A Transformational Capability for NATO

“Five elements: Freedom-Information-Security”
Warsaw 24 September 2013

Bogdan Horvat
Executive Officer
Element 1
- AGS Mission
- Smart Defence Initiative
- Contract and Capability Package

Element 2
- AGS Spectrum of Operations
- AGS Operational Scenario

Element 3
- AGS Funding
- AGS Core segments/elements

Element 4
- AGS Core within Joint Intelligence Surveillance Reconnaissance (JISR)

Element 5
- Programme Status – Schedule
- Roadmap to Initial Operational Capability (IOC)
UAV early beginning

Demonstration of a radio-controlled boat - 1898

UAV “Nikola Tesla - 150”
**Lisbon Summit**

One of “The Alliance’s most pressing capability needs” - NATO owned & operated...critical capability for the entire Alliance

“...provide NATO Command authorities, down to Brigade level, with Near Real Time, continuous information and situational awareness concerning friendly, neutral, and opposing ground forces and to support targeting.”

“I am AGS’ #1 supporter and this capability is one of NATO’s and my top priorities...I strongly support AGS”

SACEUR – 6 Apr 11
1 of 20 approved SDI projects: NATO Owned and Operated AGS Core Capability

Available to NATO and NATO Commanders at high readiness without a lengthy Force Generation Process

The NATO AGS Force will provide the Alliance with the capability to perform continuous and persistent surveillance in support of any NATO operation

NATO AGS will provide a transformational Joint ISR capability, including training for intelligence specialists and will be providing unfiltered and unrestricted access to data and information

AGS is Smart Defense; it is making Europe more responsible for European security
**Capability Package (Life Cycle operation)**
- NATO Nations agreed on **Common Funding** for the operation of the AGS System during the Ministerial at NATO HQ on 3 Feb 2012

**Procurement Contract**
- Authorization to Proceed (ATP) signed 23 March 2012 at NATO HQ
- Procurement Contract AGS System signed on 20 May 2012 at the NATO Summit in Chicago
- Contract Award Start Date – 1 June 2012 (60 Month FFP contract)
AGS Core Functions & Spectrum of Operations

- **Surveillance**
  - In-depth knowledge/understanding of situation or entity
    - Products can retain value for considerable time
    - Products can be of general value, not just current mission/situation specific
  - Complete span of operations (land, maritime)
    - Peacetime, Humanitarian Relief, UN missions, Crisis Response, Article V, Blockades etc.

- **Situational Awareness**
  - Up-to-date knowledge of what is happening in the area of interest
  - Vital in rapidly changing situations

- **Targeting/Target Acquisition**
  - Support very precise/selective attack
    - Maximise effects while minimising collateral damage
  - Vital for targeting of mobile, time sensitive / time critical targets
    - Real-time information from sensor to shooter

- **Damage Assessment**
AGS NEEDED NOW MORE THAN EVER
Spectrum of Operations

A Key Enabler for the Full Spectrum of NATO Missions
AGS Operational Scenario

ISR Data Dissemination
UAV C2
Clear UHF Voice
ATC Communications
NATO Secret WAN
LOS WBDL

Ku SatCom
INMARSAT
UHF SatCom
NAEW

National Air Assets
National Airborne ISR
Interoperable National Ground Stations
ATC

Main Operating Base
Planning
Exploitation
Training / SIL
Dissemination

AVMC2
MOS

NATO Secure WAN
CSOP
TGGS
MGGS

NATO UNCLASSIFIED
“What NAGSMA is Procuring”

**Air Segment**
- AVMC2 Capabilities:
  - MOB – Surveillance, MP, UAV C2 for UAV
  - DUCE – deployed C2 for UAV

**Ground Segment**
- Transportable General Ground Stations (TGGS) + Mobile Ground Comms Components (MGCC)
- Mobile General Ground Stations (MGGS), comprising Mobile Ground Exploitation Components (MGEC) and Mobile Ground Comms Component (MGCC)

**Support Segment**
- Pilot Trainer
- Mission Crew Trainers
- Simulation Capabilities
- Training Management
- Initial Spares

**Initial Operational Testing**
- Logistic Information System (LIS)
- Additional Remote Workstations

UAV with MP-RTIP radar
AGS Air Segment

- **Unmanned Air Platform**
  - Based on the RQ-4B Global Hawk Block 40
  - Primary sensor: MP-RTIP (GMTI/SAR ground surveillance radar).
  - Extensive secured communications suite
    - Wideband broadcast LOS data link
    - Wideband Ku-band SATCOM data link
    - Link 16 Tactical data Link
  - Redundant narrowband flight control links
    - INMARSAT, UHF DAMA

