

SATCEN

EUROPEAN UNION SATELLITE CENTRE

ANNUAL REPORT **2023**











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“I observe the Centre’s constant dedication to enhancing its capabilities and the quality of its products and analysis, generating greater effectiveness for our common European external action, as well as that of each Member State of the Union. It is a source of pride for Spain to have this Centre on our territory.”

His Majesty, King Felipe VI of Spain
11 May 2023



Read more

> The EU Satellite Centre is the eyes of the European Union in the skies (in orbit) and a very important part of the EU's security. It literally serves the EU to get a better picture of the relevant developments or crises across the world (...) SatCen needs to preserve its position as the EU's centre of excellence for geospatial intelligence analysis.

HR/VP Josep Borrell
Ministerial level SatCen Board meeting
29 August 2023

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See Video

> “Spain is very proud to be the host nation of this Centre (SatCen), which constitutes a magnificent example of what we Europeans can achieve with our cooperation in security and defence.”

H.E. Margarita Robles, Spanish Minister of Defence
Ministerial level SatCen Board meeting
29 August 2023

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VISIT OF HIS MAJESTY THE KING OF SPAIN

To commemorate the 30th anniversary of the European Union Satellite Centre, King Felipe VI visited the SatCen headquarters on 11 May 2023.

In a momentous event, the King unveiled SatCen's anniversary plaque, marking the Centre's achievements and continued commitment to the EU's security.

13k+
Impressions

1500+
Engagements



































SATCEN MINISTERIAL BOARD

The ministerial level SatCen Board meeting on 29 August 2023 took place in the context of the Centre's 30th anniversary and the Spanish EU Presidency.

The milestone event hosted defence ministers and delegations from all 27 EU Member States, as well as from the EEAS and the European Commission.

36k+
Impressions

900+
Engagements



His Majesty King Felipe VI of Spain,
11 May 2023



Mr. Nicolae Popescu, Deputy Prime Minister of Foreign Affairs, Republic of Moldova, 23 January 2023



General Robert Brieger, Chairman of the European Union Military Committee, 24 March 2023



Mr. Francisco Fontan, Director of the EEAS Crisis Response Centre,13 March 2023



H.E. Amb. Juraj Tomaga, Embassy of Slovakia in Spain,
23 February 2023



Mr. Dominik Mutter, Security Policy Director, German MFA,
17 October 2023



BG Seán White, European Union Military Staff Director of Communications, Information Systems and cyber defence,
28 March 2023



SatCen Director Sorin Ducaru with H.E. Margarita Robles, Spanish minister of defence during the visit of His Majesty the King of Spain, 11 May 2023

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Foreword by the Director



The year 2023 presented SatCen with its most significant challenges and achievements to date. Russia's ongoing war of aggression since its full-scale invasion of Ukraine, and the crisis in Gaza from October onwards, dramatically heightened the need for accurate, reliable and timely geospatial intelligence, underlining SatCen's status as a key provider of EU situational awareness. In view of these unprecedented demands, the Centre demonstrably strengthened its capabilities and operational tempo, exceeding past records and user expectations.

At the heart of our activity in 2023 was supporting the EU and its Member States as they navigated the complex security landscape. The war in Ukraine, contingencies like those in Khartoum-Sudan or Niger, as well as the crisis in Gaza, demanded unwavering operational focus, with SatCen playing a critical role in facilitating a common understanding through shared situational awareness and analysis. Beyond these immediate crises, the Centre continued to deliver intelligence services aligned with key EU interests and priorities, while at the same time supporting missions and operations across the full spectrum of EU external action, as well as support EU partners like the UN, the OPCW and third states, as mandated by EU Member States.

SatCen's operational success hinges on constant adaptation to current EU strategic priorities and the specific needs and requirements of its authorised users. The space and information technology domains are evolving at an astonishing pace, demanding constant upgrades and continuous innovation. We succeeded in staying at the forefront of this race, ensuring our tools and operational expertise remained state-of-the-art, in order to continue providing the best available services to all our users.

The EU's growing ambitions in space, security and defence, as outlined in the Strategic Compass and the space strategy for security and defence, directly impact the Centre. In August 2023, and within this clear political context, the ministerial level SatCen Board meeting, held for the first time at SatCen's newly inaugurated extended premises, provided valuable political guidance for the Centre's further development, aligning its future evolution with the EU's strategic priorities, with the increasingly complex international security landscape and with new technological opportunities.

The ministers emphasised the importance of strengthening SatCen to guarantee European autonomy in global situational awareness and crisis assessment. Member States expressed their commitment to reinforcing the Centre's key mission, underscoring the need to maximise synergies with other EU policies and develop connections between internal and external security, including maritime surveillance.

One key milestone for enhanced collaboration between SatCen and the Commission was the August 2023 signature of the contribution agreement on the implementation of the Copernicus Service on Support to EU External and Security Actions (SESA) and the service level agreement (SLA) with Frontex, offering a long-term perspective for enhanced synergies and efficiencies.

On cooperation with Member States, I would especially like to highlight the signature of the joint framework arrangement (JFA) in which five Member States expressed their intention to provide

SatCen, on behalf of the EU, with specific data from their national Earth observation systems. This is a strong signal of trust in SatCen's professional operational capability as the EU's GEOINT analysis centre. As a direct outcome of the JFA, SatCen has already been able to sign an implementation agreement with Spain, providing access to its Paz system. The Centre is looking forward to engaging with the other four Member States to conclude similar agreements.

In 2023, SatCen's classified IT platform became fully operational, with new users being regularly added from EU institutional entities, EU missions and operations, and from Member States. The services offered via the platform are rapidly changing SatCen's business model from a focus on static documents to interactive 24/7 web services. The classified IT platform is the first (and still the only) classified cloud infrastructure internally developed and hosted by an EU entity.

Regarding the year's key events, SatCen hosted the visit of HM Felipe VI, the King of Spain; a unique and memorable occasion, as well as other high-level personalities from EU Member States and from EU institutions. The EU Military Committee hosted one of its sessions at SatCen in September 2023, and a number of EU committees with responsibilities in security and defence visited the Centre during the Spanish presidency of the Council of the European Union.

While I am approaching the end of my extended five year mandate as SatCen Director, the 2023 Annual Report also represents a time of reflection on the intense period over which I have exercised this responsibility. It was a period of many challenges shaped by the impact of unforeseen and unprecedented developments such as the COVID-19 pandemic, the Russian war of aggression against Ukraine, many other contingencies and an increasingly complicated international security context. It was also a highly rewarding period of substantial accomplishments, reflected in the significant growth of SatCen's operational output (which doubled in the last four years), its efficiency, productivity, speed of delivery, the extension and modernisation of SatCen's headquarters, the change of its business model and its continuous alignment with the latest technologies. It was also a period of increased visibility and recognition of SatCen's unique role and value added, reflected by the Member States and their support for the Centre's future development, as manifested at the ministerial level SatCen Board meetings in 2021 and 2023.

It is therefore my pleasure and honour to express my gratitude to the 27 EU Member States for this recognition and support, to the valuable Spanish host nation's support, to all our partners across the EU's institutional ecosystem and to the private sector. But, above all, I would like to express my gratitude for the "stellar" SatCen team; for their high professionalism and dedication.

Finally, I would like to extend my warm congratulations and best wishes of success to Louis Tillier, my deputy and successor, along with the confidence that his experience and leadership will assure the continuity of SatCen's growing role and development in a difficult security context, to the benefit of the EU, its Member States and Europe's citizens.

Sincerely,
Ambassador Sorin Ducaru
SatCen Director



Key Achievements and Lessons Learned

PRODUCTION RECORD IN 2023

In 2023, SatCen produced more than 6,000 analytic products, exceeding the annual output of 2022 by 37%. This growth benefited all users – EU, Member States and third parties – and is a direct reflection of the continuous increase in demand for situational awareness through GEOINT/IMINT.

STRENGTHENED MISSION

Support for EU missions and operations quadrupled in the past three years, demonstrating our growing role in field operations.

EXPANDED SYNERGIES

Intensified collaboration with other EU entities like Frontex and notably the Commission's Copernicus programme reflects SatCen's close engagement with actors and activities beyond the immediate CFSP/CSDP. The SESA signature in August, as well as the new working arrangement and SLA with Frontex, marked a new period in this operational cooperation, directly benefiting its users and the wider EU.

CLASSIFIED IT PLATFORM

The EU's first internally developed and hosted classified cloud infrastructure became operational, and several Member States are already using the new and augmented online GEOINT services, further enhancing secure information sharing among Member States.

Ministerial Level Board at SatCen

The ministerial level SatCen Board meeting on 29 August, under the chairmanship of the High Representative of the Union for Foreign Affairs and Security Policy/Vice-President of the European Commission (HR/VP) Josep Borrell, provided strategic guidance for the Centre's future development. It marked the second SatCen Board meeting at ministerial level and coincided with SatCen's 30th anniversary, as well as with the Spanish Presidency of the EU Council. Attendees included defence ministers, delegations from all 27 EU Member States, Commissioner Thierry Breton, and high-ranking representatives from the European Union External Action Service (EEAS) and the European Commission.

Discussions during this milestone Board meeting at the recently extended SatCen headquarters in Spain centred on addressing international security challenges, aligning objectives with the Strategic Compass and the EU space strategy for security and defence, empowering SatCen's operational roles, and enhancing its support for EU external engagement. Ministers reaffirmed their commitment to strengthening SatCen to meet the growing demand for its services and to effectively fulfil its unique mission.







Read more

1 FACING GROWING SECURITY CHALLENGES

1.1 OUR MISSION AND VISION

The EU Satellite Centre, the EU's geospatial intelligence agency, offers specialised analysis services covering space, security, and defence. Established in 1992 as part of the Western European Union, it became an EU agency in January 2002, providing analysis derived from satellite imagery. Its services are tailored to the EU and its Member States, as well as international partners like the UN, OPCW and the OSCE, aiding political decision-making and facilitating civilian and military actions in the CFSP and CSDP.

The Centre contributes to early crisis warnings and supports diplomatic, economic, and humanitarian measures. It fosters synergies with other EU space and security activities, playing a crucial role as the Entrusted Entity for the Copernicus Service in Support to External Action (SEA) and, since the signature of the new contribution agreement in August 2023, for the new Copernicus service on Support to EU External and Security Actions (SESA), as well as other Commission-funded projects.

SatCen collaborates with Frontex, EDA, ESA and other related entities on national and international levels, ensuring operational efficiency and enhancing the Union's strategic autonomy. Guided by the Political and Security Committee (PSC) and operating under the HR/VP's guidance, SatCen aims to be the EU's primary hub for cutting-edge geospatial intelligence services in security and defence, maximising synergies with relevant EU and Member State bodies.

SatCen's Mission (Art. 2 of the SatCen Council Decision)

1. *SatCen supports the decision-making and actions of the Union in the field of the CFSP and in particular the CSDP, including European Union crisis management missions and operations, by providing, at the request of the Council or the HR, products and services resulting from the exploitation of relevant space assets and collateral data, including satellite and aerial imagery, and related services.*

2. *In the framework of SatCen's mission, the HR shall also, upon request and if the capacity of SatCen so allows and without prejudice to its core tasks set out in paragraph 1, direct SatCen to provide products or services to: a Member State, the European External Action Service (EEAS), the third states having agreed to the provisions set out in the Annex on the association with SatCen's activities; if the request is relevant in the field of the CFSP, in particular of the CSDP, international organisations such as the United nations, the Organisation for Security and Cooperation in Europe (OSCE) and the North Atlantic Treaty Organization (NATO).*

3. *SatCen may also, without prejudice to its core tasks set out in paragraph 1, cooperate with the Commission and with Union agencies, bodies or Member States, with a view of maximising synergies and complementarity with other Union activities that have a bearing on SatCen and where SatCen's activities are relevant to those Union activities.*

Council Decision/2014/401/CFSP

The Member States, in the ministerial level SatCen Board, held at the newly extended SatCen premises on 29 August 2023, reaffirmed SatCen's mission, aiming to bolster its capabilities to continue providing essential geospatial intelligence support to the Union, its Member States, and partners. The ministers endorsed the drafting of an updated development plan to ensure the Centre's alignment with the EU's heightened ambitions in security and defence, addressing the growing demand for CFSP/CSDP services and rapid advancements in space and information technologies.

This is a direct response to the increasing challenges facing the European and international security landscape, marked by the full-scale Russian invasion of Ukraine and other events, and also reflects the increased aspirations of EU Member States in security and defence.

SatCen's operational agenda and future development must therefore adapt to these evolving objectives, as outlined in the Strategic Compass [1], which calls for enhancing the Centre's autonomous geospatial intelligence capacity by 2025. Meanwhile, the Centre is adjusting its capabilities in response to the updated EU space strategy for security and defence,[2] as well as the new EU maritime security strategy [3].

THE SATCEN VISION

To be the EU hub for state-of-the-art security and defence services based on space assets, in support of the decision-making and actions in CFSP/CSDP and relevant EU space and security policies, maximising synergies with relevant EU and Member State bodies.



The ministerial level SatCen Board meeting, 29 August 2023

1 The Strategic Compass
https://www.eeas.europa.eu/eeas/strategic-compass-security-and-defence-0_en
2 EU space strategy for security and defence
https://ec.europa.eu/transparency/documents-register/detail?ref=JOIN(2023)9&lang=en
3 EU maritime security strategy
https://www.consilium.europa.eu/media/67499/st14280-en23.pdf

1.2 INCREASINGLY COMPLEX SECURITY ENVIRONMENT

The ongoing Russian war of aggression against Ukraine continued to have a profound impact on European and international security and defence dynamics in 2023. This situation significantly heightened the demand for SatCen's geospatial intelligence analysis products. Despite the challenges posed by Russia's invasion, and later by the war in Gaza, SatCen successfully navigated these obstacles, once again demonstrating the resilience of its operational processes and professional contingency procedures.

At the same time, this challenging security environment underscored the necessity of SatCen further strengthening its development efforts in order to effectively meet the increase in demand. Even before Russia's full-scale invasion, SatCen had already directed its resources towards enhancing the EU's situational awareness in Ukraine and its neighbouring region, focusing on particular areas of security concern.

In addition, the Centre bolstered its support to Frontex through a new working arrangement (WA) signed with the agency in December 2023, to continue providing support for intensified surveillance along Europe's eastern borders and other strategic locations.

Overall, SatCen witnessed a remarkable increase in production during 2023, and with more than 6,000 products, exceeded its 2022 output by a considerable margin. The complexity, quality, and speed of delivery also improved substantially, with over 80% of products delivered within 24 hours of request. Support to EU missions and operations also grew significantly, quadrupling in the past three years. More specific details can be found in the following chapters on operational activity.



Mr. Vasile Dîncu, President of the Romanian Commission of European Affairs and Romanian Senate delegation, 10 May 2023



Colonel Elegijus Paulavičius, Director of the Lithuanian Defence Intelligence and Security Service, 03 October 2023



Delegation from the Portuguese External Intelligence Service and the Military Security and Information Centre, 07 December 2023



General Robert Brieger, Chairman of the EU Military Committee, 24 March 2023



Mr. Rodrigo da Costa, Executive Director of the European Union Space Programme Agency, 17 January 2023



Directors of non-proliferation and disarmament units from EU Member States, 18 September 2023



Delegation from the Committee for Civilian Aspects of Crisis Management, 28 September 2023



Mr. Robertas Bruzilas, Director of the EU Department of Lithuania's Ministry of Foreign Affairs, 09 March 2023



Her Majesty Margareta, Custodian of the Romanian Crown and HRH Prince Radu, 25 September 2023



Delegation from the Working Party of Foreign Relations Counsellors, 19 October 2023



Mr. Stéphane Vojetta, Deputy for the Fifth constituency for French residents overseas to the French National Assembly, 02 June 2023



Delegation from the Politico-Military Group and Committee of the European Peace Facility, 21 September 2023



Delegation from the HR/VP cabinet, 29 March 2023



Delegation of the North Atlantic Treaty Organization, 23 October 2023



Escuela de Técnicas Aeronáuticas, MoD Spain, 24 November 2023



Participants from the Summer Course of the Polytechnic University of Madrid and the Higher Centre for National Defence Studies, 27 June 2023

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2 OPERATIONAL HIGHLIGHTS

2.1 OPERATIONAL PERSPECTIVES IN EARLY 2023

The annual planning process - which involves the development of an imagery collection plan - is very delicate due to the volatile nature of the EU's security environment. The situation in both the EU's neighbourhood and globally has proven to be highly dynamic and has continuously changed over the past years. The most striking example is certainly Russia's full-scale invasion of Ukraine, the intensity and duration of which has surprised much of the international community.

However, different from previous years, and as a direct consequence of the very nature and scale of this conflict, SatCen continued to place a major focus on this region in 2023. This facilitated planning, but not execution, as the Centre foresaw extremely high demand that would put its operational budget under an intense strain.

In addition to providing the necessary support to Ukraine, as unanimously agreed by the Member States, the Centre continued to provide information services to other critical users, namely the Single Intelligence Analysis Capacity (SIAC) and the Member States themselves. Furthermore, SatCen also supported Frontex, as well as EU missions and operations, with analysis services for essential situational awareness.

Hence, the challenge in 2023 was to find the right balance of tasking that would address all these needs according to their priorities, while at the same time maintain economic feasibility.

