



A dark blue banner for the ESA Space Weather Service Network Workshop 2026. On the left is the ESA logo with a globe and a sun. To the right are eight circular icons representing different sectors: Spacecraft (satellite), GNSS (satellite), Telecoms (satellite), Launch (rocket), Human Spaceflight (astronaut), Aviation (airplane), Power (battery), and Pipeline (oil tank). The text '3rd – 5th February 2026' and 'ESA/ESOC, Darmstadt, Germany' is in the bottom right corner. The main title 'ESA Space Weather Service Network Workshop 2026' is centered at the bottom in white. Below it, the text '3–5 Feb 2026' and 'ESOC' is in a smaller white font.

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1 INTRODUCTION

ESA Space Weather Service Network Workshop

The ESA SWE Service Network Workshop 2026 will take place from 3rd to 5th February 2026 as a hybrid meeting (online in combination with in-person presence onsite in the ESA premises of ESOC at Darmstadt, Germany).

As part of the ESA Space Safety Programme, the ESA SWE Service Network aims to provide timely and reliable space weather information to end users. The Network builds on data from ground and from space, along with the latest forecasts and models in order to provide user-focussed products, tools and alerting covering the full Sun-Earth system. These individual elements are then combined with end-user support into pre-operational services targeting a wide range of affected sectors including spacecraft operation, aviation, navigation and power distribution networks amongst others.

The ESA Space Weather Service Network, part of the *ESA Space Safety Programme*, develops, tests and demonstrates European space weather capabilities with end users in the loop. Its mission is to strengthen Europe's resilience to potentially damaging space weather events.

Through the [ESA Space Weather Service Portal](#), the network now provides a wide range of timely and reliable space weather information to a broad community of end users.

The workshop aims to

- Bring together teams working on diverse aspects of space weather service provision
- Provide a platform for end users to discuss current capabilities and planned developments
- Highlight advances and evolutions across the wider space weather community, with a focus on future development needs
- Promote continuous service improvement through robust performance assessment and validation
- Discuss state-of-the-art technical challenges relevant to the community
- Encourage end users to become active contributors to the service network

With additional topics:

- Measurement systems underpinning space weather services
- Utilisation of data from the Distributed Space Weather Sensor System (D3S)
- Preparation for the upcoming Vigil mission

This workshop is organised by the ESA Space Weather Office and the ESA SWESNET project, part of the ESA Space Safety Programme (4000134036/21/D/MRP).

The webpage is <https://indico.esa.int/event/604/overview>.

2 ON-SITE FORMAT AT ESOC

We are delighted to welcome you at ESOC!

2.1 How to arrive to ESOC and practicalities

On how to arrive and other details, please see

<https://indico.esa.int/event/604/page/1024-getting-to-esoc> , at the provided link.

2.2 Details on ESOC

2.2.1 Registration on-site

On the first day on-site, please proceed to the security gate for identification (passport check). This can take some time, so please consider arriving early on the first day, and with sufficient time for the check, and then kindly collect your **visitor* (only for ESOC externals) Workshop badge** at the Security area, bringing identification as ID card/passport.

-The meeting is centred on the H building, with a limited number of sessions taking place also in the K building inside the ESOC premises. Guests are kindly requested to remain within the designated areas on the ground and first floor of the H-building unless otherwise indicated by the organisers.

-The first welcome complimentary coffee is before the Welcome session, from 08:30-09:00 in the H-building foyer on the first floor.

2.2.2 Inside the premises

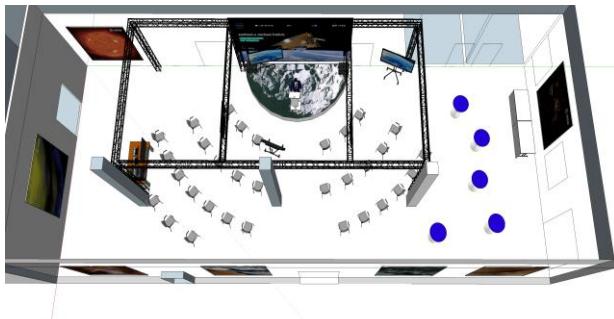
2.2.2.1 Conference rooms

The 5 rooms hosting workshop sessions are located as follows: 4 in the H building, and one in the K building (over the cafeteria):

- HIV-HV-HVI, renamed as “VIGIL room”, plenary, H building 1st floor.
- ESOC Press Centre, renamed as “SWORD room”, H building ground floor.
- HI, renamed as “PROBA room”, H building 1st floor.
- HII-HIII, renamed as “ROSIE room”, H building 1st floor.
- K112, renamed as “SOHO room”, K building 1st floor.

