



Coalition Aerial Surveillance And Reconnaissance

The Coalition Aerial Surveillance and Reconnaissance (CAESAR) Simulation Exercise 2003

**2004 Command and Control Research
and Technology Symposium**

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- **Overview and Introduction**
- **CAESAR Project**
- **Simulation Exercise 2003**
- **Key findings**
 - **Coalition Planning**
 - **CAESAR Shared Database**
- **The way ahead**
- **Summary**



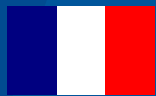
Four reasons, why this briefing could be of interest for you



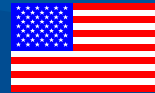
- 1. NATO will purchase NATO Air to Ground Surveillance (AGS) systems.
Fleet of ~ 7 Global Hawk and ~ 5 Airbus 321**
- 2. Planned initial operational capability: 2010**
- 3. Existing national and future NATO AGS systems have to operate in coalition operations**
- 4. Need for new operational and technical concepts: experimentation**



Coalition Aerial Surveillance and Reconnaissance (CAESAR)

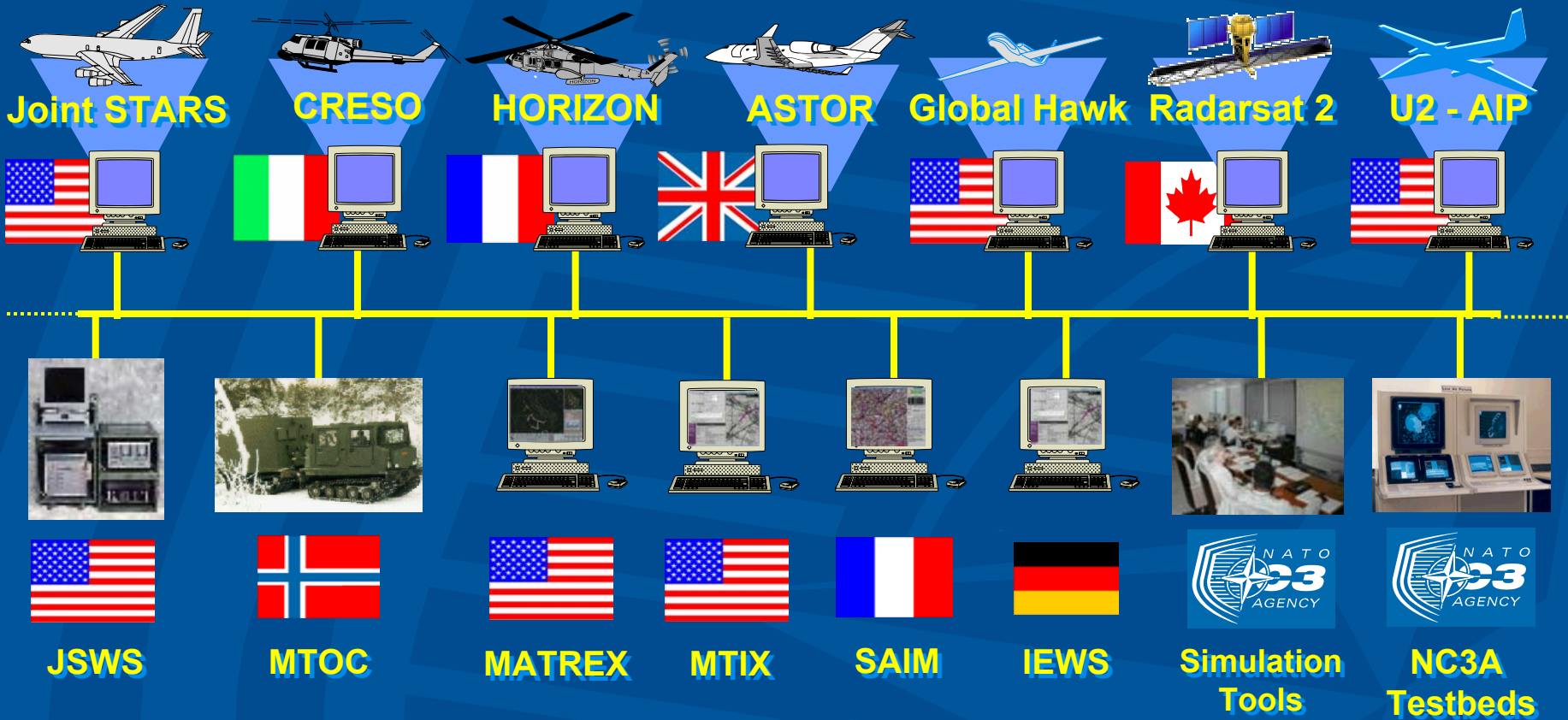


Coalition Aerial Surveillance And Reconnaissance



- **Seven nations formed a coalition: Canada, France, Germany, Italy, Norway, UK, US**
- **National funded cooperation**
- **NATO Consultation, Command and Control Agency (NC3A) tasked and funded by coalition to provide technical management and support**

CAESAR in the NC3A AGS&R Capability Testbed (NACT)



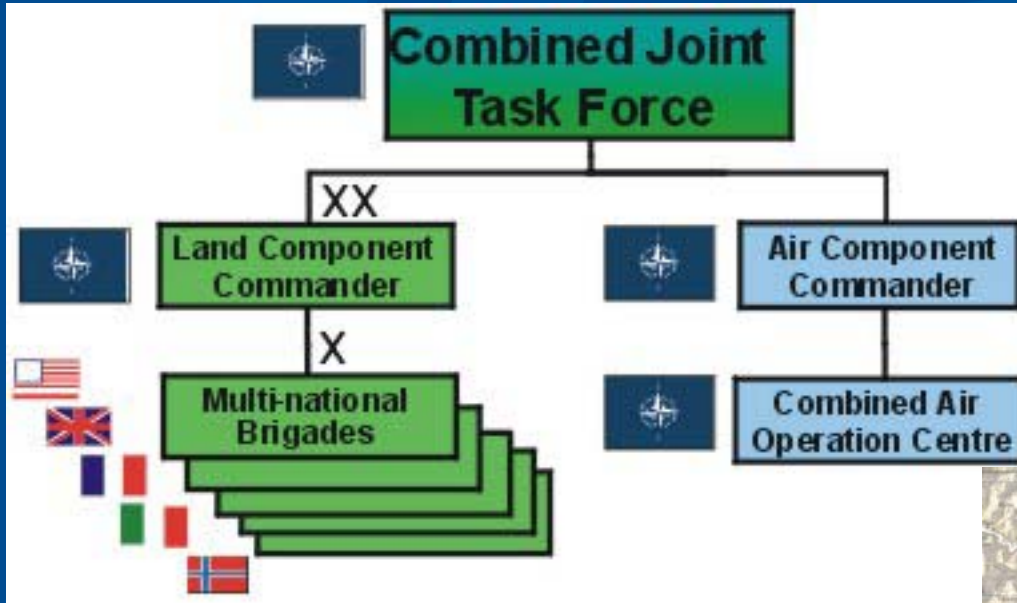


Simulation Exercise 2003: Goals



- **Operational and Procedural Interoperability**
 - Testing of Concept of Employment
 - Tasking, Planning and Managing of Coalition AGS Assets
 - Operations of Time-Sensitive-Target Cell
 - Tactics, Techniques and Procedures

- **Technical Interoperability**
 - Dissemination of
 - Ground Moving Target Indications (GMTI)
 - Synthetic Aperture Radar (SAR data)
 - Tracks using STANAG 5516, J3.5 messages
 - Performance of Dissemination and Data Exploitations
 - Application of the CAESAR Shared Database (CSD)

