COPERNICUS AND ME

Main findings from the analysis of 10 case studies detailing concrete examples of use of Copernicus by public and private organisations

eurisy
ACTING COLLECTIVELY TO BRIDGE SPACE AND SOCIETY

DECEMBER 2022

INTRODUCTION

This reports contains an overview and brief analysis of ten of the case studies that have been produced in **2022** within the Copernicus&Me initiative.

10 out of the 11 local and private users of Copernicus data included in our case study analysis accepted to disclose information useful for this report.

- Village Data Analytics, SME, Germany: Supporting access to electricity in Sierra Leone.
- D-ICE, SME, France: Diminishing the carbon footprint of ships.
- Wallonia Public Service, LRA, Belgium: Monitoring and preventing floods.
- Occitanie Region, LRA, France: Monitoring water turbidity during the port extension works at Port-la-Nouvelle.
- City of Prague, LRA, Czech Republic: Mitigating the effects of climate change at public transport stops.
- Ephorate of Antiquities of the Dodecanese, LRA, Greece: Safeguarding cultural heritage in Rhodes.
- Government of Castilla-La Mancha, LRA, Spain: Preventing and managing forest fires.
- Data Science Experts (DSE), SME, France: Supporting insurance companies to deal with climate-related damage to agriculture.
- QuantCube, SME, France: Improving financial estimates and forecasts.
- Ekodenge, SME, Turkey: Copernicus data and services to SHELTER cultural heritage.

COPERNICUS AND ME

COPERNICUS & ME IS AN INITIATIVE IMPLEMENTED BY EURISY AND CNES TO SHOWCASE HANDS-ON EXAMPLES OF WHAT CAN BE ACHIEVED BY USING DATA AND SERVICES FROM THE COPERNICUS SATELLITE CONSTELLATIONS ON EARTH.

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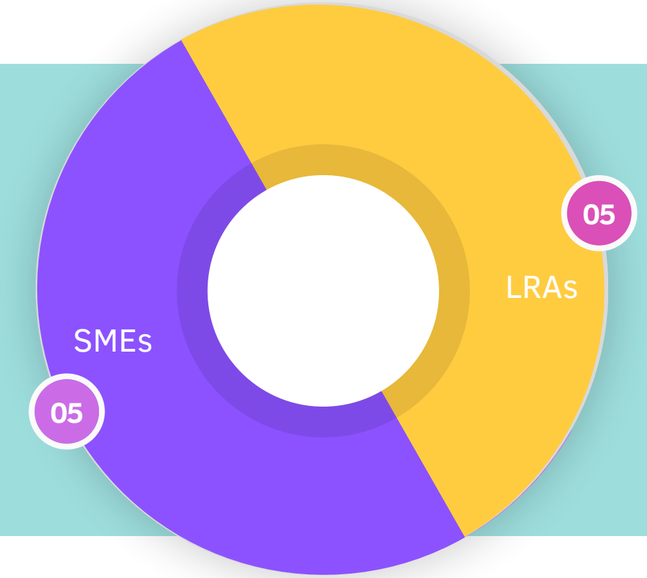
THE CASE STUDY REPORTS CAN BE ACCESSED, READ AND DOWNLOADED AT: WWW.EURISY.EU/EVENT/COPERNICUSANDME/CASE-STUDIES/

OUR USER ORGANISATIONS

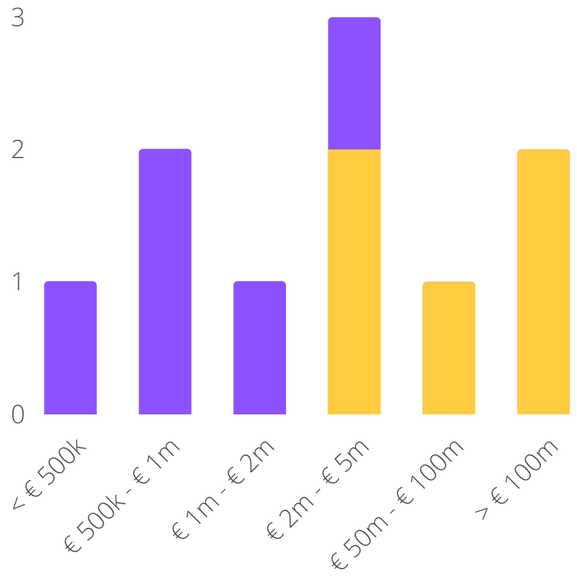
5 of the organisations using Copernicus based services that are the object of our case studies are public regional or local (LRAs) administrations, while 5 are SMEs.

