

OECD SPACE FORUM WORKSHOP:
Innovation Drivers in Downstream Space Activities

Promoting space applications: ESA lessons learned

10/June/2016

In 2008 the ESA Ministerial Council decided to initiate a new programme named IAP, with the specific purpose of promoting new & integrated uses of space assets.

TIA Directorate was created and the teams in charge of telecom applications projects & of the new IAP programme were regrouped.

IAP Objectives & Scope

- Utilization of existing space infrastructure
- Partnerships with stakeholders across the value chain
- Engagement of Users/Customers
- **Sustainable services (co-funding by industry)**
- Attract Investors' attention

Incubator of Services



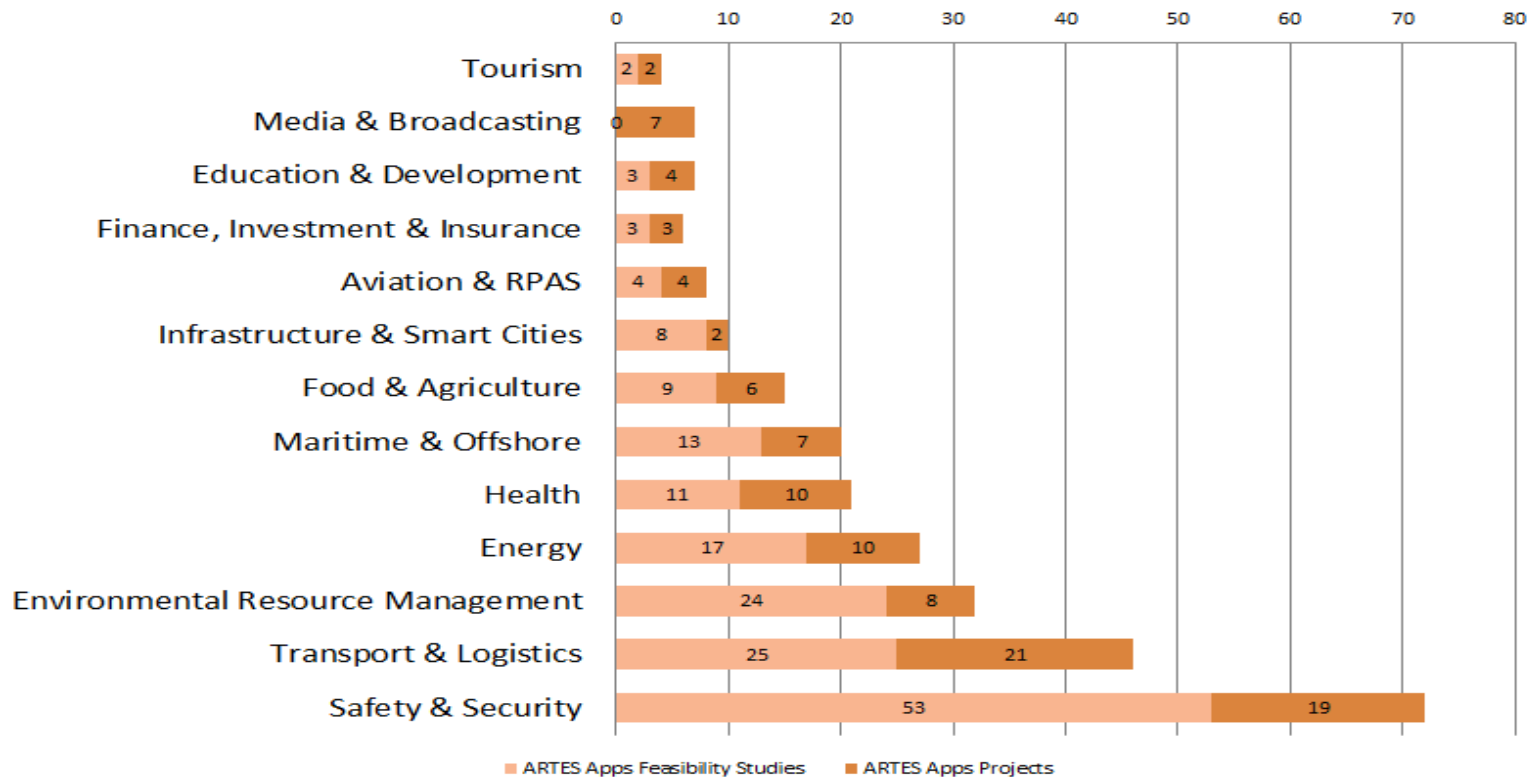
Advisory & Coordination

ESA Added Value



- Financial support
- Technical, Business expertise
- Promotion
- ESA “branding”
- Networking
- Access to 3rd party funding