EU Missions and Operations and Cooperation with International Organisations

Responsible Institution: **European Union**

- Operation EUNAVFOR MED IRINI (Mediterranean)
- EUNAVFOR ATALANTA (Horn of Africa)
- EUMM Georgia (Georgia)
- EUMA (Armenia)

Responsible Institution: **UN/OPCW**

- OPCW (Syria)

Responsible Institution: **UN**

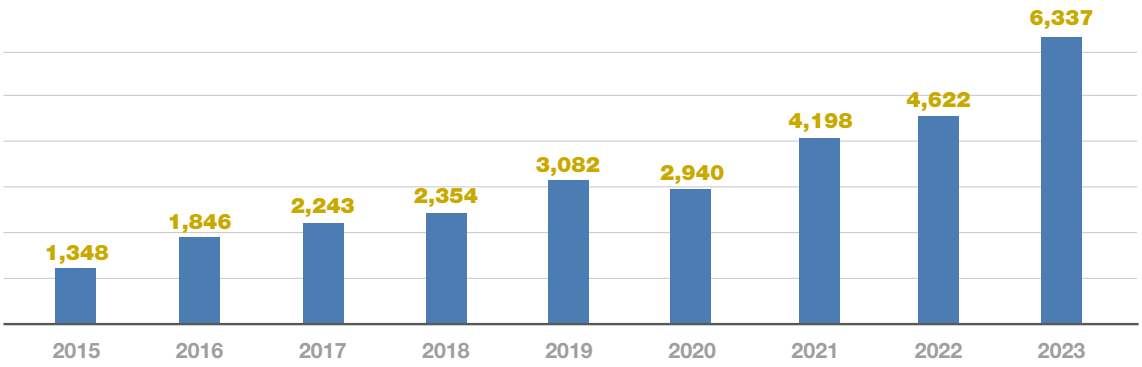
- MINURSO (Western Sahara)

2.2 PRODUCTION OUTCOME

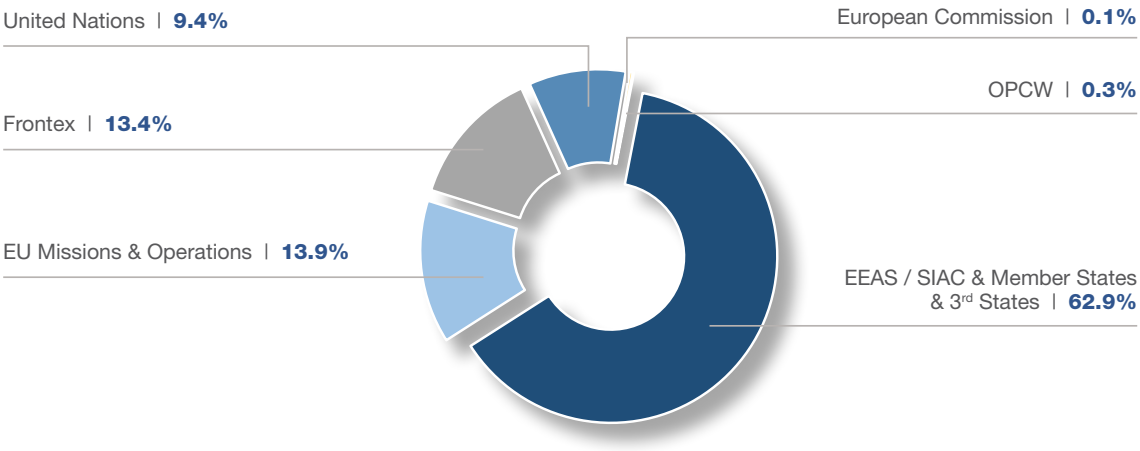
In 2023, SatCen set a new record, delivering an unprecedented 6,337 reports.

In normalised terms (i.e. output weighted by analytic effort), this represents an increase of more than 50% relative to the previous year.

Annual Nominal Output of Geospatial Intelligence Products 2015-2023



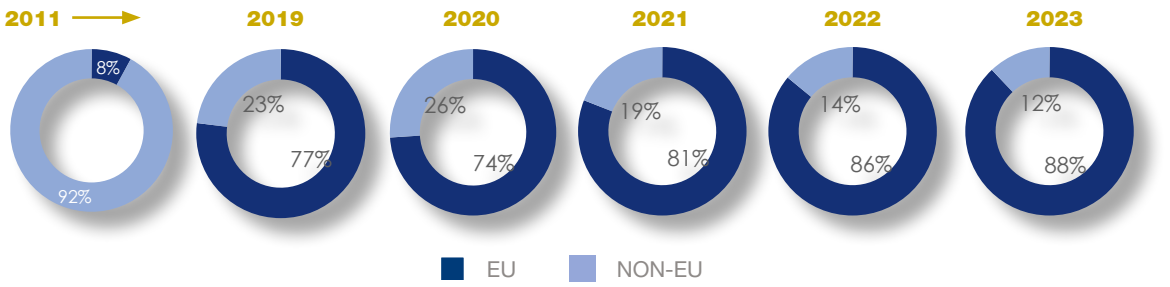
2023 Annual Production by Requester



Another important aspect of 2023 was the growing share of satellite data procured from EU providers. SatCen's direct expenditure on data acquired from European commercial imagery providers increased significantly over recent years. EU providers represented over 80% of total data expenditure in the last two years, compared to about 8% over a decade ago.

This growth can be attributed to improvements in the quality of service offered by European providers, as well as the establishment of productive and efficient working relationships between SatCen and these providers.

Satellite Data Acquisition Expenses 2018-2023
Split by Provider Based on Sensor (EU/Non-EU)



2.2.1 Continued Support to SIAC and Member States

To provide a balanced and representative view, the previous considerations need to be complemented with the following aspects: due to SatCen's transparency policy, every report is shared with SIAC and all the Member States, including those delivered to third states. Therefore, SIAC and the Member States directly benefited from this information, which they might otherwise have requested themselves.

The requested fields of analysis covered a variety of topics related to general security awareness, monitoring of different types of activity, surveillance of critical infrastructure, non-proliferation of weapons of mass destruction (WMD) and geospatial modelling.

It is worth highlighting that in 2023 the Centre continued to play a critical role in the mediation effort to defuse tensions and reach a peace agreement between Armenia and Azerbaijan. SatCen directly supported the EU Special Representative for the South Caucasus and Georgia, as well as the President of the European Council.

2.2.2 Continued Support to EU Missions and Operations

The various EU missions and operations also were significant users of SatCen products and services. The impact of the support to Ukraine on other users has been minimised throughout 2023, and the Centre was able to maintain an annual production share of 14% (just 2% below 2022) for EU missions and operations. This highlights the high level of maturity and robustness of this segment, demonstrating sufficient resilience, even in unforeseen circumstances.

The largest part of this support service was provided to Operation EU NAVFOR IRINI, which focuses on the implementation of the UN arms embargo on Libya. SatCen also supported Operation EU NAVFOR ATALANTA off the Somalian coast and the EU Monitoring Mission in Georgia.

2.2.3 New EU Missions and Operations

In addition to the previous EU missions and operations, the Centre also actively participated in the preparation phase of new upcoming missions, namely the EU Mission in Armenia (EUMA) and, more recently, EUNAVFOR ASPIDES, the EU Red Sea Mission to safeguard freedom of navigation.

Towards the end of 2023, SatCen was negotiating its support for these missions with geospatial information and analysis services.



EUAM Daily Patrols © EUAM (Twitter/X)

2.2.4 Continued Support to Frontex

The Centre continued to support the European Border and Coast Guard Agency (Frontex) with situation awareness and monitoring of irregular migration and cross-border crime along the EU's external borders. In 2023, the demand for these services slightly decreased compared to 2022, something that was expected following the relative stabilisation of the war in Ukraine, which had caused major waves of migration towards Western Europe in 2022.

In total, 852 products were provided to Frontex in 2023, with the following breakdown per product type: 662 first impression reports (FIR), 47 quick reports (QR), 112 flash text assessments (FTA), eight digital geospatial information (DGI) packages, five mapbooks, eight briefing notes, seven multisource analytical assessments (MUSO) and three reports.



Monitoring of departure locations towards the EU along the Tunisian coastline in support of Frontex and Member States. Sidi Mansour, Tunisia. 26 September 2023. Pléiades-Neo © Airbus (2023), provided under COPERNICUS by the European Union and ESA, all rights reserved.

2.2.5 From Copernicus SEA to SESA

In 2023, the Centre focused on the finalisation of the remaining activities under the SEA delegation agreement, ensuring the smooth transition from the SEA service towards the newly signed SESA service [4].

SatCen ensured service continuity by assisting the Copernicus SEA / SESA authorised users, addressing more than 50 activations and delivering more than 80 products. Member States represented 63% of the activations and 37% were from the EEAS.

2.2.6 Development of New Operational Capacities

One of the main caveats of having to continuously sustain a high operational tempo is the risk of neglecting capacity development at the operational level. Having to stay alert, to constantly react to urgent events and keep users informed in due time requires a focus on short-term operational needs and usually draws attention away from medium or long-term requirements. However, even during the prolonged periods of high alert in 2023, the Centre remained highly aware of the need to remain sharp in a world of constant technological development.

SatCen thus focused its operational development efforts on clear user driven requirements. The Centre took advantage of challenging user requests, for which no proven methodologies existed, and developed and tested solutions based on real-world scenarios, acquiring direct experience while receiving immediate feedback from end users. This allowed SatCen to remain efficient, following a lean and agile approach, focusing on the most useful and effective solutions, discarding less effective and/or efficient options that fell short of the required performance.

The Centre liaised closely with commercial partners to test their proposed solutions and validate them in highly demanding scenarios, thus serving as an important real-world benchmark to increase the value of new products and services.

One of the focus areas in 2023 was the use of new types of space data, beyond the traditional optical and radar images. The proliferation of ‘new space’ startups, together with the acceleration of existing companies, resulted in a highly competitive and disruptive environment, facilitating the appearance of innovative proposals. SatCen worked to incorporate this increased variety of data into existing workflows. Thermal and hyperspectral imagery were able to demonstrate their valuable potential for analysis, especially when fused with a baseline of other raster and vector data.

In addition to the new types of imagery that markets made available, the Centre also worked with electronic signal measurements (ESM) and in particular radio frequency (RF) detection. This delivered promising results in maritime surveillance.

4 See details in chapter ‘Capability Enhancement and Cooperation’ (page 27)

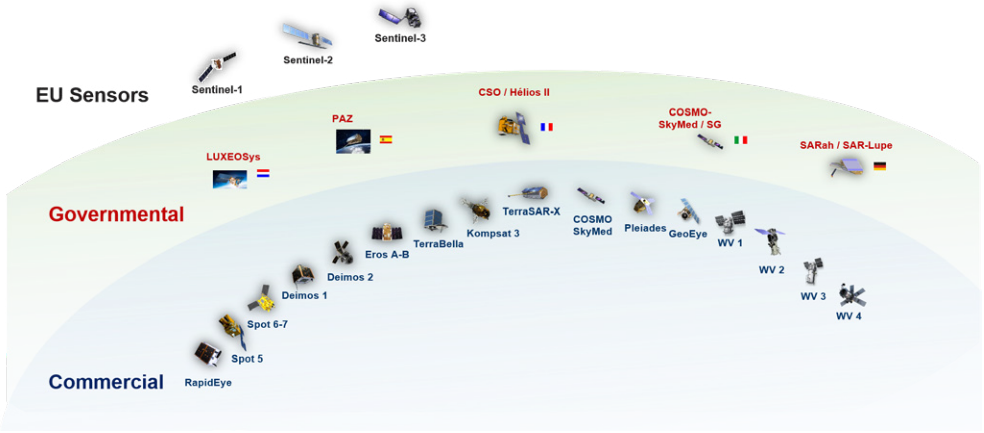


SatCen Industry Days, 09-11 October. Key companies and users in the Earth observation and GEOINT domain gathered at the Centre.

2.2.7 Emerging Trends

Confronted with various simultaneous crises in and around Europe, SatCen's user community became increasingly interested in the value of satellite-based situational awareness, which further stimulated their demand for geospatial intelligence services. It also opened new fields of interest that, together with new techniques and methodologies, led to the enlargement of the Centre's portfolio to accommodate these new needs. In addition to maritime security, a special interest in climate change and security emerged, in particular how climate could further endanger stability in certain parts of the European neighbourhood.

The Centre also noted a special interest in space security awareness and how certain activities might pose a threat to the security of EU assets in space and their services (e.g. navigation, communications and Earth observation). SatCen took note of these new trends and began work on addressing them.



Space sensors and archive imagery accessible by SatCen. In red: governmental, blue: commercial, black: European
© SatCen



Mr. Charles Powell, Director of the Real Instituto Elcano (Spain) and Mr. George Scutaru, CEO of the New Strategy Center (Romania), 03 November 2023



Delegation from the European Centre of Excellence for Countering Hybrid Threats, 01 March 2023



Delegation from the France-Spain Friendship Group of the French National Assembly, 30 November 2023



CSDP High Level Course, 22 November 2023



Delegation from EuroDefense – Spain, 07 February 2023



Joint Master in European Security program, Luiss School of Government (Rome) and Universidad Francisco de Vitoria (Madrid), 18 May 2023



ESA-ESPI 'Space Data Space' workshop hosted at SatCen, 22-23 November 2023



The SatCen Industry Days, 09-11 October

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3 CAPABILITY ENHANCEMENT AND COOPERATION

3.1 DEVELOPMENT OF SPACE, SECURITY AND DEFENCE CAPABILITIES

SatCen cooperates with national, EU, and international institutions in the field of space and security, with a view to maximising synergies and complementarities. It works closely with the EDA, the European Commission, and ESA, as well as with EU agencies, institutions and international organisations.

Partnerships developed so far with a wide range of EU and international actors have confirmed that they enable mutually beneficial returns in terms of operations and capabilities, as well as research and innovation.



3.1.1 Cooperation with the European Commission

The tight link between the EU Space programme's main objectives in security and the SatCen mission, as well as the progressive build-up of operational services derived from research and innovation (R&I) projects together with EU space industry and institutional partners is at the heart of SatCen's cooperation with the Commission.

This cooperation covers the Centre's contribution to the operational implementation of the security component of the Copernicus programme, including SESA and support to Frontex, the cooperation with EU bodies and agencies and Directorates-General of the European Commission, as well as involvement in several research and innovation initiatives.



“Since 2016 the EU SatCen has efficiently implemented part of the Copernicus Security Service and contributed to the success of Copernicus. Today I am pleased to renew their mandate until 2027 to ensure service continuity and also bring evolutions. By expanding the scope of the service to EU external and security actions, this new agreement brings new security applications tailored to the evolving needs of the EU and its Member States.”

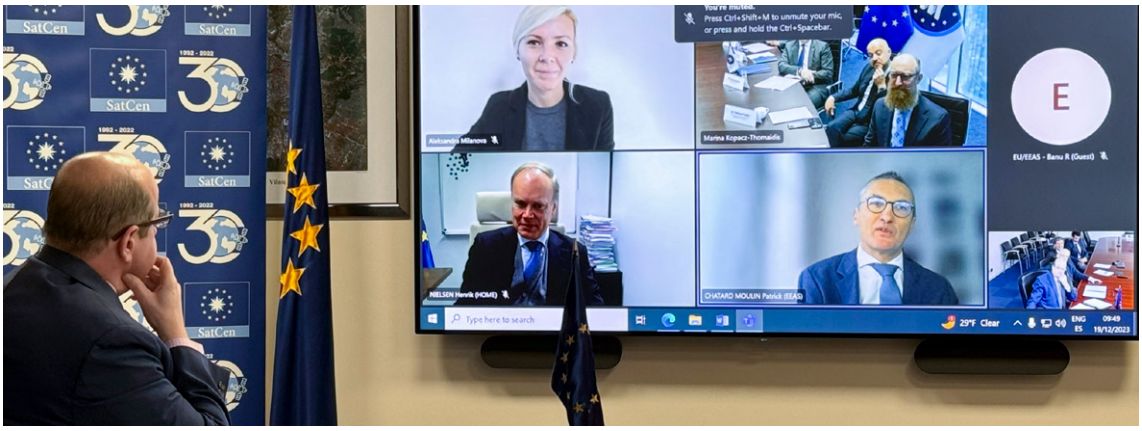
Mr Timo Pesonen, DG DEFIS
Signing of the contribution agreement
29 August 2023

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In 2023, cooperation with the European Commission and its agencies increased both in operational and capability development activities. Together with Member States' representatives, SatCen participated in several committees chaired by the European Commission and in several working groups, including on the implementation of the EU space strategy for security and defence, the EU maritime security strategy, and the CISE stakeholder group.

The Centre also contributed to the Strategic Research Agenda for the Copernicus Security Service (CSS), which is key to setting out research and innovation (R&I) objectives for the evolution of CSS, while benefiting from the EU's programme funding for research and innovation.

SatCen signed two new key agreements with the European Commission in 2023: a contribution agreement for SESA and a working arrangement with DG DEFIS, plus an SLA with Frontex.



Signing of the working arrangement and service level agreement with Frontex © SatCen

3.1.2 Cooperation with Member States

SatCen cooperates closely with Member States on all levels and activities, including in the analysis and adaptation of training requirements related to relevant IMINT and geospatial intelligence topics. The Centre opens many of its internal courses to Member State participation and, specifically, to all seconded national experts (SNE) deployed at SatCen. Furthermore, when considered necessary, the Centre requests the participation of relevant specialised personnel in some of the courses. In addition, SatCen offered in situ courses to Member States and to the EU missions and operations on subjects related to IMINT and geospatial intelligence, deploying training staff to EU missions and Member States' premises (three missions, totalling five weeks during 2023).

SNEs welcomed at the Centre enable the sharing of knowledge, awareness and best practices, while also strengthening SatCen's operational capabilities. Bilateral and multilateral partnerships with Member States have been taking place on several topics of interest, notably in cooperation with EDA. The Centre has kept focusing on access to governmental satellite imagery, participating in future space-based Earth observation (EO) military systems projects (under the PT SBEO), maritime surveillance (MARSUR), big-data and artificial intelligence, as well as geospatial applications.

3.1.3 Cooperation with the European Defence Agency (EDA)

Every year, since 2016, the EDA and SatCen jointly agree on the EDA - SatCen Roadmap for Cooperation. The Centre cooperates with EDA within both the Capability, Armament and Planning (CAP) and the Research, Technology and Innovation (RTI) directorates.

