



# COPERNICUS

## Key Performance Indicators Monitoring Communication and User Uptake activities

2019 Annual Report

Written by MCI, Alpha Consult and AZO  
May– 2020



**EUROPEAN COMMISSION**

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Unit B.3 — International Relations and Communication

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# COPERNICUS

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2019 Annual Report



Framework Contract 712/PP/2018/FC

Lot 1 (Support to Users)

“Copernicus Support Office”

Prepared for:

European Commission - DG DEFIS - B.3 – International Relations and Communication



Committed  
a difference  
to making  
Building Community



Directorate-General for Defence Industry and Space  
DG DEFIS - B.3 – International Relations and Communication / Copernicus Support Office

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# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>6</b>
<b>1 ANNUAL COMMUNICATION KPIS FOR THE COPERNICUS ECOSYSTEM</b>	<b>8</b>
<b>1.1 MAIN TRENDS</b>	<b>8</b>
<b>1.2 DETAILED AGGREGATED DATA</b>	<b>9</b>
1.2.1 EVENTS	9
1.2.2 WEBSITES	16
1.2.3 SOCIAL MEDIA	19
1.2.4 TRADITIONAL MEDIA	23
<b>2 ANNUAL USER UPTAKE KPIS FOR THE COPERNICUS ECOSYSTEM</b>	<b>25</b>
<b>2.1 MAIN TRENDS</b>	<b>25</b>
<b>2.2 DETAILED AGGREGATED DATA</b>	<b>27</b>
2.2.1 TRAININGS & WORKSHOPS	27
2.2.2 USERS	32
2.2.3 DOCUMENTATION	35
2.2.4 USE CASES	35
2.2.5 ACTIVATIONS	36
2.2.6 HELP DESK	37
2.2.7 THE COPERNICUS START-UP PROGRAMME	39
2.2.8 COPERNICUS RELAY AND ACADEMY NETWORK	42
<b>3 RECOMMENDATIONS</b>	<b>44</b>
<b>3.1 COMMUNICATION KPIS</b>	<b>44</b>
3.1.1 EVENTS	44
3.1.2 WEBSITES	45
3.1.3 SOCIAL MEDIA	46
3.1.4 TRADITIONAL MEDIA	46
<b>3.2 USER UPTAKE KPIS</b>	<b>47</b>
3.2.1 TRAINING/ WORKSHOPS	47
3.2.2 USERS	47
3.2.3 DOCUMENTATIONS	47
3.2.4 USE CASES	47
3.2.5 ACTIVATIONS	48
3.2.6 HELP DESK	48
3.2.7 THE COPERNICUS START-UP PROGRAMME	48
3.2.8 COPERNICUS RELAY AND ACADEMY NETWORKS	48
<b>3.3 THE WAY AHEAD: OUR THREE MAIN RECOMMENDATIONS</b>	<b>48</b>
<b>4 ANNEX 1: WHO REPORTED WHAT IN 2019</b>	<b>50</b>

## Executive Summary

The Annual Key Performance Indicators Report is based on the quarterly reports submitted by the 13 key players of the Copernicus ecosystem. Here, all those providing the data are referred to as “reporting parties” for clarity and consistency of the analysis.

In Annex 1 “Who Reported What in 2019” we are detailing, which entity reported what kind of metrics for each quarter.

**2019 was a successful year for the Copernicus ecosystem. It showed positive performance in all KPIs.** The ecosystem showcased that it is further enhancing its reach compared to the previous reporting period, notably by:

- increasing the number of users of the Copernicus services.
- penetrating new audience segments.
- utilising more social media platforms (e.g. Instagram).
- organising more events, trainings and workshops.
- collaborating to address horizontal issues.
- positioning the Copernicus brand as a trustworthy programme in times of crises, such as heatwaves, wildfires, and significant changes of the climate.
- further maturing its supporting programmes for start-ups.
- further developing its two main networks: Copernicus Relays & Academy.

However, it should be noted that the reporting mechanism and procedure need significant improvement. This report makes concrete suggestions for improvement after the Copernicus Support Office (CSO) carried out consultations with some of the reporting parties. Notably, a unified template should be developed for the purpose of the quarterly reports. Taxonomy should be agreed between all parties, so that a common understanding of the metrics is ensured. All parties should make sure that they report consistently and comprehensively at all times.

Additionally, some concrete observations for further developing the Copernicus ecosystem are made. Those are explained in details throughout the report. Notably, more collaborative and unified approach should be defined in relations to traditional media in order to maximise the public outreach. The number of online Copernicus trainings and webinars should continue to grow to engage a more international audience. The Copernicus start-up programme should be under further scrutiny and requires separate analysis.

At a glance, the Copernicus ecosystem achievements in 2019 are:



157 events



110 trainings & workshops



455 000 registered (35%↑)  
and 58 000 active users  
(22%↑)



13 Million people reached  
via Social Media



More than 12 500 articles  
mentioning Copernicus



92  
Copernicus Relays and 157  
Academy members (64%↑)



# 1 Annual Communication KPIs for the Copernicus ecosystem

The monitoring of Communication Key Performance Indicators is based on the KPIs discussed with and agreed by DG DEFIS (formerly DG GROW) for the production of quarterly KPI reports. The set of KPIs addressed by this section of the report are listed below. All data are based on the submitted quarterly reports in 2019.

- Events with communication purpose (i.e. excluding trainings, workshops, and contests)
- Websites performance
- Social Media platforms performance
- Traditional Media

## 1.1 Main trends

The reported communication KPIs mark a successful year for the Copernicus ecosystem. The observed main trends could be summarized as follows:

- **157 events with communication purposes were attended or organised.** The Copernicus ecosystem sustained proactive organisation and attendance at events, proving that the ecosystem continues to mature.
- **3 million unique visitors of the Copernicus websites were reported.** The fast development of the websites popularity shows that the Copernicus ecosystem ensures successful cross-promotion of its content via social media and traditional media.
- The reported data show that Copernicus-based products and information are **trustworthy and relatable as the society turns to the programme in times of natural crises.**
- **For social media more than 150 000 followers and 13 000 000 people reached were reported.** The social media statistics show that the ecosystem is ready to attract a wider, cross-sectorial audience via utilising efficiently Facebook and Instagram, on top of its growing influence on Twitter.
- **More than 12500 articles mentioned Copernicus in 2019.** The substantial media interest shows the maturing of the ecosystem. The data prove that media relations should be a core communication activity for the Copernicus ecosystem.



## 1.2 Detailed Aggregated Data

### 1.2.1 Events

A paramount communication activity is the organisation of and attendance at events. In this chapter of the report, the focus is on those reported events, which could be considered as communication ones. As “communication” events we perceive those that the reporting parties attended or co-organised with the purpose to relay specific information about the Copernicus programme, Copernicus Services and products.

Distinguishing between communication and user uptake activity is useful for proper reporting. In this way, it becomes possible to cross-compare the invested budget to the results achieved for both user uptake and communication efforts.

#### 2.2.1.1 Number of events

The Copernicus ecosystem stakeholders reported 157 events related to their communication activities. Comparing the absolute number to the one reported for 2018, it could be noticed that the ecosystem remained active in 2019.

**Overall in 2019, the Copernicus ecosystem sustained proactiveness in communicating to the public the benefits of EU’s Earth Observation Programme by the means of events.**

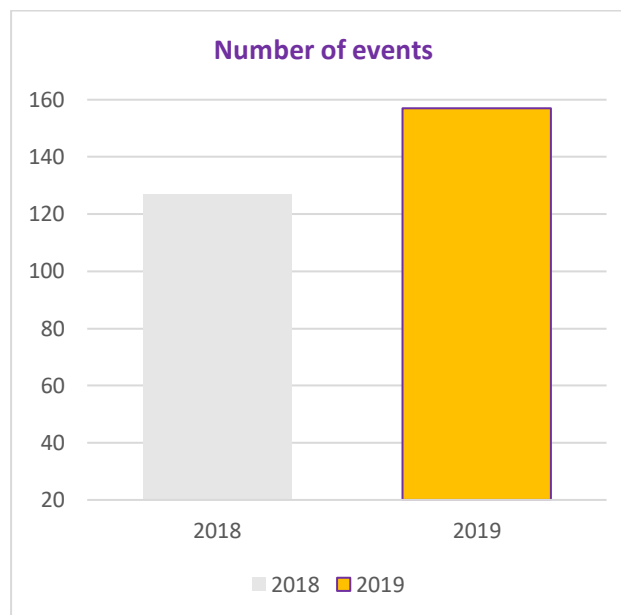
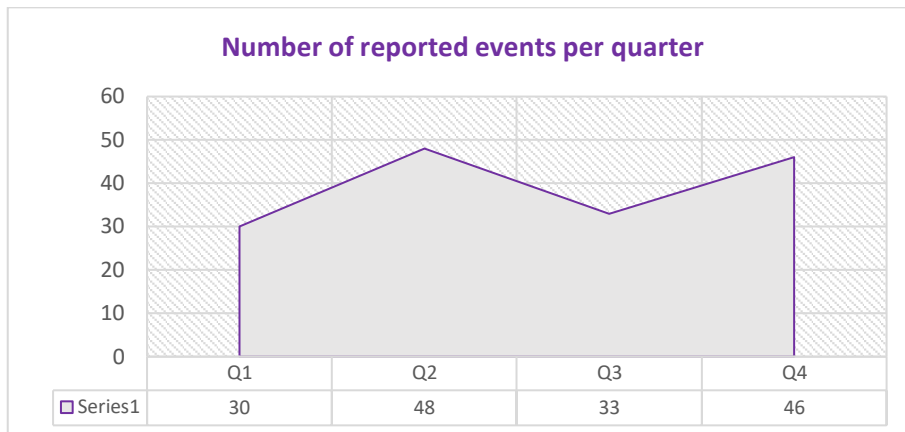


Figure 1: Number of events 2018 vs 2019

Observing the **pattern of activity during the year** (Figure 2), one can notice that the Copernicus ecosystem sustains high level of activity throughout the whole 12-month period. The second and the fourth quarters coincide with the most active seasons for both policymakers and industry. Therefore, it is logical that during Q2 and Q4, the ecosystem reported the highest number of events.

**Copernicus ecosystem remained active throughout 2019 and sustained high level of activity in each quarter.**



*Figure 2: Number of reported events per quarter*

**2.2.1.2 Geographical scope: international and European**

An important element of the event efforts by the ecosystem is their geographical scope. This metric is key for the meaningful analysis about the internalisation of the programme. Unfortunately, many reporting parties do not note the location of the events they attend or organise. We elaborate further on possible mitigating measures in the “Recommendations” (Chapter 4).

**International Scope**

The Copernicus programme has a global reach by design and implementation. Therefore, an important metric for evaluating the communication activities by the ecosystem is their international scope. As it can be seen in Figure 3, most of the reported events took place in Europe compared to 9 events in the Americas region two in Asia, and one in the Middle East, and Oceania, respectively.

**According to the reported data, approximately one in ten events took place outside of Europe.**

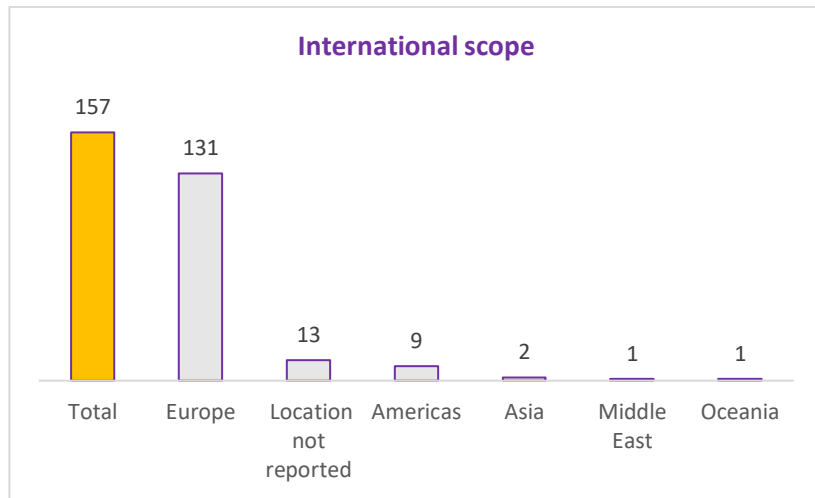


Figure 3: International Scope

### European Scope

With majority of the reported events taking place in Europe, another interesting insight is the geographical scope within the continent (Figure 4). It could be noted that approximately half of the events in Europe took place either in Italy or Belgium.

Both EU member states host major institutions crucial to the Copernicus ecosystem. For example, Italy hosts the Joint Research Centre and the premises of European Space Agency’s Earth Observation Centre (ESRIN). At the same time Belgium hosts all major EU institutions, including the Directorate-General for Defence Industry and Space (formerly DG GROW), which is the main manager of the Copernicus programme.

