

# Lessons learned on IAP Phase 1

## ARTES Applications Workshop, Rome

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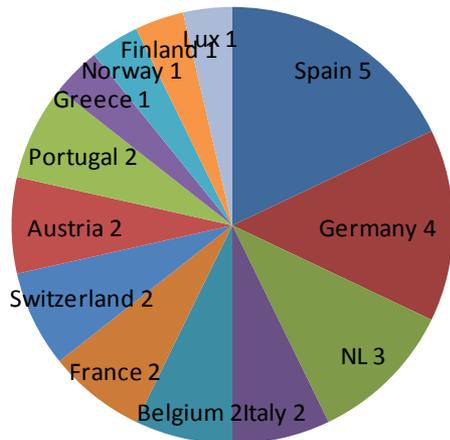
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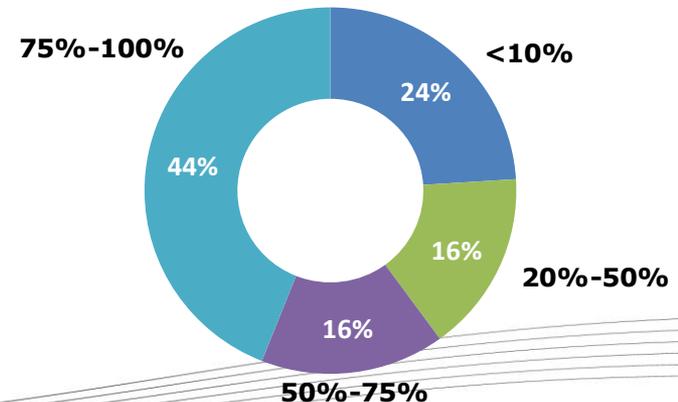
# IAP participants consulted on lessons learned

- 28 organizations participating to IAP (feasibility & demonstration projects whatever their stage of development) interviewed in 13 MS countries
- UK participants consulted separately by ESA with broadly similar results regarding SME participation to IAP
- A large part of IAP participants are not satellite specialists (40% of interviewees generate less than 50% of their sales in space)
- Half of participants lead the IAP projects, most of the others as partners and a few end-users of IAP-developed products and technologies (e.g. MEDES in France, Ministry of Foreign Affairs in NL)
- All participants generally satisfied with IAP with respect to the expectations they had at the beginning of the projects they are/were involved in

**28 participants from 13 countries**



**Importance of satellite-related products/services in total sales**

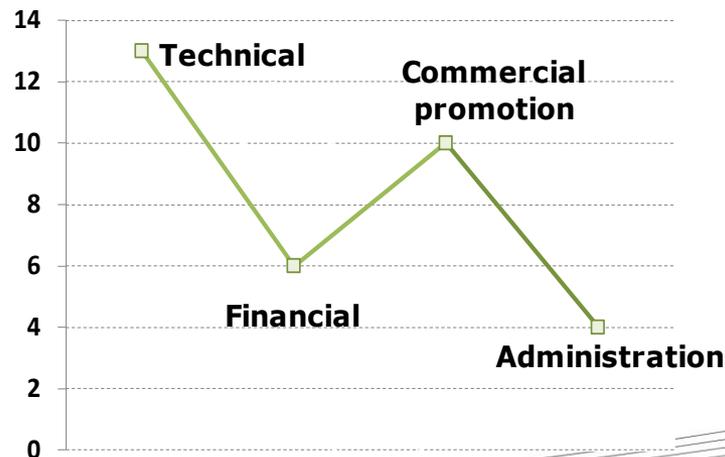


- **Partnership** benefit of IAP is high, mainly within the consortiums
- IAP gives or increases **international credibility and visibility** of participants
- IAP helps participants to **understand better users' needs** and to develop their product/service portfolio
- End-user participation is key for the various benefits it brings
  - understanding real market's need and requirement (e.g. timeframe required to launch a service)
  - helping to define the suitable products and services to meet users' needs
  - assessing the service pricing
  - building the demo study in order to have a pre-operational service business model
  - establishing relations with end-users which will also be potential clients
- .....but it is a challenge to have end-users involved along the entire process (better when they are officially part of the consortium)

## Most appreciated in IAP

- Cooperation with end-users
- Integration of different technologies
- User-driven approach and market orientation
- Small consortiums
- Work with ESA
- Opportunity for SMEs

- All participants are **satisfied overall with ESA support**. Satisfaction is maximal for technical support and minimal for administrative support
- IAP process is generally considered **reasonably easy to understand and to follow** throughout the proposal & execution phases:
  - Knowledge of IAP is predominantly ESA-related, either direct from ESA dissemination or from national delegates
  - Most of the interviewees had previously established relations with end-user communities before participating to IAP
  - National delegates are generally considered supportive and easy to work with
  - Most participants find it is relatively easy to understand ESA requirements, establish ESA contract, communicate with ESA, build partner consortium and manage the project



