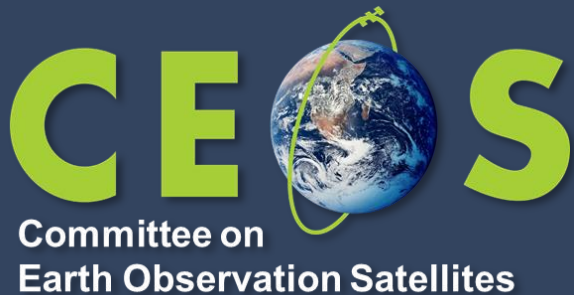


# CEOS Plenary 2024

*UK Space Agency annual update  
2023-24*



**Beth Greenaway, UKSA**

**38<sup>th</sup> CEOS Plenary  
23<sup>rd</sup> - 24<sup>th</sup> October 2023  
Montreal, Canada**

## IMPROVE PEOPLE'S LIVES BY MAXIMISING THE POTENTIAL OF SCIENCE & TECHNOLOGY:

### ACCELERATING INNOVATION

- Accelerate innovation, investment and productivity through world-class science, research and development

### TECHNOLOGY FOR GOOD

- Ensure new and existing technologies are safely developed and deployed across Britain, with the benefits more widely shared

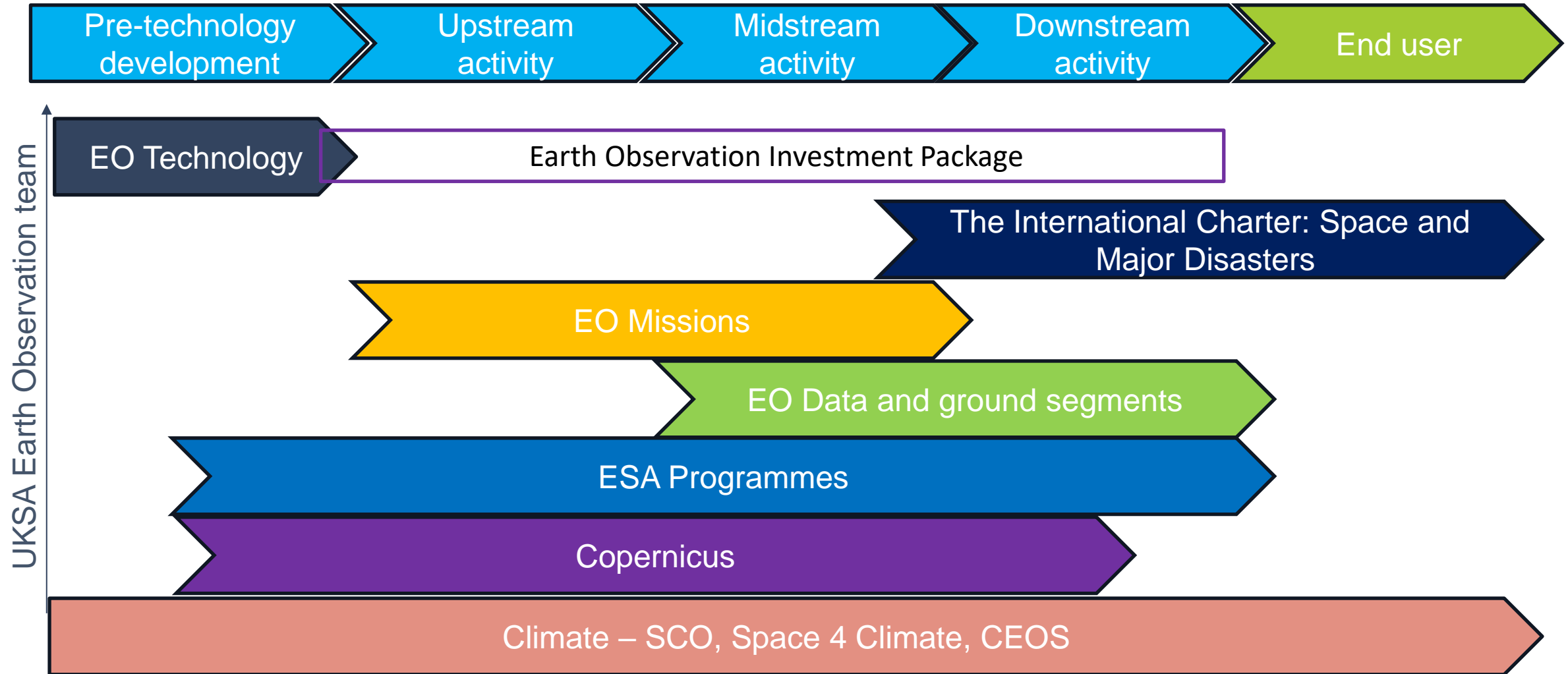
### MODERN DIGITAL GOVERNMENT

- Drive a modern digital government which gives citizens a more satisfying experience and their time back