The organisations interviewed are based in six European countries: France (4), Belgium (1), Czech Republic (1), Germany (1), Greece (1), Spain (1), and Turkey (1).



ANNUAL BUDGET OF USER ORGANISATIONS IN 2021

Overall, the annual budget of the local and regional administrations interviewed was higher than the annual budget of the interviewed SMEs.



PREVIOUS EXPERIENCE WITH EO

The organisations contributing to our case study analysis did not start from blank. Indeed, before implementing the solutions described in the case studies, only two had no prior experience of use of satellite Earth observation (EO) data.
As for the others, three had previously used EO data, two had staff with expertise, and three had in-house expertise and also previous experience using EO data.

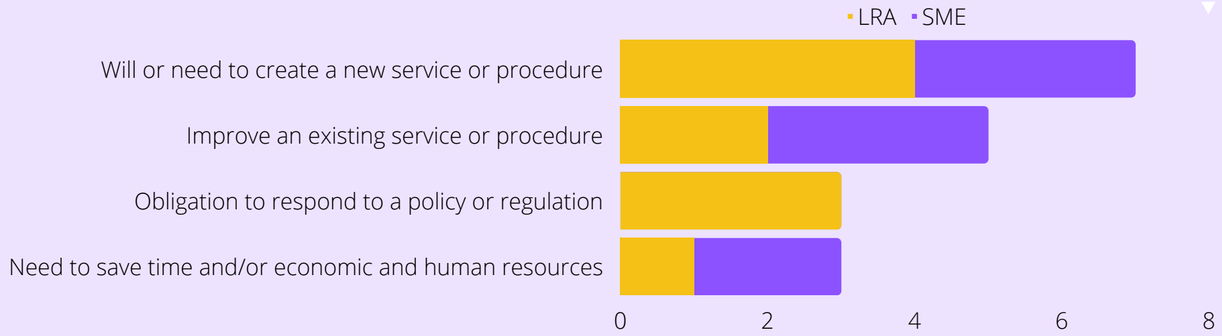
FIELDS OF USE

While all the organisations interviewed consider that their use of Copernicus data falls into multiple domains, we identified 8 primary fields of use of the solutions described in the case studies:

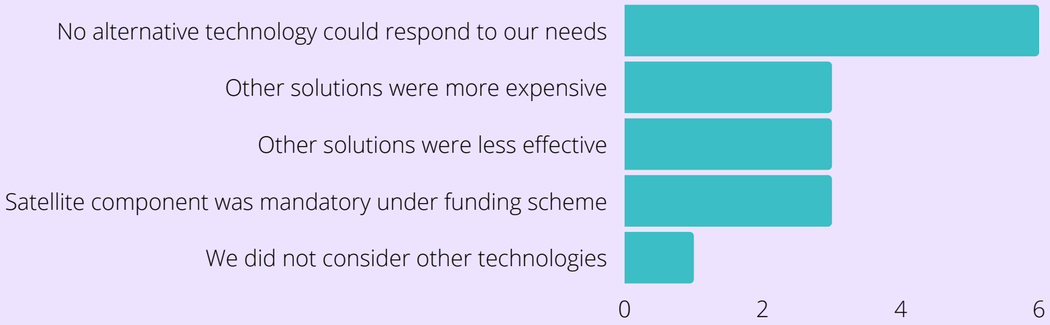
- Energy
- Cultural heritage
- Environment
- Urban planning
- Risk
- Shipping
- Financial services
- Insurance

MOTIVATIONS

WHAT WAS THE NEED THAT MADE YOU CONSIDER USING A COPERNICUS-BASED SERVICE?



