ESA's Integrated Applications Promotion (IAP) Programme

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http://iap.esa.int/c/CEER/

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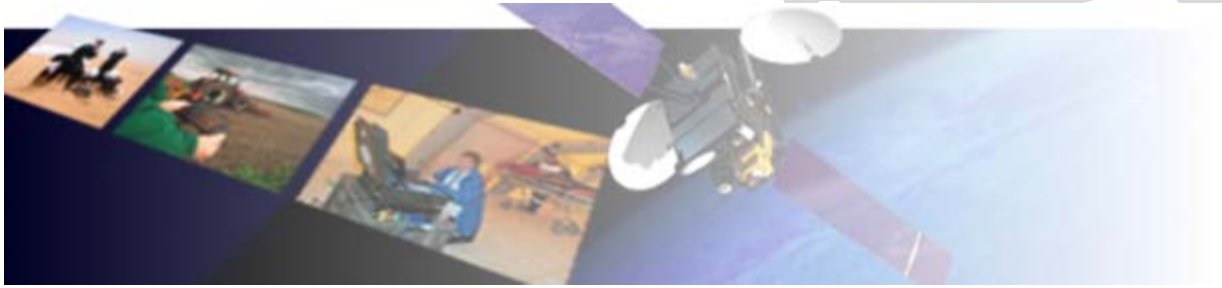
The ESA Integrated Applications Promotion Programme



IAP objective

- **Objective**
  - To develop operational services for a wide range of users by combining different systems
- **This will be achieved by**
  - Working with a wide range of stakeholders
  - Responding to actual user needs
  - Exploring the capacity of space assets beyond the current state-of-the-art
  - Combining multiple existing space assets with terrestrial systems
  - Emphasising sustainable applications and services

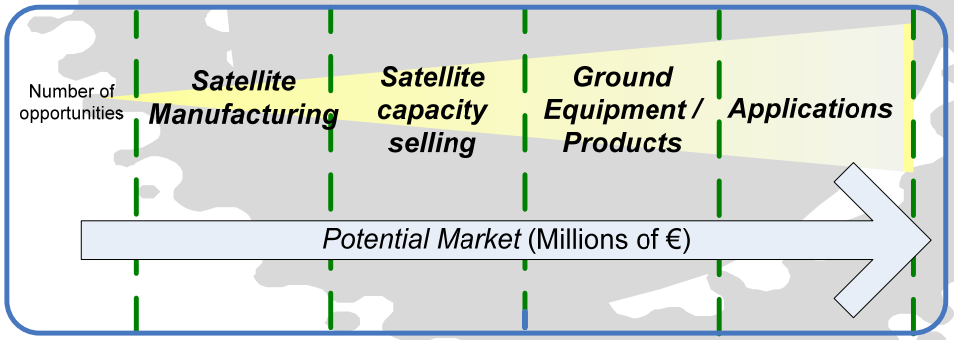
Transport Health Safety Energy Development ...

Incubator of Services

Multiple Space Assets

Why IAP?

- The wide potential of satellite-based systems is currently under-used
- Enormous benefits for the society (e.g. disaster management, transportation, health services)
- IAP is facilitating innovative solutions and services
- Integrated applications are serving the needs of European societies