Within CAP, the Centre participated in two Project Teams (PT), i.e.: the Satellite Based Earth Observation Project Team (PT SBEO), where SatCen provided relevant inputs in line with its expertise, and represented the GISMO/GeohuB and MATRIX initiatives; and, the Positioning, Navigation and Timing Project Team (PT PNT), specifically in the context of the GEONAW project, where synergies between GEONAW and RIPTIDE (resilient PNT testing for defence) were identified and a communication channel was set up between them within the PT PNT.

Within RTI, the Centre continued to participate in the EDA CapTech Space, supporting the living strategic research agenda with input and ideas for improve the EO capabilities for security and defence. In particular, SatCen began working with the EDA on the launch a landscape study for a Digital Twin Earth for Security and Defence.

Moreover, cooperation with MARSUR on maritime situational awareness and information sharing continued as part of the EDA Category B project 'MARSUR Networking – Operational Support and Development (MARSUR III)', in line with the EU maritime security strategy and its action plan.



Visit of the EDA CapTech Space MS representatives to SatCen © EDA

3.1.4 Cooperation with the European Space Agency (ESA)

ESA and the Centre have already been collaborating for several years to strengthen the European capability in the field of satellite EO for security. During 2023, the process to adopt a new ESA-SatCen administrative arrangement started, to continue the long-term cooperation between the two entities after the previous one (signed in January 2018) had expired.

The flagship cooperative action within this framework is the ESA-SatCen Large-Scale Pilot on Climate Security. The associated activities, undertaken internally by ESA and the Centre, focused on the definition of the pilot, which will take place in the coming years. Enhanced EO processing algorithms and tools will be developed within three complex use cases related to climate security, namely climate security and population resilience, climate security and sustainable energy development, and climate security in the Arctic.

The Big Data from Space (BiDS) conference co-organised by ESA, SatCen and EC-JRC, took place in Vienna from 6 to 9 November 2023. Seven hundred participants registered for this sixth edition, focusing on how the inference of insights and foresight derived from big data collected from space impacts society. It was a remarkable success, raising interest not only from the usual participants, but also from new generations of scientists, developers and engineers.

In the CSS-SESA framework, the Centre continued its strong interaction with ESA for the channelling of Copernicus SESA requirements and for the management of the quota of EO data and related activities through the Copernicus Space Component Data Access mechanism.



Group picture during the Big-Data from Space 2023 conference co-organised by ESA, SatCen and JRC in Vienna

3.1.5 Cooperation within the Group on Earth Observation (GEO)

SatCen continued its participation in the GEO, particularly through cooperation with EU Member States, European agencies and the European Commission within the European GEO High-Level Working Group. This offered the possibility to collaborate with key actors to support relevant policies such as the Green Deal, the Digital Europe Programme and the UN 2030 Sustainable Development Agenda.

3.1.6 Support to Frontex for Copernicus Security Service Border Surveillance (CSS-BS)

In December 2023, SatCen and Frontex strengthened their long-standing cooperation by signing two agreements of utmost importance, i.e. a WA and a service level agreement (SLA), signifying a commitment to a harmonised response to security challenges and shared goals. Since 2015, the Centre has been a crucial partner to Frontex, providing the agency with over 5,200 geospatial products and services. These contributions played a pivotal role in supporting Frontex and EU Member States in the challenging mission of preventing and combating irregular migration and cross-border crime, while also contributing to saving the lives of migrants.

3.1.7 Copernicus Security Service – Transition from Support to EU External Action (SEA) to Support to EU External and Security Actions (SESA)

In the context of the second ministerial level SatCen Board meeting (August 2023), SatCen signed the contribution agreement with the European Commission for the implementation of the Copernicus SESA.



Official picture following the signing of the Copernicus Contribution Agreement

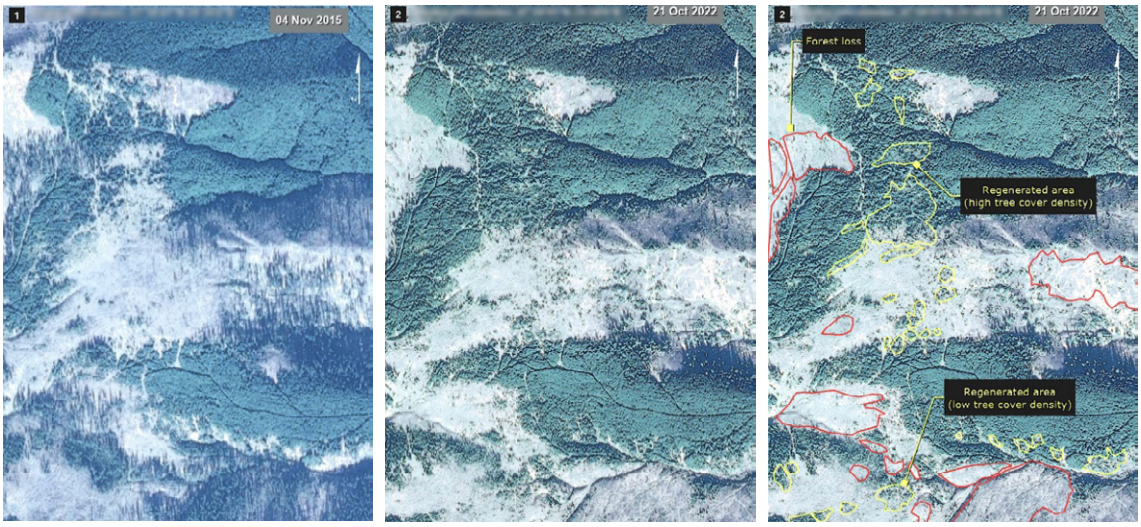
With the signature of this milestone agreement, SatCen retained its status as the Entrusted Entity for the implementation of the Copernicus SESA service, thus providing geospatial products covering user information needs and requirements related to Union External Action, security challenges facing the Union and its Member States as well as monitoring of the implementation of EU Law.

SESA's Application Areas address the security of EU citizens, humanitarian aid, crisis and conflict, rule of law, transport safety and security, stability and resilience for development, cultural heritage, international trade and economic diplomacy, as well as increasingly important challenges such as environmental compliance, climate security, or health security. These additional application areas have been designed through service evolution activities to cater to specific user needs.

The signing of this contribution agreement enabled the continuation of the current service, and the development of new capabilities, a considerable enlargement in its scope, and the possibility to serve a wider community of users.

Since the signature, a considerable effort has been invested to adapt the service to the specifications of the new agreement and the related Operational Protocol. In this context, the training activities offered to its users were crucial for the service.

Environmental compliance is becoming a pillar Application Area for EU interests. Copernicus SESA has contributed to this by supporting its users to better understand and counteract the severity of environmental crimes affecting natural areas and populations. Copernicus SESA products provided evidence of infringements of environmental laws and were able to conduct the assessments of environmental damage based on EO data.



Copernicus SESA provides support to environmental compliance in forest areas (pre/ post /analysis results) © European Union (2023). All Rights Reserved. Copyright of original imagery remains with the provider. This product remains the property of the European Union.



SatCen Director Sorin Ducaru participates in the annual Euroconsult World Satellite Business Week, 15 September 2023



SatCen Director Sorin Ducaru participates in DGI, 01 March 2023



EDA-SatCen Annual Meeting, 12 October 2023



SatCen Director Sorin Ducaru at the EU Ambassadors Conference, 10 November 2023



SatCen Director Sorin Ducaru participates in the 3rd European Defence and Security Conference, 10 October 2023



Mr Andrea Patrono, Head of CapDev and Ms Alessandra Ussorio, CapDev Manager, participate in the EU Space Week in Sevilla, 09 November 2023



SatCen Director Sorin Ducaru participates in the Concordia Europe Summit in Madrid, 15 June 2023



SatCen participates in the Annual Conference of the European Association of Peace Operations Training Centers (EAPTC) Exhibition, 07 June 2023

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3.1.8 Research and Innovation

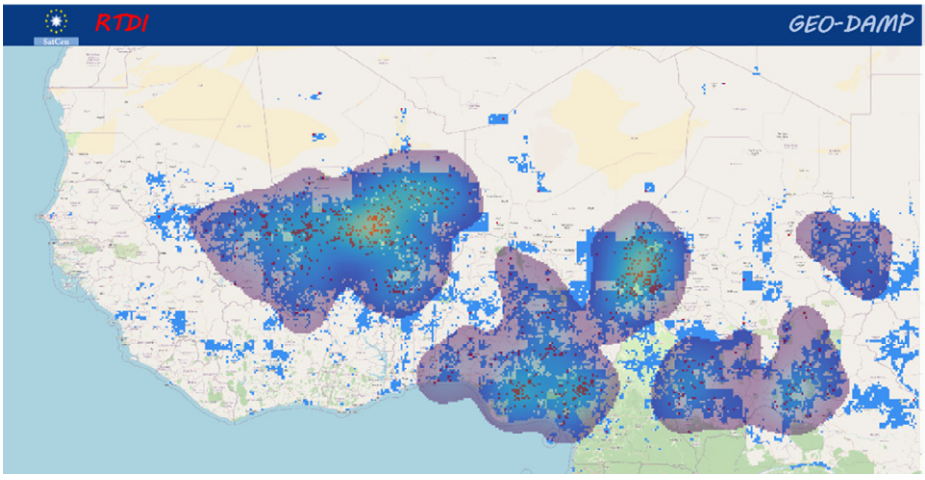
To make suitable informed decisions in response to the geopolitical scenarios that either continued or emerged in 2023, the increased information requirements from the EU and its Member States pushed the production of geospatial intelligence products and the associated service provision towards faster, richer, and more efficient solutions.

To address this continuous challenge of improving its portfolio of services and products in line with state-of-the-art technological developments, while at the same time considering the specific demands derived from the security related concerns in 2023, SatCen intensified the work in R&I activities, participating in different initiatives. Identifying, prioritising, establishing, and implementing suitable R&I initiatives contribute to five interconnected areas of activity (as indicated in the SatCen Work Programme 2023 and detailed below), ensuring that the entire EO value chain is addressed.

Extension of the Service Offer and User Experience

In this category, the Centre is working on improving service access and delivery in terms of user experience, timeliness and information consumption, as well as the transition from product-based to service oriented information delivery. This includes the development of early warning and foresight capabilities to support decision-making, and the improvement of service access and delivery interfaces.

Platform-based approaches (including thematic dashboards) are well-received user interface solutions; their intuitive approach allows users to access different visualisations of the information, depending on the analysed scenario. In 2023, GEM [5] rolled-out a climate security dashboard application for SatCen, enabling the observation of climate variables in conjunction with conflict and demographic data. While CENTAUR and SDGs-EYES continued working in the climate security domain, PERIVALLON continued developing an environmental crime detection platform.



Climate Security Dashboard, the outcome of the H2020 GEM project. Integrated into the SatCen GEO-DAMP platform, it models the risk of conflict by exploiting a homogenised stack of heterogeneous data, including socio-economic data, meteorological data, EO data (and derived indicators), data on natural disasters and data on armed conflicts events. (© SatCen)

5. Finished in August 2023.

The enhancement of service provision capabilities also includes the assessment of solutions to distribute generated information securely. The Centre provided its requirements and use cases for future usage of secure satellite communications links through ENTRUSTED, thus enabling product distribution to remote locations, even when terrestrial communication is non-existent or compromised.

Additionally, SatCen continued its cooperation with EDA through the GISMO initiative, which also improves the GeoHuB user experience, and deploys several new locations at EU missions and operations, and GEONAW-III, which started developing a standalone test environment that improves situational awareness in PNT[6] -denied or degraded scenarios.

Enlargement of the Exploitable Data Catalogue

In this field of activity, SatCen aims to identify new EO and non-EO data and assessing their value and consistency for future operational use.

As access to governmental EO space data and multi-mission satellite constellations dedicated to space-based Intelligence, surveillance, reconnaissance (ISR) is considered a priority, the Centre started working on the SPIDER project, which will design innovative multi-sensor space-based EO capabilities towards persistent and reactive ISR[7]. Additionally, SatCen cooperated with Frontex, providing input to a research study on high-altitude pseudo-satellites (HAPS).

Exploration of Advanced Technologies

In a fast-paced technological environment, SatCen can reap major benefits from identifying and assessing data-related technologies and exploit the rapid and continuous development of technical solutions.

As AI continues to demonstrate its potential in supporting the analysis of EO data, the Centre has developed a number of projects focused on this technology. The AI-based toolkits developed within PROMENADE[8] enhanced maritime security actors' capabilities to detect and classify vessels and the early detection of anomalous patterns and behaviours. AI-ARC continued developing a prototype AI based platform, while AI4Copernicus[9] reinforced the AI4EU platform service offer through providing EO datasets, tools and services to facilitate the exploitation of Copernicus data.

Focusing on data fusion, ATLANTIS and RITHMS explored different data sources that could be combined to understand complex scenarios, respectively tackling transport critical infrastructures and illicit activities related to the protection of cultural heritage (fighting illegal trafficking of cultural goods). Moreover, ENEXA explored deep learning algorithms for semantic segmentation of geospatial intelligence, while CALLISTO[10] addressed the capacity of HPC to optimise machine learning solutions for satellite data processing.

Within the defence domain, MATRIXev (a joint initiative with EDA) and INTSEN2 gathered and assessed relevant AI techniques to process EO data for IMINT applications. Finally, SPIDER will explore AI to improve data-related processes in both ground and space segments.

6. Position, Navigation and Timing
7. Intelligence, Surveillance and Reconnaissance
8. Finished in March 2023
9. Finished in December 2023
10. Finished in December 2023

Enhancement of Data-related Processes

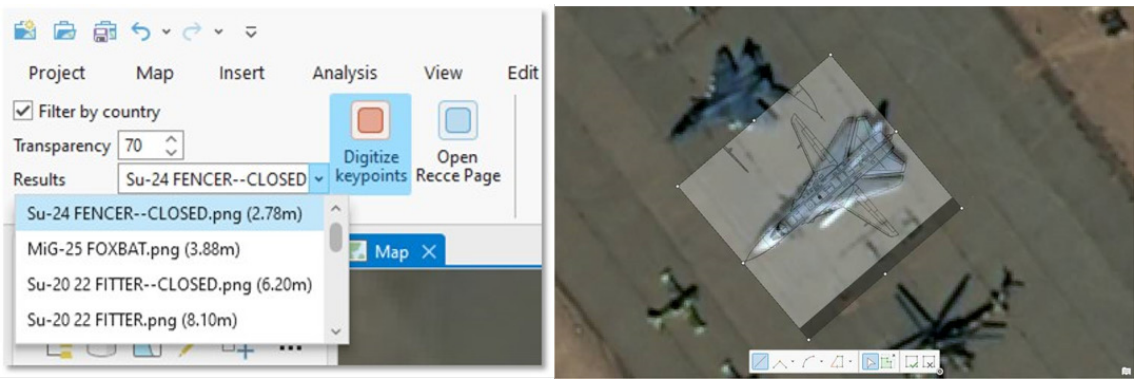
SatCen strives to improve its capabilities along the full data management workflow, from access to data to delivery of final products, by continuously assessing advanced technologies.

Knowledge graphs are innovative processing techniques applied to various domains, and could also be applied to geospatial data. One pilot application set out within ENEXA supports the assessment of this technology to improve SatCen's analysis and processing capabilities, by integrating data from different sources into a knowledge graph to facilitate a better classification, or even prediction, of security-related events.

Other extensively used processing techniques in imagery sources, other than satellites, are super-resolution and change detection. INTSEN2 advanced in the implementation of tailored super-resolution and change detection algorithms with Sentinel-1 and Sentinel-2 imagery. EURMARS is working on improving data and information access and usage for border authorities.

Finally, platforms-based solutions can significantly enhance data-related processes, facilitating access to multiple data sources and information. In this respect, the Copernicus SESA service management infrastructure (SMI) addresses the Centre's workflow management, while the third version of GEO-DAMP, the SatCen GEOspatial DAta Management Platform, capitalises on R&I projects' outcomes and provides a pre-operational environment to validate new solutions, while also enhancing its functionalities to lay the foundations for a Digital Twin Earth for Security.

Specific efforts continued for the generation of tools that assist the recognition and identification of aircraft.



Add-in tool to identify aircraft

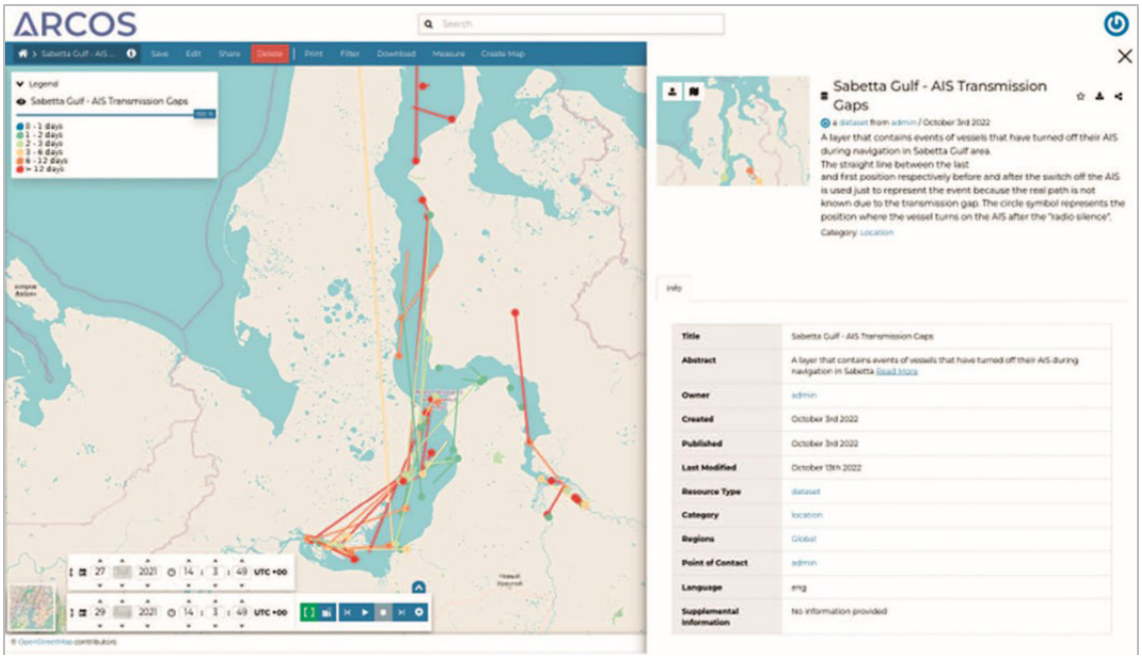
Evolution of Application Areas

The needs of the SatCen users evolve continuously, in response to both traditional and emerging security challenges.