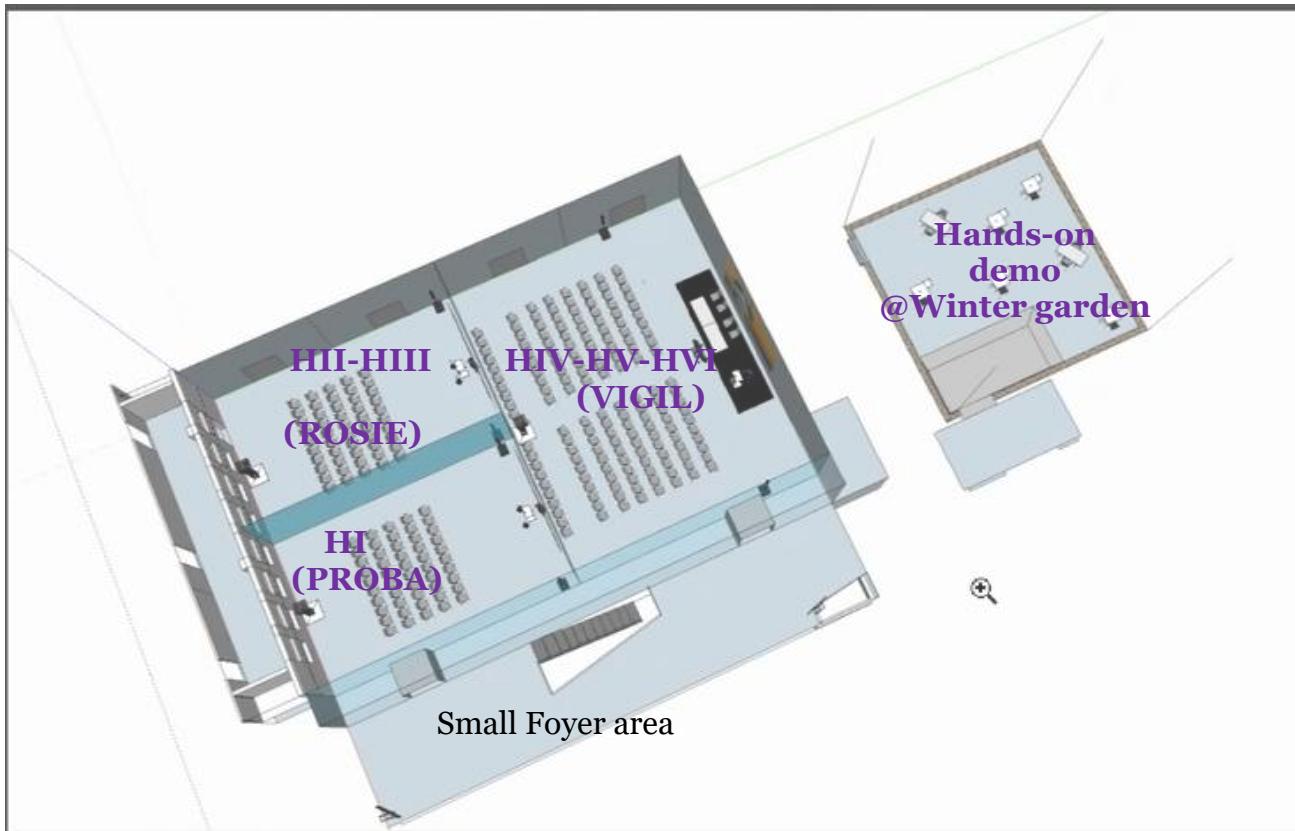
ESOC Press Centre

“SWORD room” (H-building ground floor)



K112 (SOHO room)





HI-HIV area in H building 1st floor, created and kindly provided by Dierk Schneider (ESOC).

2.2.2.2 ROOM DISTRIBUTION BY SESSIONS

This room distribution will be used for the plenaries and parallel sessions. The session room is the area where the presenters on-site will be able to present, please see the timetable in Section 4 or at <https://indico.esa.int/event/604/page/1024-getting-to-esoc>, at the provided link.

In case that quiet/working rooms are needed, please check the schedule and you are welcome to use any empty session room inside the H-building.

If there are questions, please kindly ask the ESA Space Weather (SWE) Office members for more information on the spot. You can find one of the SWE Office team members in each of the rooms to help with the preparation of Teams meetings and able to collect presentations there.