**The European scope of the events shows that Eastern and South-Eastern Europe remained underrepresented.**

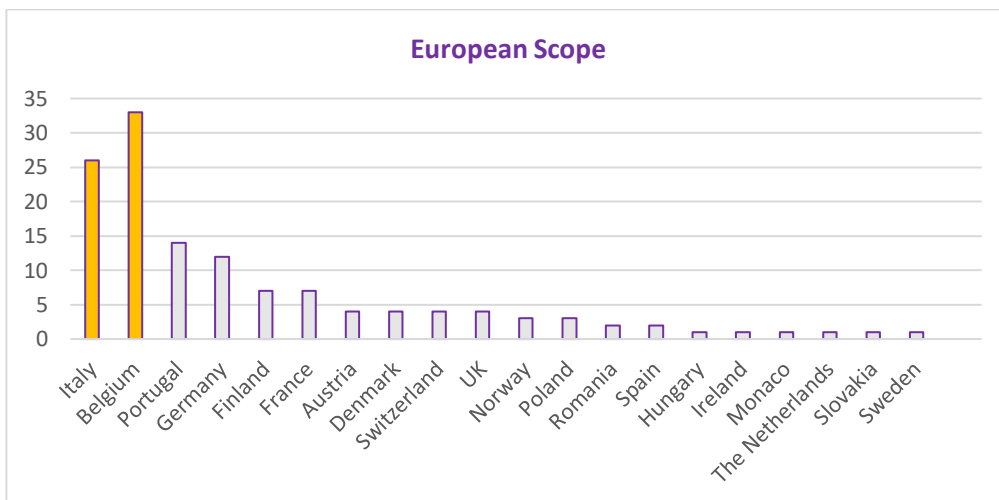


Figure 4: European Scope

2.2.1.3 Number of events per a reporting party

The reporting parties to this report play a vital role in the overall implementation of both the Copernicus space component and the Copernicus services.

The **European Space Agency (ESA)** and the **European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)** are vital for the smooth running of the overall infrastructure ensuring the existence of the Copernicus programme. Figure 5 presents the role that both organisations play in the ecosystem.

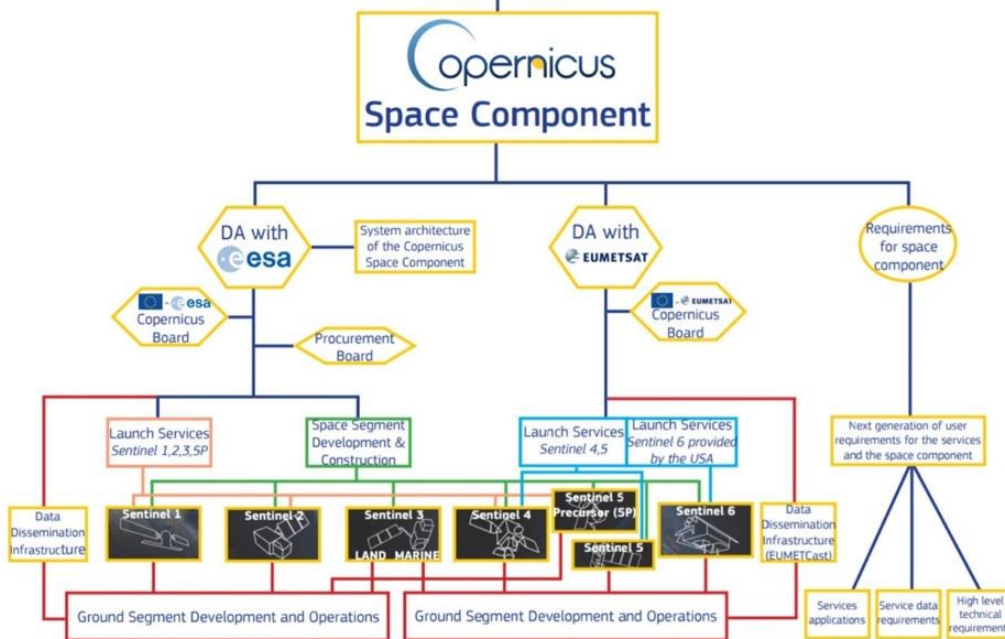


Figure 5: Copernicus chain: Space Component

Additionally, the Copernicus Services development is ensured by several other partners – **Entrusted Entities**. They ensure the development and promotion of the following key Copernicus services:

- Land Monitoring
- Emergency Management
- Atmosphere Monitoring
- Marine Environment Monitoring
- Climate Change
- Security

Figure 6 shows graphically the role the Entrusted Entities have in ensuring the user driven approach of the Copernicus services implementation.

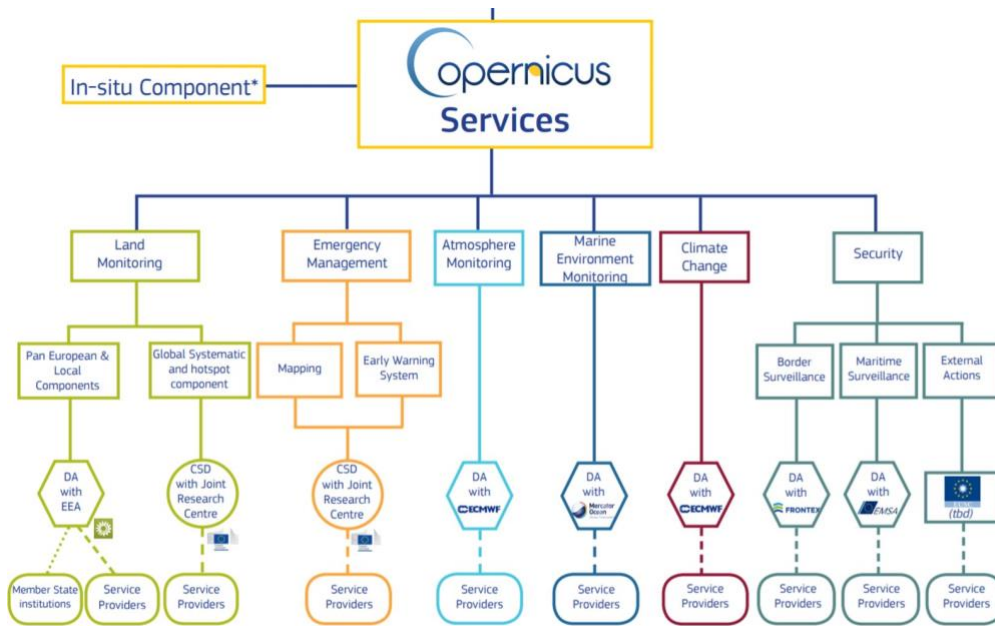


Figure 6: Copernicus chain: Services<sup>1</sup>

Bearing in mind this overview, it must be noted that the Entrusted Entities, ESA, and EUMETSAT play a distinctive role in the ecosystem. Therefore, presenting the reported annual communication KPIs per service should not be perceived as comparing the level of activity between each entity, but rather showcasing partners' activity in their own vein. Throughout 2019, the **Emergency Management Service reported more than 40 events** (Figure 7). This is a very positive figure corresponding with the considerable development of the service. EMS is followed by the marine service and the maritime surveillance. Considering the total amount of events reported, these figures are a **positive sign for the proactiveness of the ecosystem in promoting the Copernicus services**. Unfortunately, these data are not available for 2018, and we cannot provide a year-on-year comparison.

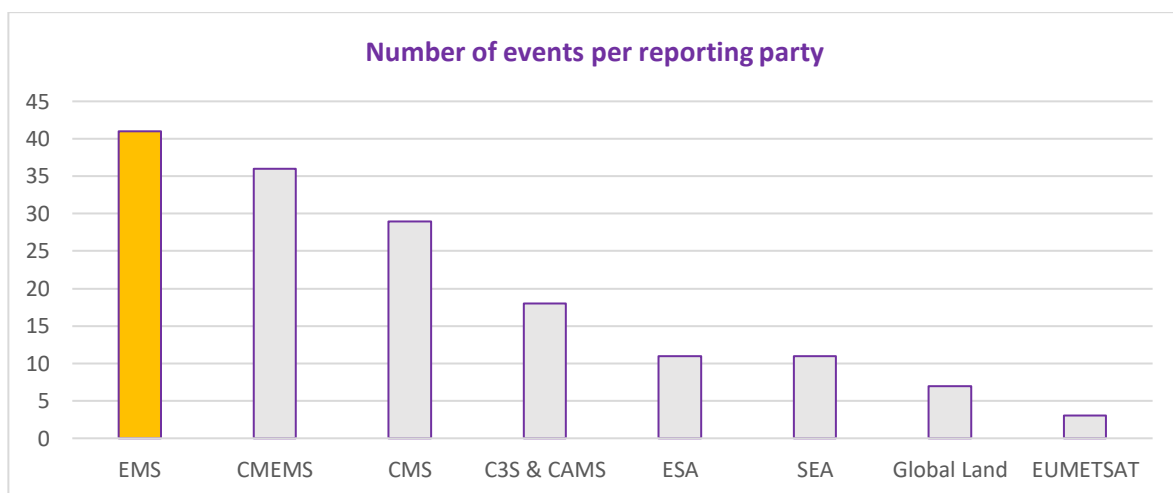


Figure 7: Number of events per a reporting party

<sup>1</sup> Please, note that EMSA's logo was updated. Please, visit their website for more information: <http://www.emsa.europa.eu/>

**2.2.1.4. Reported event objectives**

Another important metric is the objective of organising or attending an event. Unfortunately, only C3S, CAMS and the Copernicus Service in Support to EU External Action (SEA) reported the objectives of their events. In the recommendation section we specifically note the need for making it compulsory to report on the objective of organising or attending an event.

Nevertheless, It is positive to note that the most selected re-occurring objectives are:

- *To show that Copernicus can provide sustainable, accurate and reliable information and data for taking decisions relating to the environment, civil protection and humanitarian aid; and*
- *To show that Copernicus provides our citizens with new public services on both a European, regional and global scale;*

While all objectives are of strategic importance, here the focus is on communication events with a large and heterogeneous audience. Hence, promoting the value proposition of Copernicus for pertinent social challenges is an appropriate angle.



Figure 8: Reported objectives of events

**2.2.1.5 Reported Audience**

The audience reached is, arguably, the most important quantitative figure to be reported for an event activity. However, in 2019 the reporting parties provided these statistics for very few events.

In particular, **“direct audience” was reported for 20 events** and **“indirect audience”<sup>2</sup> was reported for only 8 events**. Therefore, the aggregation of the reported audience figures will not show a realistic estimation for the effort by the whole ecosystem. In this vein, we chose to present an average number of attendees per event (according to reported data) and average number of people reached indirectly.

	Number of communication events, for which audience data is reported	Audience reached	Average number of attendees/engaged people
<b>Reported "direct" audience in 2019</b>	20	26 777	1339
<b>Reported "indirect" audience in 2019</b>	8	296 237 143	37 029 643



*Jean-Noël Thépaut, from C3S and Karine von Shuckmann from CMEMS speak at the EU Ocean Day at COP 25 in Madrid*

<sup>2</sup> Here we use the data as provided by the reporting parties for the metric “indirect audience”. However, there is no unified definition for “indirect audience”, we elaborate further on the lack of unified definitions of metrics under the “Recommendation” section.

### 1.2.2 Websites

Websites performance is another important Communication KPI.

Websites are the gatekeepers for all the relevant information and deliverables for each service. Therefore, the number of unique and total visitors, the pages viewed, and the total downloads provide valuable information for the communication performance of a service provider.

Overall, all the key metrics show a further improvement of the website performance in 2019, comparing to 2018 (Figure 9).

In the overall comparison between 2018 and 2019 it could be noted that the most considerable improvement is in relations to “pages viewed”. **The figure is very relevant as it shows that not only the number of visitors is increasing but also the time they spent on a particular webpage.** Therefore, it could be noted that in 2019, the Copernicus ecosystem provided rich and useful information via the respective websites, which resonated positively with the targeted audience.