Understanding the climate and security nexus is among the top global issues SatCen is addressing. The Centre started working on climate security several years ago, but the announcement of the forthcoming implementation of a Climate and Environment Security Data and Analysis Hub within SatCen[11] reinforced the need for R&I investment in this domain. E-SHAPE [12] , GEM, CENTAUR, SDGS-EYES and PERIVALLON have worked on the implementation of climate and environmental security pilots that will contribute towards building this new challenging resource for the EU.

As for other emerging scenarios under study, RITHMS is exploring the support to counter trafficking of cultural goods through a number of use cases relevant to the Copernicus SESA Cultural Heritage application area, while ATLANTIS worked on setting out multi-service platform solutions to assess the impact of a risk and its cascading effects on critical infrastructures (transport).

Moreover, the Centre continued its R&I activities in the maritime domain, in line with the updated EU maritime security strategy. PROMENADE and AI-ARC provided SatCen insights about advanced European industry services for maritime awareness and surveillance. Complementary, EURMARS supported the development of a holistic platform solution for border security, and PERIVALLON enhanced detection capabilities of illegal activities in harbours and maritime routes. Finally, ARCOS designed an early-warning system for continuous monitoring of the Arctic, an even more critical region.



Example of an AIS anomaly in air transmission gaps in the ARCOS platform.

11. Press release: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3492; JOIN_2023_19_1_EN_ACT_part1_v7.pdf (europa.eu)
12. Finished in April 2023

3.1.9 Space Situational Awareness and Space Surveillance and Tracking (SST)

In the context of implementing the EU Space Programme, and following the Commission's Decision from June 2022, the European Union Agency for the Space Programme (EUSPA) was selected as the new SST Front Desk, taking over the service as planned from July 2023.

To assure service continuity, SatCen and EUSPA worked very closely during the first half of 2023, with the Centre supporting the validation and implementation of the necessary IT infrastructure, as well as handing over the relevant application as well as operational information and related competencies.

SatCen had worked for more than 10 years on SSA/SST, cooperating with the members of the initial SST Consortium, and later the SST Partnership of 15 EU Member States (AT, CZ, DE, DK, ES, FI, FR, GR, IT, LV, NL, PO, PT, RO, SE) in the EU SST initiative. As the EU SST Front Desk, SatCen was the main interface for the delivery of SST information and services i.e. collision avoidance, re-entry and fragmentation, and performed activities related to user coordination, communication and service performance. During its time as SST Front Desk, SatCen provided services to approximately 200 organisations with more than 400 satellites registered for the collision avoidance service.



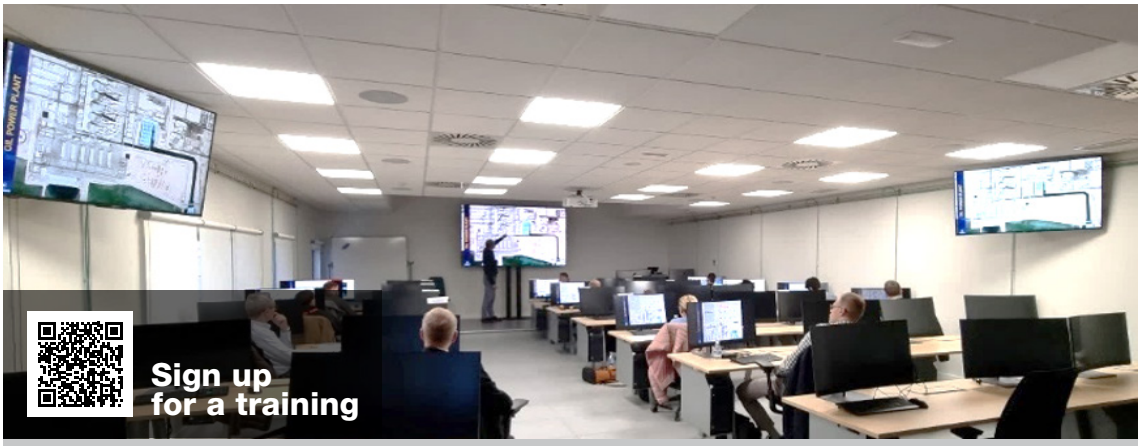
3.2 TRAINING

Training Activities

Over the course of 2023, SatCen's training unit focused on providing and enhancing the knowledge and the expertise of SatCen's staff and Member States' personnel. In 2023, the number of attendees to internal courses and those participating in external activities increased, as did the number of training modules, topics, and seminars delivered by SatCen.

In 2023, SatCen's training activity highlighted the continuous need for more instructors. Despite the extensive range of courses offered throughout the year, the totality of the demand was not met.

Other training activities included the maintenance of the SatCen's 'Training Campus' and the training pages on the Centre's website. In addition, the training unit was able to use the new classified classroom from mid-November 2023 onwards. This new training room replaces the previous 15-seat room, and accommodates 21 workstations, all of them with access to the Centre's classified and unclassified training networks. This expansion enables the participation of more people in SatCen's courses.

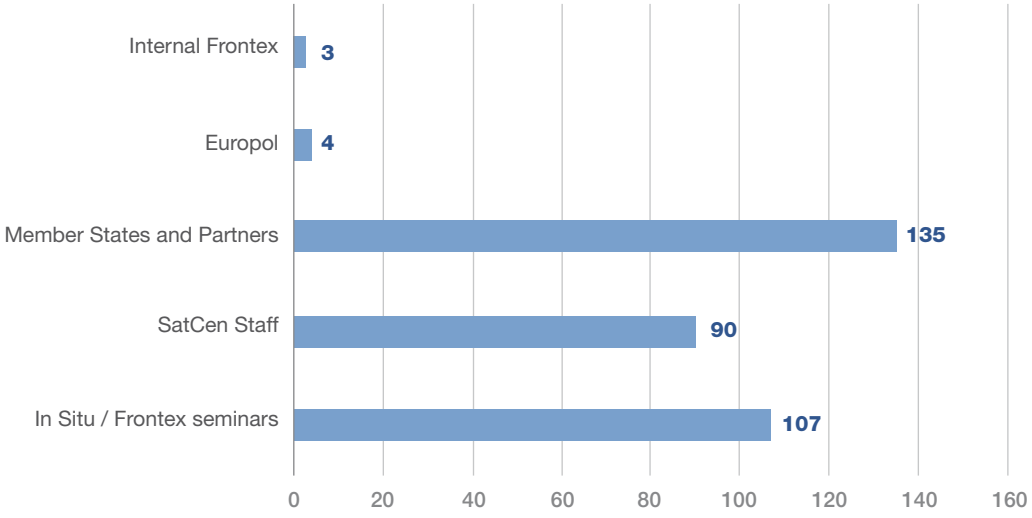


New training classroom

In-house Courses

COURSE TITLE	DURATION	DATES	ATTENDEES
IMINT Foundations online programme	Staff are enlisted for a maximum four-month period to complete the programme	Throughout 2023	The IMINT Foundations online programme is available in the SatCen Training Campus for all Operations Division and CapDev newcomers. In 2023, eight members of staff were enrolled onto the programme
SAR	2 weeks	23/01/2023 – 03/02/2023	32 attended the two modules
Nuclear Fuel Cycle	2 weeks	21/02/2023 – 31/03/2023	41 attended the two modules
IMINT	4 weeks	05-30/06/2023	55 participants attended the four modules
Data Processing	1 week	25-29/09/2023	14 participants attended this module
GEOINT	2 weeks	16-27/10/2023	28 attended the two modules
Analysis Industrial Installations	3 weeks	06-24/11/2023	44 participants in the three modules
AI and Automation Seminar	1 week	02-04/09/2023	18 participants from across the Centre

Attendees of SatCen In-house Courses in 2023



In situ Courses

COURSE TITLE	DATES	LOCATION	ATTENDEES
IMINT Introductory Seminar (three sessions) Webinar (one)	1 week each session	Formerly at Frontex premises (Warsaw), in 2023 these seminars were delivered in SatCen's unclassified classroom	68 **Frontex** users Seminars are on SatCen's products and services, and how to task them
EUMM Georgia in-situ IMINT Course	15-19/05/2023	Mission HQ Tbilisi	20 participants
ROMANIA in-situ IMINT Course	11-20/09/2023	Romanian Intelligence Military School	13 participants

For additional information on training activities, see Annex V.

4 CLASSIFIED IT PLATFORM

Automation and Delegation of Heavy Computing Tasks

SatCen's operational workflow is intense, both in data processing and in human resources. Every satellite image must undergo various processes to enable analysts to later extract the information with standardised pixel quality and geospatial accuracy.

Up until 2023, SatCen's data provision team was running these processes on their workstations. However, the continuous increase in the quantity and complexity of data led to the risk of delays further downstream.

SatCen's IT division developed an automated solution within its cloud infrastructure: the automation and delegation of heavy processing tasks, freeing the analysts' workstations for analytical work.

As a result, the maximum number of processes that could be executed in a day was multiplied by 20 compared to 2022, thus removing all potential bottlenecks.

CPU

Reserved 66.72 / 212 CORES **31.47%**

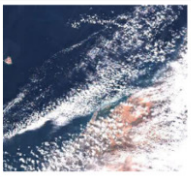
Memory

Reserved 154 / 647 GB **23.80%**

Used 0 / 647 GB **0.00%**

Availability of cluster CPU and memory to run automatic processing tasks



Sensor	Acquired	ImageId	Preview
Sentinel-2	2023-01-18 06:52:19Z	S2B_MSIL1C_20230118T065219_N0509_R020_T40RCP_20230118T080919	

Automatically extracting all satellite images matching a vessel track to later identity dark vessels

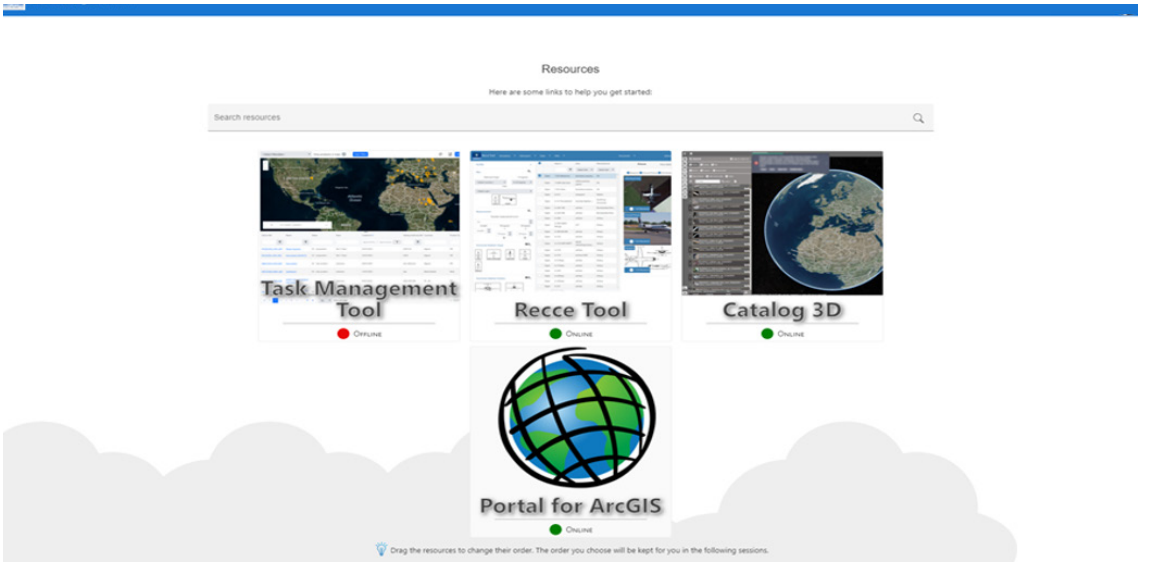
The Classified IT Platform

Following the 2022 accreditation of SatCen's private cloud infrastructure up to EU Secret, 2023 was the year to ramp-up the production of advanced geospatial services.

The production tempo and the move from strategic to operational production led to a change in SatCen's dissemination mode; advancing from a document-based concept to an interactive service.

Four Member States tested the services during a pilot phase in the first half of the year. After the summer, the platform was jointly declared operational by EEAS, EUMS and SatCen, and has been used since then by an even larger number of Member States and by SIAC/EEAS.

Furthermore, end users connected to the EU OPS WAN network have been able to access the Centre's services and databases in real time.



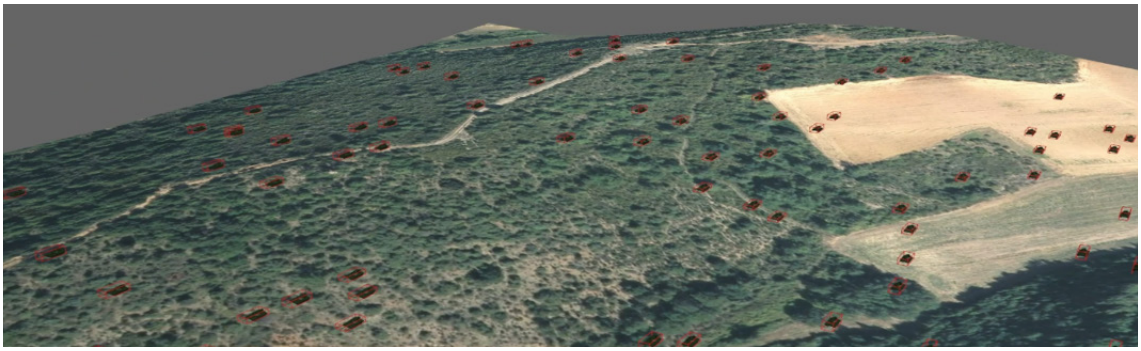
EU SatCen Digital Platform landing page

SatCen's AI Factory

After six years of taking an ad hoc approach to developing AI models (e.g. curating datasets and training models separately), SatCen put in place dedicated infrastructure to implement the concepts of MLOps, benefitting from its cloud infrastructure, which is the equivalent of DevOps for machine learning projects.

This concept provides the Centre with automation and centralisation of model training, experiments and deployment. These changes significantly reduced the lead time of new models. Furthermore, the monitoring of performance is guaranteed and the distribution of models to end-users is greatly simplified.

In 2023, SatCen worked extensively on the generation of synthetic datasets to bootstrap the training of new models. For example, a synthetic dataset generator was developed for optical imagery models.



Synthetic dataset generator

5 EFFECTIVE RESOURCE MANAGEMENT

5.1 STREAMLINING ADMINISTRATION

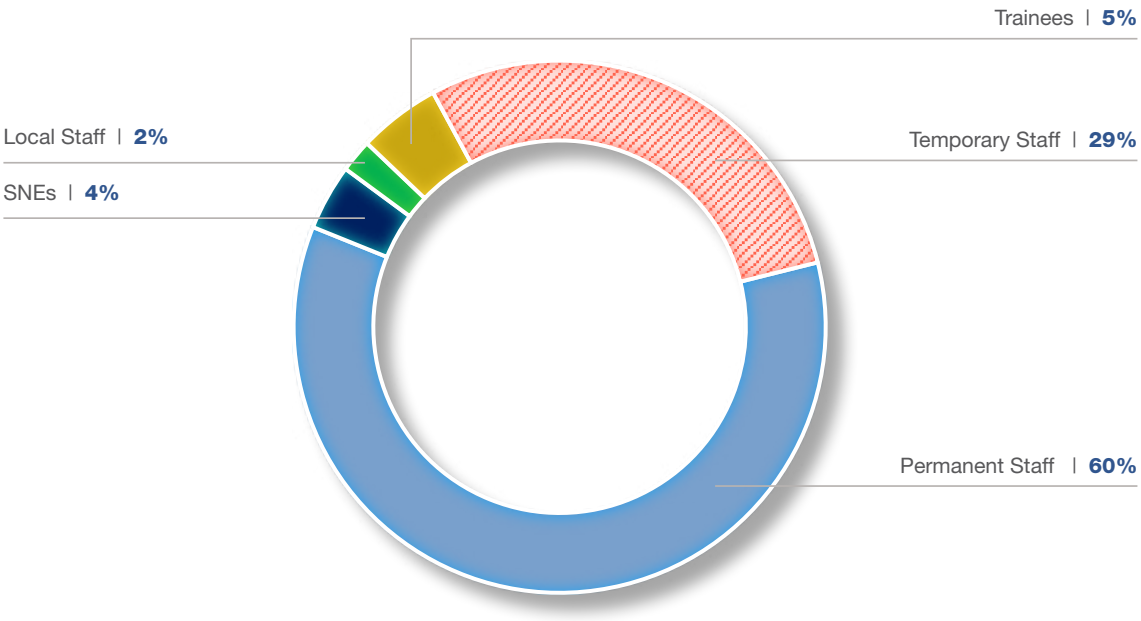
5.1.1 Staff Management

At the end of 2023, SatCen consisted of 138 highly professional, motivated, and committed staff members: 93 of them occupied permanent positions, and 45 of them occupied temporary positions. They represented 19 Member States, one more than 2022. Furthermore, the number of Member States SNEs to SatCen increased from 4 to 7: Germany, the Czech Republic and Bulgaria joined Slovenia, Romania, Poland and Hungary.

In addition to the permanent and temporary staff, a total of 13 SNEs (12 from Member States and one from the European Space Agency (ESA)), 19 trainees and four local staff members worked at SatCen over the course of 2023 – some for the whole year, some for six months.

