

EO-ALERT

Next Generation Satellite Processing Chain for Rapid Civil Alerts

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1. INTRODUCTION

1.1. Scope

This document provides a detailed list of the dissemination activities from the first year of the project. This includes dissemination materials aimed at a generic audience, like the project website, social media accounts, logos and flyers, public outreach activities, like interviews in newspapers and presentations given at relevant institutions, and scientific publications. The document also discusses the current dissemination strategy of the project and planned activities for the second year.

1.2. Acronyms and Abbreviations

Table 1: Acronyms and abbreviations

Acronym	Description
AD	Applicable Document
CCSDS	Consultative Committee for Space Data System
EO	Earth Observation
ESA	European Space Agency
RD	Reference Document
SEVIRI	Spinning Enhanced Visible and Infrared Imager

2. RELATED DOCUMENTS

2.1. Applicable Documents

Table 2: Applicable documents

Reference	Code	Title	Issue
[AD 1]	EO-ALERT Proposal	H2020-CP-2016-v2.pdf	2.0

2.2. Reference Documents

Table 3: Reference documents

Reference	Code	Title	Issue
[RD 1]	D5.1	EO-ALERT_D5.1_Public Website	1.0

3. PROJECT WEBSITE AND SOCIAL MEDIA

General communication of project activities is performed through the project website, containing non-confidential and non-export controlled information on the project background and goals, and through dedicated social media accounts, providing timely dissemination of project results. This is also supported by the preparation of common communication materials, like the project logo, project brochure, posters, and leaflets.

3.1. EO-ALERT Website

The EO-ALERT public website (<http://eo-alert-h2020.eu/>) has been released at M6 and its organization and contents are described in [RD 1].

During the first reporting period the website has been updated with:

- Relevant news on the EO satellite imagery for civilian activities, safety and security. News on the use of EO imagery for natural disaster, agriculture, security and extreme weather events.
- News on the project meetings held in the first reporting period.
- Papers presented at the 6th International Workshop on On-Board Payload Data Compression (refer to Section 5.1).

On the 22nd of July 2018 a statistics plug-in has been installed to keep trace of the accesses to the website. Up to the date of the 8th of January 2019, 3921 visitors have accessed the EO-ALERT website (23 per day on average) with a total of 7524 visits (44 per day on average). The hit statistics for the considered period is reported in Figure 1, where in pink is reported the number of visitors and in blue the number of visits. Peak values mainly correspond to website updates.

The trend is positive, increasing the average number of visits in the last two months.

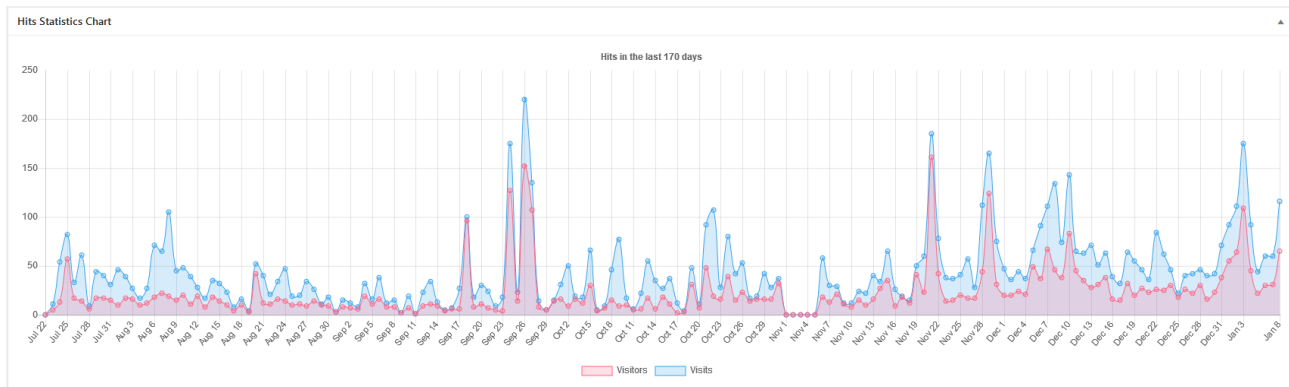


Figure 1: EO-ALERT Website Hits Statistics Chart.

The EO-ALERT website has been visited from a total of 96 countries and the top ranked countries are reported in Figure 2. China, United States and Ukraine are the countries where the EO-ALERT website has earned more interest.

Top Countries


Rank	Flag	Country	Visitor Count
1		China	997
2		United States	792
3		Ukraine	404
4		Germany	179
5		France	143
6		Spain	110
7		Canada	107
8		India	100
9		Italy	68
10		United Kingdom	67

Figure 2: EO-ALERT Website Top Countries.

The most visited pages can be seen in Figure 3. As expected, the most visited page is the EO-ALERT Home page, while Partners are in the second position and news on how weather satellites can track extreme storms obtained great interest.

Top Pages

1 - EO-ALERT Home Page

[/](#)

2 - PARTNERS

</partners/>

3 - Next-Generation Weather Satellite Launches to Track Extreme Storms

</2018/03/01/next-generation-weather-satellite-launches-to-track-extreme-storms/>

4 - PROJECT

</project-eo-alert/>

5 - CONTACT US

</contact-us/>

6 - NEWS

</news/>

7 - EVENTS

</events/>

8 - CONFERENCES

</conferences/>

9 - How satellites can help put out fires – or even prevent them

</2018/08/17/how-satellites-can-help-put-out-fires-or-even-prevent-them/>

10 - EO-ALERT: NEXT GENERATION SATELLITE PROCESSING CHAIN FOR RAPID CIVIL ALERTS

</2018/09/21/eo-alert-obpdc-2018/>

Figure 3: EO-ALERT Website Top Pages.

