User Group Report

21st CleanSeaNet User Group Meeting

Held via Video Conference

9 March 2022

Date: 8 April 2022

EMSA

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Background

The meeting was chaired by Mr Pedro Lourenço, Head of Unit 2.2 Surveillance and was held via videoconference. Delegations from **Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia and Spain** attended the meeting.

The meeting documents are available at EMSA's password protected extranet site. Once approved the following documents will be available in the EMSA public website:

- Final user group report
- EMSA paper "21.2.1: CSN Service Results"
- EMSA paper "21.3.1 CSN Support operations, exercises and emergencies"

For the purpose of this report, European Union Member States and EFTA countries are referred as Coastal States.

1. Opening and Introduction

1.1 Approval of the agenda and the list of documents

The chairman welcomed the participants of the 21st CleanSeaNet (CSN) User Group meeting and presented the agenda that was approved with no further topics to be discussed. The full list of documents that were provided before the meeting was also presented and no comments were received.

1.2 Updated Rules of Procedure of the CSN User Group

EMSA presented a proposal to update the Representation section (page 3) of the Rules of Procedure. The scope of the change is related to the fact that Albania, Montenegro and Turkey are currently accessing the CSN service through the CSN for ENP countries respective projects. Thereupon, relations with these countries should be managed under the scope of ENP project activities and not via the standard service for Coastal States.

Therefore, the rules of procedure had to be updated according and the new text will read: "*The CleanSeaNet User Group shall consist of delegations from each of the countries participating in the CleanSeaNet service namely European Union member states and EFTA countries as well as EMSA representatives*."

The CSN UG is invited to provide feedback to EMSA's proposal (see follow-up action no 1 in Annex 1).

1.3 Earth Observation Data Centre access – CleanSeaNet User Roles

With the purpose of clarifying the different user roles in the Earth Observation data centre, **EMSA** presented a compilation of the user roles including a definition of each role as well as the corresponding access rights.

1.4 Follow-up Actions and results of Written Procedures

The status of the follow-up actions from the previous CSN User Group meeting were presented by **EMSA** and no comments were received.

The results of the consultations (Written Procedures) submitted in 2021 by EMSA to the CSN User Group were also presented by **EMSA**:

- Written procedure N1 - provision of a functional email address to be published in EMSA's website

As an outcome of the feedback provided by the CSN UG, the list of CSN NCAs contact details was published on EMSA's website: http://www.emsa.europa.eu/csn-menu/csn-ncas-contact-details.html

- Written procedure N2 – authorise the access of European Neighbourhood Policy (ENP) countries to provide feedback information in images that are shared between different projects (CleanSeaNet, SAFEMED IV and BCSEA).

No formal objection was received to WP 2. Access to the feedback functionality in SEG will be attributed to ENP users for services inside their Alert Areas.

2. CleanSeaNet Service Overview

2.1 CSN 2021 Service results

EMSA presented the results and performance of the CSN service during 2021.

The presentation included:

- Service results
- Quasi-real time (QRT) performance
- CSN detections

In terms of service results in 2021, CSN delivered 96% of the planned services corresponding to 6693 SAR and optical images. The CSN service fulfilled the user coverage requirements despite the anomaly verified in Sentinel-1B (S-1B) since the 23rd December 2021, which forced the cancellation of the CSN imagery from this satellite. The Sentinel-1 (S1), RADARSAT-2 (RS2) and TerraSAR-X (TSX) missions all had a delivery ratio of 96%, figuring a decrease of 1% for S1, an increase of 2% for RS2 and an increase of 3% of TSX, when compared with 2020.

Following the presentation, interventions from the participants took place as follows:

France and **Germany** requested more information related to the S-1B reported anomaly, the cancellation of the corresponding services and the way forward of the CSN service without this satellite. **EMSA** replied that the presentation "CSN 21.8.1 Impact of the Sentinel-1B suspension" would cover entirely the inquiries.