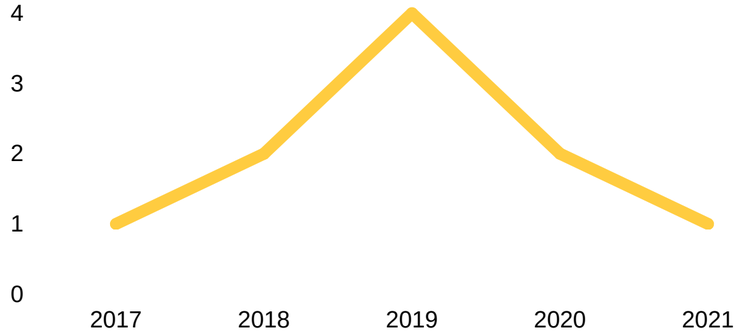
REASONS TO PREFER A COPERNICUS-BASED SERVICE TO OTHER AVAILABLE TECHNOLOGIES



YEAR OF START OF USE OR IMPLEMENTATION OF THE COPERNICUS-BASED SERVICE

The Copernicus-based solutions described in the case studies had been adopted during the previous 5 years.

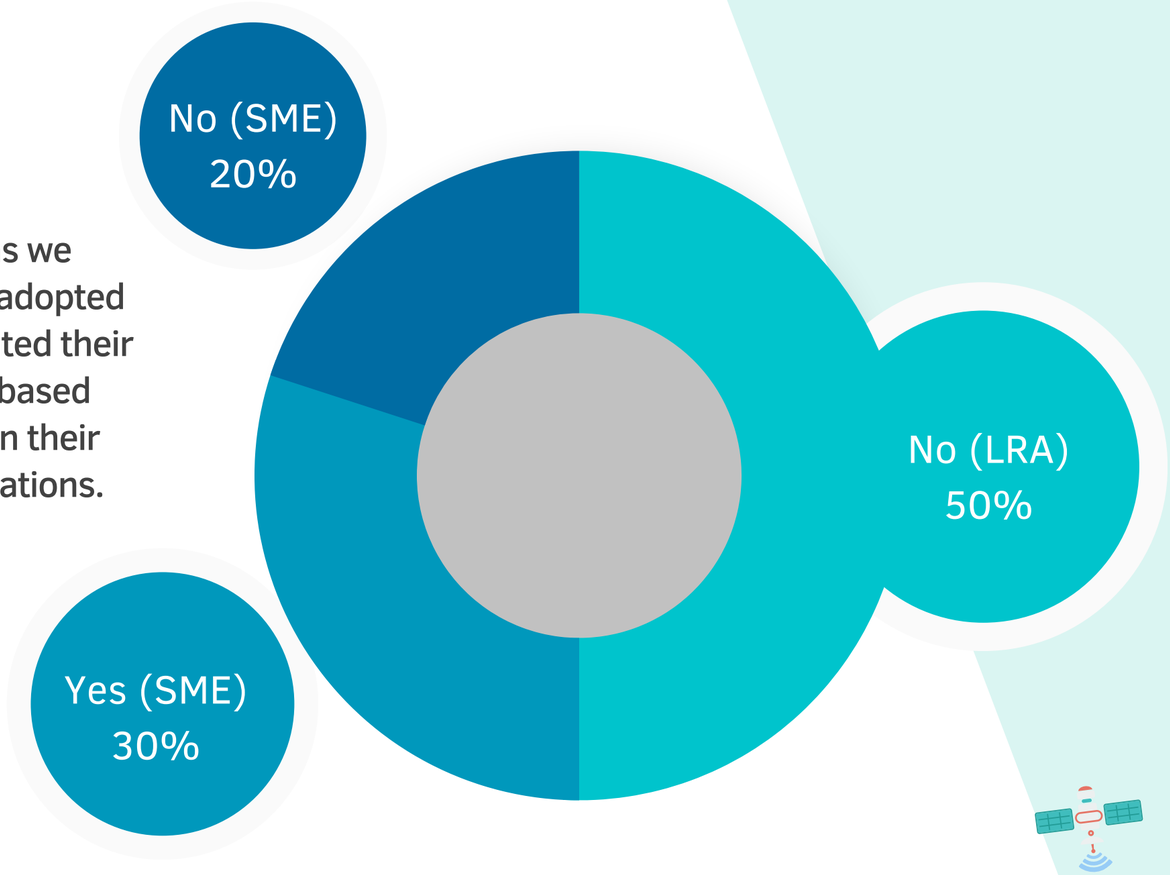
In 2022, all the services described in the case studies were still used by the organisations we interviewed, with the exception of the Occitanie region, who only needed the data for a punctual assessment, prior and during the port extension works in Port-la-Nouvelle.