On 31 December 2023, the composition of SatCen personnel by type of post, was as follows:

Composition of SatCen Personnel by Post Type



In 2023, the traineeship programme was expanded, taking in 58% more trainees (from 12 to 19) and the number of SNEs sent to SatCen grew from 11 to 13. As a consequence of this success, the workload of SatCen's human resource (HR) team reached new heights, with 30 selection procedures being completed in 2023.

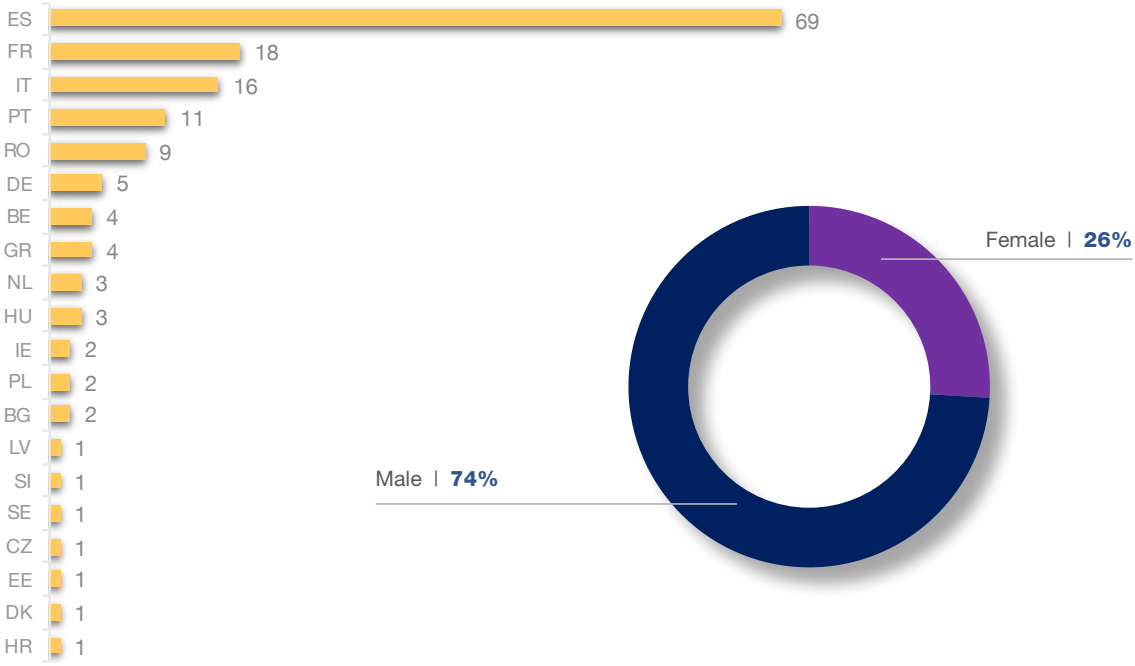
The team also dealt with a considerably higher number of retirements; a trend that will continue over the coming years considering the Centre's demographics. Furthermore, the off-boarding of the 10 members of the SST team (out of which nine transferred to EUSPA) constituted an unprecedented workload in this respect.

Apart from this record-high tempo in recruitment and turnover, the HR team was also able to intensify its outreach activity, promoting SatCen as a first-class employer at the intersection of security, defence, and space.

This was not only done via the enlargement of the university databases (in particular for OPS, CapDev, and IT job profiles), but also via increased participation in job fairs, cooperation in inter-agency projects (ICTA) to increase the attractiveness of SatCen to female associations in tech and space, as well as more targeted vacancy dissemination via social media, so as to attract the best professionals to the Centre.

The result was both wider geographical and gender representation among staff. Furthermore, the average number of candidates per vacancy almost doubled, and the number of countries of origin of those candidates almost tripled, from an average of 5.5 to an average of 15 Member States. Among trainees, who are often a prime source of outside recruitment for SatCen, the number of female candidates has increased from 40% in 2020 to 64% in 2023; up to (52% among the more technical profiles).

Composition of Staff by Nationality and Gender



The share of women in SatCen's managerial positions also increased in 2023, with an operations manager position, and that of deputy-head of the Capability Development Division being occupied for the first time by women. Working in the same direction, SatCen's diversity and inclusion strategy and action plan 2022-2023 was successfully implemented. The results of the survey conducted at the end of 2022 on diversity, inclusion and respect at the workplace was communicated to all staff, who also benefited from a training session on diversity, inclusion and unconscious bias, as well as two more sessions by confidential counsellors on the prevention of harassment. In addition, separate training sessions were organised for managers.

In 2023, SatCen also joined the EU Agencies Network's Task Force on Diversity and Inclusion (D&I), and collaborated on the development of a D&I toolkit for managers. In order to have a better representation of different opinions on the matter, a D&I committee was established.

In terms of teleworking, a survey one year after the implementation of new teleworking rules revealed a satisfaction rate of over 80%, both among management and staff.

5.1.2 Facility Management

Over 2023, the main achievements in facility management included the finalisation of the surroundings of the new building, including new accessibility features and a new CCTV security system; the installation of a new, second redundant generator set to counter frequent outages of the Base's electrical network and to improve the security of power supply; the transformation of the old auditorium/aula into a classified training classroom, with state-of-the-art furniture and IT equipment; the adaptation of office spaces to the evolving needs of staff and the increases in operational, IT and capability development teams; and the continuous improvement of SatCen's environmental footprint, via a wide range of energy saving measures and a feasibility study for the installation of additional solar panels.





Top-left: new generator; top-right: finished surroundings of the new building; bottom: new training room



5.1.3 Communication Activities

In 2023, the communication team remained committed to its core mission of maintaining and improving SatCen's image as a reliable partner and a source of intelligence analysis, both in the eyes of users and key stakeholders, but also and increasingly in the eyes of political and institutional decision makers in the EU and its Member States, as well as third countries and international organisations.

A second outreach strand aimed at academic, as well as specialised audiences and media related to security, defence and space was identified. These efforts were strategically aligned with the overarching interests of the High Representative of the Union for Foreign Affairs and Security Policy/Vice-President of the European Commission (HR/VP), Josep Borrell, who emphasised the imperative of enhancing the broader understanding of SatCen's mandate and endeavours, thereby positioning the Centre on a "political orbit".

Throughout the year, the communication team diligently executed a range of activities aimed at achieving these objectives, fostering a comprehensive outreach strategy to amplify the Centre's presence and impact. Key initiatives and activities are specified below.

High-level Events and Visits at SatCen

In 2023, SatCen organised dozens of meetings at working level, but also a large number of high-level visits to SatCen's premises, not least in the context of the Centre's 30th anniversary (2022-23) and the Spanish Presidency of the Council (second semester of 2023), which underscored the agency's growing relevance and heightened visibility.

Beyond the ministerial level SatCen Board meeting, notable examples included the visits of: His Majesty The King of Spain (May); Mr Nicolae Popescu, Deputy Prime Minister of Foreign Affairs and European Integration of the Republic of Moldova (January); a Romanian Senate delegation, General Robert Brieger, Chairman of the EU Military Committee (EUMC) (March); Mr Peter Wagner, Foreign Policy Instruments (FPI) Director (September); BG Sean White, Director of Communications, Information Systems & Cyber Defence of the EUMS (March); Ambassador Juraj Tomaga, Embassy of Slovakia (February); as well as, a delegation from the HR/VP's cabinet (March), among others.

The list of high-profile events at the Centre was certainly topped by the SatCen Board at Ministerial level (August) with two thirds of Ministers attending, followed by the SatCen Industry Days (October) and the ESA-ESPI workshop on 'space data space' (November).



SatCen Director Sorin Ducaru providing a keynote address at the ESA-ESPI Workshop hosted at SatCen

Representing the Centre and Engaging with Partners Across Europe

As an integral component of SatCen's proactive outreach and communication efforts, the Centre actively engaged in a variety of events throughout 2023. These provided a platform for SatCen to spotlight its role and recent advancements in geospatial analysis for informed decision-making, while also fostering knowledge exchange and building awareness within relevant communities. The Centre notably participated in the 15th European Space Conference (Brussels), the DGI Conference (London), the Black Sea and Balkans Security Conference (Bucharest), World Satellite Business Week (Paris), the European Space Forum (Brussels), the European Defence and Security Conference (Brussels), the EU Ambassadors Conference (Brussels) and the Sevilla Space Week (Seville), to name just a few.

Media Engagement and Publications

SatCen continued to answer media requests and to engage, when appropriate, with trusted media outlets, providing them with accurate and timely information on the Centre's contributions and achievements, thereby enhancing public recognition and understanding of the agency's undertakings.

In 2023, the communications team also supported tailored interviews of the SatCen Director and technical experts with specialised and general media, such as Geospatial World, the EUMC Forum, El Correo and Digital Front Lines (by FP analytics), as well as both the Spanish and Romanian National Televisions (TVE and TVR).

Outreach via Social Media

Outreach via social media aimed at highlighting SatCen's key activities and events, but also at producing more educational material in modern, audiovisual formats.

On the operational side, these included tailored communications on Geographic Information System (GIS) Day, the EU's Annual Crisis management Military Exercise (MILEX), World Maritime Day, World Humanitarian Day, and the International Day Against Illegal Fishing, and Earth Day (in partnership with the Romanian Ministry of Environment, Water and Forests). SatCen also joined the Network of EU Agencies in communicating key dates such as EU Diversity Month, Women's Day, International Day against Homophobia, Transphobia, and Biphobia, Europe Day and International Day of Persons with Disabilities.

This two-tiered communication strategy resulted in a substantial increase in the Centre's follower community, featuring companies and institutions interested in space, security and defence: the SatCen LinkedIn community grew to around 7,000 followers, with almost 265,000 people reached in 2023, a +120% compared to the start of 2021. On Twitter/X the Centre now has over 4,000 followers, with almost 100,000 people reached in 2023; +220% compared to the start 2020. On Instagram, SatCen moved to almost 600 followers, with over 5,000 people reached, after only half a year on this platform (joined in August 2023).

Key Figures for 2023

2k

New followers gained across both platforms

632k+

Impressions across both platforms

5.2 LEGAL AFFAIRS

Legal Issues

The Joint Framework Arrangement (JFA) for the Provision of Access to Governmental Earth Observation Space Data to the European Union was signed between the HR/VP and five Member States (France, Germany, Italy, Spain and Luxembourg). Following the signature of the JFA, SatCen negotiated the first specific implementing arrangement with Spain, and now looks forward to discussions with the other Member States about similar arrangements for access to their national satellite systems.

The legal team also supported the preparation and drafting of arrangements with concerned partner entities on several other occasions, as detailed in this report, notably the new Copernicus SESA agreement, the WA with Frontex, and the important contractual relations with FPI. In 2023, the legal team also supported the agreement with EUSPA on the transfer of the SST Front Desk, the IPR, and a security convention.

As part of SatCen's health policy, the Legal team also negotiated an extended medical coverage for staff members and their families, consisting of a new support programme (Cigna's International Employee Assistance Programme) to help identify and resolve problems.

Procurement

In 2023, the Centre launched 37 procurement procedures (11 more than in 2022), of which nine were procedures for high value contracts (mainly open tenders). Amongst these, it is worth highlighting the insurance contract for SatCen staff members, retirees and their dependents, for a maximum contract value of EUR 4.5 million, as well as a framework contract for the provision of travel agency services to the Centre for a maximum contract value of EUR 1 million.

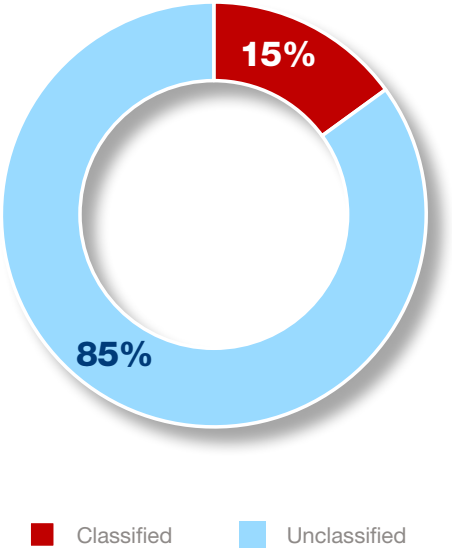
In March 2023, the legal team provided a training session on contract management to SatCen staff.

Data Protection / DPO Affairs

Regarding data protection (DP), the SatCen Data Protection Officer attended a number of meetings and trainings sessions and provided internal DP-related training for staff.

Registry

Following the upgrade to an electronic registry system, considerable efficiency gains were achieved in SatCen's registry in 2023. The number of registered documents reached 3,607, which represents a 7.1% increase on 2022. Classified documents also continued to grow, representing 15.1% of all registrations in 2023.



5.3 FINANCIAL MANAGEMENT

SatCen's 2023 budget foresaw a 6.52% increase in expenditure, a 0.84% increase in income and a resulting 12.41% combined increase in Member State contributions to the SatCen General (12.42%) and Pensions Budget (12.30%).

The actual increase of 12.41% was preceded by a previous projection of a 9.4% increase in Member State contributions to the SatCen budget in 2023, as provided for in the Baseline Augmented Development Plan, which was approved by the Board in 2021, before Russia's unprovoked and unjustified invasion of Ukraine, and the high rise in inflation, which reached 10.5% in SatCen's host nation, Spain, relative to 2022.

The 2023 budget was closely correlated to the objectives, structure and approach defined in SatCen's 2023 work programme 2023 and with the Baseline Augmented Development Plan, as endorsed by the Board in 2022. Furthermore, the HR/VP 2019 Report and Recommendations, endorsed by the Council, as well as the HR/VP's recent address on the occasion of SatCen's 30th Anniversary and inauguration of its extended headquarters, emphasised the need to address SatCen's funding needs in order to align them with increasing user demand and the EU's strategic objectives in the security, defence and space domains.

Beyond the political and strategic context presented above, there were a number of other important contextual factors that affected the SatCen budget 2023:

- The continuous increase in SatCen user demand, in particular from EEAS/SIAC, Member States, third states, cost recovery for EU missions and operations (through the European Peace Facility) and for the UN, as well as the OPCW (through the FPI).
- The Baseline Augmented Development Plan.
- The actions needed to achieve the objectives set out in the SatCen work programme 2023, in particular: the implementation of the future classified IT platform, as well as the production of new operational AI-based tools and datasets in support of geospatial intelligence analysis and that are accessible to Member States; the enhancement of training provision; and, the efforts needed to further improve the financial system to the benefit of accountability and transparency.
- Finalising the equipping of SatCen's extended headquarters.
- The implementation of the Copernicus SESA contribution agreement, signed on 29 August 2023, as well as the working arrangement and an SLA with Frontex.
- The significant inflationary impact amplified by the Russian war of aggression against Ukraine and the increased cost of energy.
- The expected growth in SatCen's operational output compared to 2022, based on growing user demand and in line with the new KPI approach, which is benchmarks the different types of geospatial intelligence products in terms of 'unit products'.

Back in 2022, SatCen's data budget for regular tasks was increased by the voluntary contribution of EUR 1.5 million from Luxembourg. The remaining EUR 283,000, along with the EUR 120,000 voluntary contribution from Germany, were added to the 2023 budget income.

The terms of reference were reflected in the remarkable increase in SatCen user demand in 2023, in particular from EEAS/SIAC, Member States, third states, cost recovery for EU missions and operations (through the European Peace Facility) and for the UN, as well as the OPCW (through the FPI).

Subject to the validation of the College of Auditors, along with the 2023 Closing Budget Report, preliminary accounting shows that actual cost recovery has exceeded predictions for 2023, since the remarkable threshold of EUR 10 million was surpassed.

In total, the financial activity over 2023 resulted in a possible surplus of EUR 4.1 million to be credited to SatCen's 2025 budget.

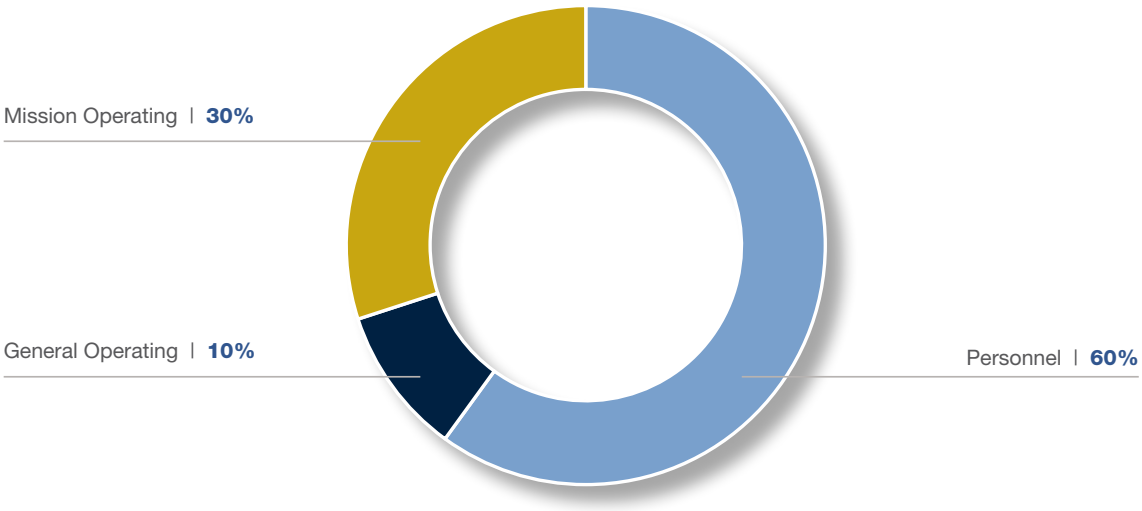


Visit of Mr Peter Wagner, FPI Director, 22 September 2023

The following chart illustrates SatCen's general budget for 2023 by expenditure chapters.

