Open Skies:
Implementation and Perspectives

- What has been done to implement the treaty?
- What are the results?
- What are the perspectives?

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Implementation

Three phases

- **1992-2001 Provisional Application (pre-ratification)**
  - Establishment of operational units.
  - Retrofitting of existing aircrafts with optical cameras.
  - Trial flights.
- **2002-2005 Full Implementation Phase I**
  - Certification of aircraft.
  - Quota flights.
- **2006-Final Concept Phase II**
  - Additional sensors: Infrared Radar.

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Aircraft

- 19 states have aircraft for open skies missions.

- Belgium
- Bulgaria
- Canada
- Czech Republic
- France
- Greece
- Hungary
- Italy
- Netherlands
- Norway
- Portugal
- Romania
- Russian Federation
- Spain
- Sweden
- Turkey
- United Kingdom
- Ukraine
- United States of America

- **Sensors:**

Photographic Cameras with black and white film at 30 cm ground resolution.

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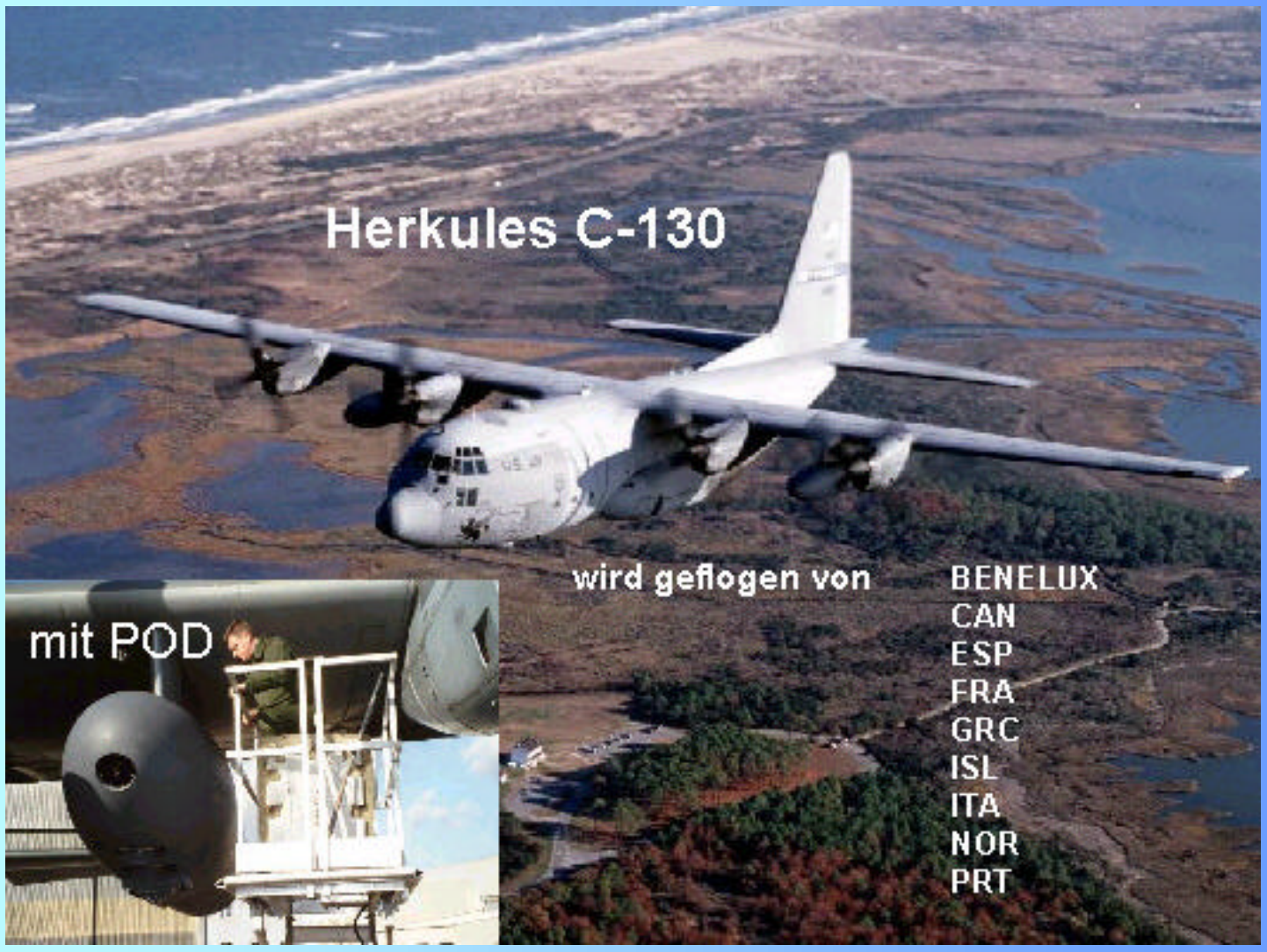

Image of a Lockheed C-130 Hercules (operated by the Pod Group). Source: German Verification Center, Geilenkirchen. The insert shows the sensor pod mounted under a wing.