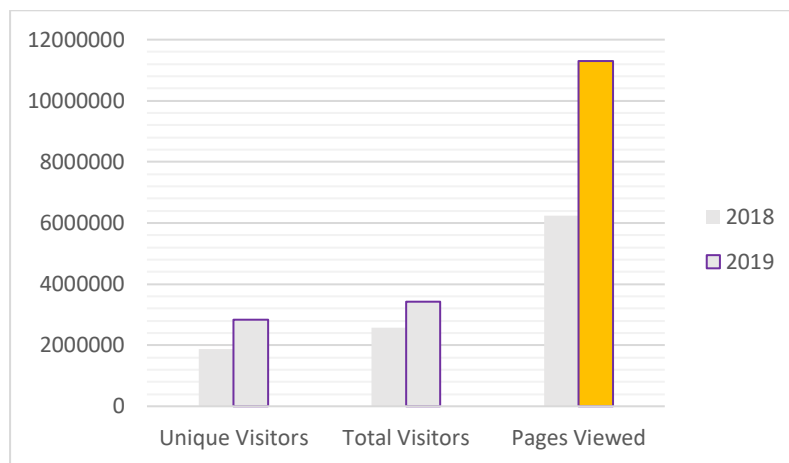


Figure 9: KPIs of websites 2018 vs 2019

It should be noted that the information reported on “downloads” is very heterogeneous as each reporting party reports downloads in a different manner. In order to have reasonable and substantiated analysis of the websites performance for 2019, we excluded the figures on “downloads” and provide more information in the recommendation section on how these data should be requested and reported so that it be used for such overall analysis.

Looking deeper into the data for 2019 (Figure 10 and 11), it could also be seen that throughout 2019 the websites were increasing their impact on the audience and were attracting more and more visitors, who spent increasing amount of time on them. A steep improvement could be observed in Q2 and Q3 in particular with the performance of the both Copernicus Atmosphere Monitoring and Copernicus Climate Change service websites experiencing considerable improvement.



In terms of organic growth, considering that in Q2 and Q3 2019, there were many climate-related abnormalities (heatwaves, hurricanes, wildfires), it becomes obvious that people start looking more for information based on Copernicus during crisis times. Additionally, both services run coordinated campaigns, which help drive traffic to their website through the media and social media activity.

**Therefore, it could be noted that in 2019 website performance shows that Copernicus-based information is much sought after during crises, proving its relatability and trustworthiness. Additionally, C3S and CAMs show that coordinated campaigns on media and social media help driving traffic to the websites of the services.**

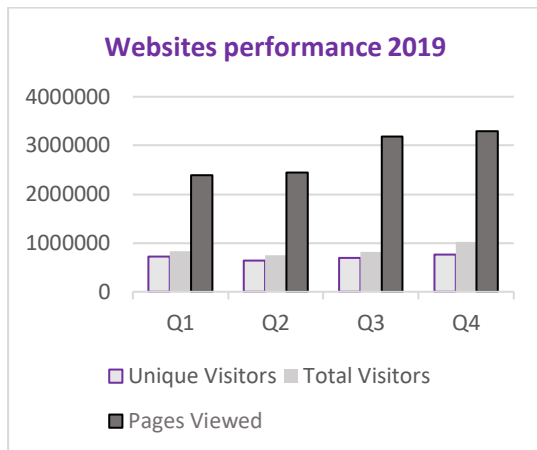


Figure 110: Websites performance 2019

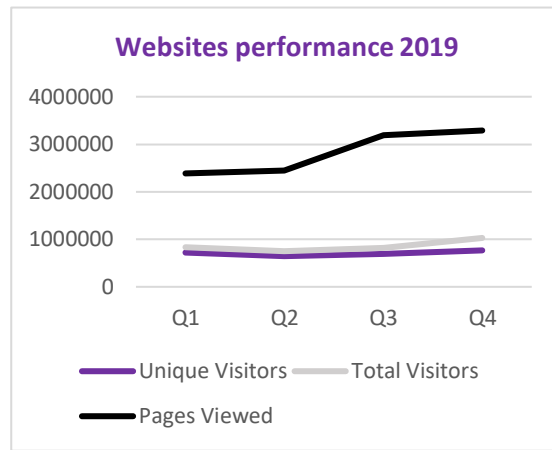


Figure 101: Website performance 2019 / trends

### **Case Study: Copernicus Marine Environment Monitoring Service**

In this section we would like to present a best practice and highlight the performance of the website of the Copernicus Marine Environment Monitoring Service (CMEMS).

Throughout 2019, the CMEMS website showed a steady increase for all indicators – unique visitors, total visitors, and pages viewed. It is noticeable that in 2019 Q4 the pages viewed increased considerably. It could be noted that the systematic cross-promotion of the service via the specifically created CMEMS social media, but also via the CopernicusEU channels affected positively this trend.

The service reports systematically on all metrics, which makes it possible to observe and analyse the performance throughout the year.

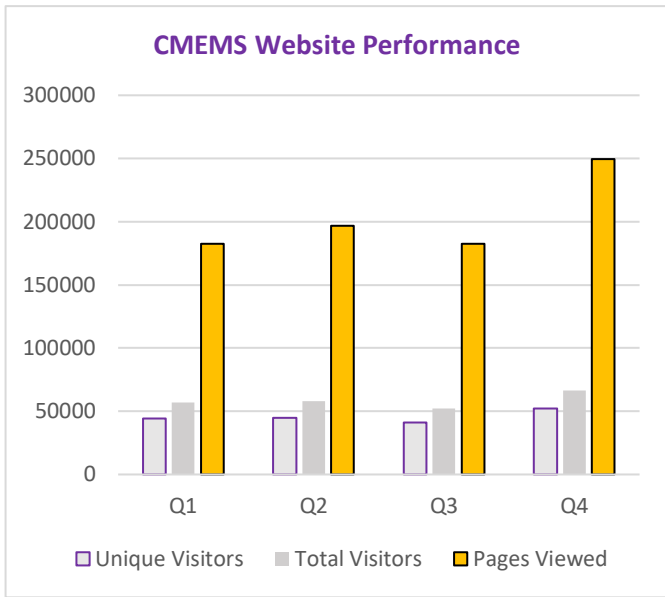


Figure 12: CMEMS Website performance 2019

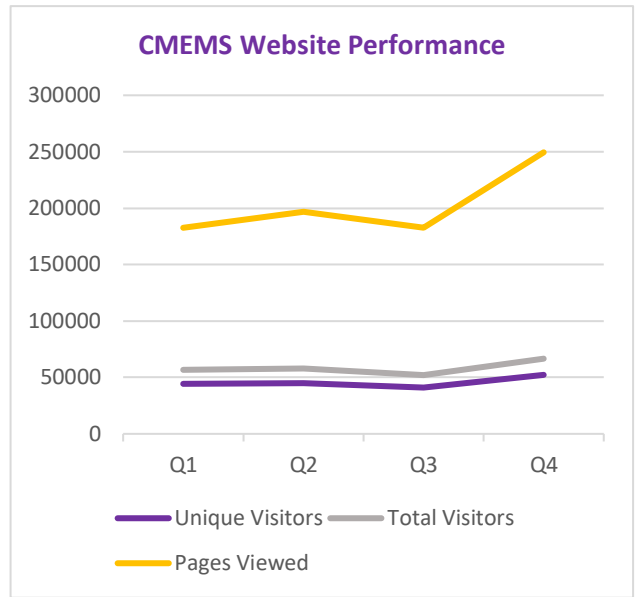
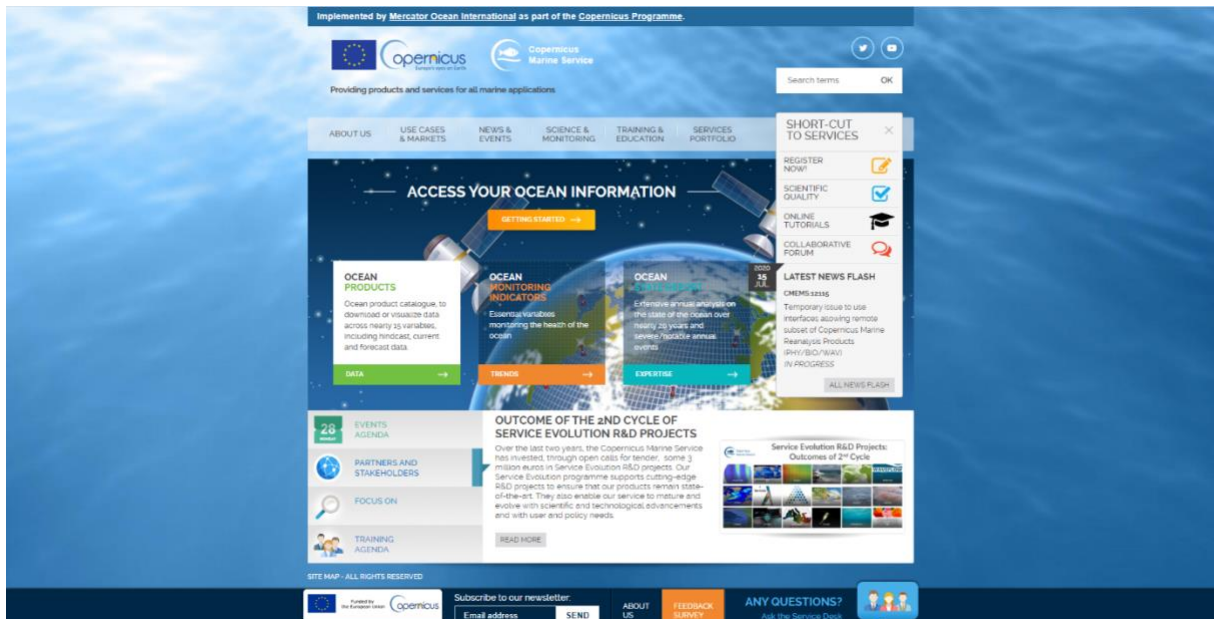


Figure 13: CMEMS Website performance 2019



The home page of the CMEMS website.

### 1.2.3 Social Media

Social media play an increasingly prominent role in social interaction, public dialogue and democratic participation. In 2019, 56% of all individuals used social networks in the EU. This medium makes it possible to share information and opinions, engage in discussions, and connect with and build communities of interest across the EU and beyond. It allows to boost visibility for the Copernicus programme and build its influence, which are essential prerequisites for user uptake.

Social media is not just a source of status updates on the latest issues and affairs. Nowadays, it is also a source of news.

But this does not mean that people are not also becoming more sceptical – more than 50% of social media news consumers now also believe the information that they see on social media is 'largely inaccurate'. It is the dilemma with social media news – although some of the facts are 'inaccurate', it remains a 'trusted source'.

In times of emergency, people turn to Twitter for live updates and breaking news. A recent case in point was the Australian fires – a crisis predominantly reported through social media. However, the innate trust for "dramatic news" and "catchy headlines" pushed many into re-sharing false and misleading information. In such situations, the Copernicus ecosystem's social media accounts play a crucial role as a reliable and trusted source of timely information.

Social Media also play a key role in keeping the general public informed about the development of the Copernicus programme as a whole and the Copernicus services and products in particular. Apart from that, the animation of the social media channels help nurturing and engaging the social media community.

Unfortunately, we cannot provide a realistic comparison between 2018 and 2019 as the number of accounts, for which metrics are provided is different. In particular, the Directorate-General for Environment, an EU institution, was not part of the "reporting parties" for 2019. Therefore, we focus on the reported performance of the accounts throughout the year.

Provided that not everyone reported systematically the requested data (please, see Annex 1), the analysis focuses on those KPIs, for which data are available.

#### 2.2.3.1 Audience Analysis

In analysing social media performance, the key metrics are related to the size of the audience reached. While there are various ways to estimate the audience, the key metric is the "followers". Essentially, the act of following a specific social media account means that a person is interested not only in one particular update or piece of news, but is generally attracted to the content and information pushed via the given account.

Throughout 2019, the followers of social media accounts part of the Copernicus ecosystem grew considerably in numbers (Figure 14). In particular, we saw a growth of more than 40 000 followers in total for Twitter, Facebook, and Instagram.

Noticeably, Twitter remains the most visible and active social media platform. It is the key tool for nurturing and engaging a community. Scientists, companies, and Earth Observation data users prefer to engage via Twitter due to the functionalities of the platform. However, with the development of the Copernicus programme and services, there are more and more updates that appeal to additional segments of the audience.

The maturing of the ecosystem, motivates the reporting parties to turn also to Facebook and Instagram. Those platforms attract segments of the general public, i.e. people mostly interested in news and final results rather than in the technical/scientific aspect of Copernicus. Additionally, Instagram is the preferred tool for the younger generation. Therefore, engaging via Instagram has the potential to educate and engage a whole new generation.