2.2.2.3 Session roles: Conveners/chairpersons and rapporteurs.

Conveners/chairpersons on-site

At the allocated session room, at least one the convener/chairperson (or rapporteur) should be located in person, and they will be able to take the questions for the persons on-site and on-line.

Rapporteurs

Rapporteurs are responsible for taking the minutes of the session which includes provision of a participants list, online and on-site. The rapporteurs may be located online or on-site. There will be participation sheets to fill in onsite, and also the online participation shall be noted via Teams. The meeting minutes template will be provided to Rapporteurs prior to the start of the workshop by email.

2.2.3 Presentations on-site handling

All presenters are requested to provide their presentations in advance of the workshop so that they can be uploaded to the workshop laptops in the meeting rooms.

We will have dedicated laptops in each of the main rooms (ESOC Press Center plus HI-HVI, K112), connected to Teams app for the conference. The SWE Office members will upload all presentations received in advance to these laptops. Additional presentations can be added with USB sticks. **Please note it will not be possible to connect the own laptops in the meeting rooms.**

Please provide the presentation in Windows format, e.g. ppt.x or pdf, also interactive. In case of presentation onsite by USB, please kindly provide them before the session to the SWE Office members.

There will be SWE Office members and technical support available in each room.

2.2.4 Hands-on demo booths

We are delighted to present the hands-on demo booths!

These are located on the Winter garden, at the H building, 1st floor, crossing the H101 or H129 room.

They will be opened in coffee breaks and lunchtime on Wed 4th February, so please pass by!

The list of booths available can be found on the workshop website, Hands-on demo booths <https://indico.esa.int/event/604/sessions/2550/#20260204> .

2.2.5 Wifi

Wifi access is provided through ESA_public with the registration codes, available as printouts in each room.

2.2.6 Coffee breaks and lunch

There will be a complimentary coffee break (08:30-09:00 CET) before the first session of the morning during February 3rd, 4th, 5th, plus at the time slotted coffee breaks (around 10:30 CET, and around 15:30 CET). The two coffee areas are located at the small Foyer area (outside the HI-HVI rooms) and the lower Foyer (mezzanine).

The lunch on February 3rd, 4th, 5th will consist of “lunch on the buffets” lunch pack freshly prepared by the ESOC canteen, consisting of sandwiches, wraps and salad bowls, vegetarian and vegan, available to the participants, served in the Foyer areas in the lunch breaks.

2.2.7 Social event

We are delighted to invite to all the on-site participants to the social event. Details of the social event can be found at <https://indico.esa.int/event/604/page/1022-social-event> on Wednesday 4th February. All participants who registered for the social event are invited to visit the Brauerei Schmucker (<https://www.schmucker-bier.de/>) in the forest Odenwald for an informal evening experiencing some local traditions. Buses will depart at 17:00 and coming back at approximately 23:00.

3 ONLINE FORMAT

This year the ESA SWE Service Network Workshop will take place online and onsite and sessions will be hosted also virtually via five main meeting ‘rooms’ utilising the **Teams** software application. There are five virtual meeting rooms named after five spacecraft/facilities contributing to Space Weather data, coincidental with the physical rooms at ESOC, namely **‘VIGIL virtual room’**, **‘SWORD virtual room’**, **‘PROBA virtual room’**, **‘ROSIE virtual room’**, **‘SOHO virtual room’ that can be accessed via Teams links provided by email and calendar blocker**. The session timetable outlined in Section 4 will let you know which virtual room to access for a given session. The same link will be intended for the 3 days.

Participants are kindly reminded that presentation material shown during the event is presented and shared for the purposes of this workshop only and any further use beyond the workshop must be agreed with ESA and the author in advance.

3.1 Guidelines for the online *Teams* meeting

This Section outlines the guidelines for participants, session conveners/chairpersons and rapporteurs along with recommendations of how the session should run. It is important that online session Conveners/Chairpersons familiarise themselves with the guidelines and clarify any questions prior to the Workshop. The same information is included here with additional screenshots to help clarify any mentioned Teams specific features.

General Guidelines

- Participants should log on to *Teams* with the name format: *first name last name affiliation (pronoun if wished)*

- Participants should keep their video cameras off during sessions to minimise the bandwidth and reduce the likelihood of poor web conference quality. The presenter is encouraged to have the camera active.

The main *Teams* meeting screen is considered as a lobby. In this screen you will see the schedule for the day.

