



**SPACE AS A DRIVER FOR SOCIO-ECONOMIC  
SUSTAINABLE DEVELOPMENT**

-

**SPACE SOCIETY**

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# Overview

- **Eurisy**
- The EU perspective - Copernicus
- Space Society at a local & regional level
- Space in developed and developing Nations
- New Players & Future
- Conclusions

**HOME** ~ ABOUT EURISY ON SATELLITE APPLICATIONS EVENTS GOOD PRACTICES ~ WORK WITH US PUBLICATIONS

**A non-profit association connecting space and society**

[read more >](#)

About Eurisy Eurisy conference From the blog Announcement Good practice of the week

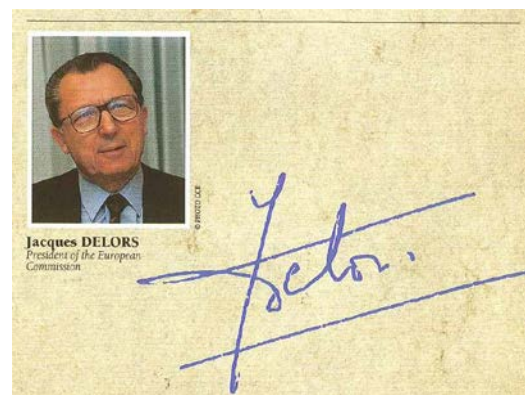
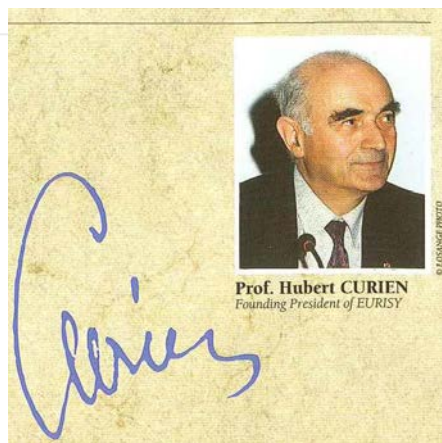
**LOCAL AND REGIONAL AUTHORITIES** **SMEs** **SPACE COMMUNITY** **MEMBERS**

Creating public awareness of the importance of these issues and informing young people in particular of **the humanly and vocationally rewarding prospects offered by satellite systems**: these are the tasks assigned to Eurisy.

**Prof. Hubert CURIEN**

My hope is that the activities of Eurisy will help to inform the public and the decision-makers of the results of collaboration between the European Space Agency and the Commission of the European Communities in the field of the environment and of Earth observation, with a view to **promoting the European space programmes for protecting the environment.**

**Jacques DELORS**



**eurisy** 25 YEARS OF BRIDGING  
SPACE AND SOCIETY



## User Support Programme - 2014

- ✓ 253 organisations connected: 170 non-space, 83 space
- ✓ 145 testimonials of confirmed users disseminated
- ✓ 19 Eurisy events, 14 countries: more than 1600 participants
- ✓ 44 information sessions on invitation from non-space partners: 4000 participants



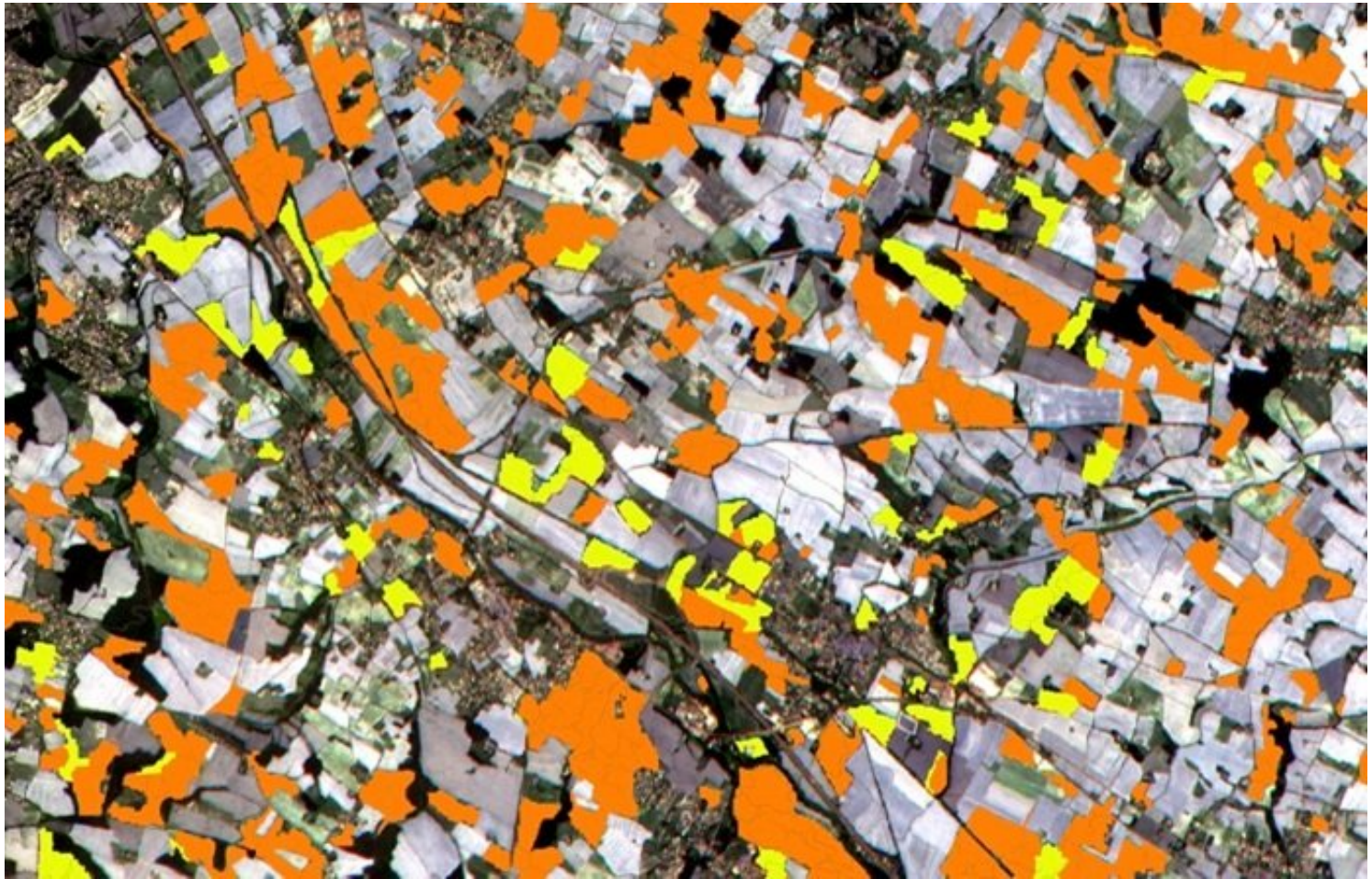
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# Copernicus supports applications in a wide variety of domains