THE ADOPTION OF THE SERVICES

DID YOU ADOPT THE COPERNICUS SERVICE WHILE PARTICIPATING TO A DEMONSTRATION PROJECT?

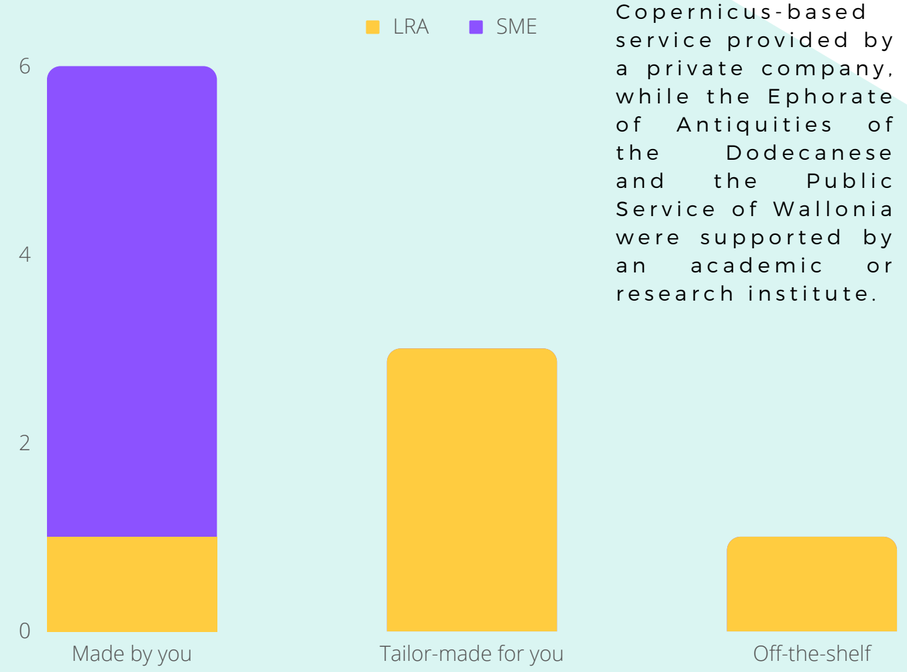
Most of the organisations we interviewed adopted or implemented their Copernicus-based service within their regular operations.



Most of the organisations interviewed, i.e. all the 5 SMEs and one LRA (INFOCAM, Junta de Comunidades de Castilla-La Mancha), developed the Copernicus-based service they use themselves.

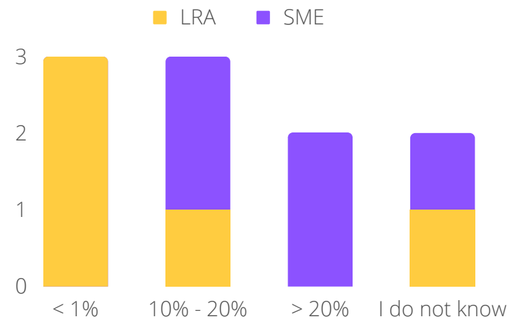
The other LRAs had the Copernicus-based solution especially developed for them (the Ephorate of Antiquities of the Dodecanese, the Public Service of Wallonia and the City of Prague), or found it as an existing product on the market (the Occitanie Region).