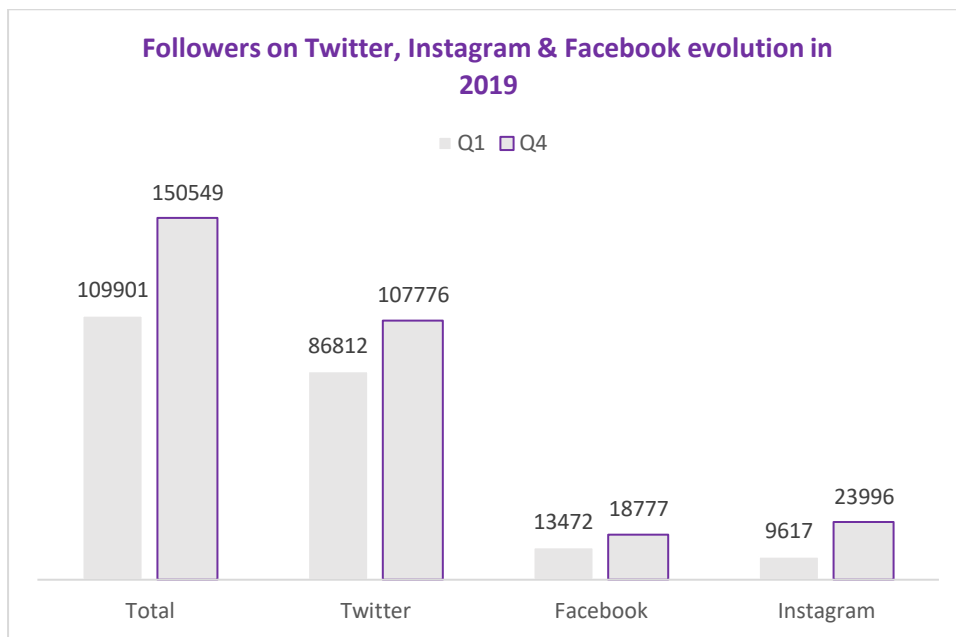


Figure 14: Social Media Followers evolution

**Copernicus during crisis times**

We zoom in to an analysis per quarter, in particular, for the Twitter accounts of C3S and CAMS (@Copernicus ECMWF) and @CopernicusEU. We chose those accounts as they consistently reported data throughout the year and were on the forefront of the Q3 climate crisis – the heatwave in Europe.

Looking at Figure 15, it can be observed that the number of followers grew steeply throughout the year. However, Q3 is a noticeable peak. This positive development could be explained by the proactiveness of both accounts in publishing scientific information during the heatwave crisis in Europe. This shows that the general public reacted positively to the Copernicus-based analyses and information in times of a crisis.

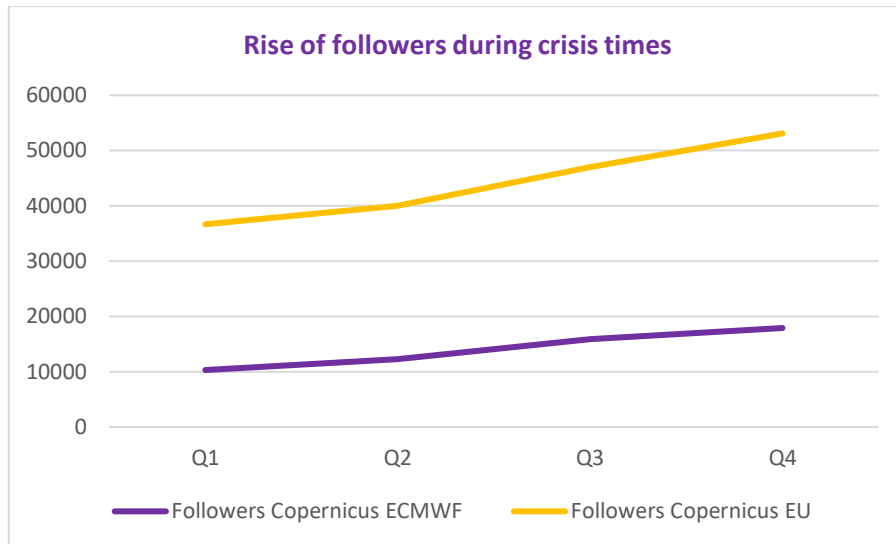


Figure 15: Followers growth during 2019

### **Engaging the audience**

Apart from analysing the size of an audience, social media performance depends also on how engaged the audience is. There are many indicators for analysing this aspect of the activity. However, it should be noted that serious inconsistencies and gaps of the data reported hampers this analysis. We elaborate further on ways of improvement in the 'Recommendations' section.

A general indicator for the engagement of an audience is the generated "reach". Please, note that reach is a very generic metric as it represents how many people were reached by the posts. However, it does not show the actual engagement with the post (as for example would a ration between likes + retweets / number of posts show).

With that in mind, we show in Figure 16 that throughout 2019 the overall reach has not changed substantially from Q1 to Q4. However, what is striking is the exponential growth of the "reach" of the Facebook and Instagram posts (Figure 17). Only EUMETSAT and the central Copernicus account reported Facebook statistics, while for Instagram it is only the central Copernicus account and ECMWF (for C3S and CAMS). However, the skyrocketing reach shows that utilizing Facebook and Instagram has an untapped potential for reaching out to a wider audience.

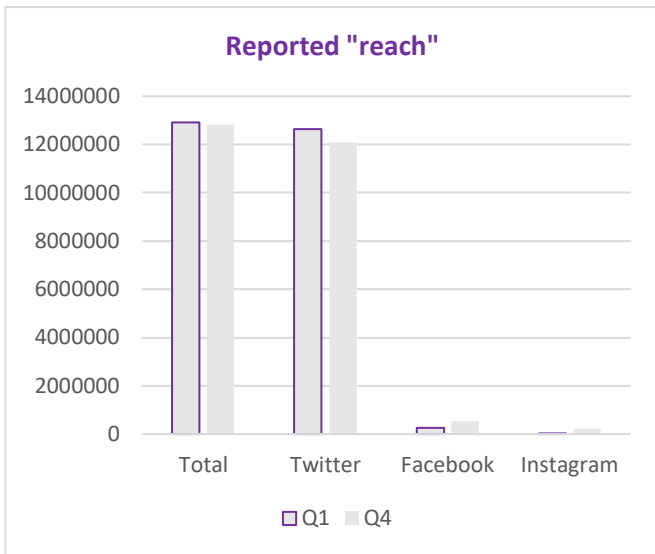


Figure 176: Reported reach / per platform

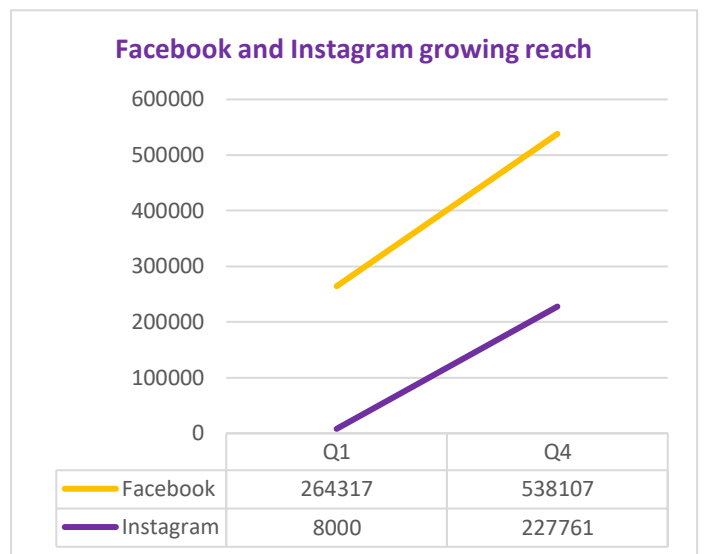


Figure 167: Reach growth of Facebook and Instagram

### 1.2.4 Traditional Media<sup>3</sup>

Traditional media continues to play a crucial role in relaying information to the society and influencing behaviour. While social media channels are an efficient way of promotion, traditional media continue being more influential.

Copernicus attracts significant media attention. Looking at Figure 18, it can be noted that Copernicus was mentioned in more than 3000 articles on average per quarter. Similarly to social media, Q3 marks a significant spike. On one hand, this is motivated by the relevance of Copernicus during the heatwave. On the other, the results are multiplied by the reported media partnerships. In particular, ECMWF sustained its partnership with Euronews throughout 2019, and reported an additional partnership with CNN for Q4 2019.

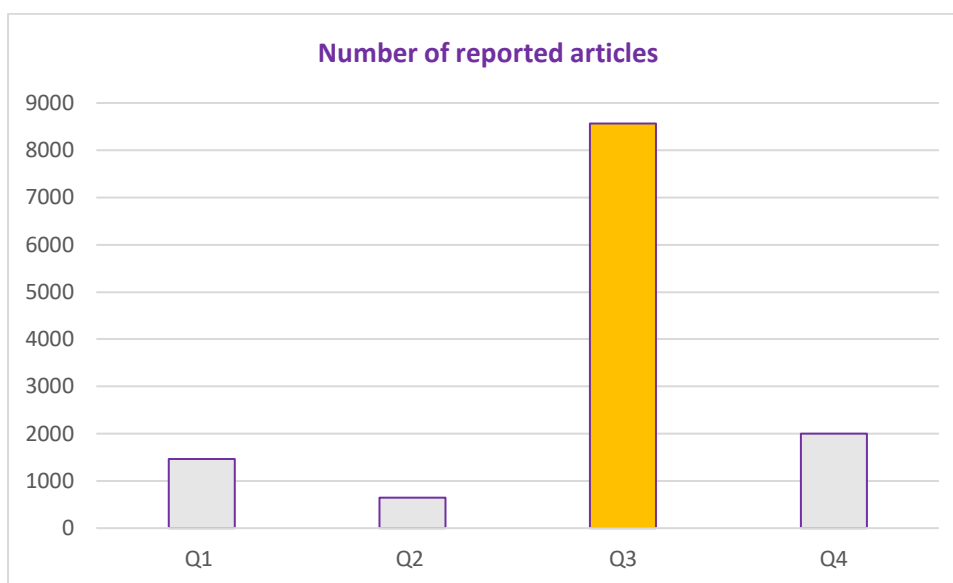


Figure 18: Number of articles mentioning "Copernicus"

Often, media articles do not refer to Copernicus in a correct manner and misrepresent the programme. To that end, it is positive that the Commission initiated via the CSO a fact-checkers activity.

**More than 200 outlets were proactively contacted and politely educated on the programme in 2019.**

However, it should be noted that the Copernicus ecosystem does not currently follow a coordinated approach when it comes to media relations. **In the Recommendation section we elaborate further on way of improving the media relations activities across the ecosystem.**

<sup>3</sup> While traditional media proves to be a powerful vehicle for promoting Copernicus and increasing the user uptake of the programme, data on media clippings are not reported consistently.



**Copernicus ECMWF**  
@CopernicusECMWF



📱 Hot off the press! Round-the-world coverage of our July temperature summary.

@BBC @washingtonpost and @cnni amongst many others to use #Copernicus #Climate Change Service data to report on July 2019 being the hottest month on record. ➡ Read more: [bit.ly/2Kh2OY8](https://bit.ly/2Kh2OY8)

Traduire le Tweet



*C3S' July monthly temperature highlights were widely covered in traditional media all over the world.*



## 2 Annual User Uptake KPIs for the Copernicus ecosystem

The monitoring of User Uptake Key Performance Indicators is based on the KPIs discussed with and agreed by DG DEFIS (formerly DG GROW) for the production of quarterly KPI reports. The set of KPIs addressed by this report are listed below (a more detailed description is provided in the Annex 1). All data are based on the submitted quarterly reports in 2019.

- Training & Workshops
- Users (Number of registered users / Number of active users)
- Documentation (Number of new documentation items published or updated)
- Use cases (Number of new use cases published)
- Activations (Number of activations).

In addition to the above-mentioned KPIs, the report also addresses other User Uptake activities, which play a crucial role in the uptake of Copernicus, but for which User Uptake KPIs have not been specifically defined. These activities mainly concern:

- Copernicus EU Help desk
- The Copernicus Start-up programme
- Copernicus Relay and Academy Networks.

### 2.1 Main trends

- **A total of 110 User Uptake events** (10 online and 100 on site) were held during 2019. These events were held mainly in Europe (main countries were Belgium and Italy) and were mainly in the form of workshops and contests. Apart from the EC, most active entities were CMEMS, CEMS and ESA.
- At the end of 2019 **registered users** were more than 455.000 (c. 35% more versus the previous year), while **active ones** were more than 58.000 (c. 22% more than previous year).
- In 2019, more than 106 **documentations** were uploaded on EEs entities (mainly ESA and CEMS), more than 40 **use cases** were uploaded (mainly from ESA and CMEMS) and 230 **activations** took place.
- Figures provided on the **Help Desk** were very too limited to extract any meaningful trend. However, among the few entities that reported some figures, CAMS/C3S help desk seems the most active and efficient.
- The **Copernicus Start-up programme**, originally initiated with four pillars in 2016, continued successful operations in 2019 with only three of its activities – Copernicus Hackathons, Copernicus Accelerator and Copernicus Incubation. All three programmes pursue the goal of increasing the number of users of Copernicus data and services and are crucial for the User Uptake in general.

- The members of the **Copernicus Relays and Academy** networks continued to play an important role for the implementation of the User Uptake strategy. With 92 Copernicus Relays and 157 Academy members at the end of 2019, the networks have grown significantly during this period (+64% compared with 2018).