2.2 CleanSeaNet 2021 Oil Spill Feedback

EMSA presented the statistics related to the CSN oil spill feedback provided by the users during 2021, including the geographical distribution and verification results, per Coastal State.

The assumptions on the feedback extraction of data were outlined as a baseline for the presented statistics. **EMSA** informed that as a follow up action from the previous 20th CSN User group, the verification results were aggregated by countries' Indicative Exclusive Economic Zones (EEZs), instead of alert areas as in previous year.

Accordingly, a new layer with the Indicative EEZs areas was produced (source: https://www.marineregions.org/eezmapper.php which also includes the maritime boundary delimitation agreement signed between Poland and Demark in 2018) and agreed by the CSN UG members which was the reference to produce the 2021 CSN related feedback statistics.

EMSA highlighted that the reference date concerning the extraction CSN data and associated feedback for the purpose of statistical production was 21st of January 2022.

Following the presentation, interventions from the participants took place as follows:

1. **Lithuania** requested the list of oil spills with no feedback associated (1 oil spill) as Lithuania normally perform on-site observation using the Helicopter. EMSA will send the requested data.

2. **Malta** stated that usually Malta analyses and investigates the majority of the spill reports. However, feedback was not being inserted into the system mainly due to unforeseen circumstances from their end. Malta confirmed that the majority of the 2021 and 2022 feedback has now been inserted into the SEG system.

3. **Netherlands** raised a question on the potential additional analysis of the feedback per oil spill class in order to conclude on the verifications of the possible detected oil spill with higher reliability.

EMSA proposed to include statistics of verifications results per class and per size of the oil spill in the feedback results paper to be presented in the next CSN User group in 2023. (see **follow-up action no 2** in Annex 1).

4. **Bulgaria** raised a question on when to report “not operationally relevant”. **EMSA** explained that the Coastal States might consider reporting it due to different characteristics of the oil spills (including class, distance to coast, size of the spill, …) and depends on the MS establish procedures on the verification on site. **Denmark** and **Lithuania** shared their own experiences on when to do on-site observation and procedure to provide feedback in SEG.

EMSA requested the Coastal States to agree on the cut-off date to extract the feedback data from the CSN system database, so that the feedbacks submitted afterwards would not be considered for the statistics 2022. The cut-off date agreed was **20 January 2023**.

3. CSN Support to Operations, Exercises and Emergencies

EMSA presented an overview of the CSN support to operations, exercises and emergencies in 2021.

In 2021, EMSA supported two Tour D’Horizon (TdH) operations and one SuperCEPCO operation, in the Bonn Agreement region, delivering 24 SAR additional images besides the ones previously planned in the routine CSN monitoring.

Seven pollution response exercises were supported in 2021, namely in Bulgaria, Cyprus, Finland, France, Ireland, Portugal and Spain. The exercises were supported with SAR and optical products as well as with satellite feasibility analysis.

During 2021, EMSA provided support to 17 emergencies from which 12 were related to pollution response. The remaining emergencies were related to search and rescue activities. These events involved the activation of the Agency’s Contingency Plan (CP), triggering the emergency tasking of satellite images.

Lithuania highlighted the positive relevance of the combination of CSN and Remotely Piloted Aircraft Systems (RPAS) services during live operations in 2021.

Denmark showed it was very pleased with the overall service provided by EMSA in the support to the emergencies and exercises.

Netherlands raised a question on the satellite images capabilities to detect floating containers at sea. NL will organise an internal test of "Lost cargo detection" on the North Sea during April 2022 and asked EMSA on its interest also to participate with satellite images. **EMSA** said it was interested in validating the detection of lost containers at sea and proposed offline discussions to go over the details of the operation.

4. Operational Use of CSN by Coastal States

4.1 Oil Spill caused by Power Plant in Syria - Cyprus

Cyprus presented an overview of the emergency response of the oil spill originated in Baniyas Power Plant, in Syria, in August 2021.