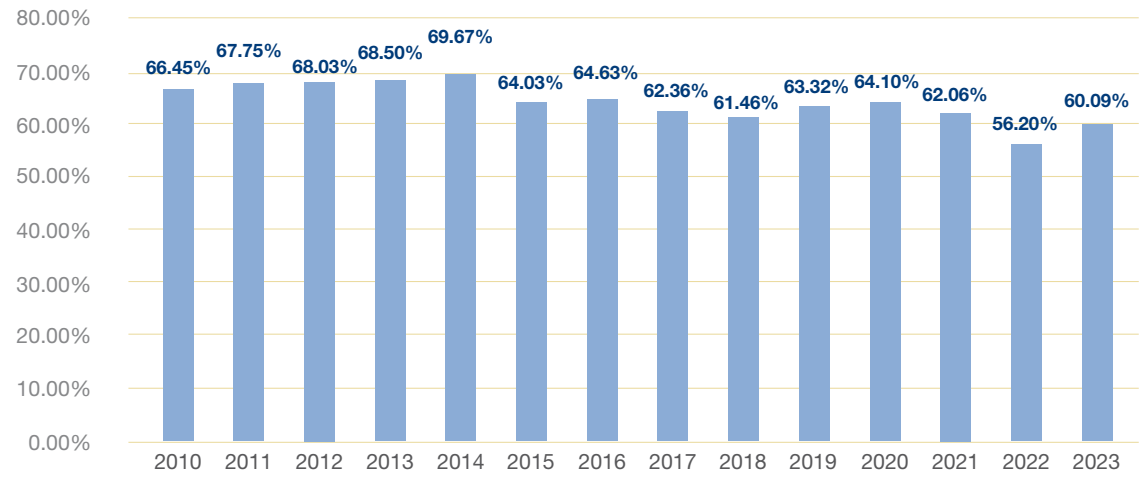
The graph shows the relative weight of human assets within the SatCen budget, clearly representing the essential role the analysis expertise of its staff has for the Centre's output of products and services.

Expenditure Distribution 2023



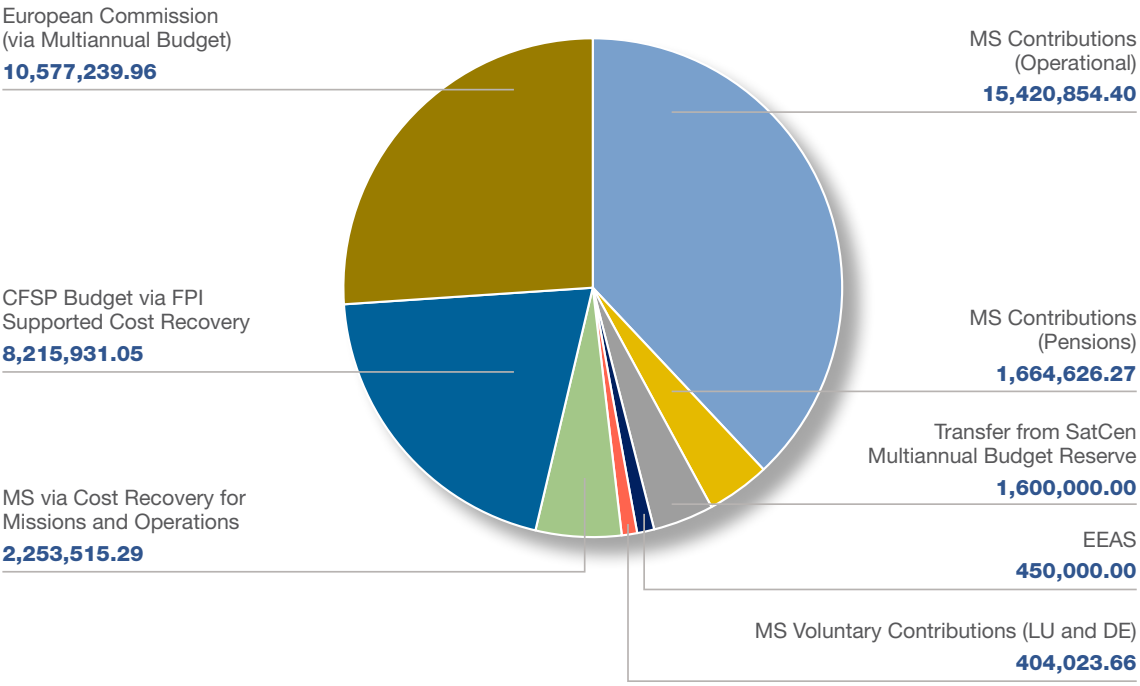
The following chart displays the cost of personnel over total expenditure:

Personnel over Total Expenditure % Evolution 2010-2023



The income sources of the SatCen Budget 2023 are depicted below:

SatCen Funding 2023



Following its publication in 2021, the 'Implementation Manual of SatCen Financial Rules' (Manual), has been subject to subsequent updates, mainly to include the recommendations of the College of Auditors (CoA) and further clarifications of the Centre's financial rules.

The Manual is a living document subject to continuous improvement and 2023 saw further updates and refinements of the procedures, in line with actual convenience of practices, such as clarifications on the procedure and interest rate applicable to salary advances, the time limit to deposit excess amounts into the SatCen's bank account, clarification on the designated roles authorised to disburse and receive funds on behalf to the Centre's Director, and overtime calculations.

The critical automated A/X system version migration was finally concluded in 2023, following delays and deficiencies that resulted in penalties for the contractor.

Executed during 2023, the 2022 closing accounts review of the CoA concluded with a very positive auditor's report, which confirmed full compliance with SatCen's financial rules and its Manual. The overall opinion of the College was that the final accounts fairly present, in accordance with the financial rules, the financial position and the financial performance of the European Union Satellite Centre as at 31 December 2022. Furthermore that the transactions and information reflected in the final accounts were in material terms in compliance with the rules.



Read more

> “SatCen now has 31 years of expertise and one could call it an example of EU ‘strategic autonomy in action’. It is providing us with our own geospatial intelligence analysis. (…) In the field of geospatial intelligence, SatCen has paved the way for three decades, but as we shape its future development, it is now time to change pace and raise our level of ambition.”

HR/VP Josep Borrell
03 September 2023

6 WAY FORWARD

At the ministerial level SatCen Board meeting, held at SatCen on 29 August 2023, EU defence ministers were able to experience and evaluate SatCen's GEOINT analysis activity in-person. They provided their political and strategic guidance and issued the SatCen executive with a mandate to prepare a sustainable and enhanced development plan, aligned with the new security context, user needs, technological opportunities and the priorities brought forward in EU strategic documents. Once approved by the Board, this sustainable and enhanced development plan will be further detailed in SatCen's work programmes over the coming years.

Over the coming period, the urgent priority will be to reinforce SatCen's operational capacities in order to sustain the intense and continuously growing operational activity over the short-to-medium term, driven by the security context and associated user demand. This will require an urgent increase in SatCen's on-call human resources to ensure an on-site presence outside working hours that can answer operational needs in terms of volume, complexity and reactivity. At the same time, it implies further developing SatCen's classified IT platform and IT/AI tools and services, to continuously increase the cost-efficiency, productivity, responsiveness and proactivity of SatCen, along with strengthening business continuity measures for contingency situations and resilience to cybersecurity threats. This projected increase in expert human resources, empowered in terms of productivity and efficiency by enhanced AI tools and modern IT infrastructure, will not just respond to current sustainability requirements but also continue expanding SatCen's specialised GEOINT analysis and related synergies towards new relevant areas, such as climate and security, and maritime situational awareness.

Furthermore, a special focus will be on ensuring SatCen's autonomous and secured access to a diversity of space assets at all times (day, night and cloud cover) with a high revisit rate (several images per day) using state-of-the-art sensor technologies and novel satellite data, such as radio frequency detection and automatic identification system data. Beyond access to satellite data from the Copernicus programme and the increasingly diverse mix of commercial space sensors, SatCen's access to space data will be enhanced by two new developments and associated opportunities. Namely, the implementation of the JFA signed with five EU Member States (France, Germany, Italy, Spain and Luxembourg) on SatCen access to governmental Earth observation space data, and the PESCO project on a Common Hub for Governmental Imagery. The further great opportunity is for SatCen to play a relevant role, in line with its mandate and competence, in the Commission initiative for a new Earth observation governmental service, by defining its role in the future service, as provided for in the Council Conclusions on the EU space strategy for security and defence (SSSD).

The expected results of the SatCen sustainable and enhanced development plan will not just be reflected in quantitative terms, through continuing the increase in operational output (estimated at 20%-30% yearly growth) on a sustainable basis and in line with growing user demand, but even more so in terms of quality, complexity and speed of delivery. The new, interactive business model, enabled by the classified IT platform and its growing set of services, as well as the fast-growing number of accredited users, will continue to be a game changer for the interaction of SatCen and its key users and stakeholders. It represents a proof of concept and model for GEOINT entities in a number of Member States. In line with EU

strategic documents such as the Strategic Compass and the SSSD, and on the basis of the agreements signed in 2023 on SatCen's role in the Copernicus programme and support to Frontex, there is growing potential for further synergies and complementarities with activities on space, security and defence across the EU ecosystem. Given the double role of SatCen – that of an operational and diplomatic tool – through the provision of direct support to EU partners, EU defence ministers also highlighted the potential to extend the Centre's support as part of the EU's external engagement with international organisations and third countries, as relevant. SatCen stands ready for this, based on specific mandates from the Member States.

To implement the political guidance and strategic orientations provided at the ministerial level SatCen Board, and achieve SatCen's sustainable and enhanced development goals, it will be critical to equip SatCen with the necessary means and resources to support the EU and its Member States.

What the dedicated SatCen team will assure, as it has over the last years, is that every Euro invested in SatCen has a multiplier effect, both in quantitative and qualitative terms.

Annexes

ANNEX 1. ABBREVIATIONS

AI	Artificial intelligence
AI-ARC	Artificial Intelligence based Virtual Control Room for the Arctic
ARCOS	ARCtic Observatory for Copernicus SEA Security Service
ARTES	Advanced Research in Telecommunications Systems
CAP	Capability, Armament and Planning
CFSP	Common Foreign and Security Policy
CISE	Common Information Sharing Environment
CIVCOM	Committee for Civilian Aspects of Crisis Management
CRC	Crisis Response Centre
CSS	Copernicus Security Service
CSDP	Common Security and Defence Policy
DG DEFIS	Directorate-General for Defence Industry and Space
EC	European Commission
EDA	European Defence Agency
EEAS	European External Action Service
EO	Earth Observation
EUMC	European Union Military Committee
EUMM	European Union Monitoring Mission
EUMS	European Union Military Staff
EURMARS	EURopean Multi Authority bordeR Security efficiency and cooperation
EPF	European Peace Facility
ESA	European Space Agency
E-SHAPE	EuroGEO showcases: applications powered by Europe
ENTRUSTED	European Networking for Satellite Telecommunication Roadmap for the Governmental Users Requiring Secure, Interoperable, Innovative and Standardised Services
ESM	Electronic Signal Measurements
EUSPA	European Union Agency for the Space Programme
FPI	Foreign Policy Instrument
Frontex	European Border and Coast Guard Agency
GEO	Group on Earth Observation
GEOINT	Geospatial Intelligence
GEO-DAMP	Geospatial Data Management Platform
GEM	Global Earth Monitor
GISMO	Geospatial Information to Support decision-Making in Operations

HR/VP	High Representative of the Union for Foreign Affairs and Security Policy/Vice President of the European Commission
IMINT	Imagery Intelligence
INTCEN	Intelligence and Situation Centre
INTSEN2	Proactive automatic imagery intelligence powered by artificial intelligence exploiting European space assets
ISR	Intelligence, Surveillance and Reconnaissance
JFA	Joint Framework Agreement
MARSUR	Maritime Surveillance
MATRIX	Multi-INT Analytics for Tactical Operations
MEDEA	Mediterranean practicioners' network capacity building for effective response to emerging security challenges
MLOPS	Machine Learning Operations
MPCC	Military Planning and Conduct Capability
MS	Member States
MUSO	Multisource Analytical Assessments
NAVFOR	Naval force(s)
OPCW	Organisation for the Prohibition of Chemical Weapons
PERIVALLON	Protecting the EuROpean terrItory from organised enVironmentAl crime through inteLLigent threat detectiON tools
PMG	Politico-Military Group
PSC	Political and Security Committee
PT	Project Teams
PT PNT	Positioning, Navigation and Timing Project Team
PT SBEO	Satellite Based Earth Observation Project Team
RITHMS	Research, Intelligence and technology for Heritage and Market Security
RTDI	Research, Technology Development and Innovation
RF	Radio Frequency
RELEX	Working Party of Foreign Relations Counsellors
SDG EYES	Sustainable Development Goals – Enhanced monitoring through the familY of copErnicus Services
SESA	Support to EU External and Security Actions (Copernicus)
SIAC	Single Intelligence Analysis Capacity
SMM	Special Monitoring Mission
SNE	Seconded National Expert
SSA	Space Situational Awareness
SST	Space Surveillance and Tracking
UN	United Nations
WA	Working Arrangement
WMD	Weapons of Mass Destruction

ANNEX 2. VISITS AND EVENTS

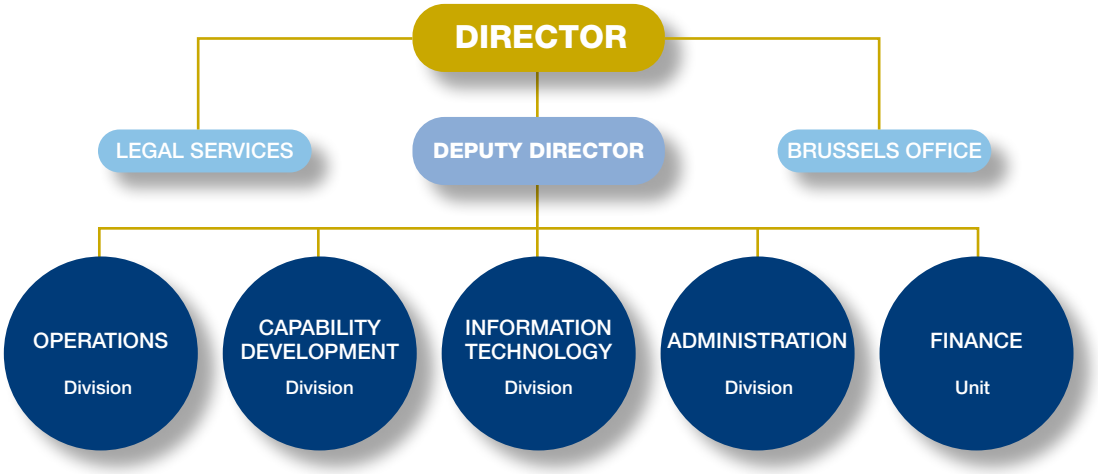
The Centre organised and received the following visits, and the Director carried out the following missions and meetings:

17 January	Visit of Mr Rodrigo da Costa, Executive Director of EUSPA
23 January	Visit of H.E. Mr Nicolae Popescu, Deputy Prime Minister and Minister of Foreign Affairs and European Integration, Republic of Moldova
24-25 January	15th European Space Conference, Participation in the session 'Space at the Service of Europe's Defence and Security', Brussels
24 January	Meeting with Mr Peter Wagner, Director of FPI, Brussels
30 January	II National Defence Conference on Space, Participation in Panel 1: Space as strategic vector for the European Union, Brussels
30 January	Meeting with Mr Marco Capitão Ferreira, Secretary of State for National Defence, and Amb. Rui Vinhas, Political Director MFA, Portugal; Brussels
17-19 February	Munich Security Conference 2023
27 - 01 March	Defence Geospatial Intelligence (DGI) Conference, London
09 March	Visit of Director Mr Robertas Bruzilas, EU Department of the Ministry of Foreign Affairs of Lithuania
10 March	Attendance to AsterX VIP Day, Toulouse
13 March	Visit of General Robert Brieger, Chairman of the EUMC
24 March	Visit of Mr Francisco Fontan, Director, EEAS Crisis Response Centre (CRC)
28 March	Visit of Brigadier General Seán White, Director of Communications, Information Systems & Cyber Defence, EUMS
29 March	Visit of HR/VP Cabinet
12-13 April	SatCen Director address at SIAC Joint Heads of Services Conference; Participation at 140th SatCen Board, Brussels
17-20 April	38th Space Symposium, Colorado Springs
25-26 April	SatCen hosting Expert User Forum & Governmental Imagery Workshop
28 April	Visit of Mr Carlos Aragón (Subdirector General) and Ms Meritxell Parayre (Subdirectora General Adjunta), Non-proliferation and Disarmament Unit, MFA Spain

10 May	Visit of Romanian Senate Delegation
11 May	Visit of His Majesty the King of Spain
16-17 May	Keynote Speaker, 2nd ESA Security Conference, Brussels
18-19 May	Black Sea and Balkans Security Forum, Bucharest: Chair of Panel I and Speaker at Panel V
29 May	Panel Participation at GLOBSEC 2023 Bratislava Forum, 'The Invisible Warrior: Pushing Back in Cyberspace'
07-08 June	ECFR Annual Council Meeting 2023, Policy Salon 'The virtual front line: Leveraging tech capabilities in support of Ukraine', Stockholm
09 June	SatCen presentation to the Identity and Democracy Group in the European Parliament, Madrid
12 June	Working lunch with Ambassador Christoph Heusgen, President of the Munich Security Conference (MSC), and Dr Benedikt Franke, CEO of MSC
14 June	Visit to Airbus Espacio España, Getafe, Madrid
23 June	Meeting with Ms Simonetta Cheli, Director of Earth Observation Programmes and Head of ESRIN (D/EOP), Brussels
05 July	Keynote presenter at European Space Forum, Brussels
06 July	Meeting with Mr Aschbacher, Director General ESA, Brussels
19 July	PSC Meeting, Brussels
29 August	SatCen Board at Ministerial level, SatCen HQ
12-15 September	Panel speaker 'New Assets to Overcome Civil Security Purposes'- during World Satellite Business Week (WSBW) 2023, Paris
18 September	Visit of Directors of non-proliferation and disarmament, Spanish MFA
19 September	Visit to German JIAC
20 September	Participation in the roundtable 'Producers of Intelligence' within the Seminar on Intelligence and Decision-Making (Intelligence College in Europe)
21 September	Visit of PMG and EPF
22 September	Visit of Mr Peter Wagner, Director of FPI
22 September	Visit of Romanian External Intelligence Service delegation
26 September	EU Military Committee Session at SatCen
28 September	CIVCOM visit
03 October	Visit of Director of Lithuanian Defence Intelligence and Security Service (AOTD)
09-11 October	SatCen Industry Days
11 October	SatCen Expert User Forum

13 October	143rd SatCen Board meeting, Brussels
17 October	Visit of Mr Dominik Mutter, DE Security Policy Director
19 October	Visit of RELEX
20 October	Participation in the Bucharest Security Conference
03 November	Visit of Mr Charles Powell, Director Real Instituto Elcano, and Mr George Scutaru, CEO New Strategy Center
06 November	Participation at ESA Council at Ministerial level & Space Summit 2023, Seville, Spain
09-10 November	The State of Europe high-level roundtable and Board of Trustees meeting, Friends of Europe, Brussels
09-10 November	2023 EU Ambassadors' Conference, Brussels - panel discussion on the digital transition and EU responses to new disruptive technologies
22 November	Visit of CSDP HLC to SatCen
28 November	144th SatCen Board meeting, Brussels
04 December	Meeting with Teniente General Fernando López del Pozo (Digenpol), Madrid
07 December	Visit of Mr Pedro Marinho da Costa, Director Portuguese External Intelligence Service, SIED

ANNEX 3. ORGANISATIONAL CHART

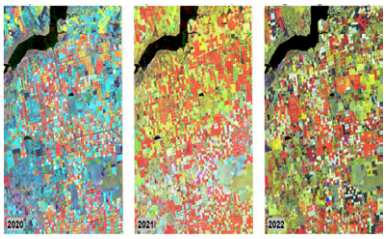


ANNEX 4. R&I PROJECTS

AI4Copernicus

Reinforcing the AI4EU Platform by Advancing EO Intelligence, Innovation and Adoption

- ☐ Extension of the service offer and user experience
- ☐ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☑ Enhancement of data-related processes
- ☐ Evolution of application areas



Abandoned fields (black) in Ukraine growth from 2020 to 2022 (source: modified Sentinel 2 data from SR4C3 open call funded project).