## 2.2 Detailed Aggregated Data

### 2.2.1 Trainings & Workshops

The organisation of trainings, workshops, online courses, and contests remains the key mechanism for increasing the User Uptake of Copernicus. The direct interaction and coaching is a necessary element for relaying the functionalities of the Copernicus data and introducing the available products and services to the interested parties.

#### 3.2.1.1 Number of Trainings & Workshops

A total of **110 User Uptake events** (10 online and 100 on site) were held during 2019. Due to the different reporting parties and missing data, a direct year-on-year comparison with 2018 is impossible. However, zooming-in on the number of events per each quarter in 2019, it can be noted that the Copernicus ecosystem sustained its User Uptake activity throughout the whole year.

There is a noticeable peak in Q4 (Figure 19), which coincides with the per-quarter distribution of the reported communication events as well.

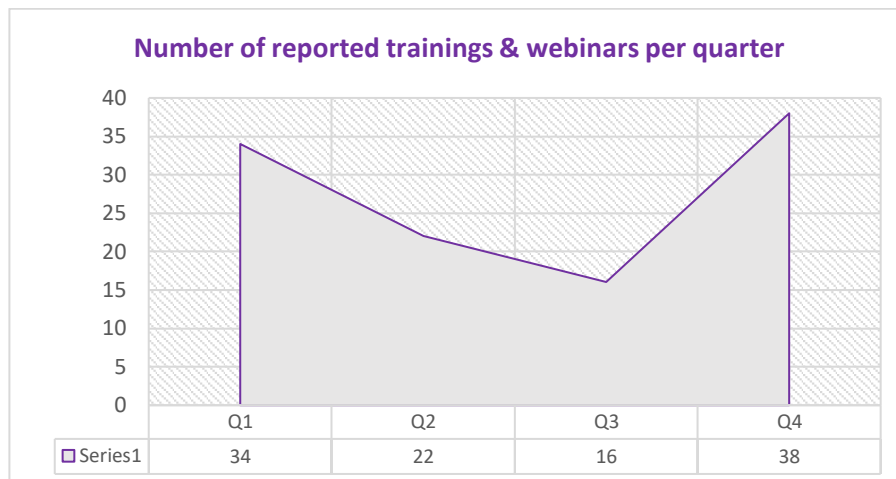


Figure 19: Reported Trainings & Webinars per quarter

As the User Uptake events can take variety of forms, it is interesting to also look at the number of events per type. In Figure 20 it can be noticed that the physical workshops and trainings (contests) are still the most preferred mode of User Uptake events.

However, this tendency could soon be reversed. With the rapid development of the functionalities of the online platforms supporting a wide range of online trainings, such as MOOCs<sup>4</sup> and online contests, the Copernicus ecosystem increasingly opts for online versions of the User Uptake events. Already in the beginning of 2020, the European Commission kicked-off a series of MOOCs.

<sup>4</sup> Massive Open Online Course



Figure 20: Reported UU events / by type

### 3.2.1.2. Geographical Scope

The Copernicus programme has a global reach due to the data-policy of being freely available without borders. Therefore, the User Uptake challenge is global as well. While almost all User Uptake events took place with the EU, those organised online have the potential to gain international audience.

In 2019, most of the reported events took place in Italy and in Belgium. These figures are in-line with those reported for events with communication purpose. The main driver behind the statistics remains the large presence of institutions in these two countries. The online option takes a third place in this ranking, just behind Italy and Belgium.

Unfortunately, for 10% of the events it was not possible to identify the location due to a lack of reported data.



Figure 21: User Uptake events by country

### 3.2.1.3 Number of events per reporting party

As explained in **section 2.2.1.3**, the purpose of presenting the effort for each reporting party is not comparison. The key objective is to show the activity for each party in the context of the whole ecosystem.

A noticeable development in 2019 are the number of workshop and trainings **organised jointly by several services/entities**. The synergetic approach to the User Uptake activity is beneficial for the current and potential users of Copernicus data. With the increasing number of horizontal social challenges, the solutions that Copernicus provides are based on the smart cooperation between the services. For example, the MOOC co-organised by EUMETSAT (operating Sentinel 3 and Sentinel 6 in the future also Sentinel 4 & Sentinel 7) and the Copernicus Atmosphere Monitoring service is a good case in point. Both EUMETSAT and ECMWF (implementing CAMS) play a crucial role in monitoring the atmosphere and contributing with Copernicus enabled solutions to solving pertinent social issues. Therefore, it is a positive development for the ecosystem to have a co-initiated MOOC on “Monitoring the Atmospheric Composition”. In fact, it reached to 3000 users from all over the world.



*CMS User Group Workshop, June 2020, Lisbon - Portugal*

Otherwise, in 2019 EC organised or attended<sup>5</sup> more than 35 workshops & trainings. In addition, CEMS, CMS, ESA and CMEMS also organised or attended more than 10 User Uptake initiatives (Figure 22).



*Figure 22: User Uptake events by type and by participating service/ entity*

#### **3.2.1.4 Objectives of the reported events**

**Objectives** of the User Uptake events were reported for less than 50% of 2019 events. This is unfortunate as the lack of data hampers the analysis. However, it could be noted that the most reported objectives were:

- *To provide a regular flow of information to users and key stakeholders, and*
- *To increase the recognition of the Copernicus brand*

<sup>5</sup> No clear differentiation between organisation and participation was provided by the reporting parties

Those two objectives are in-line with the overall development of Copernicus user uptake.

**It is positive to see to that the ecosystem sustained the regular flow of information towards the users and helped increase the recognition of the Copernicus brand.**

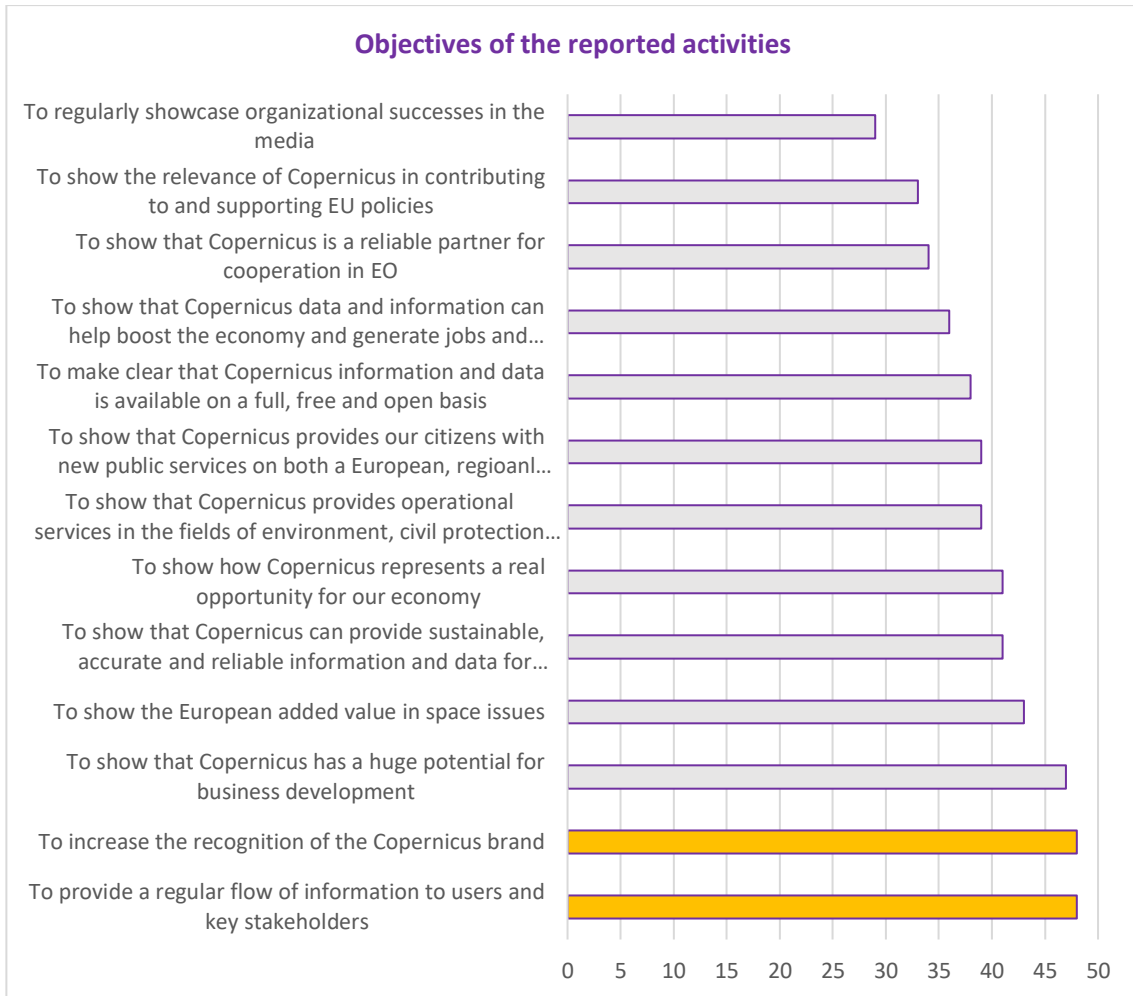


Figure 23: User Uptake events by objective

### 3.2.1.5 Reported Audience

**The number of participants** in User Uptake events were reported only in 50% of the events. The audience for these events was in total of 8 495 attendants (out of which 2 965 in the Monitoring Atmospheric Composition MOOC organised by EUMETSAT and CAMS). As it can be noted, online events are highly effective when it comes to audience reached. In fact, one MOOC only was able to capture circa 54% of the audience of circa 54 User Uptake events amongst those that reported attendance.

It is not possible to identify an indication on **user satisfaction** nor on **budget usage** as these figures are provided only in some cases. Unfortunately, it is not possible either to extract any meaningful trend **versus the previous year**, as the Final Report 2018 reported only partial information on audience.

### 2.2.2 Users

The number of registered users (i.e. unique subscribers to any specific service) and its evolution over time are important indicators of the effectiveness of User Uptake activities.

In this respect, 2019 has been an excellent year, with more than **455 000 registered users**<sup>6</sup> at the end of the year (which represents an increase of more than 50% versus end of 2018), thus witnessing the effectiveness of the User Uptake activities undertaken in 2019 (Figure 24).

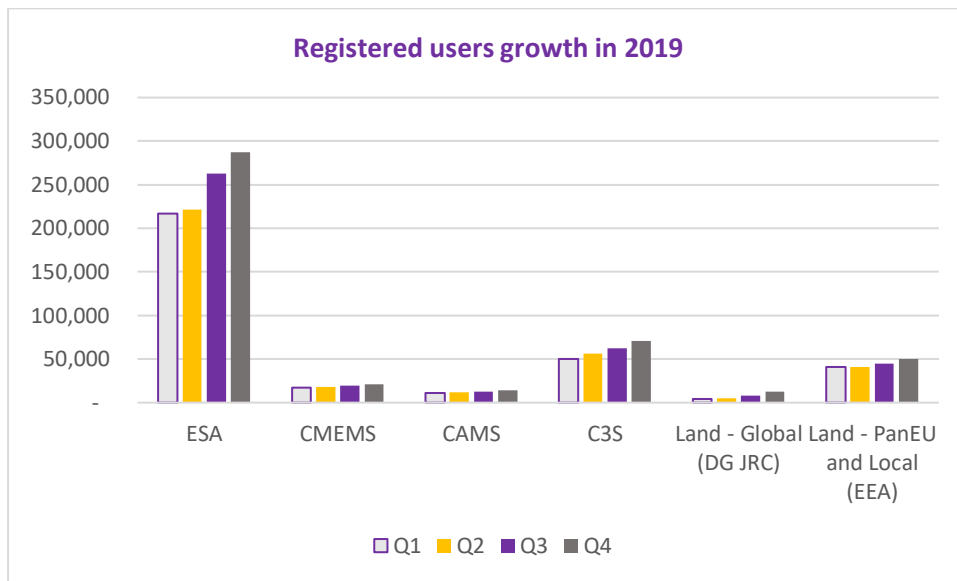


Figure 24: Evolution of registered users between Q1 2019 and Q4 2019<sup>7</sup>

**ESA** alone accounts for more than 60% of registered users in the ecosystem.

Except for EUMETSAT, Security<sup>8</sup> and CEMS, for which there is a lack of data, the number of registered users was consistently reported for the entire year 2019 by the reporting parties. For these reporting parties, the **growth of registered users** from Q1 2019 to Q4 2019 is detailed below:

- ESA: **+32%**
- Mercator Ocean International – Marine: **+24%**
- ECMWF – Atmosphere: **+23%**
- ECMWF – Climate: **+40%**

<sup>6</sup> Different entities consider different definitions of “registered”, users with different characteristics, e.g. CEMS user count is limited to a pre-defined list of authorised users which is stable over time, while for CMEMS registration is open and a registered user is someone identified by a unique email address. Different approaches among reporting parties hinders the possibility of benchmarking this metric among reporting parties.  
<sup>7</sup> EUMETSAT and Security data were not reported. Emergency data are partial and therefore are not included.