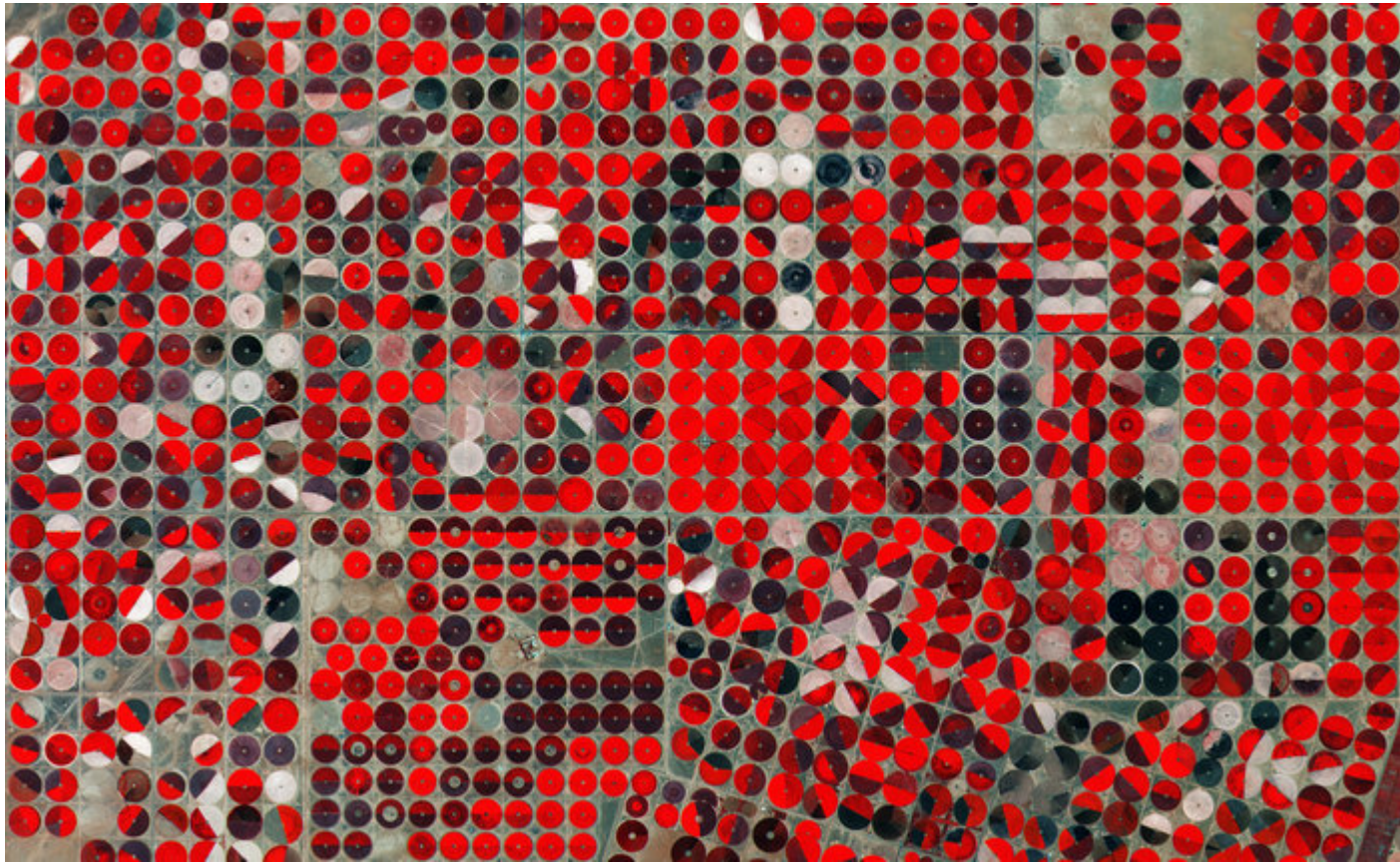


**Title** Sentinel-2 for agriculture

**Released** 27/07/2015 3:43 pm

**Copyright** Copernicus Sentinel data (2015)/ESA/University of Louvain/CESBIO

**Description** Sentinel-2 is the first optical Earth observation mission of its kind to include three bands in the 'red edge', which provide key information on the state of vegetation. In this image from 6 July 2015 acquired near Toulouse, France, the satellite's multispectral instrument was able to discriminate between two types of crops: sunflower (in orange) and maize (in yellow).



**Title** Agriculture in Saudi Arabia

**Released** 27/07/2015 3:23 pm

**Copyright** Copernicus Sentinel data (2015)/ESA

**Description** This false-colour image from the Sentinel-2A satellite shows agricultural structures near Tubarjal, Saudi Arabia. Circles come from a central-pivot irrigation system, where the long water pipe rotates around a well at the centre.

# Turning the Potential of Copernicus into Reality

“Copernicus: 29,4 Billion Euros in 2030, 48.000 direct jobs will be created !”

- **Open and Free data:** yes, but **From data to info**
  - the end-user requires expert information/services → business opportunities to generate value from freely available data
- **What can SMEs do?**

**Look for the business cases in (EU) sectoral policies:** listen to end-user needs and embed your solutions in the existing procedures
- **What can governments do?**

Empower local end-users and/or accompany end-users via public procurement policies & (technical) procurement support programmes

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Survey for public authorities