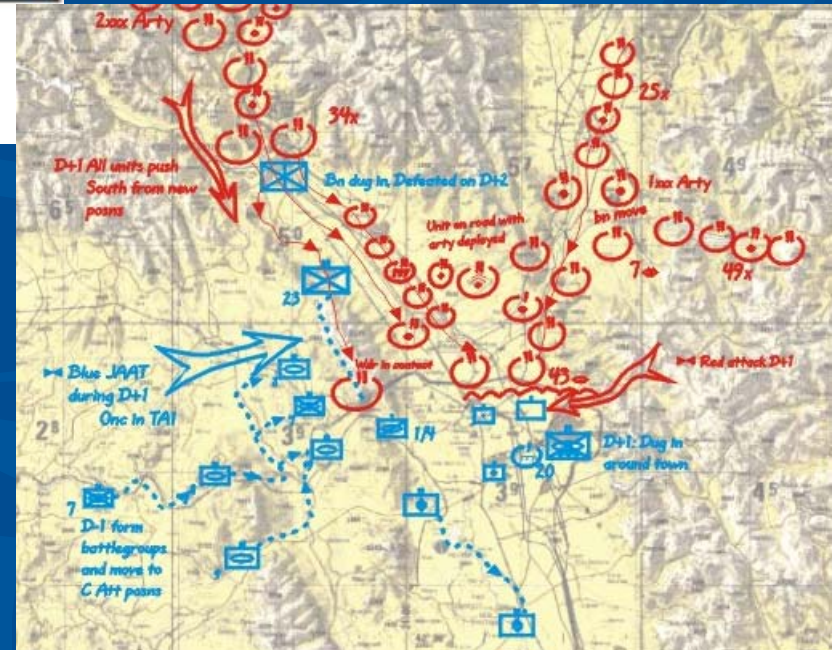


Combined Joint Task Force
Command Structure

Coalition Planning and
Execution

Pre-planned and White Cell

7 days training, 7 days operation
Operations: 6 h real-time each day
Combined ground and air forces
15 Brigades, ~ 7000 single vehicles





Very experienced military operators

Military operators and engineers in close co-operation

A total of about 90 people

Engineers of various systems solved interoperability issues directly face-to-face

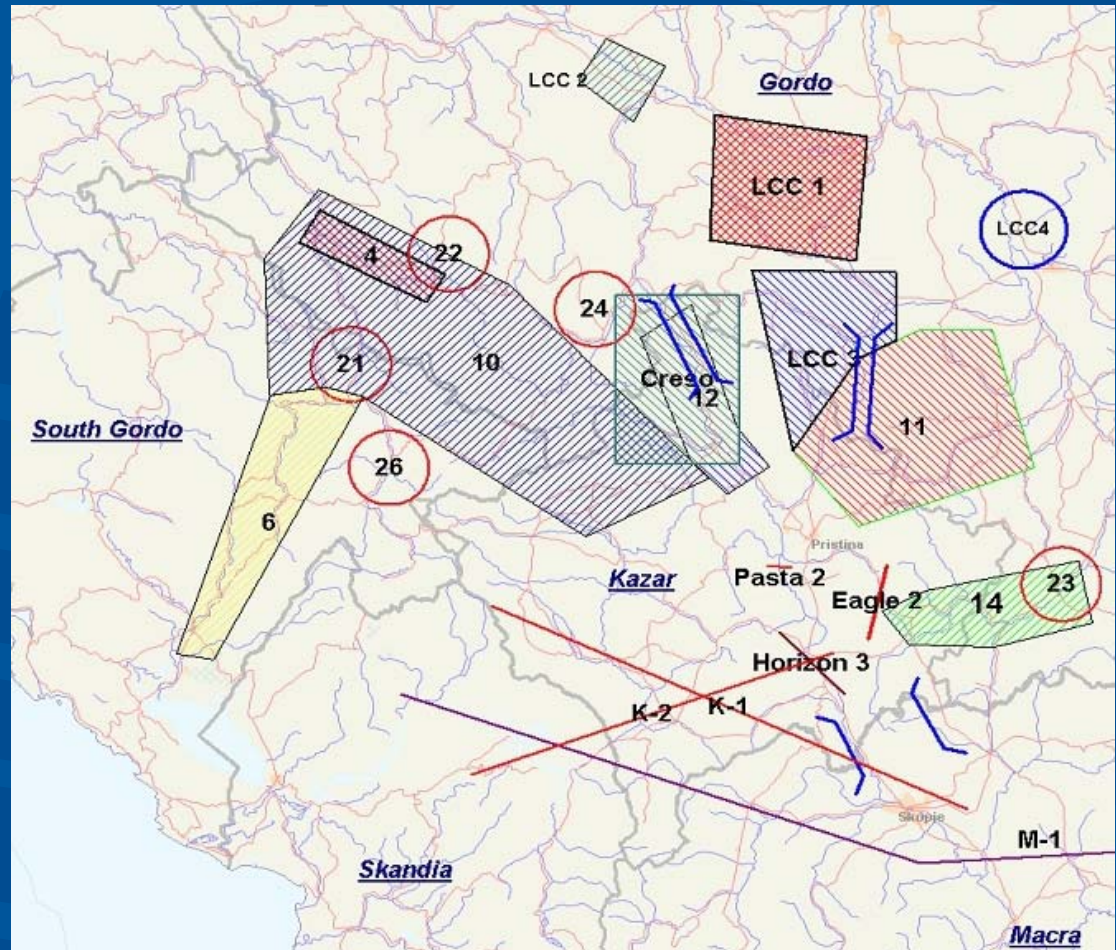
Detailed test plan, evaluation team, analysis and documentation