The An-30 aircraft of Ukraine. Photo: A. Rothkirch, University of Hamburg

The CASA CN-235-M transporter. Source: German Verification Centre, Geilenkirchen

Results

1992-2001:

- About 400 test flights.
- High image output was used mostly for verification.
- Some pre- and post conflict flights (Bosnia-Herzegovina, Kosovo force build-up).

2002-2004:

- Aircraft of 17 States pass ***certification****:*
  - Confirm flight altitude for treaty compatible resolution.
- 170 ***quota flights****.*
- Test ***infrared sensors*** *for OS use.*
  - Thermal images at 50 cm ground resolution.

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Image Quality

- Superior to any commercial satellite.

	Resolution
Commercial Satellites	60-100 cm
Open Skies	30cm
US + French reconnaissance satellites	10- 50 cm

- Open Skies aircraft can underfly clouds (in contrast to satellites)
- Stereo viewing is standard.
- Images are well suited for verifying Treaty Limited Items under the CFE Treaty: tanks, artillery, combat aircraft.

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Photo: Detail of a military vehicle depot at Tiraspol, Moldova. The image was taken by the Ikonos-2 satellite with a ground pixel size of 1metre, corresponding to a GRD of about 2 metres. Open Skies pictures have superior resolution and recognition potential. Source: H. Spitzer, University of Hamburg.