The presentation referred to the operational use of CSN service and mobilisation of the EMSA's oil pollution response vessel M/V Alexandria during the response operations. During this emergency, the combination of CSN data with aerial and naval mission observations and production of regular oil spill forecasts were essential to support the incident management. No reports of oil spill reaching the coast of Cyprus were received as the spill deviated northwards.

4.2 Incident of "Sea Bird" – Greece

Greece presented an overview of the support to the emergency response of the oil spill incident that occurred in August 2021 after the sinking of the General Cargo ship "Sea Bird".

After the detection of the spill, several oil pollution response measures were put in place, namely, requesting additional CSN images and mobilising of EMSA's oil pollution response vessel M/V Aktea and other private owned antipollution vessels. The Greek authorities monitored and managed the incident using a combination of CSN and EMSA's Remotely Piloted Aircraft Systems (RPAS) services, as well as aerial surveillance operated by Greek authorities and supported by the results from the oil spill forecast model. The presentation mentioned that during the clean-up operations there was no use of dispersants and that no coastline was affected by the oil spill.

Following the presentation **Netherlands** asked how Greek authorities had received the RPAS images during the response operations. **Greece** replied the RPAS images were received by email.

4.3 Illegal Discharges - Spain

Spain presented a use case related to the use of satellite images to detect illegal discharges and to identify the possible polluter in Spanish waters. The presentation also mentioned the penalty applied by the court for the discharge of pollution substances.

Spain asked the other Coastal States if there was any public court case on-going in their countries and if some experience could be shared. **Belgium** replied, via meeting chat, that they also have court cases.
The Netherlands asked if the court decisions are made public, and **Spain** replied positively.

Following the presentation **Spain** requested EMSA to include, in the alert report, a note stating that "*Spill is connected to a vessel*", whenever applicable, so the Coastal State may raise priority on assessing the reported possible spill upon receipt of the alert report.

EMSA clarified that the identification of the possible polluter is performed by Earth Observation service providers and report in the delivered alert report based on received AIS information within 6 hours prior to the acquisition time of the image and the identification of any echo near to the possible oil spill dark patch.

EMSA replied that it will assess the possibility to include that statement in the alert reports, in the development of the future alerting component (expected in operations during 2024). **EMSA** will also verify the possible impact on the current EMSA contracts with the service providers and analyse the technical impact of this change in the CSN system (see **follow-up action no 3** in Annex 1).

4.4 Operational use of CSN – Ireland

Ireland made a presentation (not initially foreseen in the meeting agenda) about a use case in which an oil spill was detected in the Irish waters, but no vessel was indicated as a potential source. Using the available SEG tools, such as the area query and setting time parameters, and also navigation calculus, the Irish authorities were able to isolate a potential polluter and link it with the oil spill. Ireland identified the following user requirements:

- More training for end users
- Uncorrelated Vessel Detection Service (VDS) to be added to the Area Query on the Command & Info window
- Ability to notify Port State on the Command & Info window
- Greater integration of systems and more user-friendly filtering in/out of vessels of interest
- Facility to search historically for vessels of interest

EMSA will analyse the user requests identified by Ireland including their impact in SEG web interface and schedule a bilateral meeting to define the requirements (see follow-up action no 4 in Annex 1).

5. CleanSeaNet role in Regional Agreements

5.1 Bonn Agreement: Tour D' Horizon by Belgium

Belgium delivered a presentation on the support of CSN service to the Tour d'Horizon (TdH) mission held in July 2021. The TdH mission is a Bonn Agreement regional mission type, involving periodic surveillance of the offshore oil and gas installations in the North Sea for oil pollution detection. It was highlighted by **Belgium** that CSN improves the efficiency of surveillance flights.

The presentation showed that during TdH five-day mission, a total of 11 satellite images were delivered by CSN, 37 possible detections were identified by CSN, and 16 spills were observed by the surveillance flights.

Belgium stated that the feedback of the mission was inserted in SEG web interface. During the presentation a list containing the images acquired by CSN was displayed.