Both the Occitanie region and the City of Prague had their Copernicus-based service provided by a private company, while the Ephorate of Antiquities of the Dodecanese and the Public Service of Wallonia were supported by an academic or research institute.

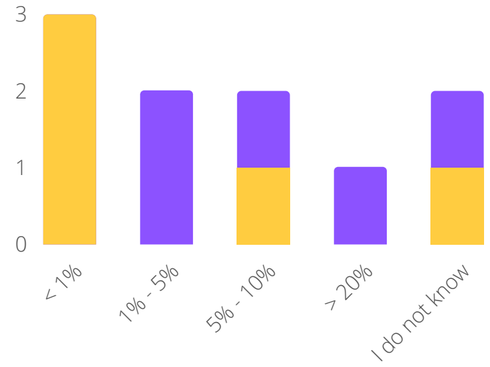


THE COST OF THE SERVICES

WHAT PERCENTAGE OF THE ORGANISATION'S ANNUAL BUDGET DID THE INITIAL INVESTMENT TO IMPLEMENT THE SERVICE REPRESENT?



WHAT PERCENTAGE OF THE ORGANISATION'S ANNUAL BUDGET DOES THE COST TO OPERATE AND MAINTAIN THE SERVICE/PRODUCT REPRESENT?



The LRAs interviewed reported relatively lower costs than the SMEs for the initial adoption or implementation of their Copernicus-based service,

For 3 of the interviewed LRAs, these costs represented less than 1% of their annual yearly budget, while for two SMEs (the German Village Data Analytics and the French QuantCube) the initial costs exceeded 20% of the budget.

Operating the services costs less than 5% of the annual budget for half of the sample.

Two organisations were not able to report on the costs to adopt and operate their Copernicus-based solution.

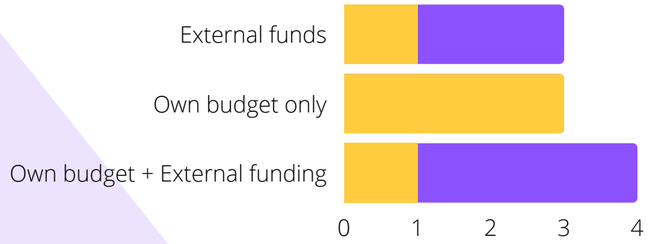
Most of the interviewed organisations (the 5 SMEs and 2 LRAs) used some kind of external funds to finance the initial implementation or adoption of their Copernicus-based solution. For 6 out of 7 of them, such funds were provided by the EU or other international organisations.

Three respondents (the French SME D-ICE, the Ephorate of Antiquities of the Dodecanese and the Turkish SME Ekodenge) used solely external funds.

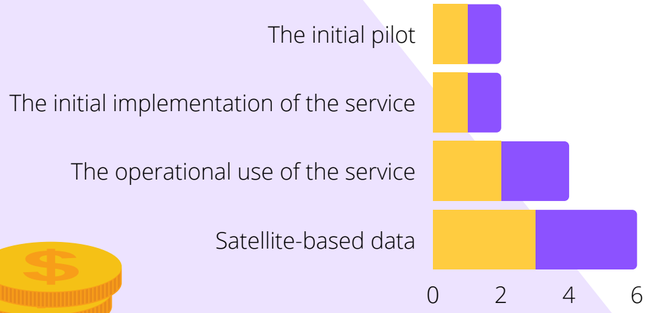
Just 3 LRAs (the Occitanie Region, the City of Prague and INFOCAM) relied on their own budget only.

All the user organisations, apart from the Occitanie region, reported profiting from some kind of support provided for free, primarily the access to the Copernicus data (6 of them).

HOW WAS THE INITIAL IMPLEMENTATION OR ADOPTION OF THE COPERNICUS-BASED SERVICE/PRODUCT FINANCED?