# Operational uses of satellite-based services within the public sector



## Public authorities are already successfully using satellite-based services



**Environment Agency: EO to manage floods**

**2014 cost: £10,000**



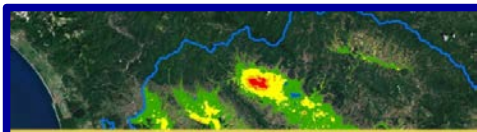
**Satellite-based map for Wales**

**costs 1/4 of previous map**



**CCME: EO for oil spill detection**

**free service  
decreased pollution**



**Arno River Basin: EO for slope monitoring**

**27,000 landslides identified and 10,000 classified as active**



**Lyon: EO for solar**

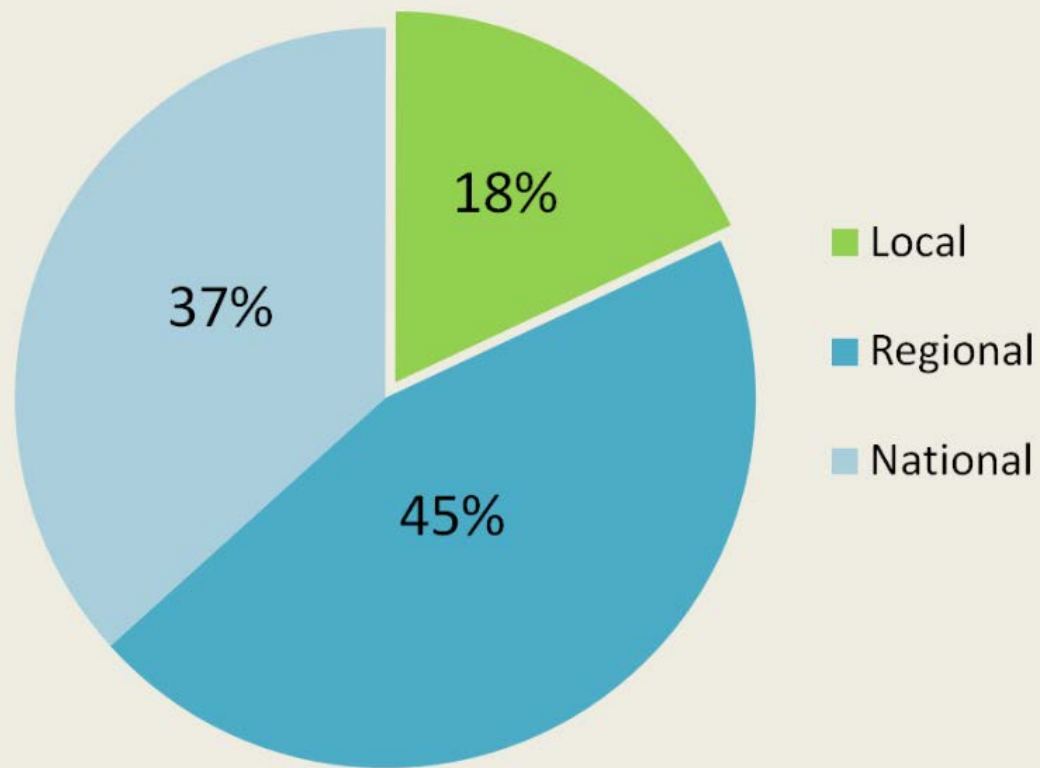
**costs 1% of energy annually produced**



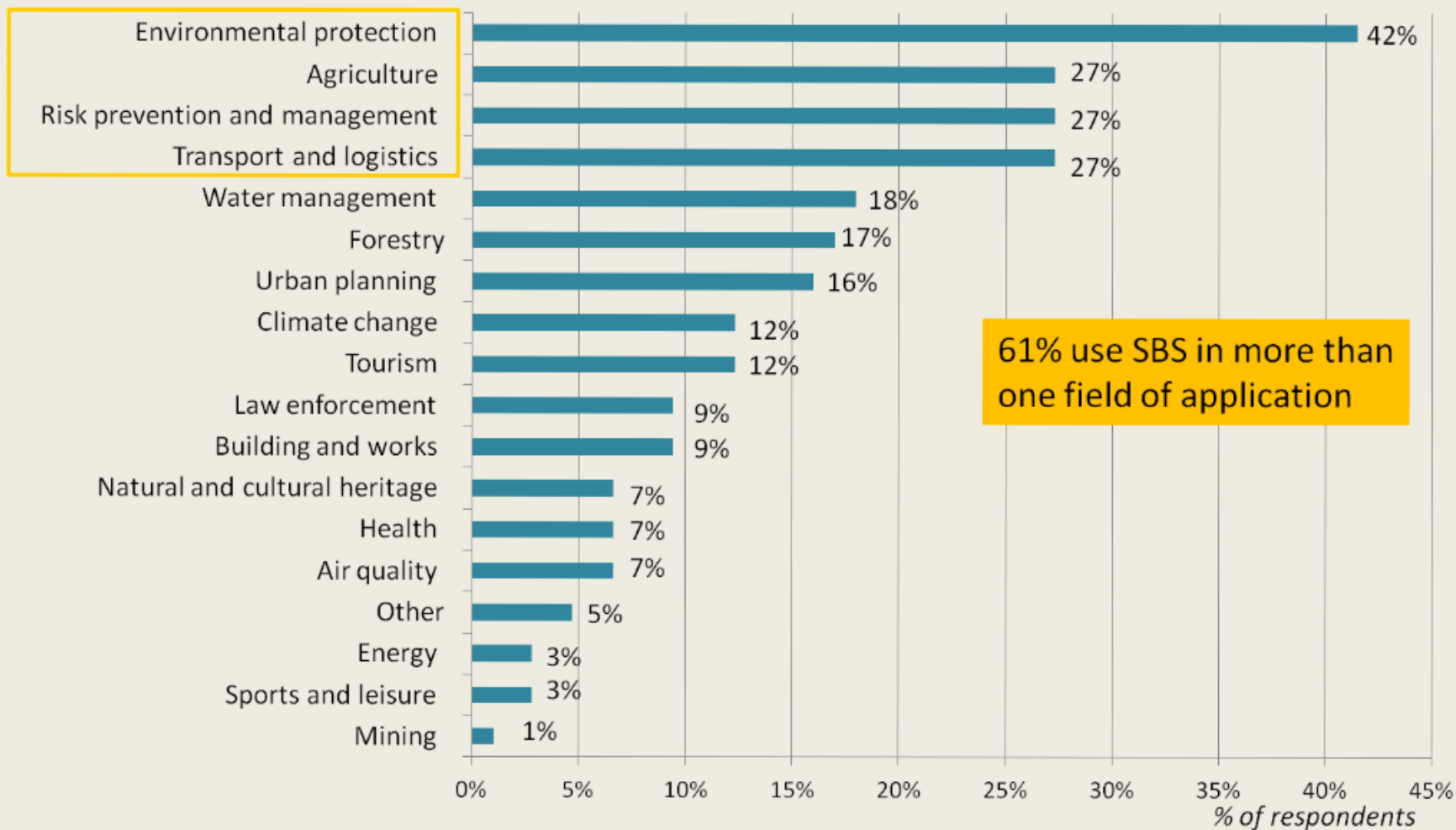
**Diemen: EO to manage soil resilience**