### ENABLING OUR FIVE NATIONAL MISSIONS

Kickstart economic growth | Make Britain a clean energy superpower | Take back our streets | Break down barriers to opportunity | Build an NHS fit for the future

# The UKSA EO Programmes



# EO Investment programme



←← 18 projects, c.£247m funded, 2022–2025, delivered by: ESA, Innovate UK, Met Office, NERC, STFC, UKSA



Scan for more information

Programme overview:

- UKSA oversight since April 2024 (took over from DSIT)
- Projects close March 2025, external evaluation underway, reports November 2025
- Projects progressing against a range of indicators →→
- **One example is the ‘Transatlantic Data Science Academy’ facilitating Skills collaboration between the UK’s Met office and NOAA.**

Impact	Supporting the UK’s Earth Observation sector to grow over time
Outcome	Mitigate the economic impact of non-association to Copernicus and maintaining EO capabilities
Output 1	Skills funding to increase the number of individuals/entities with EO capabilities
Output 2	Promoting international collaboration on Earth Observation
Output 3	Investing in domestic Earth Observation capabilities and delivering space missions
Output 4	Provision of EO services
Output 5	Supporting EO research and technology development

Earth Observation activities are being funded through other UK Space Agency national and international programmes e.g

## **Enabling Technology Programme:**

- 6 EO activities currently being funded, totalling more than £1.3M

## **National Space Innovation Programme:**

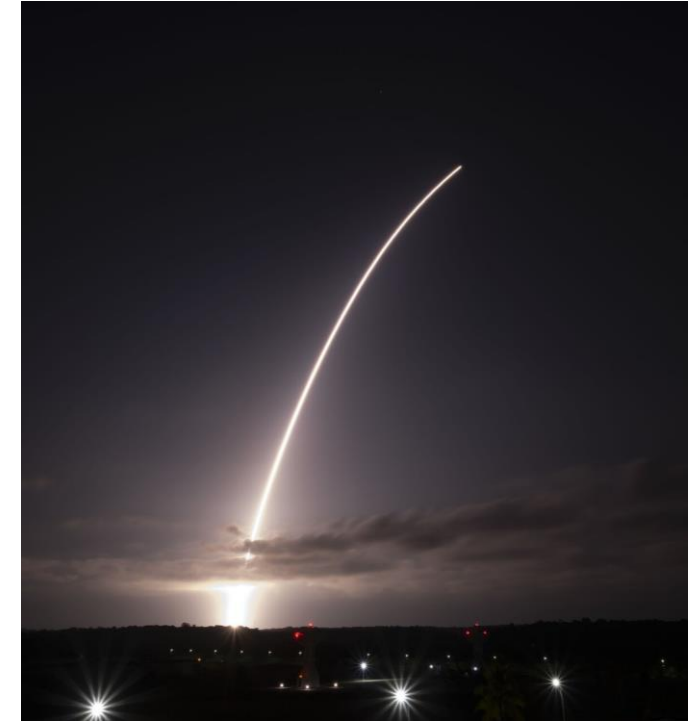
- 2 EO projects being funded through NSIP Major Projects
- 2 EO projects being funded through NSIP Kick Starter calls

Totalling more than £9.5M

## **International Bilateral Fund:**

- Funded in partnership with other countries, totalling more than £1.2M including Aquawatch with Australia

- The UK rejoined the EU Copernicus programme on the 1<sup>st</sup> January 2024. The Copernicus system is vital to global efforts to tackle environmental and climate change related challenges.
- Looking forward to the launch of Sentinel 1C later this year – very important launch on VEGA-C return to flight, and many upcoming launches of new Sentinel missions in 2025 onwards.
- The UK's EO community is widely involved in the development stages of the Expansion missions and next generation of the Copernicus sentinels, which will provide improved and continuous data into the 2040s.