PLEASE SPECIFY IF ANY OF THE FOLLOWING IS PROVIDED FOR FREE



THE CHALLENGES

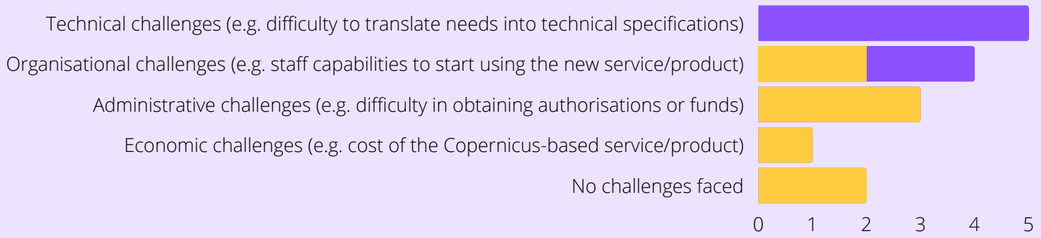
Despite the increasing awareness of the Copernicus data and services and their potential applications, integrating them into products or operational solutions still represents a challenge for our user organisations, be them LRAs or SMEs.

Only two of the ten organisations that we cherry-picked for our case studies reported to have not faced challenges for the first adoption or implementation of their Copernicus-based services.

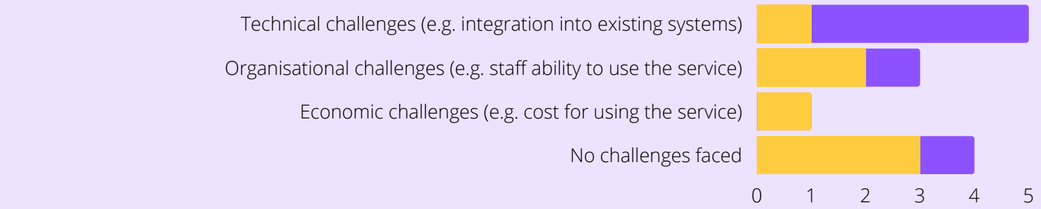
All 5 SMEs have faced technical challenges and 3 out of the 5 public authorities reported facing administrative challenges.

Some challenges persist also after the initial implementation of the services. To operate them, half of our sample (and especially the SMEs) still faces technical challenges.

WHEN FIRST IMPLEMENTING OR ADOPTING THE COPERNICUS-BASED SOLUTION, DID YOU FACE ONE OR MORE OF THE FOLLOWING?

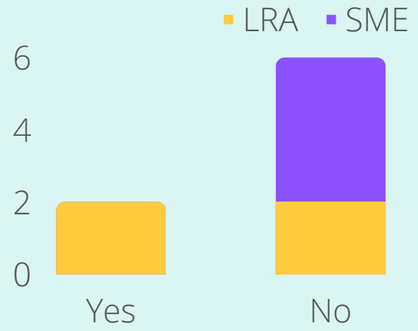


ONCE THE COPERNICUS-BASED SOLUTION HAS BEEN ADOPTED, DID YOU FACE ONE OR MORE OF THE FOLLOWING CHALLENGES TO USE IT?



Such challenges were not solved for two of the organisations, while others overcame them by training their staff (4 of them) or by hiring new personnel or consultants (4 respondents).

Two of the three SMEs that implemented their Copernicus-based solutions within the framework of a demo project (Ekodenge and QuantCube Technology) were able to overcome the challenges met by benefiting from external free support.



DO YOU THINK IT WILL BE A CHALLENGE TO KEEP USING THE COPERNICUS-BASED SOLUTION IN THE FUTURE?

While SMEs are generally more confident to be able to continue using their Copernicus-based services in the future, the public administrations interviewed are more uncertain about this possibility.

Two of them explicitly question the durability of the Copernicus-based service. For the City of Prague, other available technologies are being considered to substitute the Copernicus-based heat vulnerability map, while the Public Service of Wallonia is uncertain about the economic feasibility of updating their soil coverage and vegetation maps with new Copernicus data.