**costs 0,25% of annual maintenance budget**

## PA's main area of operation

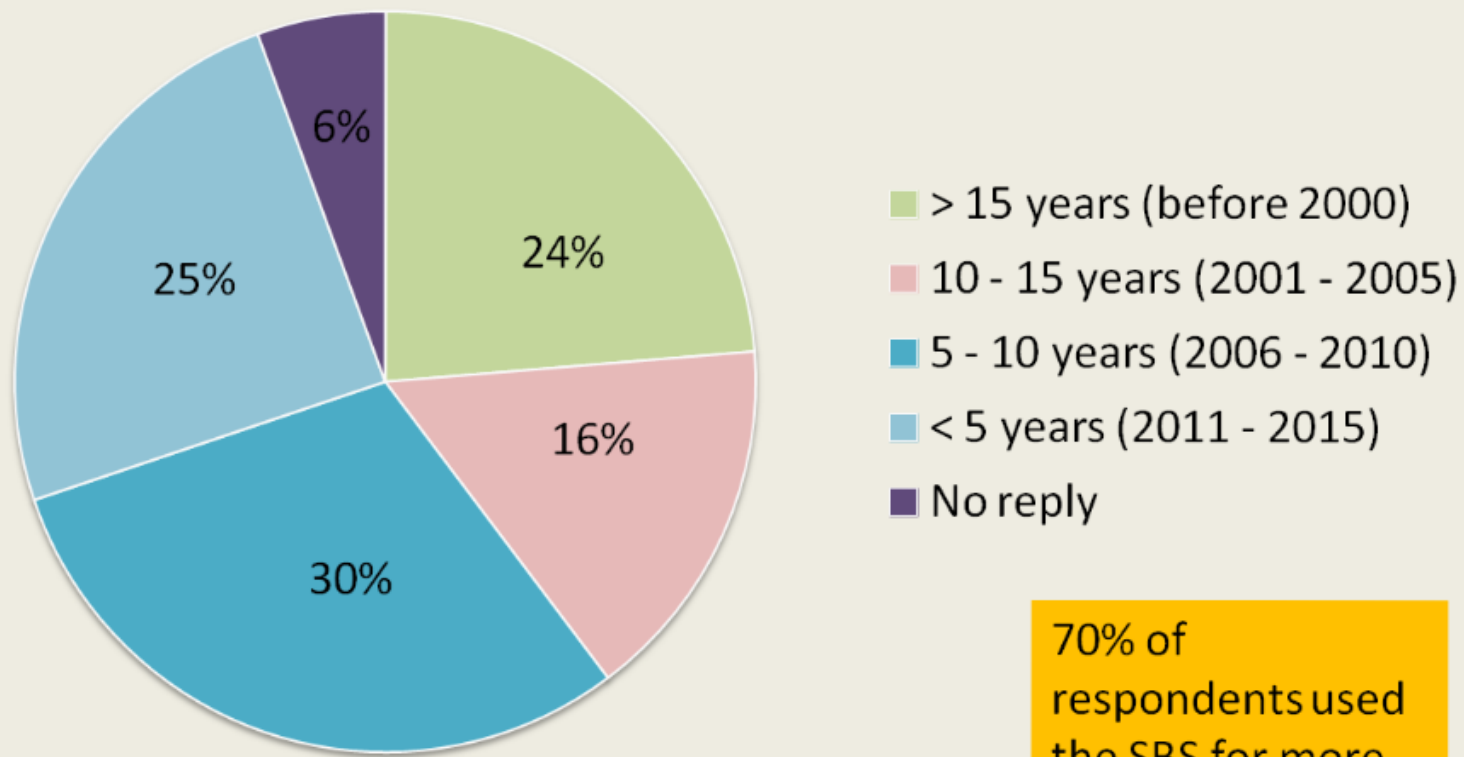


## Fields of application of the SBS



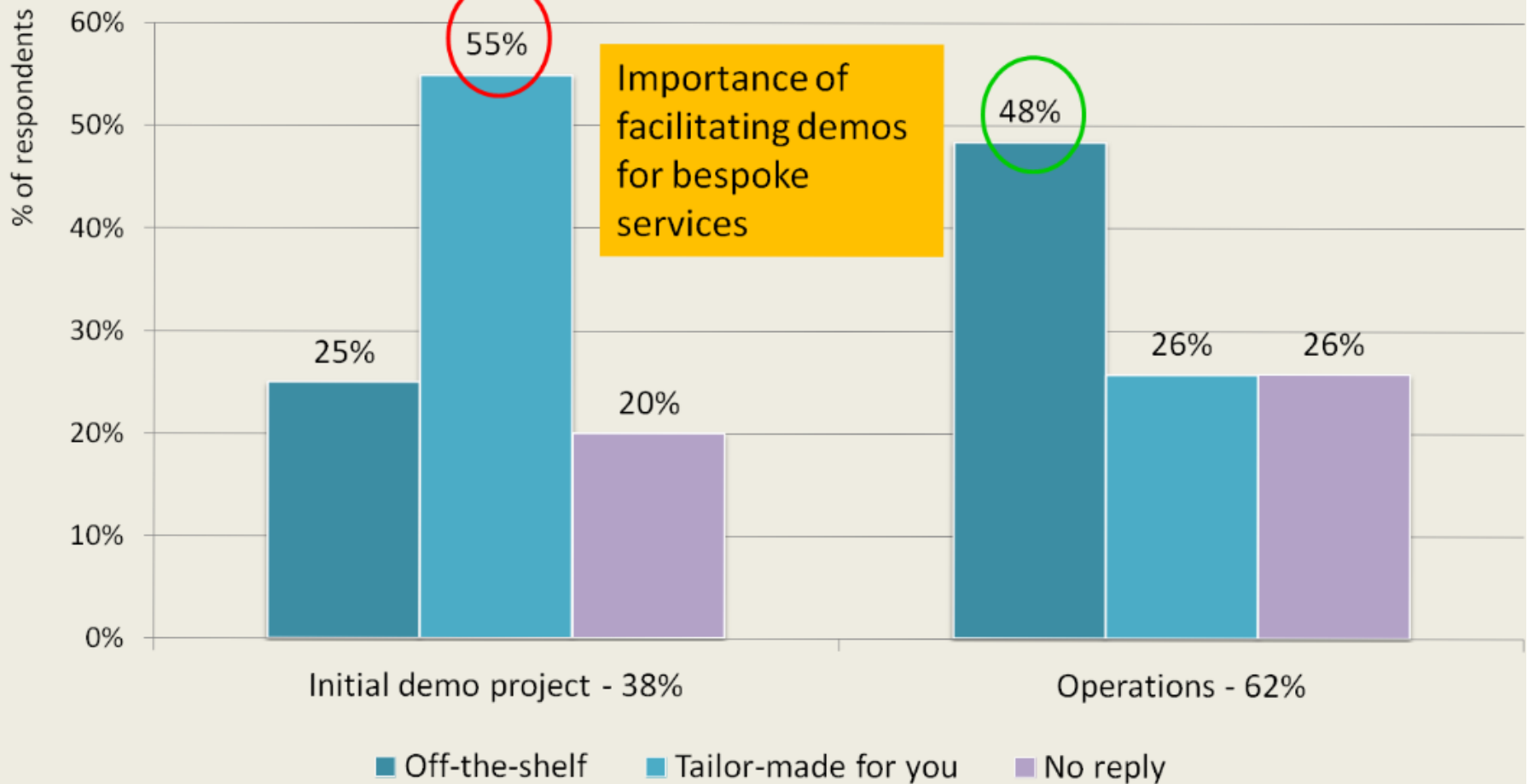