The full session is divided into Breakout rooms following the physical names. Please familiarise yourself with the schedule in **Section 4** will and join the breakout room of your

choice! You just need to follow the 2 rectangle icon on the top bar at *Teams* (see Figure 1):

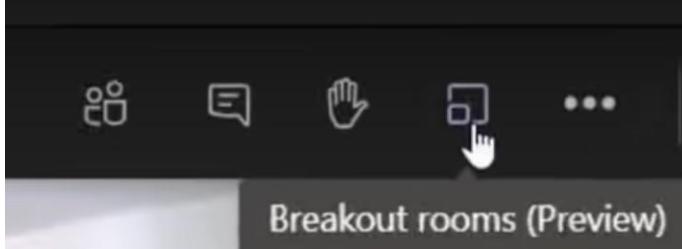


Figure 1: Breakout room symbol

The breakout rooms will show on the right pane, and you can click on that of your choice. The number in brackets is the number of participants that are already in that breakout room, see Figure 2.

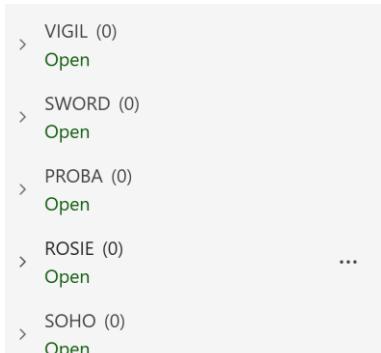


Figure 2: Breakout rooms to choose

Session Interaction

- Onsite/Online Session chairpersons will invite session speakers to share their screen and presentations as per the agenda. Once this happens, the session chairperson will unmute the speaker. Speakers should use the '*Raise Hand*' feature to allow the session chairperson to quickly find their name in the participants list and unmute. Participants may find this feature in the main panel icons, see Figure 3. Once this has been done the chairperson will then see this icon on their view and unmute. Note you are required to 'un-raise' hand by clicking the icon again when appropriate or else your hand will remain raised.

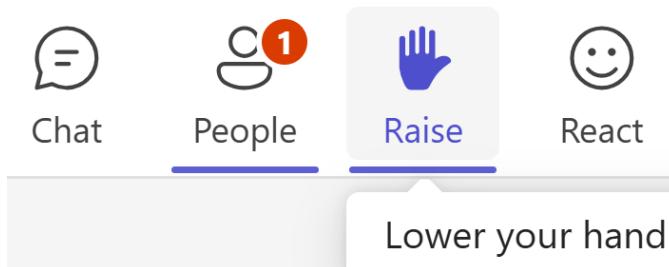


Figure 3: Screenshot to show how to access the 'Raise Hand', with the option of lowering the hand when the question is addressed, and 'Chat' feature location.

- If participants have a question during the presentation, they should write this

15:17 Meeting started

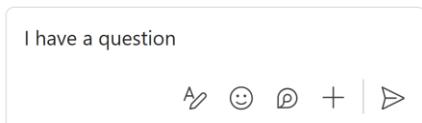


Figure 4: question in chat

question in the chat window to everyone (Figure 4). Session Chairperson/s will read the questions to the speaker at the end of the presentation. If your question is read and requires some discussion, participants should use the '*'Raise Hand'*' feature in order for the session chairperson to easily locate them and unmute. Please remember to un-raise your hand once your question has been addressed.

- During discussion elements of sessions, we recommend that the convention of raising a hand to speak remain in place. However depending on the number of participants and nature of the session the chair may decide to unmute all to allow for a more informal discussion.

Session Conveners/Chairpersons online

- Online chairpersons/conveners can present and formulate questions to the audience by unmuting their microphone themselves (and using the camera if wished).

- The participants may join any session accessible via the workshop Teams link freely by themselves, through the following icon. They should locate which virtual room they wish (VIGIL, SWORD, PROBA, ROSIE, SOHO room) to join and click on that.
- Once the session has started the session Chairperson should remind all participants of the approach i.e. that participants are muted on entry and reiterate the general guidelines for asking questions [see 'Session Interaction' above].
- The organisers may be able to send Announcements to all the Breakout Rooms, and to ask them to freely join breakout Rooms or reconvene at the Main Meeting.

Hannah Jayne Laurens 11:46 **IMPORTANT**

Please come to the keynote in the main room.

!

Figure 5: announcement across the virtual breakout rooms

Note: We kindly ask that you do not record sessions throughout this workshop. We will however be generating summaries of the sessions which we can circulate on request subject to all necessary agreements.