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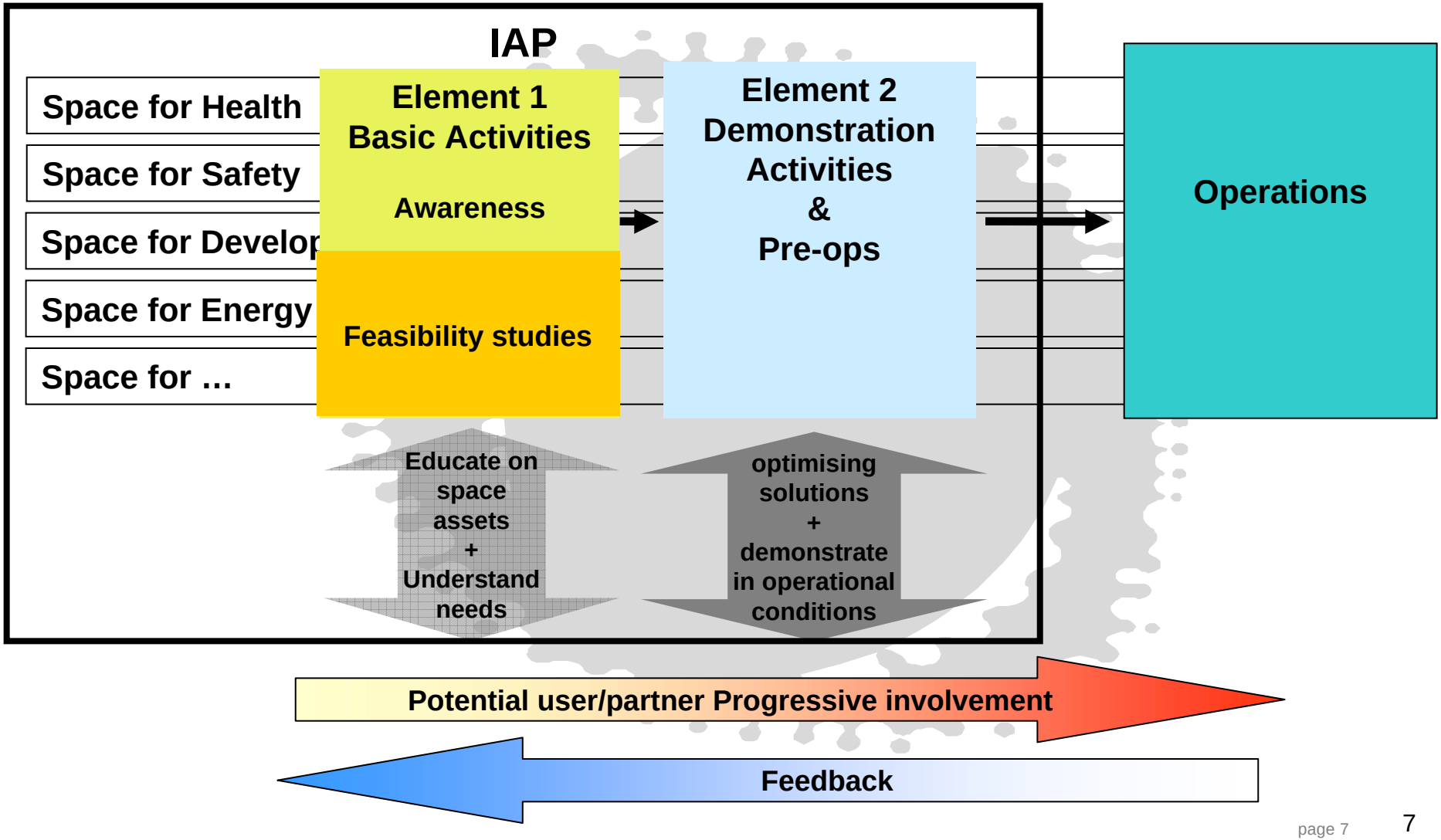
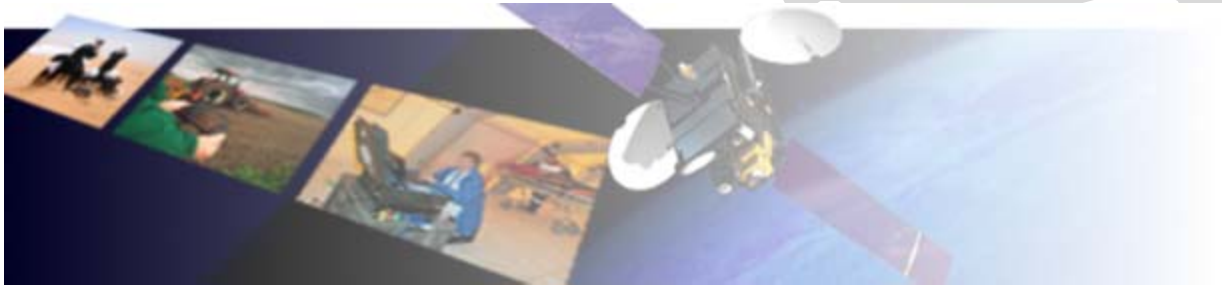
IAP objective