## Period of use of the SBS

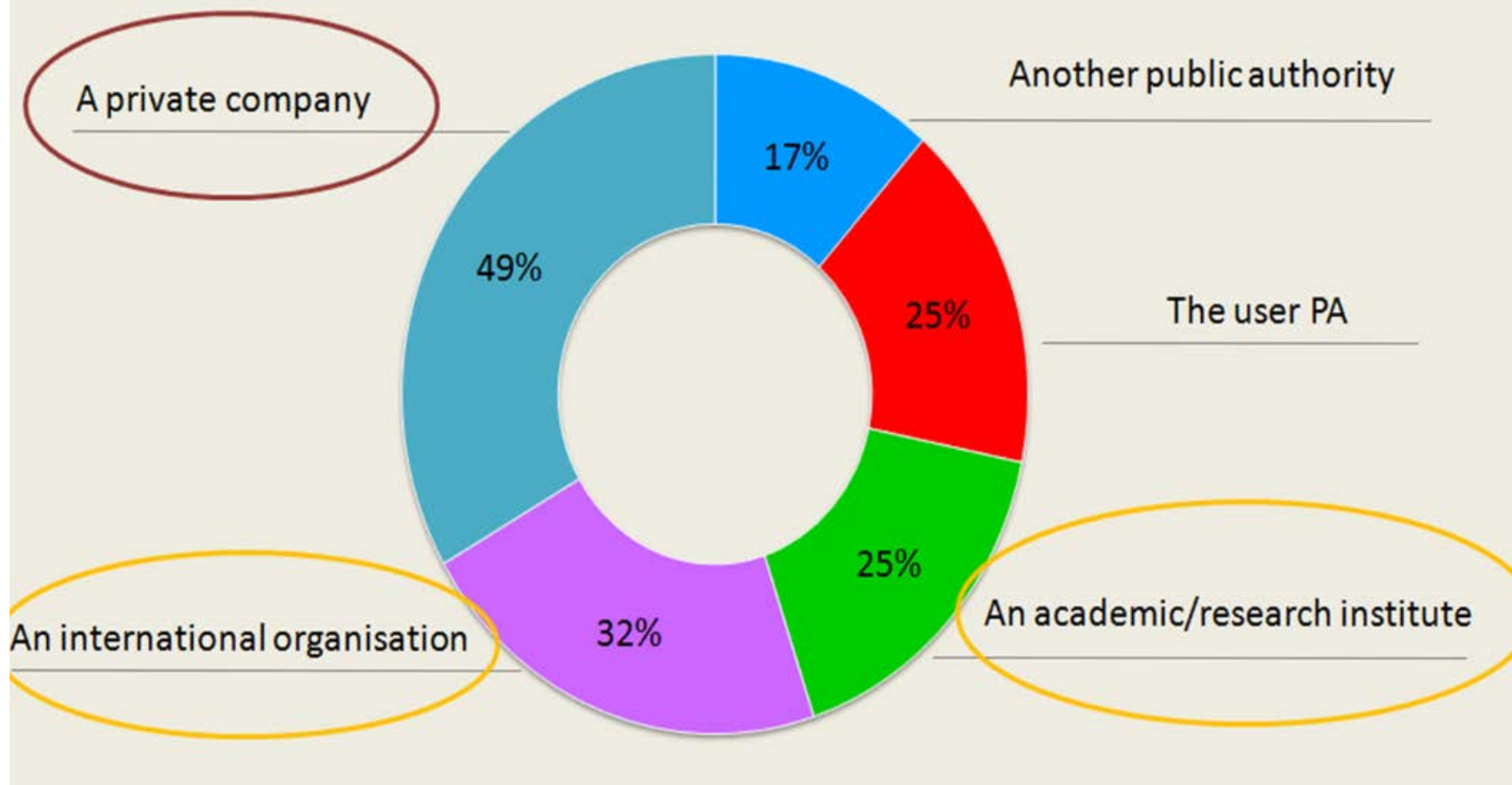


70% of  
respondents used  
the SBS for more  
than 5 years

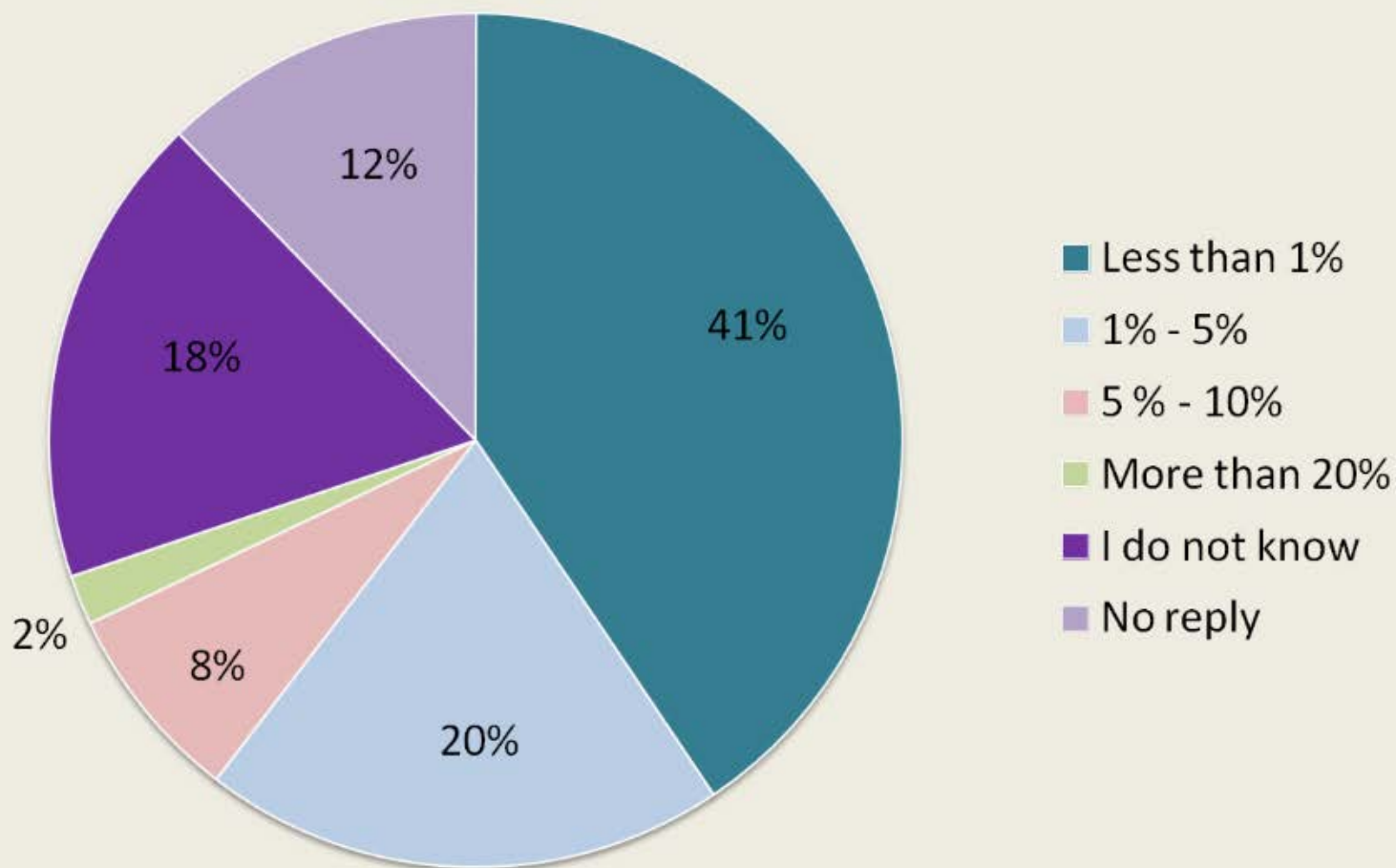
## Service availability according to implementation framework