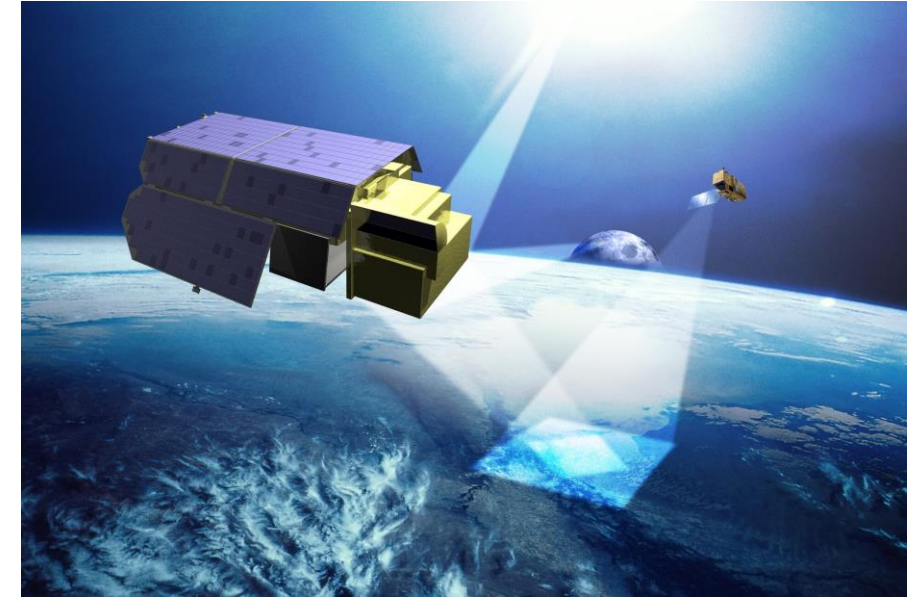


Sentinel 2C successfully launched on the final VEGA flight from Korou, 5<sup>th</sup> September

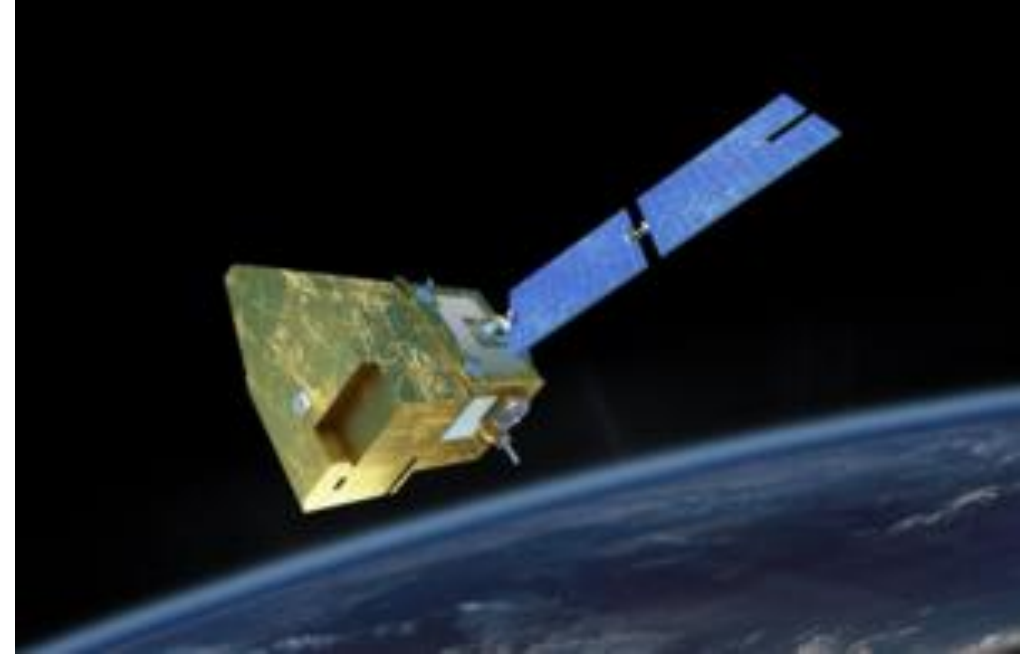
# Missions: TRUTHS



- TRUTHS will be a calibration lab in space, increasing accuracy of EO data ten-fold.
- It will provide a benchmark reference of the optical radiation state of the planet.
- Now at Phase B2 and looking at ground segment options and new use cases especially for small sat calibration.
- CEOS SiSAT group