<sup>8</sup> In this section, Security refers to both SEA and CMS.



- DG JRC – Land Global: **+184%**
- EEA – Land PanEU and Local: **+39%**.

Another important indicator to monitor User Uptake is the number of active users (i.e. those who have downloaded data at least once during a specific period of time) as this indicator, much more than registered users, points to actual engagement of the user community and therefore is able to better identify how much User Uptake actions were successful over the period.

In this sense, 2019 was a remarkably successful year, with more than **58 000 active users**<sup>9</sup> at the end of the year (with an increase of c. 30% versus end of 2018 year).

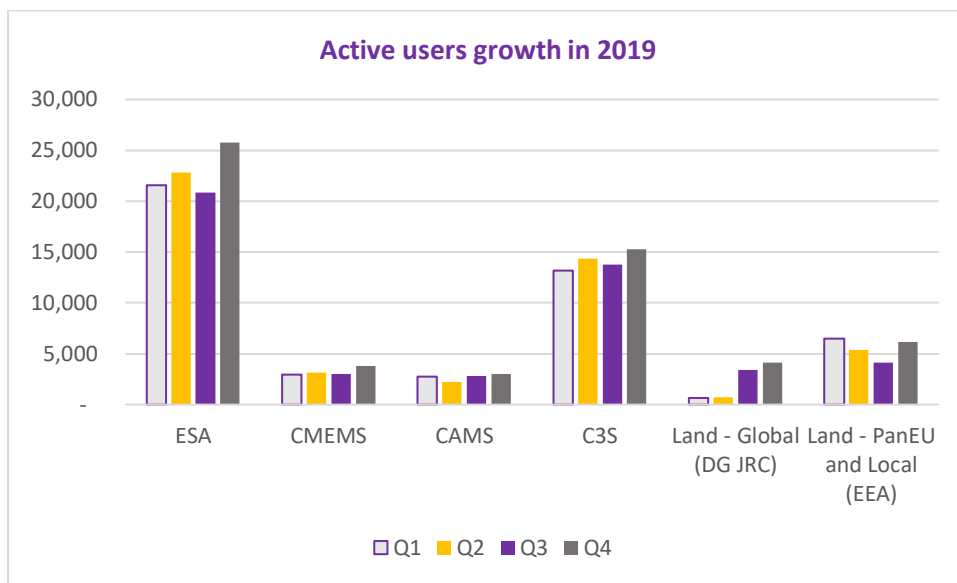


Figure 25: Evolution of active users between Q1 2019 and Q4 2019<sup>10</sup>

**ESA** and **C3S** together account for circa 70% of active users in the ecosystem, therefore highlighting both the key areas of interest for users and the importance to identify synergies with these entities and other services to nurture development also of other services.

Except for EUMETSAT, Security<sup>11</sup> and CEMS, for which there is a lack of data, the number of active users was consistently reported for the entire year 2019 by the reporting parties. For these reporting parties, the **growth of active users** from Q1 2019 to Q4 2019 is detailed below:

- ESA: **+19%**
- Mercator Ocean International – Marine: **+31%**
- ECMWF – Atmosphere: **+10%**

<sup>9</sup> Different entities consider “active”, users with different characteristics, e.g. for ESA a user is “active” if he/ she made a download in the last 3 months, while for CMEMS a user is “active” if he/ she made a download in the last 12 months. Different approaches among reporting parties hinders the possibility of benchmarking this metric among reporting parties.

<sup>10</sup> EUMETSAT and Security data were not reported. Emergency data are partial and therefore are not included.

<sup>11</sup> In this section, Security refers to both SEA and CMS.

- ECMWF – Climate: **+16%**
- DG JRC – Land Global: **+560%**
- EEA – Land PanEU and Local: **-5%**

### 2.2.3 Documentation

In this report, the term "**documentation**" covers publications or updates of documentations by the reporting parties on their websites. Due to the unprecise description of this KPI, not only few reporting parties reported this figure, but gave also different meanings to this term was applied. In particular, only the following entities reported any documentation publication or update:

- CEMS highlighted the information bulletin published on their website (16 - all in Q3)
- ESA reported many updates of material on their website but classified none of them as "documentation". It is however of interest to highlight for them the web news stories on the 4 sentinel satellites (a total of 90 split among the 4 quarters).

**No indication on the downloads of such documentations** (and therefore on interest for the users) was provided.



*Information bulletin on activation EMSR412: Earthquake to the West of Tirana, Albania*

### 2.2.4 Use Cases

Note that in addition to the above documentations, several reporting parties have also reported the development of **use cases**, which aim to demonstrate to potential users the benefits of Copernicus. For example:

- CMEMS reported a total of **35 use cases** in 2019.
- ESA reported a total of **5 use cases** in 2019.

Even if the importance of use cases is obvious (it can easily showcase to users the added value of Copernicus in various situations), most reporting parties do not report them even though they have them. Therefore, the information in the Quarterly Implementation Reports does **not allow to quantify the impact** of such actions on users' uptake.

### 2.2.5 Activations

The notion of “service activation” concerns both CEMS and Security. In 2019 they were in total 92 for **CEMS** (versus 73 in 2018) and 138 for **Security**<sup>12</sup>. The evolution of activations per quarter can be seen in the figure below.

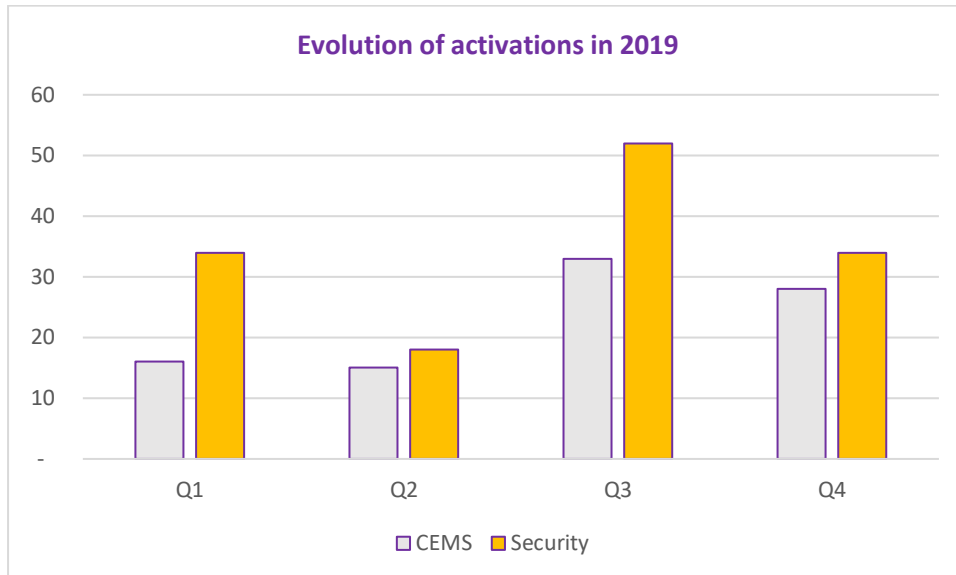


Figure 26: Evolution of activations between Q1 2019 and Q4 2019

It must be noted that the evolution of the total number of activations cannot be used as a reliable indicator of the effectiveness of User Uptake activities. On the contrary, it is difficult to correlate them with any such activities. In fact, for instance in the case of the EMS-mapping service:

- The number of direct users is limited to a pre-defined list of authorised users which is stable over time
- The number of activations is dependent on the number of triggering events (e.g. natural disasters) whose number is completely decorrelated from any User Uptake measures.

Furthermore, for other reporting parties, other KPIs (e.g., Number of organisations served or Number of services delivered) may be more relevant to monitor user uptake activities.

<sup>12</sup> In this paragraph, “Security” only refers to SEA and not the other security services, such as CMS.

2.2.6 Help Desk

Help Desk is a crucial instrument when it comes to User Uptake activities as it is the focal point for both new users and network members.

As such, all Copernicus Services have a help Desk support active, providing different services, including:

- Information repositories (e.g. Knowledge centre), where users can browse through various topics and sub-topics
- Other resources (e.g. user corner) where additional relevant documentation or information is made available
- Message panels or open forums, where users can exchange knowledge
- Instructive tutorials, where users can learn how to use the data following online tutorials or attend specific online webinars and/or training sessions
- Other types of supporting tools, such as a browsing chat - search bar, when users have a specific inquiry and/or cannot find the information on a specific topic; or a phone number, if the users prefer to have a phone chat in order to receive assistance.

Copernicus Service	Online Helpdesk support services offer						
	Information repository	Other useful sources	Message board/ Forum	Direct contact	Instructive Tutorials	Use Cases Examples	Other types of support
CAMS - Atmosphere Monitoring Service	24/7 Knowledge base	Documentation on CAMS data products	Forum	Helpdesk Email contact			Browsing Chat / Search Bar
CMEMS - Marine Environment Monitoring Service	Online Help Centre		Open Forum	Helpdesk Email contact	Online tutorials		
CLMS - Land Monitoring Service	F.A.Q.	User Corner section		Helpdesk Email contact			
C3S - Climate Change Service	24/7 Knowledge base		Forum	Helpdesk Email contact	User training	User stories	Browsing Chat / Search Bar
CMS – Copernicus Maritime Surveillance	F.A.Q.			24/7/365 Helpdesk Email		User cases	24/7/365 Phone contact
CBS – Border Surveillance							
SEA - Security Support to EU External Action	F.A.Q.	Documentation		Helpdesk Email contact			
CEMS - Emergency Management Service - Mapping	User Guide Section						
EFAS - European Flood Awareness System	Products	EFAS Wiki pages		Helpdesk Email contact	Training		
GloFAS - Global Flood Awareness System	General Information	Technical Information		Helpdesk Email contact		Case studies	
EDO - European Drought Observatory	Reference data	Database		Email contact			Phone contact
GDO - Global Drought Observatory	Reports	Database		Email contact			Phone contact

Figure 27: Mapping matrix of the online helpdesk support provided by the Copernicus Services Helpdesks

Notwithstanding the importance of the tool **only few reporting parties reported Help Desk figures (which were in some cases extremely limited):**

- CAMS/C3S (their helpdesk is run jointly):
  - Tickets in the period
  - Issues solved within 8 hours
  - Issues solved within 5 days
  - Hits to the knowledge basis in the period
  
- EUMETSAT (WEKEO):
  - Tickets in the period
  - Unsolved tickets in the period
  
- CLMS:
  - Tickets in the period

Below is provided the number of total tickets in 2019 divided by entity:

- CAMS/C3S: **3 819**
  
- EUMETSAT (Wekeo): **950**
  
- CLMS: **426**

In terms of efficiency, CAMS/C3S is reporting more than 99.5% response rate within 8 hours, whereas between 19% and 37% of tickets going to EUMETSAT were not solved within each quarterly reporting period.

Finally, among the reporting parties that provided figures, it seems that CAMS/C3S was both very active and efficient. The solutions adopted by it can be replicated also for other help desks

### 2.2.7 The Copernicus Start-up programme

Supporting and promoting the creation and development of start-ups is an integral element of the User Uptake activities of the EC. The Copernicus Start-up programme, consisting of four pillars – Copernicus Prizes, Copernicus Accelerator, Copernicus Hackathons and Copernicus Incubation, evolved further in 2019. Initially started with the Copernicus Accelerator as the first pillar implemented in 2016, the Copernicus Start-up programme developed to a unique, well-known and well-established tool in promoting the use of Copernicus data and services while supporting the whole innovation value-chain from the creation of ideas and through accelerating new business cases and incubating new foundations.

In 2019 the European Commission decided not to continue with **the Copernicus Prizes** in the same format by anticipating important legal and organisational changes. Thus the Commission launched a new call linking the Copernicus and Galileo Prizes together. By the end of 2019, the EC awarded the implementation of a new contract – the " Copernicus, Galileo, GSA Joint Call for Prizes", which starts in 2020.