Belgium mentioned that the Bonn Agreement requested the following improvements to EMSA :

- To include an offshore installations layer (OSPAR file) in SEG web interface and in CSN alert reports;
- To add a new category in the feedback module for identification of TdH/CEPCO operations.

EMSA remarked that both improvements are currently on-going.

5.2 HELCOM Response by Finland

Finland delivered a presentation on the use of CSN service in Baltic Sea area under the HELCOM Response framework. The presentation included an overview of HELCOM aerial fleet and showed the latest HELCOM Response results concerning surveillance, detection and monitoring operations in the Baltic Sea region.

6. Data access

6.1 EMSA's access to document rules

EMSA's presentation aimed to inform the User Group members about the distinct intellectual property rights applicable to CSN data (images, detections and alert reports) as well as to communicate that EMSA has an internal procedure to handle external request for access to documents. During the presentation the legal basis for data disclosure (Regulation 1049/2001) and the relevant exceptions were also mentioned.
EMSA reminded the UG that the oil spill feedback information inserted by the authorised users to report on verification activities linked with CSN detections, it is owned by the Coastal States albeit the information is stored in EMSA databases.
For this reason, **EMSA** highlighted that shall not disclose data related to verification activities detailed by country without prior consent of the Coastal States. If the request to disclose feedback information is received directly by a Member State, decision to disclose feedback provided by the Member States it relies with the country, which is the owner of the information.
EMSA reminded that some information is publicly available at EMSA's website http://www.emsa.europa.eu/csn-menu.html such as the reports from the past UG meetings, papers and the contact details of the CSN National Competent Authorities (NCAs).

6.2 Publication of CSN historical data

Following numerous requests received by EMSA for access to CSN data and given that an agreement was reached last year with the UG to publish detections and feedback data for the year 2020 and future years, **EMSA** presented a proposal to publish CleanSeaNet backlog data for the years 2015 to 2019 in the same format agreed in 2021 (http://www.emsa.europa.eu/csn-menu/detections-feedback-data.html).

The CSN UG is invited to provide feedback to EMSA's proposal (see follow-up action no 5 in Annex 1).

7. Training and communication activities

7.1 CSN training activities

EMSA presented the outcome of CSN trainings delivered in 2021. During the last year, training on the CSN service was provided to more than 100 participants from Coastal States and ENP countries and the overall feedback was very positive. The planned sessions for 2022 were also announced.

7.2 CSN catalogue

EMSA informed that a new CSN service catalogue will be published soon, which will include the main features of CSN service, uses cases and the long term service trends.

8. CSN Planning process

8.1 Impact of Sentinel 1B suspension

EMSA presented the impact of S-1B anomaly in CSN service and the mitigation measures to compensate the loss of this data, which represents approximately 40% of the SAR images. The latest ESA news on the S1B anomaly was showed and stated that end users should assume a long-term unavailability of data from this satellite. All S-1B images, as of 23 December 2021, were cancelled.

EMSA ordered additional imagery to balance the CSN routine planning. Future CSN planning will include additional S-1A, RS2, TSX and PAZ imagery enabling a steady provision of EO services and fulfilling the coverage requirements.

9. Service developments

9.1 New SAR missions and capabilities

With regard to service developments **EMSA** presented the new SAR missions (ICEYE and Capella) and the artificial intelligence project.

An overview of the ICEYE and Capella constellations were also showed including its main features such as rapid tasking, improved revisit time, possibility to deliver images at different times of the day and aspects related to mission continuous improvement.

EMSA's project on Artificial Intelligence was also mentioned. This project is based on the development of machine learning algorithms for EMSA's added-value products starting with vessel detection and then progressing to more complex products such as feature detection and oil spill detection.

9.2 New EO Value-Added Products

EMSA presented the new value added products (VAPs) for SAR and Optical acquisitions, that became available to the users in February 2022 following an upgrade of EMSA's Earth Observation data centre. The new VAPs are the Feature Detection Service, Activity Detection Service, Wake Detection Service and Change Detection Service.

