

WELCOME ADDRESS

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New UAS capabilities, towards new applications

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A blue and white image of Earth from space, showing the curvature of the planet and the atmosphere, located at the bottom of the slide.

- 2007 European Space Policy, outlining strategic objectives for Europe:
 - Develop and exploit space applications for public policy objectives and needs of European enterprises and citizens
 - Meet Europe's security and defence needs
 - Secure unrestricted access to new and critical technologies, systems and capabilities
 - Ensure a strong and competitive space industry and delivery of sustainable and cost-effective services
- The ESP recognizes that:
 - Space technologies are often common between civilian/defence applications
 - Europe can, in a user-driven approach, improve coordination between defence and civilian space programmes, pursuing in particular the synergies in the domain of security.

- Legal base: Art. 2 of the ESA Convention on the Agency's activities for 'exclusively peaceful purposes' covers all 'non-aggressive' activities
- Security-related activities: Development on a European level of technologies and infrastructures in support of security-related applications, by taking into account security and defence requirements
- ESA participating in the 'Structured Dialogue' with EC, EU Council, EDA and Member States with the aim of achieving a substantial increase in the coordination of space, security and defence related activities
- EDA as the natural interface to the military community

United States

Estonia
Latvia
Lithuania
Slovakia
Slovenia
Bulgaria

Iceland
Turkey
Croatia
Albania

Norway*

France
Germany
Belgium
Greece
Luxembourg
United Kingdom
Italy
Netherlands
Portugal
Spain

Hungary
Poland
Romania
Czech Republic

Denmark
Canada

Switzerland

Sweden
Austria
Finland
Ireland

Malta
Cyprus



- UAS services are an emerging market, at today mainly military dominated
- ESA believes that civilian/security UAS sustainable services can be developed
- Many of these services are enabled and supported by integrated space systems such as navigation, communication, and earth observation
- The ARTES 20 Integrated Application Promotion programme is the ideal programme to promote UAS based services

Civil & Security

- Earth Observation & Remote Sensing
- Civil Security & Law Enforcement
- Security Border Surveillance
- Surveillance Coastguard
- Monitoring Fire Fighting
- Monitoring Energy Sector
- Monitoring Agriculture Forestry Fisheries
- Communications & Broadcasting

Defence

- Intelligence Reconnaissance Surveillance
- Electro- Optical/ Infra- Red
- Synthetic Aperture Radar
- SIGINT & EW Systems
- ELINT
- COMINT
- C4I Systems
- CBRN Detection and Monitoring

Several commonalities between Civil Security and
Defence

Two on-going studies are **exploring the feasibility of a demonstration mission in the timeframe 2010/2011**



Study 1 is funded by **EDA** and carried by an EADS Astrium led consortium



Study 2 is funded by **ESA** under the integrated application programme and carried by an INDRA led consortium,

Salient objectives of the studies: investigate....

✦ ...the **feasibility** and the overall planning for a UAS mission demonstration

✦ ...the **viability** of UAS services supported by space assets

✦ ...the **investments** necessary to develop such services

✦ ... the **roadmap** for civilian and security services development

Desired outcome: Green light for an IAP **demonstration project(s)**

The UAS activities of IAP...



... illustrate how integration of **space assets** into other systems can be used in order to respond to and **fulfil actual user needs**



... are a powerful example demonstrating the use of space-based services to a wealth of **new user communities** outside the traditional space domain.

A very pertinent opportunity...

e.g. **Volcanic ash cloud crisis**

- ✦ 100.000 flights cancelled
- ✦ 10 million passengers affected
- ✦ 1.7 billion USD of loss in airline revenue



NEED

Quality data support to enable risk assessment and adequate decisions.

SOLUTION (elements of ~)

Improve modelling capabilities and data collection methods, e.g.

✦ satellite imagery

✦ atmospheric in-situ measurements, in particular using UAVs



“The European Commission will create a crisis coordination cell, that could decide to launch UAV needed to collect data. Before the summer 2010 the commission will make proposals to enable the UAV to be operated in the Single European Sky”.

EC report, 27 April 2010



ESA – EDA endeavours are **critical** and **timely**

WELCOME

my wishes for...

fruitful discussions

&

the emergence of new collaboration opportunities for you with ESA