The Coalition Collection Plan

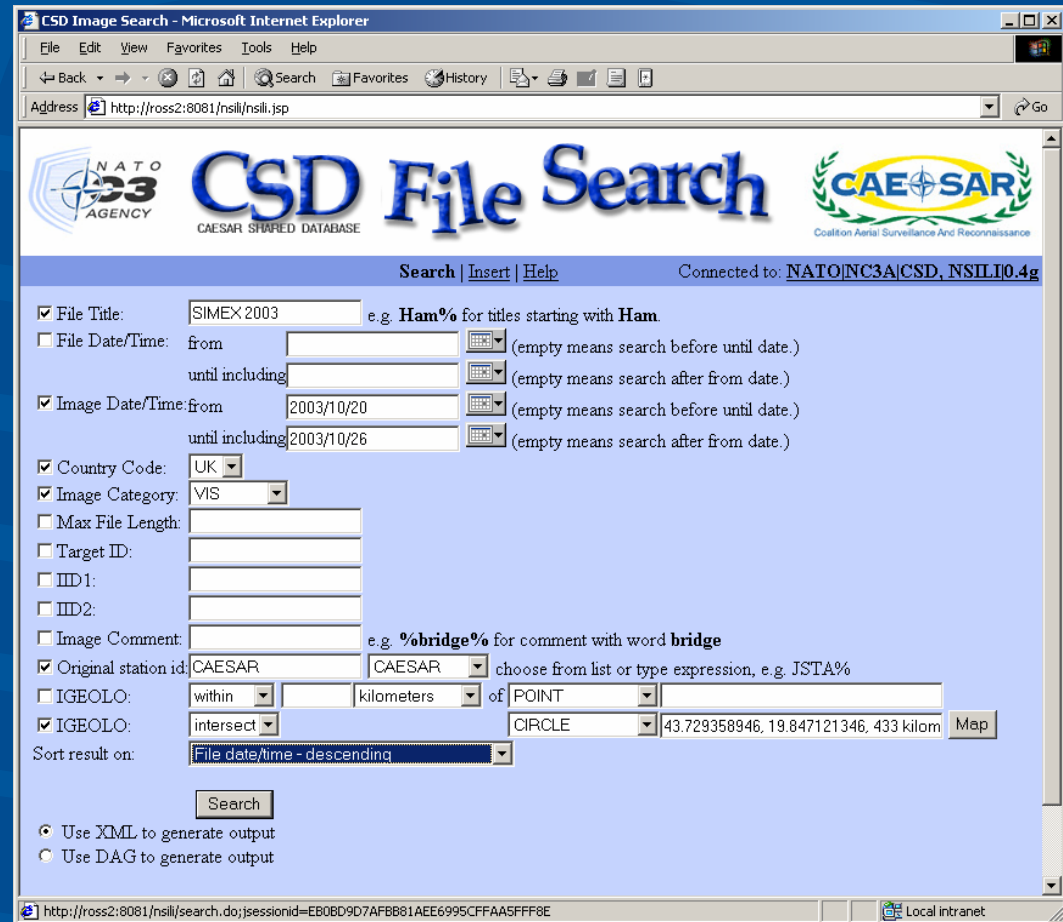
- Allows to employ available resources most favourable
- Exercise proven
- Experience gained: Planning tool support needed