- Why has ESA introduced the IAP programme?
  - While efforts are deployed by ESA aiming at developing space technologies or infrastructures
  - The wide potential of satellite-based systems is currently under-used
- What are IAP goals?
  - Creating innovative and sustainable services
    - by integrating space and ground elements
  - Meeting the needs of the citizens and industry
    - while improving Europe's technological competitive advantage
  - IAP aims at making the best use of existing space technologies in order to provide solutions rather than to develop technologies
  - While solutions may require one or more space infrastructures and potential users / partners are not always certain where to turn to
  - IAP offers one entry point for all applications, until now not possible

Programme Structure



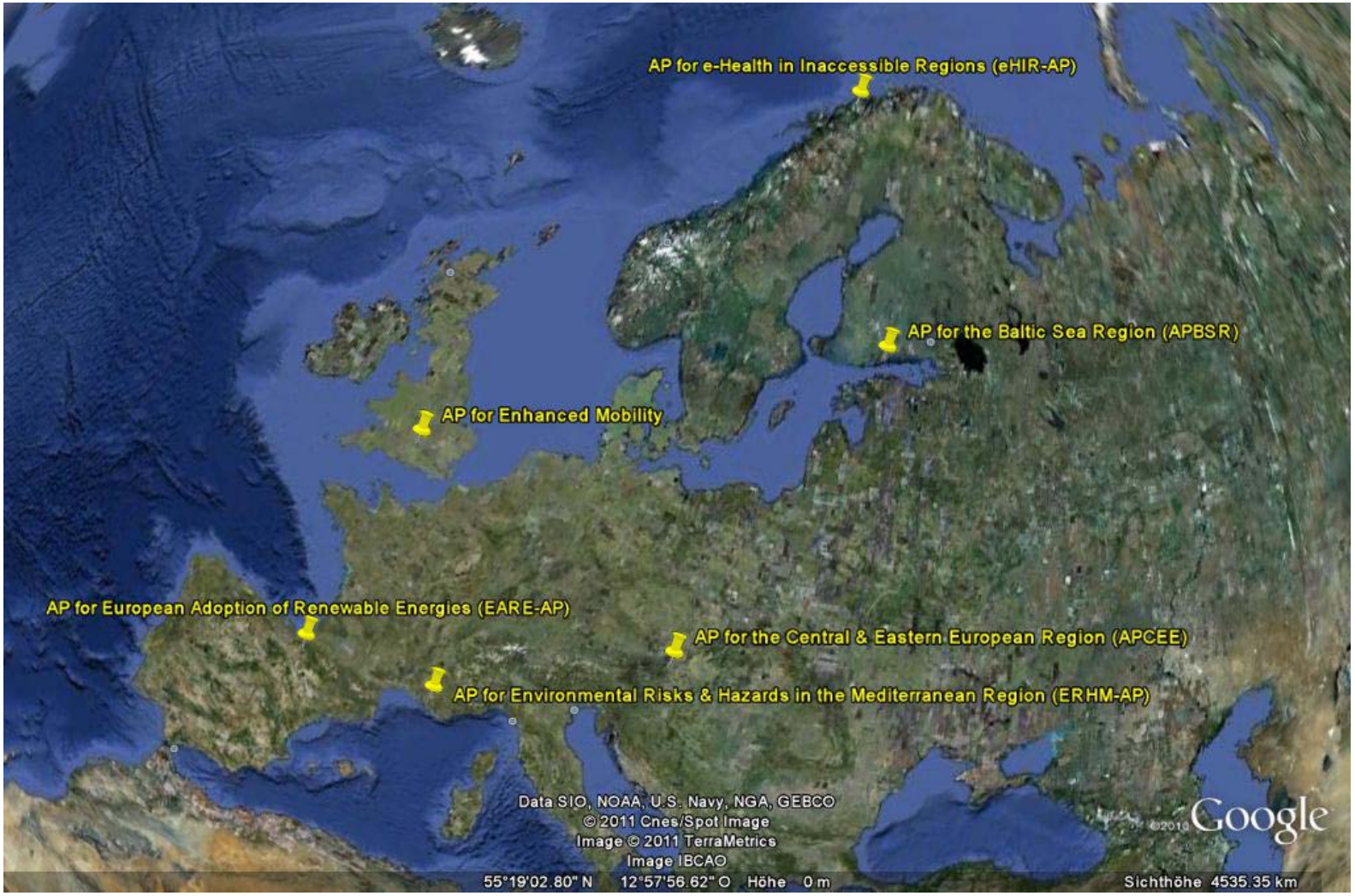
Awareness as basic element to attract users/stakeholders