The third round of **the Copernicus Accelerator** ran from December 2018 through October 2019. In December 2019, the fourth round of the Copernicus Accelerator started with an opening bootcamp during the EU Space Week in Helsinki. In 2019 the Copernicus Accelerator again proved to be a very successful programme for matching new and promising Copernicus business ideas, with the individual support they need to achieve desired business goals. The programme provided support to 50 participants (mentees), coming from a broad range of countries of origin, as well as from diverse application fields. The mentees originated out of three sources – winners of the Copernicus Hackathons and the Copernicus #AtmosHack (a EUMETSAT event) (9 mentees), winners and finalist from Copernicus Masters 2018 (31 mentees) and selected applicants to a dedicated open call (9 mentees). The 50 mentors have been chosen through an open call, to which 146 applications have been received. A total of 49 mentee-mentor coaching relationships were successfully completed with a satisfaction rate of 100% (very satisfied and satisfied for mentees and mentors each). In addition, two bootcamps - the opening bootcamp during the EU Space Week in Marseille and the closing bootcamp during the INTERGEO fair in Stuttgart, added additional outreach for the programme and offered both mentees and mentors pitch and networking opportunities. The third round of the Copernicus Accelerator continued providing important incentives to the User Uptake of Copernicus with focus on innovators and entrepreneurs. The participants for the fourth round of Copernicus Accelerator were finalists of the Copernicus Hackathons (23 mentees) and 27 selected applicants to an open call.



*Martina Sindelar kicks off the Copernicus Accelerator Helsinki bootcamp during the EU Space Week*

The **Copernicus Hackathon** programme is another pillar of the Copernicus Start-up programme that clearly expanded during 2019. During the year, **17 Copernicus Hackathons** (vs. 8 in 2018) have been organised in **12 European countries**, bringing **842 participants** in total together to work on the creation of new ideas and business cases, utilizing the use of Copernicus data and services.

<b>Event</b>	<b>Country</b>	<b>Number of participants</b>
Copernicus Hackathon Brno	Czech Republic	31
Copernicus Hackathon Sophia-Antipolis	France	34
Copernicus Hackathon Sofia	Bulgaria	52
Copernicus Hackathon Galway	Ireland	43
Copernicus Hackathon Barcelona	Spain	31
Copernicus Hackathon Liepaja	Latvia	29
Copernicus Hackathon Leicester	UK	54
Copernicus Hackathon Bari	Italy	54
Copernicus Hackathon Brno	Czech Republic	28
Copernicus Hackathon Zagreb	Croatia	94
Copernicus Hackathon Toulouse & Bordeaux	France	102
Copernicus Hackathon Lyngby	Denmark	32
Copernicus Hackathon Athens	Greece	60
Copernicus Hackathon Civitavecchia	Italy	54
Copernicus Hackathon Brussels	Belgium	27
Copernicus Hackathon Liepaja	Latvia	55
Copernicus Hackathon Thessaloniki	Greece	63
<b>Total</b>		<b>843</b>

Furthermore, another hackathon activity, fully funded by the EC has taken place during the EU Space Week in Helsinki – the Galileo & Copernicus Innovation Challenge – **Emergency Apps with 23 participants**.

All these early-stage innovation programmes with focus on new target groups and diverse geographical areas have clearly continued stimulating the User Uptake throughout Europe. **The overall benefit lies in reaching out to young developers, students, researchers and entrepreneurs and motivating them to develop value-added services for end users, while utilizing Copernicus data and services.** Next to sparking new ideas and innovations and attracting new target groups in wider geographical areas, the Copernicus and other



hackathons amplify the general promotion of the benefits of using Copernicus data and services. The communication aspects of the Copernicus Start-up programme and the Copernicus Hackathons in particular plays an equally important role, as their contribution to the User Uptake of Copernicus.

Last, but not least, **the Copernicus Incubation** programme also continued its successful contribution to the User Uptake in 2019, **by supporting up to 20 already established start-up companies with 50,000 EUR**, to go toward their incubation or acceleration in a programme or organisation of their choice. Three application cut-off deadlines have taken place during the year, while assuring a smooth evaluation and on-boarding processes. With the evolvement of the programme, an increasing number of participants have reached the end of their incubation support period. This offered the opportunity to measure some of the achievements and progress attained throughout the year. Thanks to the EC funding provided during this programme, almost all incubated start-ups have acquired new customers with the most successful applications topping 7,000 users. More than 90% of all the start-ups were able to pursue new applications and new geographical markets, and about a third are busy with raising private investment. The geographical coverage with start-ups from 17 European countries, supported in the programme until now indicate a good geographical spread.

The Copernicus Start-up programme has been monitored in the KPI quarterly reports with focus on the communication's impact of the different pillars to the programme. The provided data by the different pillars on events however, has been analysed mainly in their User Uptake context for the purpose of this KPI annual report. In the same time, it should be mentioned, that the communication aspect of promoting the Start-up programme at events remains of significant importance.



*14 online pitches for the 4th selection round of the Copernicus Incubation programme are assessed in March 2019.*

### 2.2.8 Copernicus Relay and Academy Network

The new consortium in charge of the CSO started to manage the Relays and Academy networks as of 1st July 2019, date from which it is possible to evaluate the composition of the networks and their expansion, with respect to 2018. Unfortunately it proves impracticable to take into consideration applicants that came in the first six months of 2019, as the previous contractor did not provide such information in the handover.

The Copernicus Relays and Academy networks are important actors of the User Uptake strategy. With **92 Copernicus Relays and 157 Academy members** at the end of 2019, the networks have grown significantly during the concerned period (**+64%** compared with 2018). This increase represents an evidence of the prestige of the networks and the actions carried out by the CSO.

Taking into consideration the data from July 2019, the networks have expanded geographically outside the European continent, including countries as Paraguay, Chile and New Caledonia. New members from the European Union came from Italy, Germany, France, Spain, Croatia and Greece. In general, the majority of applications were related to the Academy network, which continues to attract more members than the Relay one. Italy represents the country that contributed the most, with 55% of the overall amount of applications. Such success of the Copernicus networks among the Italian EO community is ascribable to the promotion carried by the Italian Coordination Bodies, with whom the CSO liaised positively and efficiently from the start of its mandate. The type of organisations that comprise both networks remained similar in 2019, with the Academy mostly composed by Universities and the Relays by SME (<250 employees).

These networks proved again their capacity to leverage the User Uptake activities. Based on the information reported to the CSO, it appears that the Copernicus Relays and Copernicus Academy members have either organised or actively participated in (e.g. by making presentations or by exhibiting) approximately 420 events/gatherings. A vast majority of these events targeted an audience consisting of public users, professionals (e.g. geoinformation professionals, companies, entrepreneurs) and researchers. Relays and Academy members rated positively their User Uptake events that, in most of the cases, were nevertheless directed to stakeholders within their ecosystems.

Many of them also engaged with target groups that were not familiar with EO and Copernicus. Their action seemed to produce a positive impact on such audiences, but it could certainly be reinforced through a strong institutional support. In addition, in 2019 ~60 Copernicus related web pages have been established and ~80 local Copernicus help desks have been developed by the networks' members.



*The 2019 General Assembly of the Copernicus networks during the EU Space Week in Helsinki, Finland.*

While continuing broadening the networks geographically, the CSO intends to encourage members to extend the scope of their action, strengthen their activities and increase the quality of their contribution to the promotion of Copernicus. As stated above, the shared objective with the EC is to elevate the networks, make them very attractive and contribute to the spreading of best practices.

To obtain this, our recommendation is to further strengthen the relationships with members, by ensuring constant and direct support with all available means: phone calls, emails, surveys, articles, active participation in monthly video conferences, integrated activities with the national coordination authorities and promotion through our communication channels.

## 3 Recommendations

In this section of the report we present the main problematic areas of the current process of reporting performance via the key performance indicators. First, we outline the overall issues. Then, we zoom-in on the encountered hurdles in the process of preparing the current annual report. Afterwards, we list concrete mitigating measures for each main section. The section concludes with a set of our key recommendations.

In summary, the key problematic aspects, identified by the CSO , are:

- The stakeholders providing the requested data (reporting parties) have a very heterogeneous background and different reporting obligations towards the EC. Most of them are guided mainly by their respective delegation agreements signed with the EC in 2014. Therefore, **all reporting parties provide input in a different format**. Furthermore, the reporting parties have **different definitions** of some of the requested data, which does not allow a proper comparison.
- There is a confusion among the reporting parties about the definition of the reported data and the used indicators. Without a pre-agreed taxonomy or a set of definitions, **there is discrepancy in the content reported against the same metrics by different entities**.
- **Some reporting parties do not report consistently**, making benchmarking their activities and monitoring progress over time hard.
- **Following the example of EUMETSAT, who have reported on the performance of the WEkEO DIAS platform, it could be considered, that the other four DIAS platform also contribute to the KPI quarterly reports in the future.**

### 3.1 Communication KPIs

Overall, when it comes to **communication KPIs** the lack of a synchronised approach despite efforts from DG DEFIS to coordinate via the Copernicus Ecosystem Team makes it hard to assess the effects of the organised events or social media campaigns. Therefore, to avoid this, we suggest following recommendation from DG DEFIS that from the entry into force of the next delegation agreements, DG Communication network indicators should be followed when requesting data from the reporting parties. Once the requested data are delivered, the CSO will be compiling the metrics and producing overall figures about the outputs, results, and impacts from communication activities achieved for the particular quarter.

#### 3.1.1 Events

Currently, we split the events according to their objective: Communication or User Uptake. This split is meaningful because it helps the ecosystem assess the performance compared to communication or marketing budget. In addition, the two groups of events have very different strategy behind.

However, the split is still unclear. In order to iron out the process we suggest that the reporting parties should report about the events they organise or attend according to the targeted audience: knowledgeable public; potential users; prescribers<sup>13</sup>, and general public Figure 28.

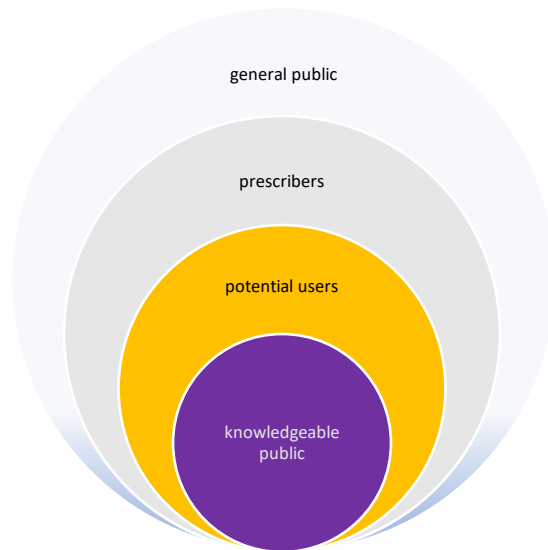


Figure 28: Target audience segmentation

Once the reporting parties select their target audience, it will be possible to summarize all events targeted to “**knowledgeable public**” and “**potential users**” as **User Uptake ones**, and all those aiming at “**the general public**” as a **communication activity**.

Additionally, it should be **compulsory** to report back on the following already existing KPIs:

- **The geographical location** of the event
- Select an **objective** for the event
- Provide **the number of attendees**

### 3.1.2 Websites

The majority of the reporting parties maintain websites, which are not fully dedicated to communication on Copernicus. Thus it proves difficult to extract exact statistical data on reach or coverage. Two main issues have been identified in relation to the reporting on websites: (1) **incomplete data**, and (2) **conflicting understanding of the term “downloads”**.

Therefore, we suggest the following measures:

- It should be compulsory for all reporting entities to report on all requested statistics consistently.
- We propose the following definition of downloads to be used: “*Distinct pair User/Dataset per day. If a user downloads the same dataset several time per day,*”

<sup>13</sup> They don't use the data but recommend its use (e.g. policymakers)

*he/she will be counted only once*" (as proposed by Copernicus Marine Environment Monitoring Service)

### 3.1.3 Social Media

Similarly, there are two main issues related to the reporting on social media: (1) **incomplete data**, and (2) **no reporting on number of posts**.

Therefore, we suggest the following measures:

- It should be compulsory for all reporting entities to report on all requested statistics consistently
- A new metric on number of posts should be included in the reporting. This metric will make it possible to assess the level of engagement of the audience. By computing the ratio "likes" + "re-tweets"/ "number of posts", it is possible to get an understanding of how impactful and efficient the social media activity is.

### 3.1.4 Traditional Media

When it comes to traditional media, we noticed that the reported data is not consistently reported across all services. We have identified **a clear untapped potential** for utilising better and in a more consistent manner the **media relations efforts** by the reporting parties, and in particular the Entrusted Entities implementing the Copernicus Services.

In particular, we suggest the following:

- A coordinated media relations strategy for the ecosystem to be developed.

With the maturing of the Copernicus ecosystem, the vehicles for promoting Copernicus have evolved as well. Media increasingly seek Copernicus data for their reporting, and the media relations activities of some reporting parties show that leveraging traditional media has a significant potential for further positioning Copernicus. To that end, we suggest that an elaborated media relations strategy for the whole ecosystem should be developed in the respect of rules imposed by DG COMM and the Spokesperson Service of the Commission. One such strategy should encompass, at least,: (a) a media list of contacts receiving key Copernicus deliverables (e.g. State of the Climate report; EMS Information Bulletin in times of international emergencies); (b) unified metrics for media clippings (e.g. key words to be tracked, cross-selected per service); (c) unified metrics for measuring the impact of media attention to the website traffic and downloads of products; (d) crisis management blue-print, i.e. guidelines for communicating with media in times of crisis (such as COVID-19 lockdown); (e) unified press centre for Copernicus, with connections to points of contacts for each service.