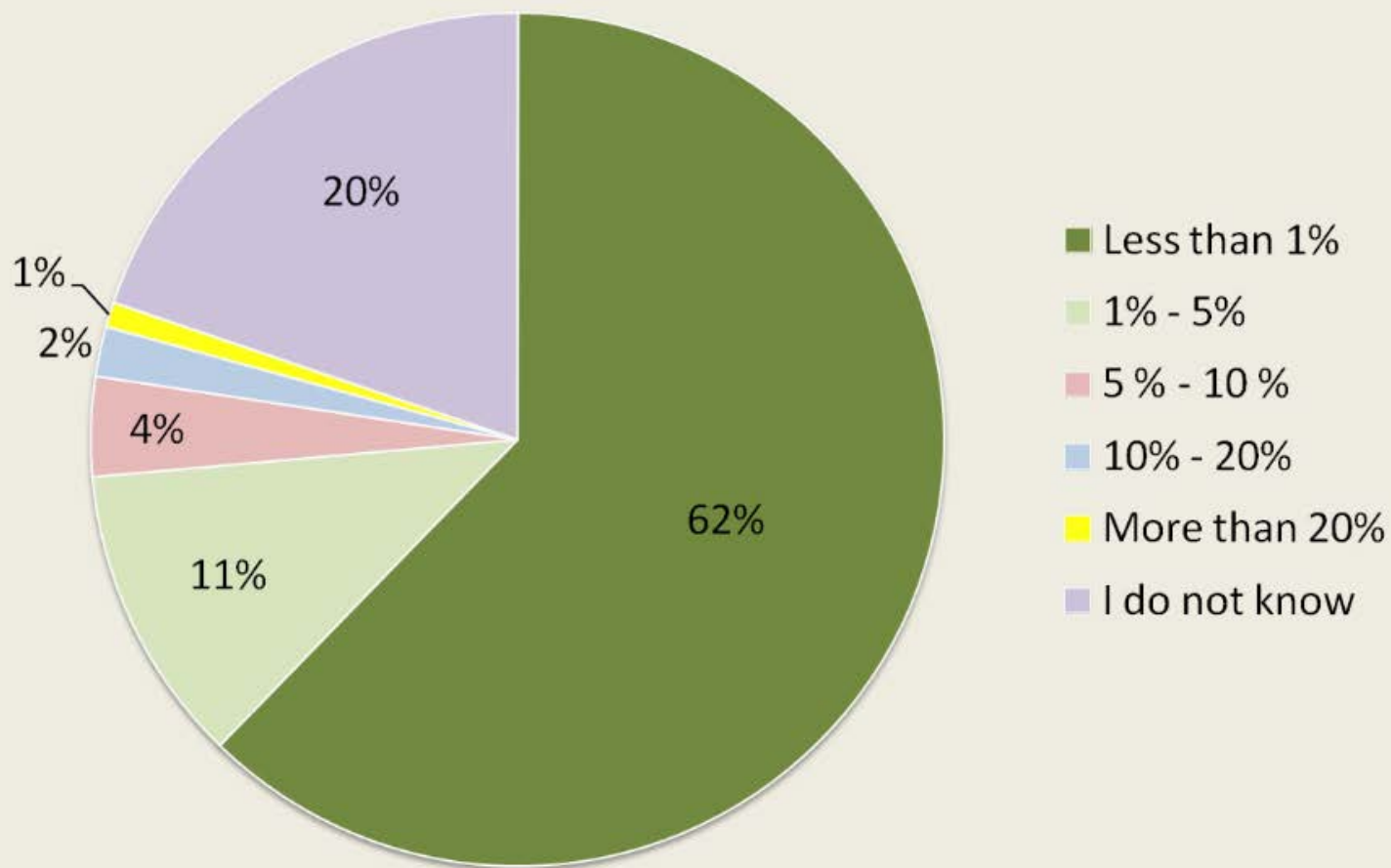
## Kind of service providers



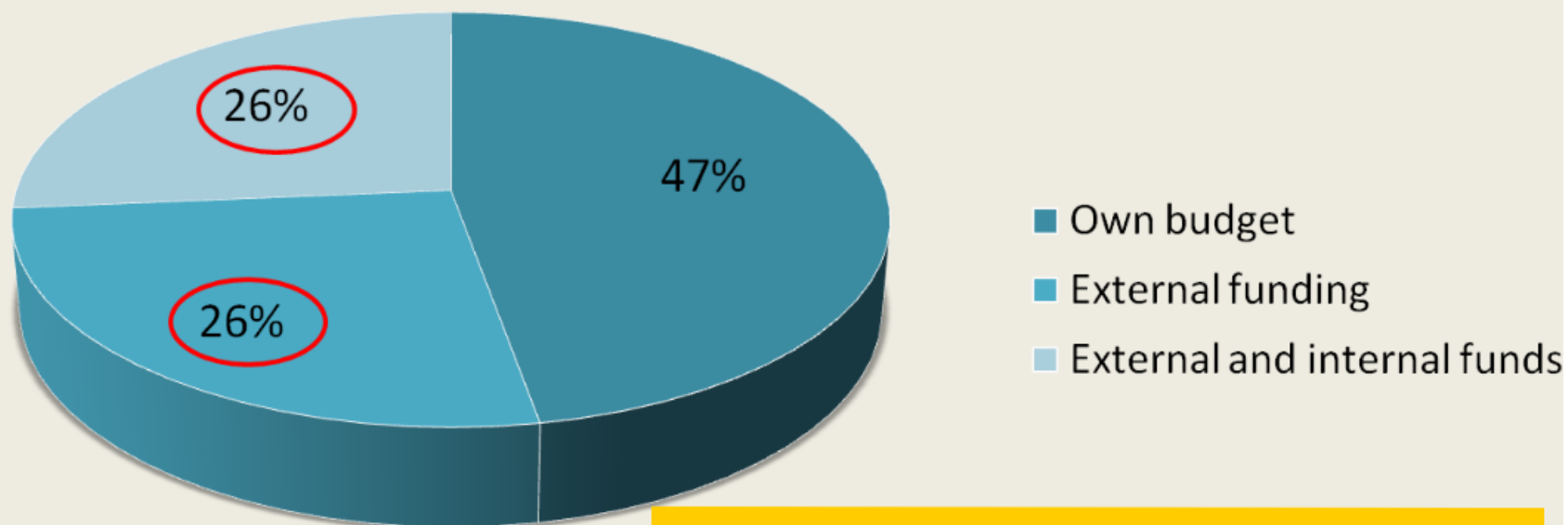
## Initial investment as a share of the PA's annual budget