Awareness as basic element to attract users/stakeholders

- **Goals**
  - Identifying user communities and their needs
  - Identifying space capabilities
  - Informing and educating potential users
  - Influencing decision makers and facilitating cooperation
  - Fostering and organising user demand (capacity building)
- **IAP awareness through**
  - Expert opinion from the **IAP Advisory Committee** (IAPAC)
  - A **web portal** gateway to IAP
  - A network of **Ambassador Platforms** (AP)
  - IAP **events** across Europe (thematic workshops, forums, etc.)

Network of IAP Ambassador Platforms



IAP Ambassador Platform for the CEE region

- Supports IAP in raising awareness and stimulating projects
- Hosted by the European Space Policy Institute (ESPI)
- Main objectives:
  - to inform users and stakeholders on the potential and opportunities of the ESA Integrated Applications Promotion programme
  - to uptake user's needs and to foster stakeholders engagement
  - to stimulate sustainable services
- Acts as an "honest broker"
- The APCEE carries out constructive dialogues with users

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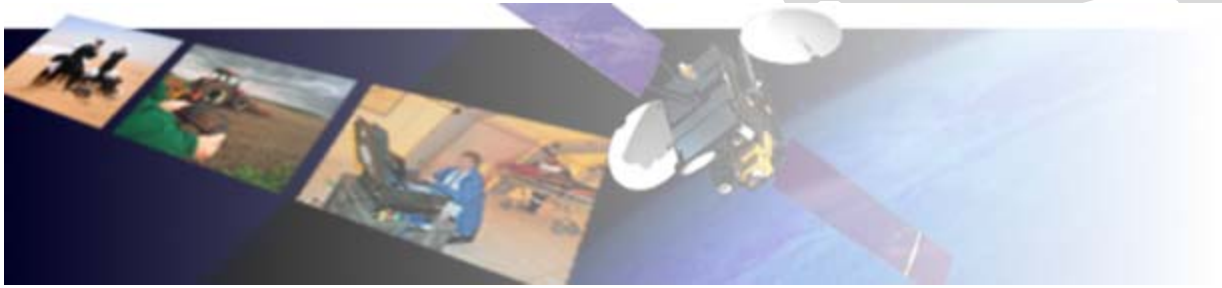
Opportunities and criteria for participation



Funding: Option 1 – Open Competition

- User partner with demand → user initiated
  - Cooperation agreement with ESA
  - Co-funding from user is desirable
- Process:
  1. Invitation to Tender (open competition)
  2. Full proposal submitted by industry consortia
  3. Project execution (in collaboration with user)
- Funding:
  - Feasibility Studies: fully funded - ESA funds 100%
  - Demo projects: ESA co-funding 50%
- Support/authorisation needed from national ESA delegates (JCB)

Funding: Option 2 – Direct Negotiation

- Industrial consortium with user partner(s) involved
  - Direct negotiation with ESA
- Process:
  1. Outline proposal
  2. Full proposal submission
  3. Project execution (in collaboration with user)
- Funding:
  - Feasibility Studies and Demo projects co-funded by 50%
  - For Feasibility Studies: Research institutions or Universities can apply for 100% funding if no commercial interest in outcome of the project
- Support/authorisation needed from national ESA delegates (JCB)