PROJECT SCOPE

- Reinforcing the AI4EU platform with EO ecosystem and providing an environment for open calls.
- Developing on-demand EO Artificial Intelligence solutions.

SATCEN ROLE

- Responsible for bootstrapping services.
- Management and evaluation of Security Open Calls, and follow-up of associated developments.

OUTCOMES FOR SATCEN

- Improved liaison with relevant industrial partners working in the development of AI-based EO applications.
- First-hand assessment of innovative EO applications for security.

TIME SPAN

January 2021 – December 2023

FRAMEWORK

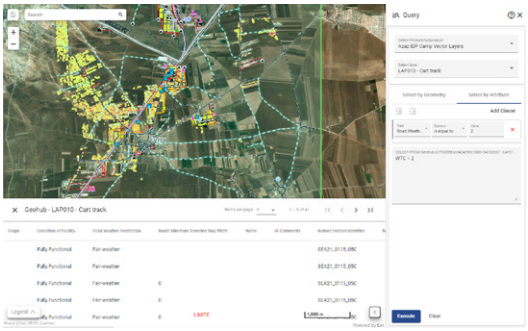
EC Horizon 2020

AI4Copernicus received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101004112
Topic ID: ICT-49-2020

GISMO4EXT

Geospatial Information to Support decision Making in Operations

- [x] Extension of the service offer and user experience
- [ ] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [ ] Evolution of application areas



IntSen2 : From Reactive IMINT to a proactive IMINT

PROJECT SCOPE

- Facilitate effective GeohuB implementation at EU OHQ level for building a network of users benefitting from a “de facto” standardized GIS tool for CSDP missions and operations;
- Identify possible improvements and implement the necessary developments and improvements (enhanced functionality);
- Maintain service to existing implementations;
- Promote the use in other networks and platforms such as MS’ geospatial centres.

SATCEN ROLE

- Establish and maintain the GeohuB community of users, provide training and collect requirements;
- Lead technical and architectural design of the GeohuB platform and provide continuous maintenance and technical support to the GeohuB users;
- Launch and manage procurement process to evolve the GeohuB application and procure base data layers

OUTCOMES FOR SATCEN

- Updated version of the GeohuB, serving as a lean and intuitive Geospatial Data Management platform for Copernicus SESA service delivery and to manage geospatial data during EU crisis management and military exercises;
- Provide GIS capabilities to the SatCen end users, including missions and operations.

TIME SPAN

January 2020 – December 2023

FRAMEWORK

SatCen - EDA Joint Initiative

MATRIX

Machine-based algorithms and tools for enriched IMINT exploitation

- ☐ Extension of the service offer and user experience
- ☐ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☑ Enhancement of data-related processes
- ☐ Evolution of application areas

PROJECT SCOPE

- Skim mature and suitable AI technologies and solutions for IMINT applications
- Identify EU Member States needs and interests
- Create a stakeholder forum on AI for IMINT community
- Define a strategy for AI-Hub at EU level
- Design a roadmap for AI-Hub implementation

SATCEN ROLE

- Coordinate community requirements collection
- Engage stakeholders defining a common framework for AI knowledge
- Manage project execution
- Manage external contract implementation

OUTCOMES FOR SATCEN

- Identification of a list of relevant use cases and suitable AI solutions for IMINT applications
- Creation of a framework to engage with the user community, i.e. MATRIX Expert Working Group (MEWG)

TIME SPAN

March 2021 – March 2023

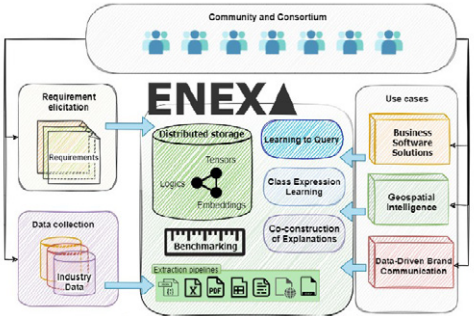
FRAMEWORK

SatCen-EDA cooperation

ENEXA

Efficient Explainable Learning on Knowledge Graphs

- [x] Extension of the service offer and user experience
- [ ] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [ ] Evolution of application areas



ENEXA workflow.

PROJECT SCOPE

- Develop human-centered explainable machine learning approaches for real world knowledge graphs.
- Design and develop three different use cases (i.e. brand communication, business processes and GEOINT) to demonstrate and validate new implemented solutions.

SATCEN ROLE

- Gathering and coordination of user requirements for all use cases.
- Implementation of the GEOINT Use Case, using knowledge-graphs to improve feature classification in satellite imagery.

OUTCOMES FOR SATCEN

- Acquisition of practical know-how in using knowledge graphs for geospatial analysis.

TIME SPAN

October 2022 - September 2025

FRAMEWORK

EC Horizon Europe

ENEXA has received funding from the European Union's Horizon Europe Programme for research and innovation grant agreement no. 101070305

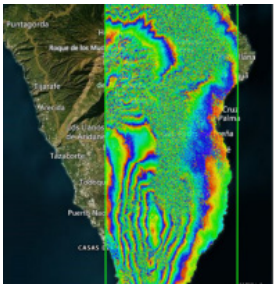
Funded by the European Union

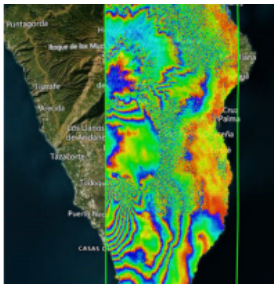
ATLANTIS

Improved resilience of Critical Infra AgainsT LArge scale transNational and sysTemic rISks

- ☐ Extension of the service offer and user experience
- ☐ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☐ Enhancement of data-related processes
- ☑ Evolution of application areas

ATLANTIS





Example of InSAR processing to be adapted for an ATLANTIS large-scale pilot to assess the potential impact of cascading risks in critical infrastructures.

PROJECT SCOPE

- Enhance resilience and Cyber-Physical-Human (CPH) security of the key EU Critical Infrastructures.
- Implement three Large Scale Pilots: Transport, Energy and Telecoms; Health, Logistics/Supply Chain and Border control; Financial Technologies.

SATCEN ROLE

- Exploitation of EO data for cascading risks on critical infrastructures using DInSAR techniques.
- Use of multi-domain data sources for CI monitoring and protection.

OUTCOMES FOR SATCEN

- Enhanced knowledge of issues affecting transport critical infrastructures as well as current methodologies and technologies to mitigate their impact.
- Enhancement of internal processing pipelines for InSAR processing.

TIME SPAN

October 2022 - September 2025

FRAMEWORK

EC Horizon Europe

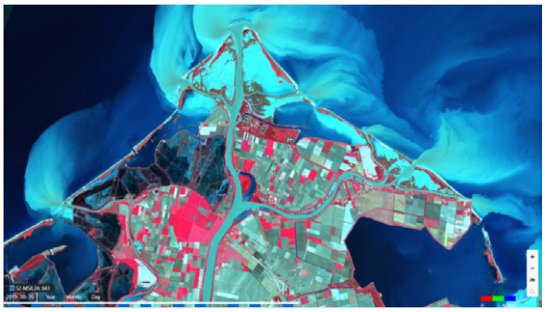
ATLANTIS has received funding from the European Union's Horizon Europe framework programme under grant agreement no. 101073909

Funded by the European Union

E-SHAPE

EuroGEO Showcases: Applications Powered by Europe

- ☐ Extension of the service offer and user experience
- ☐ Enlargement of the exploitable data catalogue
- ☐ Exploration of advanced technologies
- ☑ Enhancement of data-related processes
- ☐ Evolution of application areas



The FRIEND pilot, developed by SatCen and MEEO, assesses flood risk in selected areas, its impact on urban areas and the associated risk for population.

PROJECT SCOPE

- Put in value the European contribution to the Group on Earth Observations (GEO).
- Development of 37 pilot EO applications under 7 thematic areas, fostering entrepreneurship and supporting sustainable development, in alignment to the main priorities of GEO.

SATCEN ROLE

- Enhance cooperation in EO within Europe through the participation in 3 pilots under the Disaster showcase.
- Liaison with the GEO SPACE-SECURITY Pilot Initiative.

OUTCOMES FOR SATCEN

- Improved knowledge of the impact of natural disasters such as flooding or land subsidence in critical infrastructures.
- Development of a first prototype of an InSAR processing chain for land subsidence analysis.

TIME SPAN

May 2019 – April 2023

FRAMEWORK

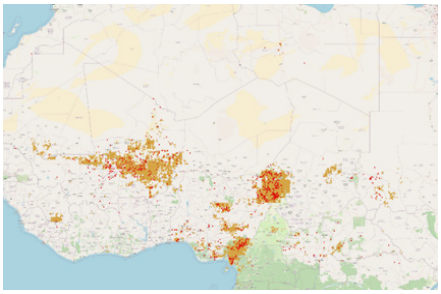
EC Horizon 2020

e-shape has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement 820852
Topic ID: H2020-SC5-2018-2

GEM
Global Earth Monitor

- ☐ Extension of the service offer and user experience
- ☑ Enlargement of the exploitable data catalogue
- ☐ Exploration of advanced technologies
- ☑ Enhancement of data-related processes
- ☐ Evolution of application areas

Global Earth Monitor



Conflicts risk map (predicted high-risk area in orange vs real presence of conflict in red).

PROJECT SCOPE

- Continuous monitoring of large areas.
- Creating data-cubes of heterogeneous data and exploiting Artificial Intelligence / Machine Learning tools.

SATCEN ROLE

- Responsible for user engagement and support of dissemination activities.
- Implementation of a Climate Security pilot.

OUTCOMES FOR SATCEN

- Development of a Climate Security dashboard pilot for SatCen.
- Assessment of new data sources such as conflicts databases (ACLED) and meteorological data.

TIME SPAN

November 2020 – August 2023

FRAMEWORK

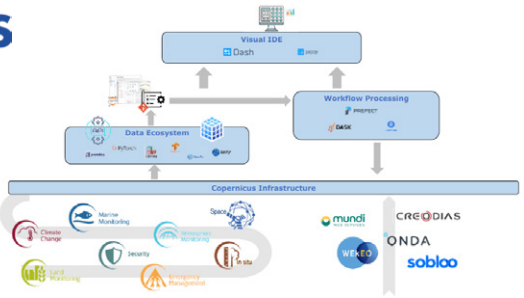
EC Horizon 2020

GEM received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101004112
Topic ID: DT-SPACE-25-EO-2020

SDGS-EYES

SDG – Enhanced monitoring through the familY of copErnicus Services

- [x] Extension of the service offer and user experience
- [ ] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [x] Evolution of application areas



Preliminary data/services exploitation scheme for SDG indicators' monitoring.

PROJECT SCOPE

- Boosting the European capacity for monitoring the UN Sustainable Development Goals.
- Exploiting the combination of data and tools of the six core services of Copernicus.
- Developing five pilots to support SDG achievement, in particular SDG 13, 14 and 15.

SATCEN ROLE

- Growth of SatCen portfolio with relevant services for Climate Security.
- Development of a pilot on Climate Security, focused on the assessment of the SDG 13.1.1 indicator.

OUTCOMES FOR SATCEN

- Enhancement and extension of capabilities to address Climate Security scenarios (compound climate hazards in Sahel).

TIME SPAN

January 2023 - December 2025

FRAMEWORK

EC Horizon Europe

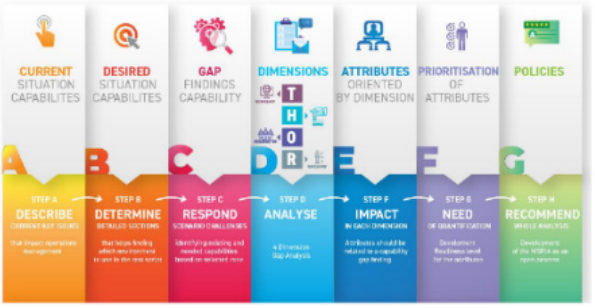
Funded by the European Union

SDGs-EYES has received funding from the European Union's Horizon Europe Programme for research and innovation under grant agreement no. 101082311

MEDEA

Mediterranean practitioners' network capacity building for effective response to emerging security challenges

- [x] Extension of the service offer and user experience
- [ ] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [x] Enhancement of data-related processes
- [x] Evolution of application areas



PROJECT SCOPE

- Support EC in defining the future calls in the Security domain based on real users' needs and requirements.
- Establish a network of practitioners and organisations mandated to enhance security.

SATCEN ROLE

- Provide support and alignment with the capabilities required for the implementation EU Strategies.
- Support in the development and implementation of EUROSUR components.

OUTCOMES FOR SATCEN

- To be informed and have an active voice in which regards the objectives of the future R&D calls.
- Improve the competitiveness of the Centre, its position in the areas of current developments, as well as a training source of our staff.

TIME SPAN

June 2018 – November 2023

FRAMEWORK

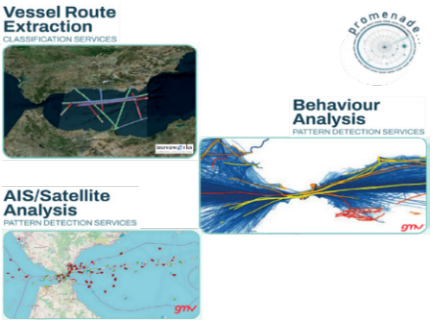
Horizon 2020

MEDEA received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 787111

PROMENADE

Improved maritime awareness by means of AI and Big-Data methods

- [x] Extension of the service offer and user experience
- [x] Enlargement of the exploitable data catalogue
- [x] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [x] Evolution of application areas



Examples of AI-based services developed in PROMENADE to improve Maritime Awareness.

PROJECT SCOPE

- Applying solutions by exploiting AI technologies to enhance border and external security in the maritime domain.
- Ensuring that services and trials are compatible with current systems and go beyond the state-of-the-art.
- Assessment of more than 12 different services to improve maritime awareness and surveillance using EO and/or collateral sources.

SATCEN ROLE

- Support to exploit satellite EO data for maritime awareness services.
- Responsible for external community interactions.

TIME SPAN

October 2021 – March 2023

FRAMEWORK

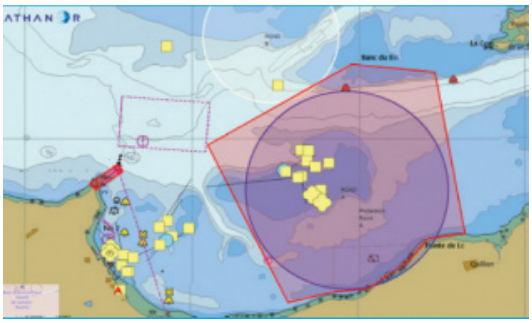
EC Horizon 2020

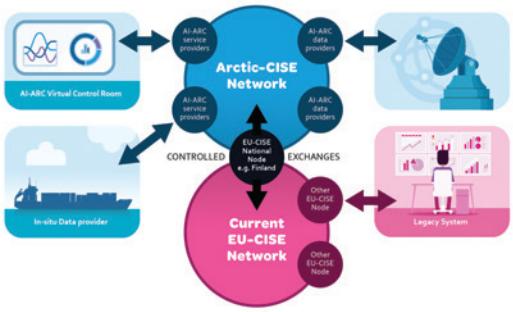
PROMENADE received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101021673
Topic ID: SU-BES03-2018-2019-2020)

AI-ARC

Artificial Intelligence based Virtual Control Room for the Arctic (AI-ARC)

- ☐ Extension of the service offer and user experience
- ☑ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☐ Enhancement of data-related processes
- ☑ Evolution of application areas





PROJECT SCOPE

- AI-ARC project aims to develop the Virtual Control Room (VCR).
- The VCR will aid decision-making and communication in the area as well as boost maritime safety.
- AI-ARC will apply AI, machine learning and virtual reality to its VCR solution.