Ireland asked which would be the capability for detecting small features at sea, like buoys, fish farms, amongst others.

EMSA replied that the size of the features depends mostly on the satellite image resolution. Hence, improved spatial resolution brings more diversity on observable objects. The new SAR missions, under assessment by EMSA, will enhance this capability enlarging the portfolio on products available.

9.3 Sentinel 2 Oil Spill volumes

EMSA made a presentation about the pilot project on the oil spill volume estimation based on analysis of multispectral data acquired from S2 mission, to provide oil thickness mapping and quantification of oil spills using the Bonn Agreement Oil Appearance Code (BAOAC).

Historical use cases were already tested with positive results in terms of quality and timeliness of the deliverables. To conclude this project EMSA intends to request analysis of S2 imagery during a real emergency. If the outcome of the proof of concept is satisfactory, the plan is to make this service available to the users to support emergencies and large accidental spills.

Germany asked if there was any limitation on the use of S2 for the estimation of oil spill volumes, in the North Sea region compared with the Mediterranean region.

EMSA replied that technically there is no geographical restriction for mapping oil spill volumes in any region. The only limitations are related with Sentinel-2 coverage and to the optical sensor itself, which needs sunlight to acquire images over the Earth. In this regard, the northern regions have less days with sunlight than the Mediterranean region and for that reason only it is likely that there are fewer optical images being taken in the north of Europe.

10. Any other business and follow-up actions

Under AOB **EMSA** informed that Directive 2005/35/EC on ship-source pollution and on the introduction of penalties, including criminal penalties, for pollution offences is currently being reviewed. Art.10 of the Directive provides the legal basis for the CSN service.

European Commission is carrying out a back-to-back evaluation and impact assessment of the Directive – the evaluation begun in Q4 2021 and is expected to be concluded in March/April 2022 which will be followed directly by the impact assessment phase, to be concluded in 2022.

It was highlighted that CSN UG members are important stakeholders for the review of the Directive. User Group members may have been already contacted by the Commission's Consultancy Company consultant, Ricardo, for

an interview to support the identification of the data needed to prove how the Directive works and understand what can be improved in the future.

EMSA also informed that new service procurement is under preparation and it is expected to be launched in Q2 2022. **EMSA** proposed that the next CSN User Group meeting will take place on 9 March 2023.

A list of the meeting follow-up actions is provided in Annex1.

11. Meeting closure

The meeting was concluded, and the chairperson thanked the participants for their attendance and contributions.

Annexes

Annex 1 – List of follow-up actions resulting from the 21st CSN User Group

Annex 2 – Meeting Agenda

Annex 3 – Acronyms and abbreviations

Annex 1 – List of follow-up actions resulting from the 21st CSN User Group

Action Point #	Topic	Resp.	Follow up Action
1	Update of CSN UG Rules of Procedure EMSA proposes to update section 3 "Representation" to rule out ENP countries from the CSN UG	CSN UG members	CSN UG members to provide comments to EMSA's proposal (timeline: 30 days after draft report distribution).
2	Feedback results paper Netherlands raised a question on the potential additional analysis of the feedback per oil spill class in order to conclude on the verifications of the possible detected oil spill with higher reliability.	EMSA	EMSA will include statistics of verifications results per class and size of the oil spill in the feedback paper to be presented in next CSN User group.
3	Alert report update Spain requested EMSA to include in the alert report, a note stating that "*Spill is connected to a vessel*".	EMSA	In the scope of the new developments of the alerting component (expected in production during 2024), EMSA will assess Spain's proposal including: - analysis of the technical impact of this change to the existing requiremnts - verification of the possible impact on the EMSA contracts with the service providers
4	Improvements to the service (Ireland) Ireland identified topics for improvement of the service: ■ Uncorrelated Vessel Detection Service (VDS) to be added to the Area Query on the Command & Info window ■ Ability to notify Port State on the Command & Info window ■ Greater integration of systems and more user-friendly filtering in/out of vessels of interest ■ Facility to search historically for vessels of interest	EMSA	EMSA will analyse the user requests identified by Ireland including their impact in SEG web interface. EMSA will schedule a bilateral meeting to further discuss and clarify the requirements.
5	Publication of backlog data	CSN UG members	CSN UG members to provide comments to EMSA's proposal (timeline: 30 days after draft report distribution)