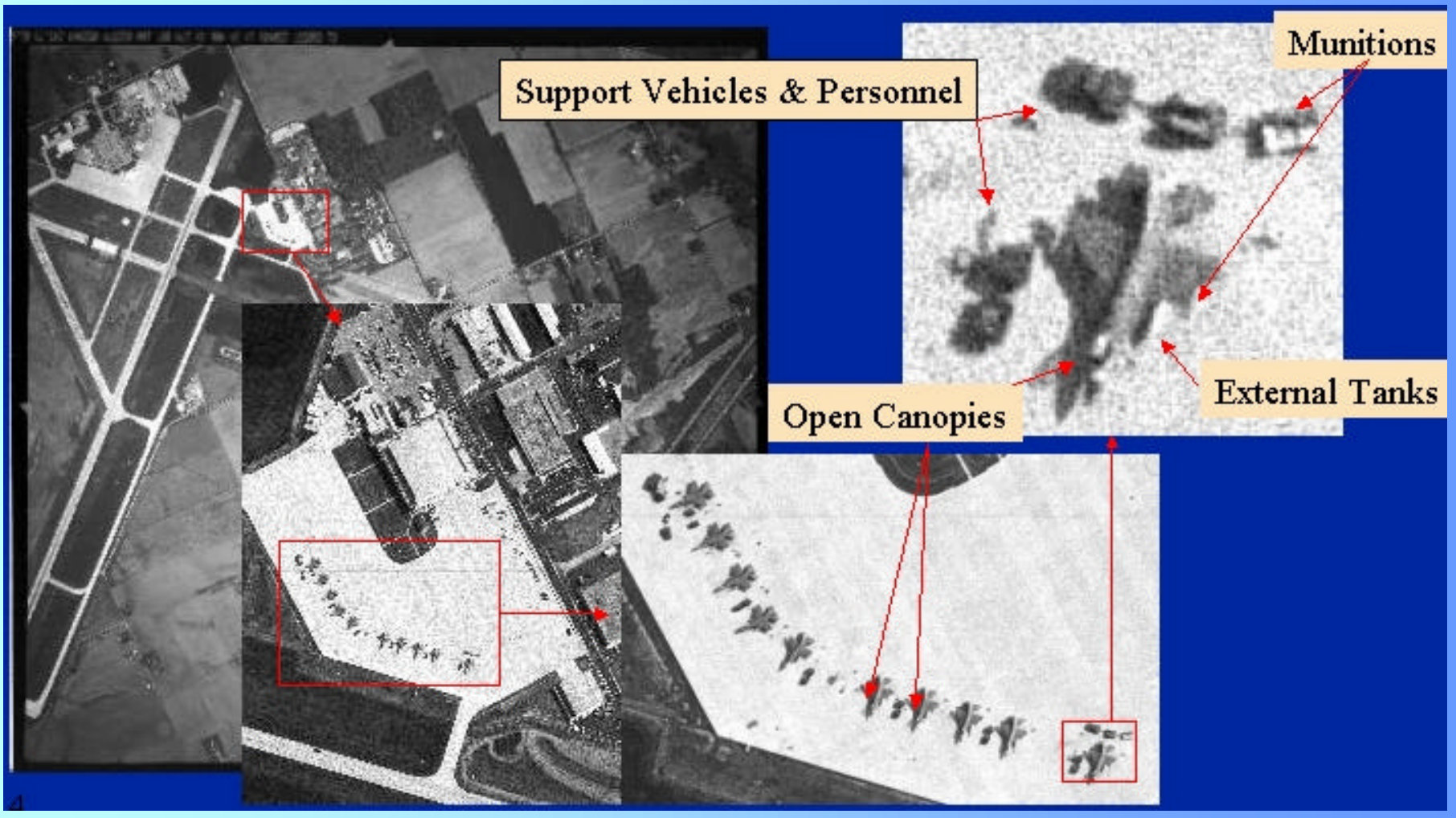

Photo: Open Skies image of a military airfield with Magnified details. Source: US Defense Threat Reduction Agency, Washington,DC, Briefing to PPF 2000 Forum Innovations and Technology Transfer, May 11, 1999.

Photo: Thermal infrared line scanner image of an airport taken at night. Notice the “hot” buried heating lines and trees along the roadsides. Warm auxiliary power units can be seen near some of the aircraft. One aircraft in the upper left corner appears anomalously warm. It might have been parked in the nearby hangar not long before the image was taken. Photo: Courtesy of Intera-Kenting, Ottawa.

Perspectives:
The challenge

1989-92

- **O**pen skies was agenda of high East-West Politics
- **A**ctors: Top Leaders
  - President Bush Sr.
  - Foreign Ministers Baker, Genscher, Shevardnadse...

Today

- **Q**uite different security situation in Europe
- **M**ore transparency + confidence
- **O**pen Skies implementation is a routine affair, not of vital interest to most States Parties (except Russia)
- **A**ctors: Desk officers, Verification teams

Danger

Unless the Open Skies concept & practice is revitalized and developed, the treaty is in danger of marginalisation and silent death.

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What should be done?

1. **E**xtend treaty application to crisis zones in OSCE area

   Former Yugoslavia — Serbia + Montenegro
   — Macedonia + Albania

   Caucasus — Azerbaijan
   — Armenia

   Central Asian Republics (Kyrgyzstan has signed but not ratified)

   Moldova/Transn.

2. **P**romote Open Skies approaches outside of OSCE area

   Options — Membership in multilateral OS Treaty
   — Separate OS agreements

   First steps — Joint seminars
   — Demonstration flights

3. **A**gree on short notice flights incase of environmental disasters and border crossing pollution.

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4. **E**stablish cooperation with OSCE and UN crisis prevention and post conflict missions.

Options **a)** **I**nside Treaty area:

OSCE or **UN** send request to state parties (via OSCC) for a dedicated quota flight or additional verification mission

b) **O**utside Treat area:

OSCE or **UN** have to negotiate (voluntary) agreement with OS states and state to be over-flown.

Required **A**greement for transferring OS images to headquarters and field missions of UN/OSCE

5. **E**stablish cooperation with international verification agencies

CTBTO/IAEA/OPCW

Options **a)** Inside Treaty area:

Agency sends request (via OSCC to OS State Parties for a dedicated quota flight

b) Outside Treaty area:

Cooperative over flights to be negotiated

Goals **I**nclude cooperative aerial observation in verification of CWC + NPT

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What can/will be done?

1. **Informal seminar of the OSCC** on environmental applications, Vienna, 14/15 October 2004
2. **Informal Seminar** on other applications Stockholm 30 Nov/1 Dec 2004
3. **Review Conference** Vienna 14-16 February 2005, 30 states parties (+observers)
   - **R**eview and evaluate all provisions of the treaty
     - Provisional Period of Application 1992-2001
     - First three years of application 2002-2005
   - **D**iscuss full implementation
     - Infrared and Radar sensors
     - Quota
   - **D**iscuss all fields of application foreseen in the preamble
     - Environmental flights
     - Conflict prevention and crisis management
     - Verification
   - **D**iscuss further options
     - Cooperation with international security and verification organisations.
     - Applications outside of Treaty area

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Possible outcome

1. **R**eaffirm *treaty objectives*
2. **Pa**ve way for much improved monitoring capability by thermal *infrared sensors* starting 2006, as foreseen by the treaty.
3. **T**he conference can mandate the OSCC to develop and decide on frameworks for operationalization of *extended goals*.

Major remaining challenge

Increase political investment in confidence building and preventive policies worldwide, Open Skies can help.

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