SATCEN ROLE

- Participate in the AI-ARC pre-operational Validation of the information exchange framework.
- Contribute to the assessment of the future deployment roadmap.

OUTCOMES FOR SATCEN

- SATCEN participation in AI-ARC ensures that IMINT maritime aspects and capacities are properly included in the development of the solution.
- SATCEN benefits from interacting and supporting maritime partners in the framework of the project.

TIME SPAN

September 2021 – February 2024

FRAMEWORK

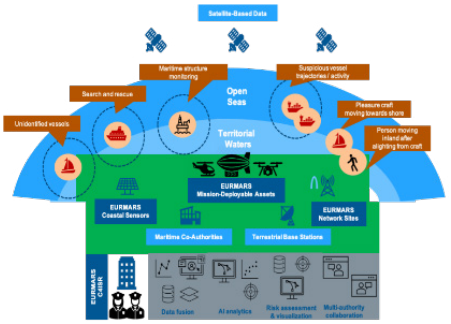
Horizon 2020

AI-ARC received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101021271

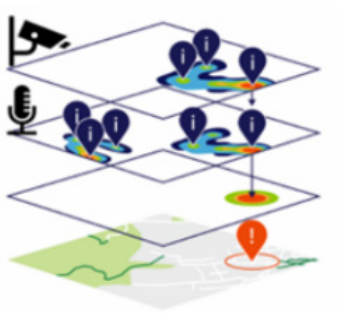
EURMARS

An advanced surveillance platform to improve the EURopean Multi Authority BordeR Security efficiency and cooperation

- ☐ Extension of the service offer and user experience
- ☑ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☐ Enhancement of data-related processes
- ☑ Evolution of application areas







PROJECT SCOPE

- Develop a platform that will improve sensing capabilities for wider areas by integrating high altitude technology, satellite imagery and UAVs.
- Integration of the different existing and future developed systems for the maritime surveillance to allow collaborative operation.

SATCEN ROLE

- Identification of operational requirements for border and maritime security.
- Data exploitation from the developed platform.
- Assessment and validation of tools/services/ infrastructures.
- Enrolment on tasks related with Co-Design / User Requirements gathering.
- User requirements definition in order to increase surveillance capability.

OUTCOMES FOR SATCEN

- Possibility to have a new surveillance platform and to increase SATCEN technical capabilities portfolio.
- Very high level component of Innovation by developing new detection and cognition capabilities.
- Disposal of a future platform interoperable 24/7 wide area surveillance.

TIME SPAN

October 2022 – September 2025

FRAMEWORK

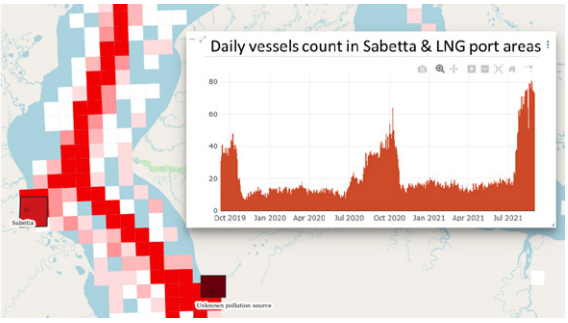
Horizon Europe

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101073985

ARCOS

Arctic Observatory for Copernicus SEA Security Service

- [x] Extension of the service offer and user experience
- [x] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [x] Evolution of application areas



ARCOS platform – Port monitoring service showing the dynamic evolution of the number of vessels per day.

PROJECT SCOPE

- Design and implement an early-warning system providing continuous monitoring of the Arctic region.
- Generate alerts in case anomalous behaviors are detected related to:
  - Vessel Anomalies: AIS anomalies, Dark Vessels, Vessel outside Common Routes.
  - Industrial, harbours and airports activity.
  - Land Change Detection
  - Activity Monitoring (based on NO2 data)

SATCEN ROLE

- User engagement activities, including collection of user requirements and definition of use cases and scenarios.
- Co-design of products and services.
- Testing and validation of results.

OUTCOMES FOR SATCEN

- A validated platform to be integrated within the operational workflow of the Copernicus SESA service allowing to:
  - Receive early-warnings based on automatic anomaly detection over the Arctic region. Generate preliminary products and services in a semi-automatic way, to be complemented by the Copernicus SESA analysis.
  - Allow users to configure their own alerts.

TIME SPAN

December 2020 – September 2023

FRAMEWORK

EC Horizon 2020

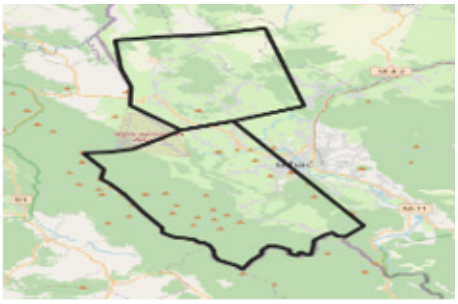
ARCOS received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101004372

CALLISTO

Copernicus Artificial Intelligence Services and data fusion with other distributed data sources and processing at the edge to support DIAS and HPC infrastructures

- [x] Extension of the service offer and user experience
- [x] Enlargement of the exploitable data catalogue
- [x] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [x] Evolution of application areas





PROJECT SCOPE

- CALLISTO aims to bridge the gap between Copernicus Data and Information Access Services (DIAS) providers and application end users.
- Big Data platform integrating Earth Observation (EO) data with crowdsourced and geo-referenced data.

SATCEN ROLE

- Use case and user requirements definition for border surveillance services.
- Development of the validation scenario and evaluation methodology of the Border Surveillance proposed solution and systems to be developed.

OUTCOMES FOR SATCEN

- Evolve and consolidate AI-powered solutions.
- Enlarge know-how for border surveillance services.
- Further improve operational capabilities.

TIME SPAN

January 2021 – December 2023

FRAMEWORK

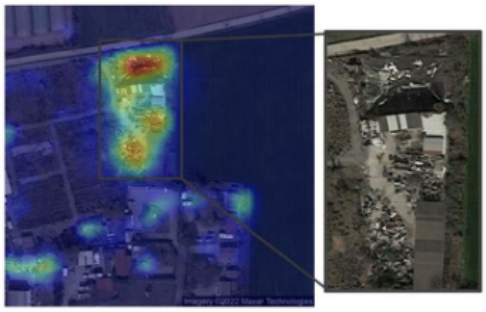
Horizon 2020

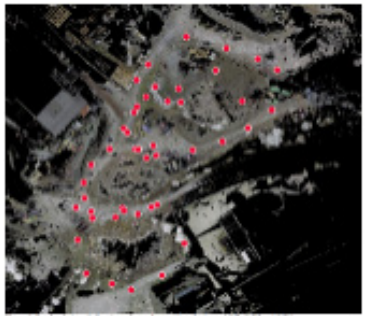
CALLISTO received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101004152

PERIVALLON

Protecting the EuRopean terrItory from organised enVironmentAl crime through inteLLigent threat detectiON tools

- [x] Extension of the service offer and user experience
- [x] Enlargement of the exploitable data catalogue
- [x] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [ ] Evolution of application areas





PROJECT SCOPE

- Create an Environmental Crime Observatory.
- Improve innovative tools and solutions for monitoring activities.
- Enhanced investigation processes and methodologies.
- Improve international cooperation.

SATCEN ROLE

- Definition of user requirements and needs.
- Definition and implementation of a use case.
- Assessment and validation of tools/services/ infrastructures.

OUTCOMES FOR SATCEN

- Develop new opportunities for SATCEN, namely to expand to the domain of the Environmental Crime.
- Application output can be a benefit on cross-border environmental crime in order to leverage the current products.

TIME SPAN

December 2022 – November 2025

FRAMEWORK

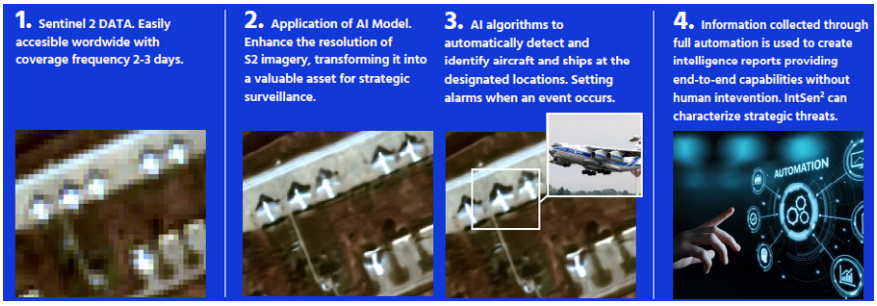
Horizon Europe

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101073952

INTSEN2

Proactive Automatic Imagery Intelligence powered by Artificial Intelligence exploiting European Space Assets

- ☐ Extension of the service offer and user experience
- ☐ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☑ Enhancement of data-related processes
- ☐ Evolution of application areas



IntSen2 : From Reactive IMINT to a proactive IMINT

PROJECT SCOPE

- Improve resolution of Sentinel images to enable their use in the security field.
- Use of European assets in an automatic workflow: from image acquisition (freely available, worldwide cover, 2-3 days frequency), improved resolution for defence purposes, automatic object identification (airplanes, ships and anti-aircraft equipment) and processing. With the aim of constantly monitoring any area and setting alarms when an event occurs.
- Promoting the competitiveness of European defence establishing operational independence from third countries through the application and use of exclusively European assets.

SATCEN ROLE

- Collection of user needs to design the future solution of IntSen².
- Design the service including the service catalogue and scenarios.
- Implement a roadmap for fostering change in the IMINT community and implementing proactive solutions.

OUTCOMES FOR SATCEN

- Explore the access to a continuous monitoring capability, heavily reducing data acquisition costs (and the dependency on VHR imagery availability) and unlocking the potentialities of proactive IMINT.
- Reinforce the SatCen know-how, expertise and capabilities based on AI cutting edge models.

TIME SPAN

December 2022 – December 2024

FRAMEWORK

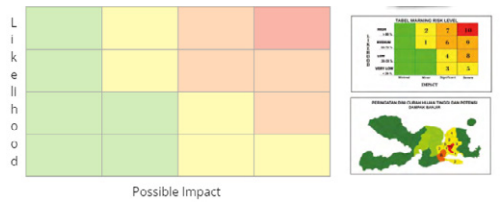
EDF

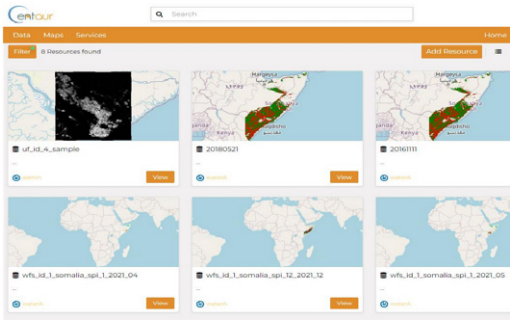
IntSen2 received funding from the European Union's EDF (European Defence Fund) initiative of the European Commission under grant agreement no. 101103622
(Topic ID: EDF-2021-OPEN-RDIS-Open-2)

CENTAUR

Proactive Automatic Imagery Intelligence powered by Artificial Intelligence exploiting European Space Assets

- [x] Extension of the service offer and user experience
- [ ] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [x] Evolution of application areas





PROJECT SCOPE

Develop foresight and early-warning tools based on water and food insecurity indicators as precursors of conflict aiming at:

1. Improve situational awareness and preparedness around climate change and its impact on complex emergencies and multidimensional (security) crises;
2. Anticipate the occurrence and possible knock-on effects of crisis events, contributing to resilience and effective adaptation.
3. Provide an early warning system which generates alerts when pre-established thresholds for crisis indicators are reached.

SATCEN ROLE

- Policy analysis and user engagement activities, including collection of user requirements and definition of use cases.
- Design of products and services and testing and validation.
- Plan and monitor the transition and integration of validated services and products within the Copernicus SESA service chain.

OUTCOMES FOR SATCEN

- Enhance SatCen's experience on Climate Security relevant topics from experts and EU institutions.
- Implement pilot services to improve situational awareness and foresight capabilities to seize the climate security effects.
- Evolve the Copernicus SESA portfolio by reinforcing the early warning and proactive geo-intelligence services and enrich current products by integrating new vulnerability, fragility and exposure indexes and forecasts.

TIME SPAN

December 2022 – November 2025

FRAMEWORK

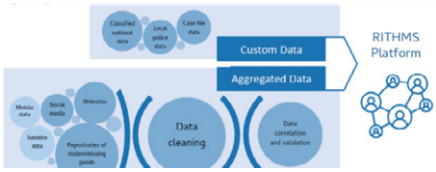
EC Horizon Europe

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101082720 - CENTAUR

RITHMS

Research, Intelligence and Technology for Heritage and Market Security

- ☐ Extension of the service offer and user experience
- ☐ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☐ Enhancement of data-related processes
- ☑ Evolution of application areas



PROJECT SCOPE

- Build a platform to support Law Enforcement Agencies (LEAs) in detecting criminally organised activities, assessing potentially looting areas, tracking looted objects in the criminal market and predictive outputs to prevent future criminal developments.
- Boost the operational capacity of Police and Customs/Border Authorities in addressing the increasingly organised and poly-criminal nature of trafficking in cultural goods.

SATCEN ROLE

- Contribute to the use case(s) description and demonstration activities relevant to Copernicus SESA service and SatCen Users.
- Developing products for demonstration purposes.
- Contribute to the validation of the proposed solutions.

OUTCOMES FOR SATCEN

- Get access to additional tools to enhance SatCen's Cultural Heritage geospatial products and analysis.
- Enlarge Copernicus SESA and SatCen community of users
- Support the long-term evolution of the SESA Service by leveraging the Cultural Heritage related analysis and products.

TIME SPAN

October 2022 – October 2025

FRAMEWORK

EC Horizon 2020

RITHMS received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 101073932 (Topic ID: HORIZON-CL3-2021-FCT-01-08)

ENTRUSTED

REuropean Networking for satellite Telecom Roadmap for governmental Users requiring Secure, inTeroperable, InnovativE and standardiseD services

- [x] Extension of the service offer and user experience
- [ ] Enlargement of the exploitable data catalogue
- [ ] Exploration of advanced technologies
- [ ] Enhancement of data-related processes
- [ ] Evolution of application areas



ENTRUSTED Project flyer.

PROJECT SCOPE

- To support the shaping of the EU Space Component GOVSATCOM.
- To introduce user needs through a Network of Users composed by MS representatives and EU entities working in security-related activities.

SATCEN ROLE

- Coordination and transformation of user needs into user requirements to support the definition of use cases.
- Exploitation of GOVSATCOM services' capabilities to enhance SatCen service portfolio.

OUTCOMES FOR SATCEN

- Provision of SatCen requirements for future governmental secure communication services.
- Improved knowledge of the potential value and key parameters of satellite communication services.

TIME SPAN

September 2020 – May 2023

FRAMEWORK

EC Horizon 2020

ENTRUSTED received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement no 870330
Topic ID: SU-SPACE-31-SEC-2019

SPIDER

Space based Persistent ISR for Defence and Europe Reinforcement

- ☐ Extension of the service offer and user experience
- ☑ Enlargement of the exploitable data catalogue
- ☑ Exploration of advanced technologies
- ☑ Enhancement of data-related processes
- ☐ Evolution of application areas

PROJECT SCOPE

- Feasibility study addressing developments of multi-mission affordable satellites constellations dedicated to space-based ISR for defence use-cases compatible with national and EU initiatives.
- Provide high reactivity, including autonomous re-tasking, short revisit periods and short end-to-end system latency.

SATCEN ROLE

- Support the gathering and consolidation of user requirements and use cases.
- Coordinate the definition of interfaces, in particular those with user involvement.
- Support the definition of a technology roadmap for future phases.

OUTCOMES FOR SATCEN

- Design of an enhanced EO data management infrastructure.
- Definition of improved services for tasking and reception of data.

TIME SPAN

December 2023 - August 2026

FRAMEWORK

EC EDF 2022

SPIDER has received funding from the European Union's EDF (European Defence Fund) initiative of the European Commission under grant agreement no 101121113

Funded by the European Union

ANNEX 5. TRAINING COURSES

COURSE TYPE	COURSE TITLE	LOCATION	ATTENDEES
ESDC Course	**High Level Course 2022-2023** 18th CSDP-Otto Von Habsburg	Brussels Tampere Roskilde Vienna	2 members of management
ESDC Course	**High Level Course 2022-2023** 19th CSDP-Manuel Marín González	Brussels Madrid	2 members of staff
ESDC Course	**CSDP Orientation Courses**	Brussels Thessaloniki	8 members of staff
ESDC Course	**Integrated Border Management Course**	Kilkis	1 member of staff
ESDC Course	**The Challenges of Securing Maritime Areas Course**	Thessaloniki	1 member of staff participated and provided a lecture on behalf of SatCen
ESDC Course	**ESDC Climate Change and Security Coruse**	Paris	1 member of staff
Project Management Course	**PRINCE2** (fifth and last issue)	SatCen	14 members of staff

Administration / Finance Courses for EU Institutions

COURSE TITLE	ATTENDEES
Finacial Admin. & Auditing Preparation for EC Funded Projects	Finance Unit
EU Learn online course on the use of the new e-Procurement tool (PPMT)	Legal Team
EEAS-Policy Analysis	1 member of staff from the Brussels Offcie
EIPA's European Cetification for Public Procurement Professionals (3 modules)	Legal Team
EUSA - Lead Your Team	Admin/HR Division
Training for Managers on Respect at the Workplace, Diversity and Inclusion	29 members of staff

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