	EMSA proposes to publish backlog data (2015-2019) at EMSA's website in the same agreed format already used to publish 2020 data. (http://www.emsa.europa.eu/csn-menu/detections-feedback-data.html)		

Annex 2 – Meeting Agenda Online meeting via MS Teams, 09 March 2022

Wednesday, 09 March 2022

Lisbon Time (UTC)	Agenda Item	(Responsible)	Ref doc
Part I – CleanSeaNet Service Overview			
08.50 – 09:00	Log-in at the meeting	All	
09:00 – 09:20	**Opening and Introduction** ■ CSN 21.1.1 Approval of the agenda and the list of documents ■ CSN 21.1.2 Updated Rules of Procedure ■ CSN 21.1.3 User roles ■ CSN 21.1.4 Follow-up Actions and results of Written Procedures	EMSA	Updated RP PPT
09:20 – 09:50	**CleanSeaNet service overview** ■ CSN 21.2.1 CSN 2021 Service results. ■ CSN 21.2.2 CSN 2021 Oil spill feedback	EMSA	Papers & PPT
09:50 – 10:05	**CleanSeaNet support to operations, exercises and emergencies** ■ CSN 21.3.1 Support to operations, exercises and emergencies overview	EMSA	Paper & PPT
10:05 – 10:35	**Operational use of CSN by Coastal States** ■ CSN 21.4.1 Accidental spills ■ CSN 21.4.2 Illegal discharges	Cyprus, Greece, Spain	PPT
10:35 – 11:00	**CleanSeaNet role in Regional Agreements** ■ CSN 21.5.1 Bonn Agreement: Tour d' Horizon ■ CSN 21.5.2 HELCOM updates	Belgium, Finland	PPT
Part II – CSN Service Operational Aspects			
13:00 – 13:30	**Data access** ■ CSN 21.6.1 EMSA's access to document rules ■ CSN 21.6.2 Publication of CSN historical data	EMSA	Paper & PPT
13:30 – 13:40	**Training and communication activities** ■ CSN 21.7.1 Training activities ■ CSN 21.7.2 CSN catalogue	EMSA	PPT
13:40 – 14:00	**CSN Planning process** ■ CSN 21.8.1 Impact of the Sentinel-1B suspension	EMSA	PPT
14:00 – 14:30	**Service developments** ■ CSN 21.9.1 New SAR missions and capabilities ■ CSN 21.9.2 New EO Value-Added Products	EMSA	PPT

Lisbon Time (UTC)	Agenda Item	(Responsible)	Ref doc
Part I – CleanSeaNet Service Overview			
	■ CSN 21.9.3 Sentinel 2 Oil spill volumes		
14:30 – 14:50	**AOB and follow-up actions**	All	
14:50 – 15:00	**Meeting closure**	All	

Annex 3 – Acronyms and abbreviations

Acronym	Description
AIS	Automatic Identification System
BCSEA	Black and Caspian Sea
CEPCO	Coordinated Extended Pollution Control Operation
CSN	CleanSeaNet
EC	European Commission
EEZ	Exclusive Economic Zone
EFTA	European Free Trade Association
EMSA	European Maritime Safety Agency
ENP	European Neighbourhood Policy
EO	Earth Observation
NRT	Near Real Time
RPAS	Remotely Piloted Aircraft Systems
SAFEMED IV	EuroMed Maritime Safety Project
SAR	Synthetic Aperture Radar (satellite sensor)
SEG	SafeSeaNet Ecosystem Graphical User Interface
TdH	Tour d'Horizon

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