A wealth of activities across many sectors



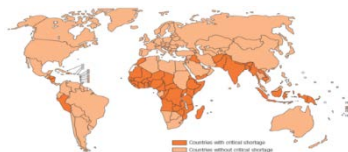
Strategic Partnerships



Maritime
Activities



RPAS
Activities



eHealth for Sub-
Saharan Africa



GSA



Space for Rail



"SMAP Fund"

Space for Mediterranean
Acceleration Programme



ESA UNCLASSIFIED - For Official Use



European Space Agency

55 projects' impact appraised against 10 socio-economic indicators

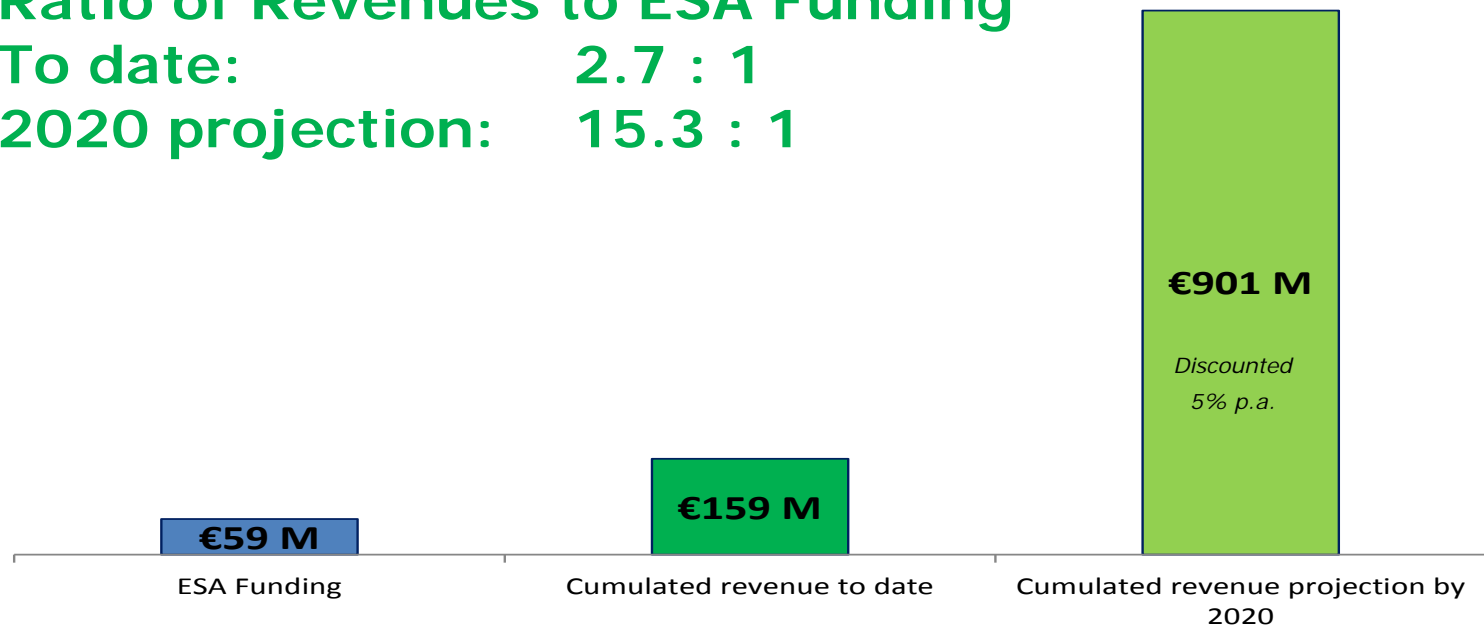
| # | Description | Measure |
|----|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Revenue | Euro |
| 2 | Exports | % of revenue going to export |
| 3 | Jobs | no. of employees created or sustained linked to the project |
| 4 | Investment leverage | Euro, includes total 3 rd party investment in terms of equity, debt, grant, public funds or M&A following on from the ARTES project, as compared to the ESA co-funding |
| 5 | R&D spend uplift | Increase in the ratio of R&D expenditure/revenue |
| 6 | Extent of the value chain | Number of business relationships. This includes consortium partners, suppliers, distributors etc. |
| 7 | Addressable market size | Potential financial value without possibility to compare or aggregated |
| 8 | Value creation | May be linked to a financial measure without possibility to aggregate figures |
| 9 | Societal benefits | E.g. improvement in emergency distress, better education in rural schools, saved lives due to telemedicine |
| 10 | Innovation impacts | E.g. market disruption and patents |