- **UAV C2**
  - Adapted from existing Global Hawk / BAMS equipment

- **Airworthiness certification by ITA DAA**
AGS Ground Segment

- **Fixed and deployable entities for ISR data exploitation and dissemination to external users**

- **MOS (in the MOB at Sigonella, ITA) for centralised ISR services**
  - High-performance processing (“reach-back”)
  - Main long-term data repository
  - Mission planning and support

- **Transportable and Mobile General Ground Stations (TGGS/MGGS)**
  - Data processing and exploitation tools for deployed users
  - Designed for tactical/operational needs (e.g. Joint Force HQ)
  - Ensure ISR data distribution to forward-deployed users regardless of location or communications infrastructure

- **All entities provide interoperable interfaces for data exchange with interoperable NATO/National C4ISR systems**
AGS Support Segment

- **Trainers**
  - UAV C2 Pilot/Operator Trainer
  - Mission System Trainer
  - Maintenance Trainers
    - Ground station vehicle, communication subsystem and processing/exploitation subsystem trainers

- **Integrated Mission Simulation Capability**

- **Classroom Training Equipment**

- **Training Management System**

- **System unique maintenance tools and support equipment**
Exercise & Trial
Experimentation and evaluation of improved collection and exploitation practices.

Training
National offers of courses and training centres; common-funded solutions for imagery analysis training.

BICES & Future Mission Network
Facilitating ISR connectivity, interoperability, and info sharing among NATO allies and partners.

MAJIIC 2
Interoperability validation and testbed, doctrinal/TTP development, and support for CSD procurement by NATO and NATO nations.
2013 • System Architecture established
  • Production of first NATO Global Hawk starts

2014 • Preliminary and Critical Designs established
  • SHAPE Initial ADVON arrive at Sigonella AB

2015 • Begin AGS System Installation at Sigonella AB
  • SHAPE Initial Operators arrive at Sigonella AB
  • First Ground Segment Deliveries (Main Operating Base & Deployable)

2016 • First UAV arrives at Sigonella AB
  • Initial Operational Test and Evaluation (IOT&E)

2017 • IOC Declaration
  • Air and Ground Segments Completed
  • AGS handed over to SHAPE

2018 • FOC Declaration
ONE System Programme
NATO unique, owned and operated capability

Eyes in the sky for troops on the ground
“Imagination is more important than knowledge.”
— Albert Einstein

If you can’t explain it simply, you don’t understand it well enough.
— Albert Einstein
Mr Bogdan Horvat
NAGSMA
NATO Headquarters
B-1110 Brussels
bogdan.horvat@nagsma.nato.int

www.nagsma.nato.int
Backup slides
SAR vs. GMTI

- **SAR**
  - Like a picture
  - Stationary targets only
  - Provides necessary background information for MTI
  - Change detection

- **GMTI**
  - Like a movie
  - Moving targets only
  - Fast wide area coverage
  - Easy to spot targets (no background)
  - More time criticality
  - Small data set
AGS Capability Interdependencies

**MOB Civil Works Infrastructure**
- HN ITA
- CAFX = 11 CP Projects
  (MOB Civil Works, Buildings, apron, Hangars)

**MOB CIS Infrastructure & SatCom Services**
- HN NCIA
- CAFX = 12 CP Projects
  (MOB CIS Infrastructure, SatCom Services, Target Architecture, Connectivity to NATO CIS)

**Airworthiness MIL Type Certification**
- ITA DAA / NGIISII, USG

**CONOPS, O&S Budget, Manning, Trg**
- SHAPE

**Security Accreditation**
- SHAPE

**NAGSF Establishment**
- SHAPE

**AGS Life-Cycle Management Organisation**
- NATO

**AGS Employment Framework**
- NATO

**NATO JISR**
- NATO
  - Legal Liability
  - NATO Airspace Integration NATO
  - CP Project Management Office (PMO) NATO

**NAGSMA**
- MOB Civil Works
- MOB CIS Infrastructure & SatCom Services
- Airworthiness MIL Type Certification

**Expenditure**
- Direct Schedule and/or € Cost Liabilities
- Indirect Schedule and/or € Liabilities
- Contract € Liability
- CAFX € Liability