3.2 Contact

For any questions related to the SWE Network Workshop and for on-site enquiries, please contact the Organising Team esa-swe-ws2026@esa.int. For the Session list, please find the list and a downloadable pdf booklet at <https://indico.esa.int/event/604/timetable/#all>.

4 SESSION TIMETABLE

Tuesday 3rd February 2026

Time (CET)	VIGIL ROOM (HIV-HV-HVI) Capacity: 140	SWORD ROOM (PRESS CENTRE) Capacity: 60	PROBA ROOM (HI) Capacity: 50	ROSIE ROOM (HII-HIII) Capacity: 50	SOHO ROOM (K112) Capacity: 24
8:30-09:00				Coffee Break	
9:00-09:30	Welcome session				
09:30-10:30	R-ESC Introduction	S-ESC Introduction	H-ESC Introduction	I-ESC Introduction	G-ESC Introduction
10:30-11:00			Coffee Break		
11:00-12:30	Machine learning in the ESA Space Weather Service Network		Ionospheric Weather Expert Service Centre product developments and Future Improvements	Geomagnetic Conditions Expert Service Centre Products, Development and Future Improvements	
12:30-14:00			Lunch Break		
14:00-15:30	Follow up on TEC combination and real-time validation in position domain	Exploitation of Energetic Particle Measurements for Space Weather Applications	Heliospheric Weather Expert Service Centre Products, Developments and Future Improvements	Solar Weather Expert Service Centre Products, Development and Future Improvements	Validation and Benchmarking of Geomagnetic Conditions Forecast Products
15:30-16:00			Coffee Break		
16:00-17:30	Improving Geomagnetic Conditions Forecasts: Sun to Earth Perspective	Possible New Developments and Validation for the SWE Service to Aviation in View of Services Offered by ICAO's SWE Centres			
17:30-18:00	Performance Assessment Tools and Needs in the SWE Service Network – discussion				

Time (CET)	VIGIL ROOM (HIV-HV-HVI) Capacity: 140	SWORD ROOM (PRESS CENTRE) Capacity: 60	PROBA ROOM (HI) Capacity: 50	ROSIE ROOM (HII-HIII) Capacity: 50	SOHO ROOM (K112) Capacity: 24
8:30-09:00			Coffee Break		
9:00-09:30	Space Weather Needs for the Evolving Spacecraft Operations Domain				
09:30-11:00	Preparing for the Vigil Mission and Future Observations	Supporting Spacecraft Operations: Simulations, Campaigns, and Lessons Learned	Designing Space Weather Resilient Systems		
11:00-11:30	Coffee Break & Hands-on Demos in Winter Garden				
11:30-13:00	Towards a GNSS Performance Indicator for Decision Making	Improving Space Weather Services for Earth's Radiation Belts	Solar System Exploration Missions	Validation and Benchmarking of Solar Forecast Products	
13:00-14:30	Lunch Break & Hands-on Demos in Winter Garden				
14:30-15:00	ESA Space Debris Office operational use of Space Weather				
15:00-16:30		Integrating Data for Next-Generation Tools in Satellite Drag Calculation and Collision Avoidance	Space Weather Downstream Commercial Outlook	SEP Monitoring and Forecasting on the Moon and Mars	

16:30 GROUP FOTO at H & 17:00 SOCIAL EVENT

Thursday 5th February 2026

Time (CET)	VIGIL ROOM (HIV-HV-HVI) Capacity: 140	SWORD ROOM (PRESS CENTRE) Capacity: 60	PROBA ROOM (HI) Capacity: 50	ROSIE ROOM (HII-HIII) Capacity: 50	SOHO ROOM (K112) Capacity: 24
08:30-9:00				Coffee Break	
9:00-09:30	Protect Space Weather Demonstrator Phase 1&2 Results & Recommendations for the ESA Space Weather Service Network				
9:30-11:00	ESA Space Weather Portal Presentation Improvements	Space Weather Service Infrastructure and Operations: Standardization and Inter-ESC Collaboration - part 1	Towards a Space Weather GIS: Standardized Geospatial Information Access for Expert Users		
11:00-11:30			Coffee Break		
11:30-13:00	ESA Space Weather Service Network Workflows and Tools	Space Weather Service Infrastructure and Operations: Standardization and Inter-ESC Collaboration - part 2	Forecasters and Scientists as End Users	Improving End User Experience	
13:00-14:00			Lunch Break		
14:00-15:00	R-ESC Wrap-Up	S-ESC Wrap-Up	H-ESC Wrap-Up	I-ESC Wrap-Up	G-ESC wrap up
15:30-16:30	Network Wrap-Up Presentations & Discussion				

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