*“Very satisfied” votes for ESA support by type of support*

**Three categories of partners** dominate for IAP participants: service providers, users/customers and industrial companies

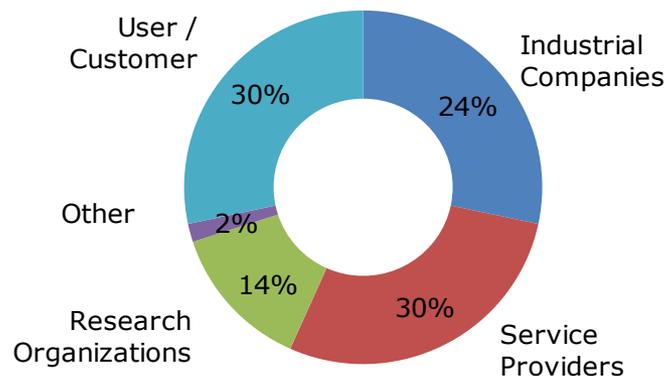
➤ 2/3 of the interviewees became associated with multiple types of partners for the proposals

## Two challenges upstream in the IAP process

➤ Construct a partnership, i.e. distribution of responsibilities: The consortium of partners must be set up before the RFP comes out, otherwise there is not enough time to find the right partners, especially end-users

➤ Develop a good understanding of users' needs (typical difficulty to communicate between two communities: engineering and service provision)

**Partners for IAP proposals**



## 2 end-user communities dominate

- Government bodies in relation with national security, i.e. navy, coast guard, border control, customs, police and civil protection
- Infrastructure-related sectors such as transportation

- **Importance of SMEs in national economies** varies significantly from one country to another in Europe
  - 9 out of 16 EU countries have a share of SMEs in industrial value-added above the EU average of 58%
  - Share is especially high (> 70%) in Italy, Greece and Norway
  - 3 largest space countries below the EU average, i.e. France, Germany and UK
- All countries support innovation for SMEs to different degrees and through various schemes, of which tax credit for R&D expenditures is the most developed
  - but national support to innovation by SMEs in satellite technology or service development is not systematic and is unequal between the countries
- **Gaps in national government support** include poor access to international markets, financial & administrative barriers and initiatives not targeted enough toward SMEs
- **Patchiness of national supports to SMEs** across Europe and the multinational dimension of satellite services justifies multilateral programmes for satellite service development
- Economic multipliers of investment in satellite infrastructure are created by the multiplication of service providers and the growth of their activity downstream of satellite systems

- Multiples typically range between 1.4 (Belgium) and 4.8 (GMES). France is an exception at 19 because of a large space industry and a large satellite operator (Eutelsat)
- Luxembourg's return of investment in space measured relatively to the national GDP: economic importance of SES is high (downstream) while the satellite industry (upstream) is not developed in the country

Country	Source	Sector	Multiplier	Rationale
<b>European Union</b>	Booz & Co, 2011: CBA for GMES	Earth Observation	<b>4.8</b>	Total benefits of GMES between 2014 and 2030 are estimated at €70.5 billion for a total investment of €14.8 billion
	French Minister in charge of space activities	Satellite Navigation	<b>4.1</b>	Galileo is expected to generate €90 billion in commercial revenues between 2012 and 2032 for a total cost of €22 billion over the same period
<b>France</b>	CNES: 2010 Annual Report	Space (General)	<b>19</b>	Each € invested in space infrastructure generates €19 of new business in operational applications and services
<b>Norway</b>	OECD, 2011: The Space Economy at a Glance  (based on national sources)	Space (General)	<b>4.7</b>	For each million Norwegian kroner of governmental spending at ESA and for national programs, the Norwegian space sector companies have on average generated an additional turnover of NOK 4.7 million
<b>Belgium</b>		Space (General)	<b>1.4</b>	In 2010, for each € million of governmental support through ESA, it was found that €1.4 million have been generated by the Belgian space industry
<b>Denmark</b>		Space (General)	<b>3.7</b>	[...] each € million of Danish contributions to ESA has generated a turnover of €3.7 million on average
<b>Luxembourg</b>	Euroconsult for the MESR in 2012	Satellite systems & services	<b>Not a multiple but a % of GNP</b>	Satellite-related sales at 4.3% of GDP in the country while the European average is 0.1%. When considering only the satellite industry upstream (i.e. excluding satellite operators), sales at 0.02% of the GDP in Luxembourg while the European average is 0.06%