ARTES Applications/Services

Cumulated revenues of appraised projects

Ratio of Revenues to ESA Funding

To date: 2.7 : 1
2020 projection: 15.3 : 1



70% of revenue goes to export

New export markets become accessible to SMEs:
MENA, Asia-Pacific, Oceania

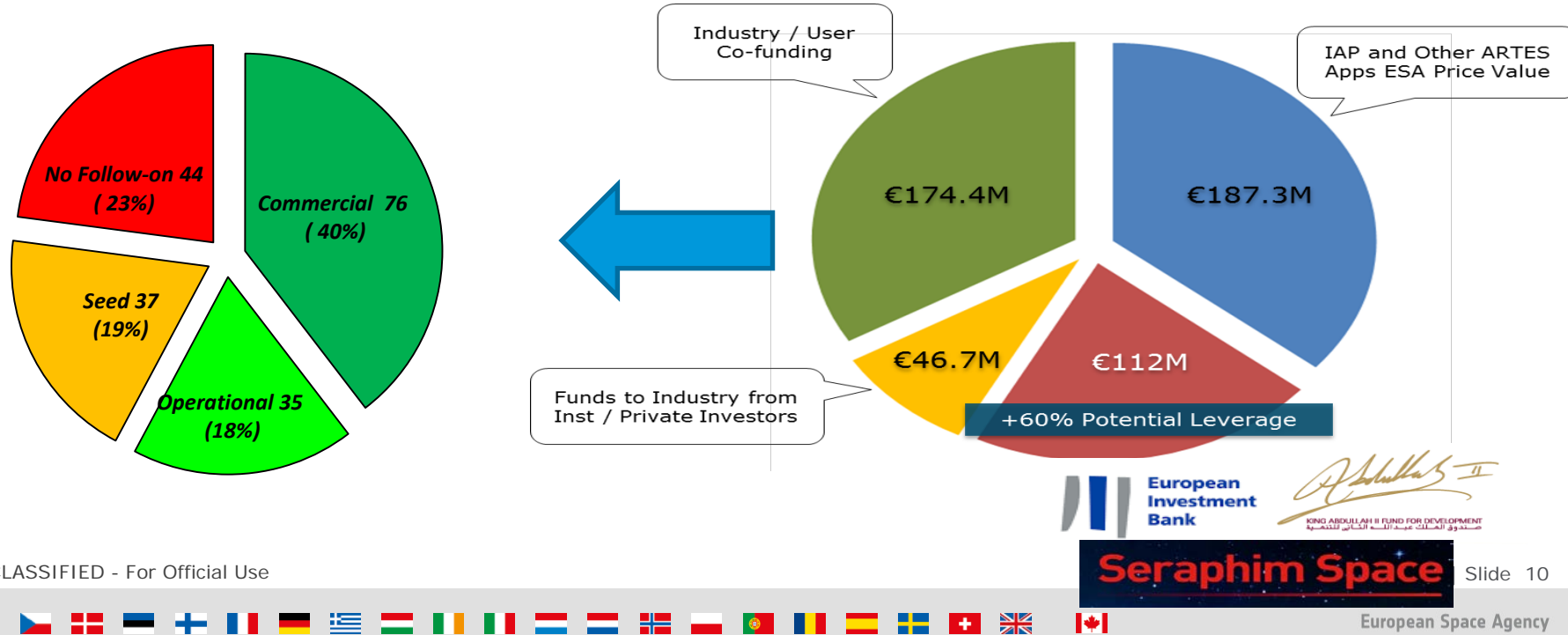
>325 Jobs created

Sustainable jobs are created beyond the lifetime of projects
fostering the knowledge economy

€ 39.7M received from Private Investors

ESA “branding” gives impulse to further investments:
SAMOLOS (Ovinto), VECMAP (AVIA-GIS), EOM (Geosatis)

Follow-on from the **192** completed downstream applications projects under ARTES



Communication/promotion is essential



artes applications



since April 2014

Users
74,237

Pageviews
276,161



<https://www.linkedin.com/company/artes-applications>



SUBSCRIBE

> 3300 Newsletter subscribers

28 - 29 April 2016, Brussels

→ REGISTRATION OPEN

→ ARTES APPLICATIONS WORKSHOP 2016 #ARTESAPPS2016

Most successful Project Showcases



MONITORING BRIDGES FROM SPACE

24 March 2015

Long-term monitoring using historical Earth Observation data and short-term GNSS positioning is a potent combination for studying the health and well-being of complex structures such as bridges.