THE BENEFITS

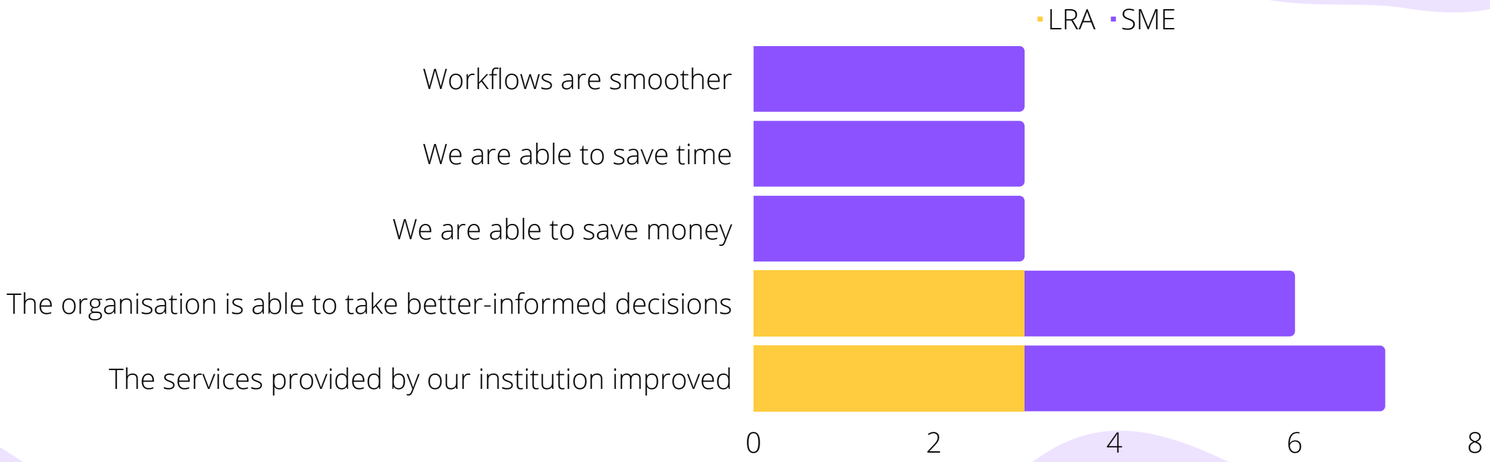
Concerning the quantitative benefits of using their Copernicus-based services, only one of the organisations we interviewed made a formal assessment of them.

Considering instead the qualitative benefits entailed by the Copernicus-based services, most of the interviewed organisations agree that they allow them to take better-informed decisions, and hence to provide better services to their customers or communities.

Some of the SMEs also report savings in terms of money and time and smoother workflows.

Furthermore, four of the interviewed organisations (2 LRAs and 2 SMEs) declare that their experience inspired others to adopt similar Copernicus-based solutions and three (1 LRA and 3 SMEs) share their Copernicus-based services with other organisations.

WHAT BENEFITS DOES THE COPERNICUS-BASED SERVICE ENTAIL FOR YOUR ORGANISATION?



COPERNICUS & ME

THIS REPORT HAS BEEN PRODUCED BY EURISY WITH THE SUPPORT OF THE FRENCH NATIONAL CENTRE FOR SPACE STUDIES WITHIN THE FRAMEWORK OF THE "COPERNICUS & ME" INITIATIVE.

THIS INITIATIVE IS IMPLEMENTED BY EURISY AND CNES WITH FUNDING FROM THE CAROLINE HERSCHEL FRAMEWORK PARTNERSHIP AGREEMENT BETWEEN THE EUROPEAN COMMISSION AND COPERNICUS PARTICIPATING STATES. THE INITIATIVE IS OVERSEEN BY CNES WITHIN THE CONTEXT OF THE INITIATIVE “CONNECT-BY-CNES.

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