## Operational and maintenance costs as a share of the PA's annual budget

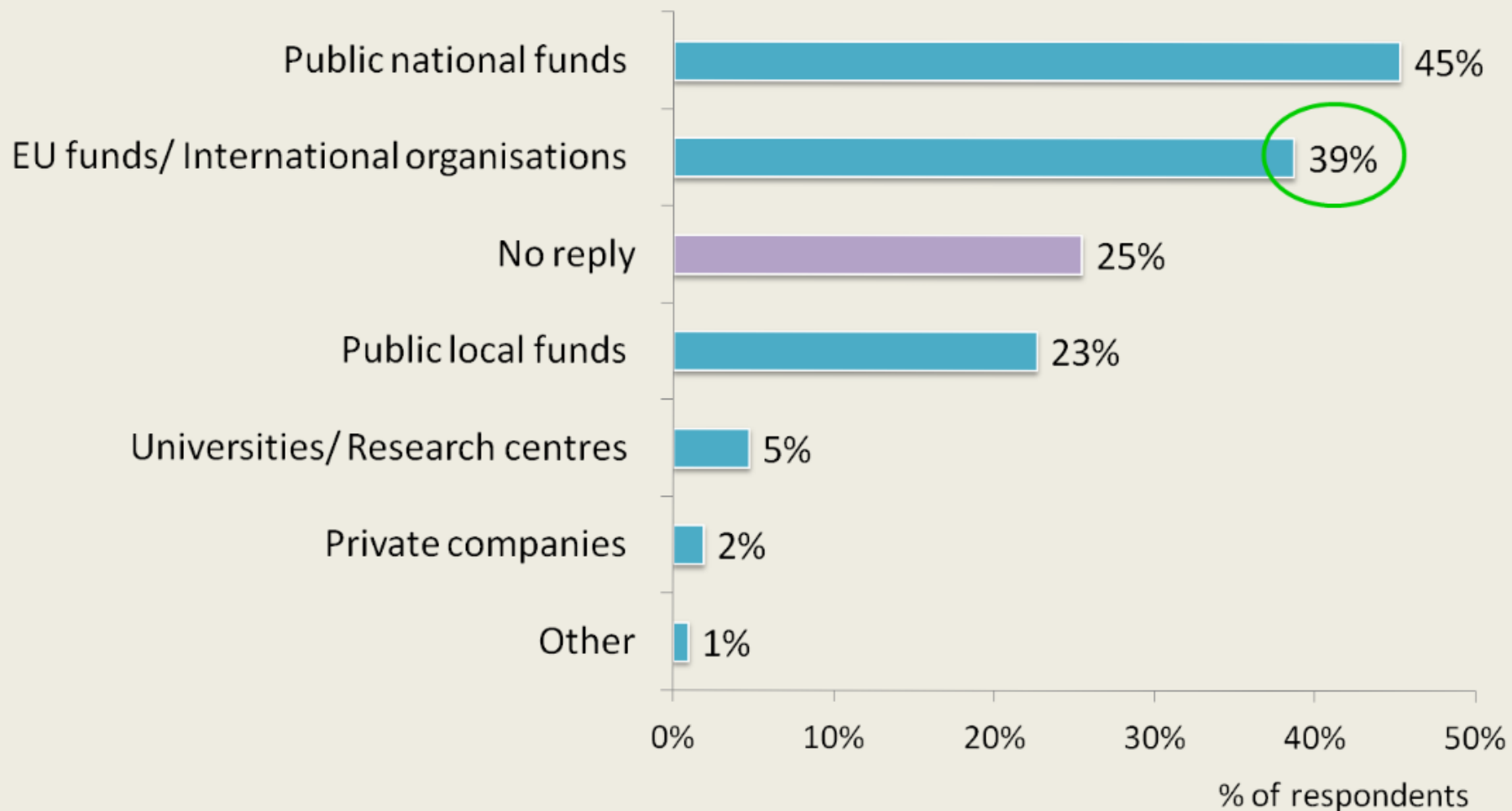


## SBS' initial funding

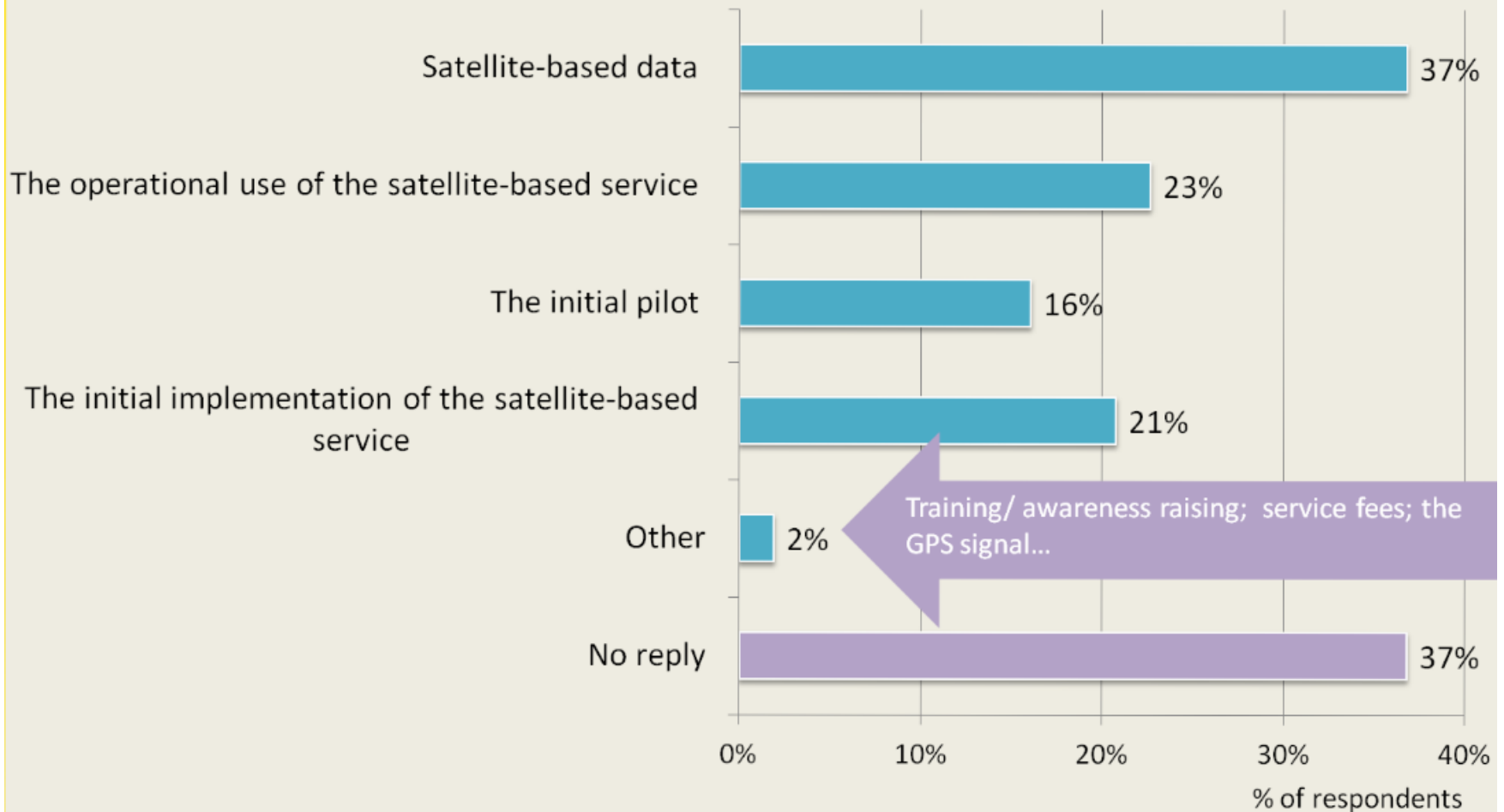


Small costs might be explained by the existence of external support mechanisms

## Kind of external funds used



## Data or expertise provided free of charge





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## Geodata for Agriculture and Water

Geodata for Agriculture and Water (G4AW) improves food security in developing countries by using satellite data. Netherlands Space Office (NSO) is executing this programme, commissioned by the Dutch Ministry of Foreign Affairs.