IAP selection criteria

- Confirmation of stakeholder interest
- User involvement (in kind, co-funding) and consolidation of user needs
- Identification of the added value of integrated solution
- At least 2 different space assets (EO, Satcom, Satnav, HSF, etc)
- Definition of system / service concept (incl. interfaces, interoperability)
- Assessment of technical and non-technical risks
- Economic / non-economic viability / business case

For Feasibility Studies:

- Potential for a follow-on demo project activity
- Willingness of user partner to engage also in demo project

ITT ARTES 20: how to apply

Invitation Letter

Special Tender Conditions

- Feasibility Studies
- Demonstration Projects

=> How to prepare the outline proposal and the full proposal

Draft Contract

- Management Requirements
  - Feasibility Studies
  - Demonstration Projects

=> How to organise the work and its deliverables

IAP initiative on the Alpine Region

IAP Call for User Ideas on the Alpine Region: Background

- The Alps are one of the great mountain range systems of Europe, stretching across eight countries.
- About 2% of the total area of the Alps is covered by ice.
- Awareness Activities being undertaken to generate ideas leading to integrated services that will improve business performance and operations, help enforce new regulatory standards or enable improvements to the environment and safety.
- Most of these aspects might apply also to other mountainous areas and highlands in Europe (e.g. Pyrenees and Carpathians).

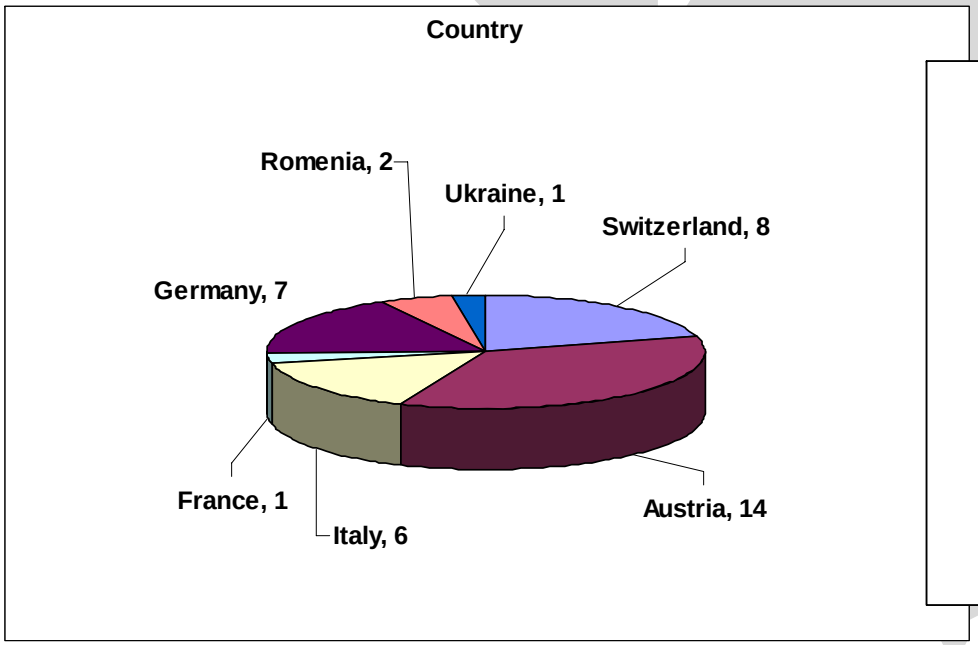
IAP Call for User Ideas on the Alpine Region