Exploitation plan
needed



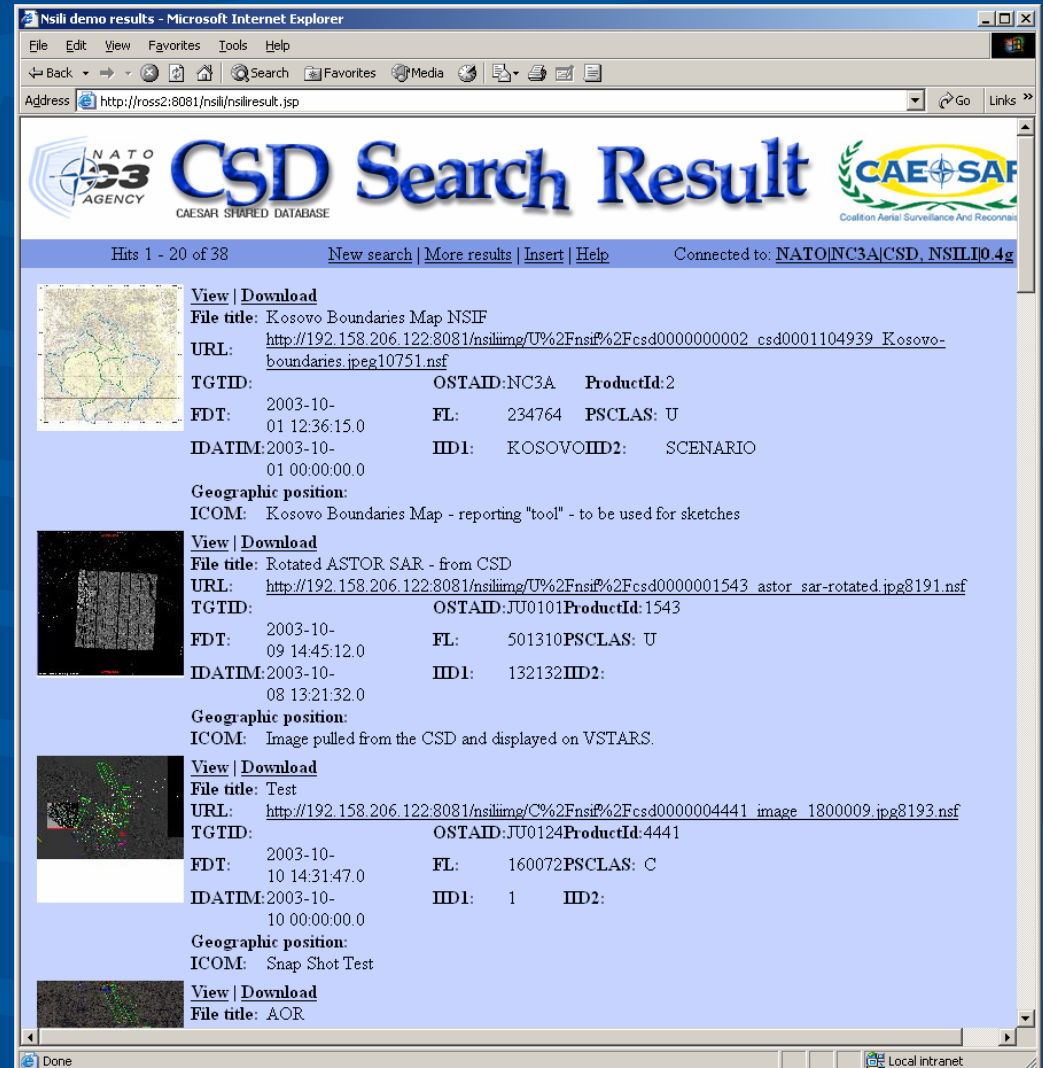
The CAESAR Shared Database (CSD) contains

