to observe as part of other operations.

Collective Defence

The AGS data and the products derived from it will have a significant role to play in the event of collective defence. It could be used to provide indication and warning of potential threats to the national territories of the NATO nations from outside their borders, for example to detect military force build-ups, including weapons of mass destruction, in time to enable appropriate political or military countermeasures to be taken.

Facts & Figures

General characteristics of the Global Hawk Block 40 UAV:

- Primary function: High-altitude, long-endurance intelligence, surveillance and reconnaissance
- Power Plant: Rolls Royce-North American AE 3007H turbofan
- Thrust: 7,600 lbs
- Wingspan: 130.9 ft / 39.8 m
- Length: 47.6 ft / 14.5 m
- Height: 15.3 ft / 4.7 m
- Weight: 14,950 lbs / 6,781 kg
- Maximum takeoff weight: 32,250 lbs / 14,628 kg
- Fuel Capacity: 17,300 lbs / 7,847 kg
- Payload: 3,000 lbs / 1,360 kg
- Speed: 310 knots / 357 mph / 575 kph
- Range: 8,700 nautical miles / 10,112 miles / 16,113 km
- Ceiling: 60,000 ft / 18,288 m