- An integrated media/social media/events promotion approach to be defined for the ecosystem.

Stepping up on the best practice of C3S and CAMs a marcom strategy addressing best practices for integrated campaigns should be developed. The approach should be adopted by all reporting parties and the metrics should become part of the reporting, i.e. what segment of the website traffic and downloads of products comes from media/social media/events activities.

## 3.2 User Uptake KPIs

### 3.2.1 Training/ Workshops

Unfortunately, only a limited amount of inconsistent data was provided. This fact limits the capability to analyse the effectiveness of User Uptake actions.

For the future we suggest the following actions:

- Clear indication whether an event is organised by a reporting party or only attended by it:
  - In case of organisation of an event, the following minimum information should be provided:
    - Detailed description of the event
    - Objective of the event (max 5)
    - Budget spent
    - User satisfaction following a methodology shared by all EEs
    - Exact number of participants
    - Identification of participants following a methodology shared by all EEs (e.g., by geography, role, industry, ...)
  - In case of attendance to an event, the following minimum information should be provided:
    - Simplified description of the event
    - Objective of the event (max 5)
    - Budget spent
    - Indicative number of participants to the event.

### 3.2.2 Users

For the future, it is suggested that:

- A unified definition of “registered users” and “active users” is created and shared with the reporting parties
- It is compulsory to report consistently on registered and active users.

### 3.2.3 Documentations

For the future, to guarantee the possibility to analyse in more detail evolution of this KPI it is suggested that:

- A clear definition of “documentation” is devised and shared with the reporting parties.
- All reporting parties complete all figures in their Quarterly Implementation Reports (incl. downloads/ clicks).

### 3.2.4 Use cases

For the future, to enhance and quantify the impact of use cases on Users’ Uptake it is suggested that:

- All reporting parties should be asked to provide a minimum number of use cases per year on their website (if feasible).
- All reporting parties should report complete figures on the use cases in their Quarterly Implementation Reports (incl. downloads/ clicks).

### 3.2.5 Activations

For the future, it is suggested that:

- All reporting parties report activities that are equivalent to ‘activations.
- A set of additional KPIs (e.g., “number of organisations served” or “number of services delivered”) is required defined from all reporting parties to better link User Uptake actions to activations.

### 3.2.6 Help Desk

For the future, it is suggested that a set of KPIs is defined to monitor this activity for all the reporting parties:

- Number of tickets in the period (New/ Solved)
- Reply time (Issues solved within 8 hours/ 5 days; First reply time)
- User satisfaction

### 3.2.7 The Copernicus Start-up programme

Even though the different pillars of the Copernicus Start-up programme have continuously contributed to the quarterly KPIs, the provided information covered only communication indicators. As the overall objective of this programme is clearly related to the User Uptake and all corresponding communication activities are serving this one main objective, **the underlying analysis should be combined with the actual results delivered by the different pillars. Our recommendation is to analyse the User Uptake impact and its’ communication aspects for the Copernicus Start-up programme as a whole outside of the scope of this KPI report.**

### 3.2.8 Copernicus Relay and Academy Networks

In order to ensure a better geographical coverage of the Copernicus communication and User Uptake KPIs in the future, **it may be considered to take into account some information originally provided to the CSO by the Copernicus Relay and Academy Networks for the next KPI annual report** (e.g. number of events).

## 3.3 The way ahead: Our three main recommendations



- (1) Taking into account the above-mentioned recommendations for each strand of reporting, **one unified template** should be developed that the reporting parties should complete every quarter for the purpose of their on-going quarterly reporting.
- (2) The template should involve **a taxonomy section**, providing definitions for every indicator.
- (3) The template should be compulsory to be filled-in each quarter for the purpose of the on-going quarterly reporting. An online version of it (in a form of a survey) could be proposed. **The questionnaire should be possible to be submitted only when all sections are filled in.**

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## 4 Annex 1: Who Reported What in 2019

### Communication KPIs

Reporting party	Q	Website				Twitter				Facebook				Media	
		Unique visitors	Total visitors	Pages viewed	Total downloads	Impressions	Likes	Retweets	Followers	Reach	Favourites	Shares	Subscribers	Number articles	of Media partnerships
ECMWF - C3S	Q1	x	N/A	x	x	x	x	x	x	N/A				x	x
	Q2	x		x	x	x	x	x	x					x	
	Q3	x		x	x	x	x	x	x					x	
	Q4	x	x	x	x	x	x	x	x					x	
ECMWF - CAMS	Q1	x	N/A	x	x	x	x	x	x	N/A				x	x
	Q2	x		x	x	x	x	x	x					x	
	Q3	x		x	x	x	x	x	x					x	
	Q4	x	x	x	x	x	x	x	x					x	
Marine Mercator -	Q1	x	x	x	N/A	x	x	x	x	N/A				x	N/A
	Q2	x	x	x		x	x	x	x					x	
	Q3	x	x	x		x	x	x	x					x	
	Q4	x	x	x		x	x	x	x					x	

Land EEA	Q1	N/A	x	x	x	x	x	x	x	N/A	x		
	Q2		x	x	x	x	x	x	x		x		x
	Q3		x	x	x	x	x	x	x		x		x
	Q4		x	x	x	x	x	x	x		x		x
Land JRC	Q1	x	x	x	N/A	x	x	x	x	N/A	x		
	Q2	x	x	x		x	x	x	x		x		x
	Q3	x	x	x		x	x	x	x		x		x
	Q4	x	x	x		x	x	x	x		x		x
EMS	Q1	x	x	x		x	x	x	x	N/A	N/A		
	Q2	x	x	x	x	N/A							
	Q3	x	x	x	x	x	x	x	x				
	Q4	x	x	x	x	x	x	x	x				
SEA	Q1	x	x	x	x	N/A			N/A	N/A	N/A		
	Q2	x	x	x	x	x	x	x					
	Q3	x	x	x	x	x	x	x					
	Q4	x	x	x	x	x	x	x					

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EMSA	Q1	N/A			N/A				N/A							
	Q2	N/A			N/A			x	N/A				x			
	Q3	N/A			N/A				N/A							
	Q4	N/A			N/A			x	N/A				x			
EUMETSAT	Q1	N/A		x	N/A	x	N/A	x	N/A	x			x	x		
	Q2	N/A		x		x		x		x	x			x		x
	Q3	N/A		x		x		x		x	x			x		x
	Q4	N/A		x		x		x		x	x			x		
ESA	Q1	x	x	x	N/A	N/A			N/A				x			
	Q2	x	x	x		N/A			N/A				x			
	Q3	x	x	x		N/A			N/A				x			
	Q4	x	x	x		N/A			N/A				x			
Copernicus EU	Q1	x	x	x	N/A	x	x	x	x	x	x	x	N/A			
	Q2	x	x	x		x	x	x	x	x	x	x				
	Q3	x	x	x		x	x	x	x	x	x	x				
	Q4	x	x	x		x	x	x	x	x	x	x				

EUROPEAN COMMISSION

Incubation	Q1	x	x	x	N/A	x	x	x	x	N/A				x	
	Q2	x	x	x		x	x	x	x	x	N/A				x
	Q3	x	x	x		x	x	x	x	x	N/A				x
	Q4	x	x	x		x	x	x	x	x	N/A				x
Hackathon	Q1	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Q2	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Q3	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Q4	x	x	x	x	x	x	x	x	x	x	x	x	x	
Accelerator	Q1	x	x	x	N/A	x	x	x	x	x	x	x	x	x	
	Q2	x	x	x		x	x	x	x	x	x	x	x	x	
	Q3	N/A				N/A	x			N/A			x		
	Q4	x	x	x		x	x	x	x	x	x	x	x	x	

**User UptakeKPIs**

The following KPIs table indicating User UptakeKPIs to be provided by each Entrusted Entity was included in the KPI yearly report 2019 (not prepared by the present consortium).

KPI	Description	EEs likely to provide inputs
Training/ Workshops – number of participants	Establishes the reach of training events. This KPI can be derived from the registrations or head count.	All
Training/ Workshops – number of new users	Assesses the growth in Copernicus users through dedicated events. This KPI can be derived from a question in the registration form.	DG GROW, Mercator Ocean, ECMWF, EEA, DG JRC
Users – Number of registered users	Assesses the number of users who registered in the website.	Mercator Ocean, ECMWF, EEA, DG JRC
Users – Number of active users	Assesses the number of users who have downloaded data at least once during a specific period of time.	Mercator Ocean, ECMWF, EEA, DG JRC
Documentation – number of new documentation items published or updated	Documentation is an important resource for new and existing users. This KPI can also be a proxy for the number of requests for documentation items coming in through the helpdesks of the entities.	Mercator Ocean, ECMWF, EEA, DG JRC
Documentation – number of downloads or hits	Assesses the use of documentation, and efficiency of resources used in creating or updating documentation.	Mercator Ocean, ECMWF, EEA, DG JRC
Use cases – number of new use cases published	Demonstrates the uptake of Copernicus data and information downstream.	Mercator Ocean, ECMWF, EEA, DG JRC
Use cases – number of clicks or downloads	Demonstrates the interest in downstream use cases by end users and other downstream actors.	Mercator Ocean, ECMWF, EEA, DG JRC
Activation – Number of activations	Measures how many visitors are engaging with the website.	DG GROW, DG JRC

However, as it can be seen below, availability of data on User Uptake per reporting party is rather poor.

	Q	Training / WS - # participants	Training / WS - # New users	Registered users	Active users	Documentation - #	Documentation - # downloads	Use cases - #	Use cases - # downloads	Activations of the service
DG GROW	Q1	Y	N							
	Q2	Y	N							
	Q3	Y	N							
	Q4	Y	N							
ESA	Q1	N	N	Y	Y	-	-	Y	N	
	Q2	N	N	Y	Y	-	-	Y	N	
	Q3	N	N	Y	Y	-	-	-	-	
	Q4	-	-	Y	Y	-	-	-	-	
EUMET SAT	Q1	Y	N	-	-	-	-	-	-	
	Q2	-	-	-	-	-	-	-	-	
	Q3	-	-	-	-	-	-	-	-	
	Q4	-	-	-	-	-	-	-	-	
DG JRC – EMS	Q1	N	N	(Y)	(Y)	-	-	-	-	Y
	Q2	N	N	(Y)	(Y)	-	-	-	-	Y
	Q3	N	N	Y	Y	Y	N	-	-	Y
	Q4	N	N	(Y)	(Y)	-	-	-	-	Y
DG JRC – LAND	Q1	N	N	Y	Y	-	-	-	-	
	Q2	Y	N	Y	Y	-	-	Y	N	
	Q3	N	N	Y	Y	-	-	Y	N	
	Q4	Y	N	Y	Y	-	-	-	-	
EEA	Q1	-	-	Y	Y	-	-	-	-	
	Q2	-	-	Y	Y	-	-	-	-	

	Q3	-	-	Y	Y	-	-	-	-	
	Q4	-	-	Y	Y	-	-	-	-	
<b>ECMW F – CAMS</b>	Q1	Y/N	N	Y	Y	-	-	Y	N	
	Q2	-	-	Y	Y	-	-	-	-	
	Q3	-	-	Y	Y	-	-	-	-	
	Q4	N	N	Y	Y	-	-	-	-	
<b>ECMW F – C3S</b>	Q1	Y/N	N	Y	Y	-	-	-	-	
	Q2	-	-	Y	Y	-	-	-	-	
	Q3	-	-	Y	Y	-	-	-	-	
	Q4	N	N	Y	Y	-	-	-	-	
<b>MERCA TOR</b>	Q1	N	N	Y	Y	-	-	Y	N	
	Q2	Y/N	N	Y	Y	-	-	Y	N	
	Q3	Y/N	N	Y	Y	-	-	Y	N	
	Q4	Y/N	N	Y	Y	-	-	Y	N	
<b>SECUR ITY (SEA)</b>	Q1	-	-	-	-					Y
	Q2	N	N	-	-					Y
	Q3	-	-	-	-					Y
	Q4	N	N	-	-					Y
<b>SECUR ITY (CMS)</b>	Q1	Y/N	N	Y	N	-	-	-	-	N
	Q2	Y/N	N	Y	N	-	-	-	-	N
	Q3	Y/N	N	Y	N	-	-	-	-	N
	Q4	Y/N	N	Y	N	-	-	-	-	N

Y/N: Provided data only in some cases; (Y): Only partial data provided; -: Data not present