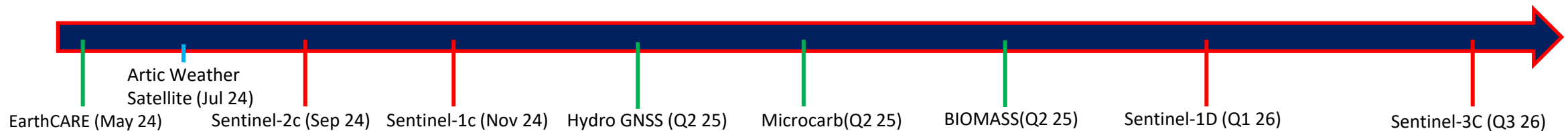


- A joint mission between CNES and UKSA which will characterise GHG fluxes and gauge how much carbon is being absorbed by oceans and forests.
- This will allow us to anticipate how the ecosystems will react to global warming and help us to monitor progress in meeting the Paris Agreement climate targets.
- The satellite is currently in storage, awaiting a proposed launch on Vega-C in June 2025
- Actively looking at exploitation opportunities





- The UK invests in ESA EO programmes and has interests and capabilities across the EO programmes and missions.
- Celebrated launch of Earthcare long duration science mission and Phisat2 trialling AI on board a small satellite.
- Its ESA Council of Ministers in November 2025 so work has started to define the programmes that ESA Member States will collectively fund.
- The UKSA INCUBED call focused on innovations in EO for public sector use and many amazing ideas proposed.



- We fund the Centre for Earth Observation instrumentation (CEOI) over the past year is has expanded and technology development is thriving.
- **£9m** total grant awarded
  - around **4x** larger than the average CEOI award
  - around **2x** larger than the previous largest CEOI award
- **12** projects are being supported, including:
  - **6** Flagships (up to £3m)
  - **4** Fast Tracks (up to £250k)
  - **2** Pathfinders (up to £75k)
- CEOI track them to ensure effective delivery.
- There are some amazing new technologies being developed in the UK, which will soon be looking for a mission or a user.



# EO Data programmes



**Copernicus:** The UK rejoined Copernicus from 1 January 2024. UKSA is working with ESA and others to support our sector in re-engaging with Copernicus on the data a ground segment elements



**ESA Digital Twin Earth:** creates the conditions for a strong uptake of novel EO capabilities in the future design and implementation of operational Digital Twins ecosystems.

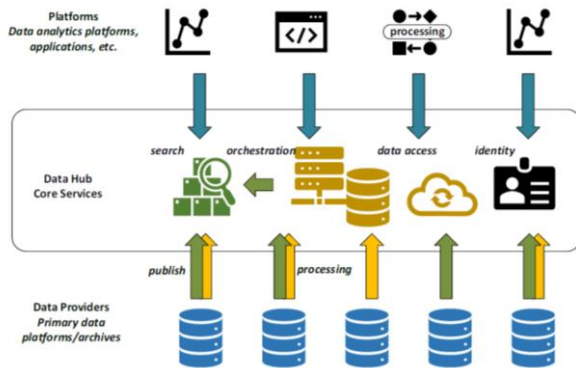
## UK Representation:

- National Point of Contact for Sentinel Data
- ESA Data Coordination Body & Working Groups
- PBEO attendee
- CEOS Working Groups

★	EO Data Acquisition		EO Data Market		EO Services Market	
	Data	Infrastructure	Platform & Marketplace	Analytics	Insight	Application
Description	Manufacture of satellites, ground systems and operations including data archiving, processing and distribution.	Scalable data storage and cloud infrastructure. Often hosting tools for data management and processing.	Colocation of processing with data tools and storage. Often aggregated point of access for multiple data sources.	Routine automated data processing services for deriving intelligence applicable to multiple industries or domains.	Bespoke data processing services for deriving insights for a specific industry or domain. Often integration with additional data sources.	Software products where insight from EO data is integrated into a core product or as an optional value adding feature.
Biz. model	Data-as-a-Service (Vertically integrated)	Infrastructure-as-a-Service (Data agnostic)	Platform-as-a-Service (Data integrated)	Analytics-as-a-service (Domain agnostic)	Insights-as-a-Service (Quasi Domain Experts)	Software-as-a-Service (Domain Experts)
Example Actors	MAXAR, planet, e-geos, SATELLOGIC, AIRBUS, Capella Space, GHGSat, umbra	aws, Azure, sentinelhub, GEOCENTO, DIAS Platforms, CREGODIAS, mundi, sobloo, ONDA	ARLULA, Orbital Insight, astraea, SPACEKNOW, esri, SKYWATCH	Descartes Labs, Kawa Space, Picterra, Blue Sky Analytics	overstory, GEOSPATIAL INSIGHT, PRELIGENIS, azavea, Terrabotics, 3keel, vivideconomics, KAVRISOS, SATELLIGENCE	FORESTMIND, ARCSO, CCG, CAPE, Pöchlmann, ARTURO, FarmersEdge, ecometrica, Cloud to Street, Sylvera