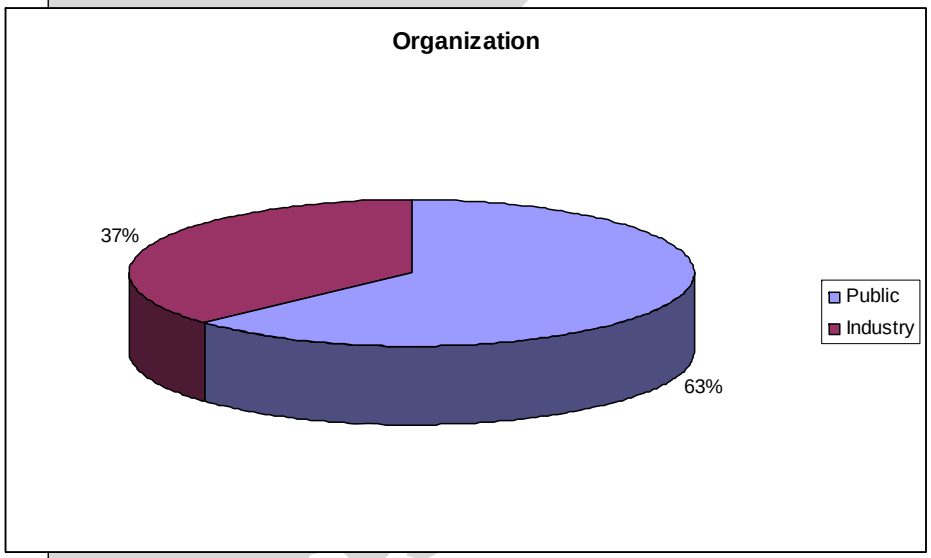
- The Call for User Ideas helped to refine the priority areas for direct negotiations or an open competition.
- Ideas to be used to define and consolidate user requirements services.
- Main themes covered included (but were not restricted to):
  - Transport (e.g. freight and tourism transport).
  - Tourism (e.g. search and rescue).
  - Energy (e.g. hydropower, wind energy, solar energy).
  - Environmental Monitoring (e.g. pollution, natural hazards, biodiversity protection).




IAP Call for User Ideas on the Alpine Region: Outcome

- On 28th March the Call for User Ideas on the Alpine Region was sent to a selected number of users in the IAP database
- 38 ideas received in total (several ideas received from Austria)





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OC on Improved Alpine Avalanche Forecast Service

- Background:
  - Avalanches seriously threaten public and private goods like buildings and transport infrastructure and cause 100 deadly accidents in Alpine regions every winter season.
  - Between 1968 and 1993: 7 km of railway tracks and 195 km of roads have been buried by avalanches; 700 buildings, bridges and other infrastructure were destroyed.
  - It is necessary to predict and prevent avalanches in order to reduce fatalities and to protect villages and infrastructures
  - Key outcome of the „Call for User Ideas on the Alpine Region"

Source: BMLV

Source: Alpenverein

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OC on Improved Alpine Avalanche Forecast Service

- Objective of a Feasibility Study:

  - Identify the most appropriate system of systems solution to achive a technically feasible, reliable and cost-effective service for enhancing available services
  - Foreseen to organise user/stakeholder workshops
  - Planned duration of 12 months
  - Open Competitive Tender expected in Q2 / 2012
  - Launch of the activity foreseen in Q3 / 2012

Source: BZ Berlin

OC on Improved Alpine Avalanche Forecast Service

- Added value of space assets:
  - Earth Observation
    - High resolution avalanche mapping
    - Snow accumulation
    - Other snow parameters

Source: ESA

  - Satellite Navigation
    - GNSS based geolocated field measurements, including direct snow hight measurements
    - Tracking, in real time, the position and the path followed by technicians during field survey activities
  - Satellite Communication
    - Data transmission from weather stations, data loggers, etc. will be investigated

IAP references

- IAP Website
  - http://iap.esa.int
- AP Community Portal
  - http://iap.esa.int/c/ceer
- "Integrated Applications Handbook" (available as hardcopy and via the IAP website)
  - http://iap.esa.int/handbook
- IAP Open Call for proposals
  - EMITS: http://emits.esa.int (ITT AO6124)
- IAP general email address: iap@esa.int

Thank you!

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