- Plans (Air Task Order, Collection plans....)
- Sensor detections and tracks (GMTI, SAR, Tracks)
- Exploitation results of all coalition



CAESAR Shared Database (CSD)

- Each coalition partner can decide what information he provides to partners
- Once in the database, accessible to all coalition partners



The screenshot shows a web browser window titled "Nsli demo results - Microsoft Internet Explorer". The address bar shows the URL: <http://ross2:8081/nsli/nsliresult.jsp>. The page content includes the NATO A3 AGENCY logo, the CAESAR logo, and the title "CSD Search Result". Below the title, it indicates "Hits 1 - 20 of 38" and provides navigation links: "New search | More results | Insert | Help". The page is connected to "NATO\NC3A\CSD, NSLI\0.4g".

The search results are displayed in a list format, each with a thumbnail image and detailed metadata:

- Item 1:**
 - View | Download**
 - File title:** Kosovo Boundaries Map NSIF
 - URL:** http://192.158.206.122:8081/nsliimg/U%2Fnsif%2Fcsd000000002_csd0001104939_Kosovo-boundaries.jpeg10751.nsf
 - TGID:** OSTAID:NC3A ProductId:2
 - FDT:** 2003-10-01 12:36:15.0 FL: 234764 PSCLAS: U
 - IDATIM:** 2003-10-01 00:00:00.0 IID1: KOSOVID2: SCENARIO
 - Geographic position:** ICOM: Kosovo Boundaries Map - reporting "tool" - to be used for sketches
- Item 2:**
 - View | Download**
 - File title:** Rotated ASTOR SAR - from CSD
 - URL:** http://192.158.206.122:8081/nsliimg/U%2Fnsif%2Fcsd00000001543_astor_sar-rotated.jpg8191.nsf
 - TGID:** OSTAID:JU0101ProductId:1543
 - FDT:** 2003-10-09 14:45:12.0 FL: 501310PSCLAS: U
 - IDATIM:** 2003-10-08 13:21:32.0 IID1: 132132IID2:
 - Geographic position:** ICOM: Image pulled from the CSD and displayed on VSTARS.
- Item 3:**
 - View | Download**
 - File title:** Test
 - URL:** http://192.158.206.122:8081/nsliimg/C%2Fnsif%2Fcsd00000004441_image_1800009.jpg8193.nsf
 - TGID:** OSTAID:JU0124ProductId:4441
 - FDT:** 2003-10-10 14:31:47.0 FL: 160072PSCLAS: C
 - IDATIM:** 2003-10-10 00:00:00.0 IID1: 1 IID2:
 - Geographic position:** ICOM: Snap Shot Test
- Item 4:**
 - View | Download**
 - File title:** AOR



New Concept: CAESAR Shared Database (CSD)



**Software necessary to communicate with the CSD
provided to all partners**

**Since the simulation exercise, the CSD was developed
to a network enabled capability and demonstrated**

Based on lessons learned of the exercise, new features:

- **“Clipping” of images to reduce communication load**
- **“Subscription” to areas of interest, sensor data or exploitation products**
- **“new architectures” with multiple CSD**

CAESAR will end March 2005. Work will continue with the Multi-sensor Aerospace Ground Joint ISR Interoperability Coalition (MAJIIC)



New coalition partners: The Netherlands and Spain

Expanded sensor capabilities: Electro-optical, infra-red, electronic support measurements (ESM)....

Live and simulated exercises



Summary



CAESAR : Advanced Capabilities Technical Demonstration (ACTD) of the year in 2001 and 2002

Goals of the Simulation Exercise 2003 were achieved

Operational: Concept of Employment, tested, improved, finalized

Used in national concepts of CAESAR nations

Procedural: Techniques, tactics and procedures tested and improved

**Technical: Compliance testing of multiple standards,
multiple national improvements**

Positive Military Utility Assessment by Joint Test Interoperability Center, Ft. Huachuca

CAESAR and MAJIIC results will directly influence NATO AGS