## ESA Collaborative Ground Segment:

UKSA coordinates the ground segment activities in the UK and acts as an interface between ESA and national initiatives. The UK has two Data Hub Relays which are in the process of upgrading the interface with the new Copernicus Data Space Ecosystem.



**EO Value Chain:** an illustration of the UK's EO value chain, from data acquisition to applications.

**NCEO-led EO Data Hub:** The EO Data team plays a key advisory role in the £10M NCEO led DataHub, piloting a next-generation data platform to give the UK a single portal for accessing and processing satellite data to develop new applications and environmental insights.



- UKSA are lead funders of the UK's **Space4Climate (S4C) network**, which celebrated its ten-year anniversary in May.
- This unique programme unites space-enabled climate expertise and services across the UK, facilitating collaboration between Academia, industry and Government.
- We provided grant funding for 10 **Climate Services Calls** exploring groundbreaking climate services to combat water pollution, carbon emissions, and biodiversity threats and 3 market breakthrough activities.

## SPACE CLIMATE



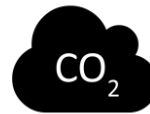
Snapshot of the Space4climate network

Organisations are collaborating to provide market-validated recommendations of solutions across 3 climate critical sectors



## Sustainable Finance

Space-based innovation on TCFD (Task force on Climate -related Financial Disclosure) compliance



## GHG Emissions

Opportunities for Earth Observation technology to assist the regulatory framework in UK industrial methane gas monitoring



## Net-Zero: Agriculture

Understanding markets and facilitating the use of EO technology to deliver net zero through partnership working

COLLABORATION DRIVES ACTION

# 10 YEARS OF SPACE4CLIMATE

SPACE  
CLIMATE

## EVENTS

**11**

INTERNATIONAL

**205**

UK

**03**

COP  
SHOWCASE

**15**

TRADE SHOWS  
TALKS

## WORKSHOPS AND BRIEFINGS

**10**

END USER  
WORKSHOPS

**07**

KEY  
GOVERNMENT  
BRIEFINGS

**12**

SECTOR  
WORKSHOPS

**03**

INTERNATIONAL  
DEVELOPMENT  
WORKSHOPS

## COMMUNITY SUPPORT

**£280,000**

FUNDING PROVIDED

**79**

MEMBERS  
SUPPORTED

**02**

CLIMATE SERVICE  
INNOVATIONS  
KICK STARTED

**10**

COMMUNITY RESOURCE  
ASSETS DEVELOPED

## SOCIAL MEDIA COMMUNITY

**2000+**

MEMBERS ON  
LINKEDIN

**1400+**

MEMBERS ON  
X (TWITTER)

**200**

MEMBERS ON  
PERSONALIZED  
NEWSLETTER

UNITING UK SPACE-ENABLED CLIMATE EXPERTISE AND SERVICES

# UKSA engagement in COPs



**SPACE CLIMATE**

**850+** stand visitors

**Events:**  
3 Green Zone events  
1 Blue Zone event

**New S4C App:**  
32 global climate data sets  
36 case studies of members' climate products and services

**COP28 UAE**  
Climate Supporter

Significant achievement to attend COP26 through to COP28 in partnership with S4C with events and Green Zone exhibition. Will attendance COP29 as CEOS Chair .

- UK Space Agency is delivering a portfolio of activities across the EO Value Chain nationally, in ESA, with the EU and in the broad international context.
- Copernicus participation is bringing rewards and opportunities
- ESA CMIN 25 – the preparations begin.
- CEOI has expanded and technology development is thriving
- Microcarb launch amongst many in the coming months and years.
- Very excited and honoured to be incoming CEOS chair.