SATELLITES HELP MAP INFECTIOUS DISEASE VECTORS

07 November 2014

In an activity supported by ESA, a software package called VECMAP was developed that uses Satellite Navigation and Earth Observation data to populate an online database, allowing researchers to map high-risk areas.



SATELLITE BROADBAND FOR ALL

26 August 2014

Thanks to European telecoms satellites, affordable broadband Internet access via satellite is becoming reality.



TRACKING TRAINS BY SATELLITE: A PREMIERE FOR EUROPE

06 May 2014

The incorporation of satellite communication services in railway signalling systems is now one step closer.

Network of IAP Ambassador Platforms

Increased synergies with the BICs network

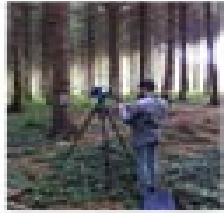
Giving a more comprehensive network



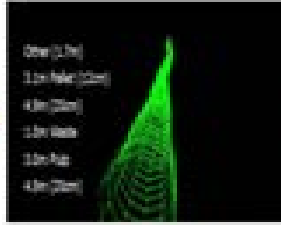
Success Story (Satmodo by Treemetrics)

Live guidance and monitoring of round-wood timber

Intelligent Harvest Control



Measure



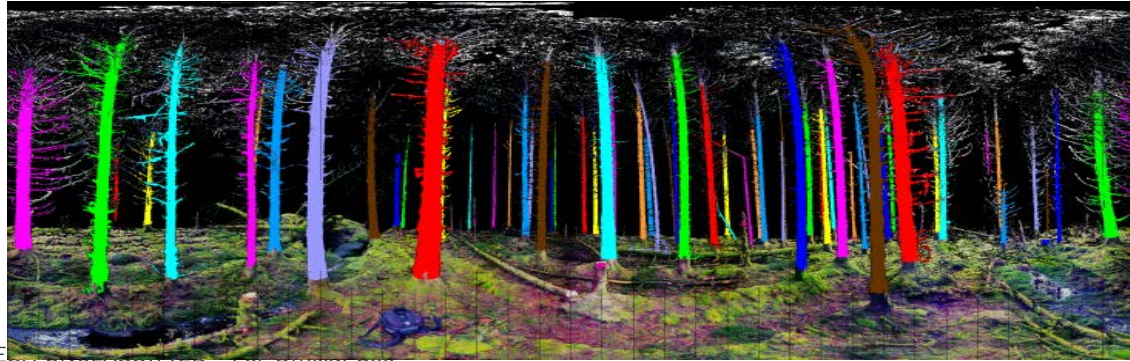
Interpret



Optimize



Harvest



Treemetrics at White House St Patrick's Day 2016



Summary of Lessons Learned



- Vital to engage stakeholders across the entire value chain, with both users and developers committed to creating sustainable services.
- Co-funding by public and private sectors is a key to achieving this.
- Most initiatives should come from the private sector and be facilitated (not controlled) by the public sector.
- The business side (investment readiness) is as important as the technical side. The team is probably more important than either.
- Projects are not an end in themselves. The output should be not just a product or service but an entity or partnership capable of delivering it.
- Promotion is essential: the best technical solution is worthless unless the market knows about it.

- Increase the % of ESA budget dedicated to the downstream sector
 - Widen IAP scope
 - Modify the criteria “..to integrate and combine several different space technologies..”
 - Introduce as a new objective... to promote and support Industry in maximizing commercial success of the developed services
 - Increase IAP Outreach
 - Increase financial support for SMEs to 75%
 - Introduce “Kick-Start” activities as easy entry to IAP
 - Introduce “Enabling” activities as early incubators of services
 - IAP Ambassador Platforms implemented in cooperation with Business Incubation Centres