> [spaceoffice.nl](http://spaceoffice.nl)



G4AW  
GEODATA FOR AGRICULTURE AND WATER

<http://g4aw.spaceoffice.nl>



News



Projects



Agenda

Space for Food Security

G4AW will enable partnerships of private and government organisations, NGOs and research institutes to set up service chains that improve food security with satellite data.

Service components enabled by geo-information: crop & micro-credit insurance, third crop feasibility advice, weather monitoring, analyses and forecasting, crop models, and hydrological models, advice on use of water & fertilisers, ...

# GEO-CRADLE

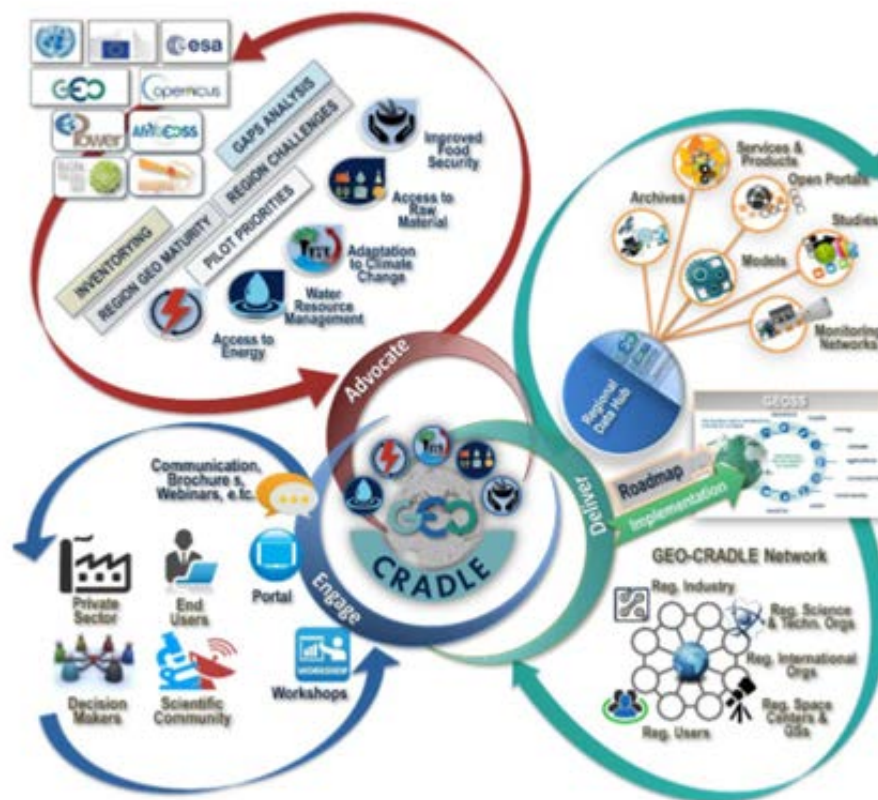
Integrating Earth Observation  
Services in North Africa, Middle  
East and Balkans

## Project consortium:

- 23 partner consortium;
- 6 Balkan countries, 3 North African, 5 Middle East countries;

## Project objectives:

- Inventory regional user needs;
- Promote the uptake of EO service and data;
- Create a regional data hub;
- Promote access to open data;



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“FOR an industry that lurked in shadows for decades, satellite imaging’s transition into the mainstream has been dramatic.”



**VISIONARY SILICON  
VALLEY FUNDERS AND  
THE SATELLITE INDUSTRY  
COME TOGETHER TO  
IGNITE A NEW ERA IN  
SPACE  
COMMERCIALIZATION**

Don't Miss the following Pre-Summit Workshops on  
Tuesday, September 8, 2015:

- AM Pre-Summit Workshop:  
» **THE DATA BOOM FROM SMALLSATS –  
SURVEYING NEW APPLICATIONS & MARKETS**
- PM Pre-Summit Workshop:  
» **ENABLING INNOVATIONS  
FOR NEW ORBITAL NETWORKS**

**Skybox, OneWeb, ...**



PRODUCTS

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TECHNOLOGY

BLOG

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**PRODUCTS**

We empower global businesses to make better decisions with timely, high fidelity imagery and infinite analytics.



## Applications We Serve



### Agriculture Health Monitoring



Monitor crop health and forecast crop yields with timely sub-meter imagery.

Identify pest infestation and plan irrigation levels to augment your precision agriculture techniques.







# THE SPACE ECONOMY: A MODERN DAY GOLD RUSH

Asteroid Mining Will Create A Trillion-Dollar Industry

As our **population grows** we need to find a **sustainable supply of natural resources** to fuel exploration in space and prosperity on Earth.



## PLATINUM-RICH ASTEROID

Could contain more Platinum Group Metals than what's been mined on Earth in all of history

NEAR-INFINITE SUPPLY OF PRECIOUS RESOURCES

## MORE ASTEROIDS DISCOVERED NEAR EARTH EVERYDAY



## WATER-RICH ASTEROID

One water-rich asteroid could produce enough fuel for every rocket launched in history.

## USES OF WATER IN SPACE

- ROCKET FUEL
- BREATHABLE AIR
- DRINKABLE WATER

## ONE SINGLE 500M water-rich asteroid

**\$5 trillion** would produce over \$5 trillion worth of water for use in space.

It currently costs **\$80,000** to send a liter of water from Earth to Deep Space

## USES OF PLATINUM GROUP METALS ON EARTH

REDUCE COST OF ELECTRONICS



ELECTRIFY TRANSPORTATION



DRIVE INNOVATION, AND CREATE A GREENER EARTH



## ONE SINGLE 500M platinum-rich asteroid

At current market prices, one ounce of platinum is valued over **\$1,500**

Worth \$2.9 Trillion

**174 times** more than the yearly world output of platinum

**50%** More than the known world-reserves of PGMs

**Asteroid mining** will open a trillion-dollar industry and provide a **near-infinite supply** of Platinum Group Metals and water to **support our growth** both on this planet and off.

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DECEMBER 25, 2014

## *Lunar Dream Capsule Project*

[lunar-dream.com/en/](http://lunar-dream.com/en/)