3.2. Social Media

Together with the project website, both a project Twitter account (@EOALERT) and a project LinkedIn account (EO ALERT H2020 Project) have been created for facilitating the dissemination of news on project activities and achievements.

The EO-ALERT Twitter account has reached 46 followers, posting 82 tweets and collecting 146 likes.

The EO-ALERT LinkedIn account has reached 124 connections, publishing 17 posts. Unfortunately, LinkedIn no longer provides statistical values of the visits and views of the profile and posts, so no valuable figures are available.

3.3. Communication Materials

Deimos Space has created a logo and brand for the project, as shown in Figure 4.

Based on the logo, a set of communication templates and supports were created and distributed among all partners, to ensure harmonised communication of the project, including the project logo and also the logo and mention of the EC's funding of the project.



Figure 4: EO-ALERT Project Logo.

A Power Point template for all public presentations has been made available to all partners, in line with the project visual identity and branding.

4. PUBLIC OUTREACH

This section lists dissemination activities aimed at raising public awareness in the project goals and results. During the first months of the project, public outreach has mainly included communications directed to a generic audience via statements on Twitter, publication of press releases, interviews on newspapers. In the second part of the year, more details on specific project goals and current results were given in presentations to selected audiences.

4.1. Press Releases

- 31 January 2018: Publication of Kick-Off Meeting statement on Twitter. All project partners have published the following statement via their institutional Twitter accounts:
"The @EU_H2020 project #EOAlert has officially kicked-off! We are excited to be working with @ElecNorDeimos @deimosimaging @TUGraz @PoliTOnews @DLR_en #OHB-I on the development of key #EarthObservation technologies for rapid civil alerts. Stay tuned for more info!"
- 17 April 2018: Publication of press release. All project partners have published a press release highlighting the project concept and its main goals via their institutional media offices.

4.2. Interviews

- Article about EO-ALERT in "Research & Innovation – July 2018" section of Platinum "Aziende&Protagonisti" magazine of "Il Sole 24 Ore" Italian newspaper. The article featured an interview to Riccardo Freddi from OHB-I, explaining the project concept and goals and the role of the different partners.

4.3. Presentations

- 11 April 2018: Presentation of an overview of EO-ALERT project and data compression activities at CCSDS 2018 Spring Meeting, 9-13 April 2018, National Institute of Standards and Technology (NIST), Gaithersburg, MD, USA. The presentation was given by Enrico Magli from POLITO.
- 29 November 2018: Presentation at Φ-Lab team in ESA-ESRIN, Frascati, Italy, describing project objectives, planning, organisation and status, as well as some information on current technical activities. The presentation was given by Murray Kerr from Deimos Space.

5. SCIENTIFIC PUBLICATIONS

This section lists scientific publications of the project during the first year. Due to the early state of technical activities, there are no papers in scientific journals yet.

A preliminary version of the EO-ALERT overall project aims and architecture has been published at the On-Board Payload Data Compression conference, which has been the principal publication to date. Results on current technical activities have been presented in 2018 and have also been submitted as abstracts to upcoming conferences, which have been accepted, and are to be published within 2019.

5.1. Conference Papers

- M. Kerr et al., "EO-ALERT: NEXT GENERATION SATELLITE PROCESSING CHAIN FOR RAPID CIVIL ALERTS", OBPDC 2018 - 6th International Workshop on On-Board Payload Data Compression, 20 - 21 September 2018, Matera, Italy;
- Kiely et al., "THE NEW CCSDS STANDARD FOR LOW-COMPLEXITY LOSSLESS AND NEAR-LOSSLESS MULTISPECTRAL AND HYPERSPECTRAL IMAGE COMPRESSION", OBPDC 2018 - 6th International Workshop on On-Board Payload Data Compression, 20 - 21 September 2018, Matera, Italy;
- Fiengo, J. I. Bravo, T. Guardabrazo, A. Latorre, S. Agüero, M. Kerr, "Preliminary On-board Image Processing Solution for the H2020 EO-ALERT Project", submitted to European Workshop on On-Board Data Processing (OBPD2019), 25-27 February 2019, European Space Research and Technology Centre (ESTEC) (accepted, to be presented);
- D. Valsesia, E. Magli, "Image dequantization for hyperspectral lossy compression with convolutional neural networks", submitted to European Workshop on On-Board Data Processing (OBPD2019), 25-27 February 2019, European Space Research and Technology Centre (ESTEC) (accepted, to be presented);
- N. Prette, T. Bianchi, E. Magli, "Using CCSDS image compression standard for SAR raw data compression in the H2020 EO-ALERT Project", submitted to European Workshop on On-Board Data Processing (OBPD2019), 25-27 February 2019, European Space Research and Technology Centre (ESTEC) (accepted, to be presented);

5.2. Submitted Abstracts

- S. Tonetti, S. Cornara, G. Vicario de Miguel, L. Carzana, M. Kerr, R. Fabrizi, S. Fraile, C. Marcos Martín, D. Velotto, "EO-ALERT: Next Generation Satellite Processing Chain for Security-Driven Early Warning Capacity in Maritime Surveillance and Extreme Weather Events", submitted to 2019 Living Planet Symposium, 13-17 May 2019, MiCo - Milano Congressi, Milan, Italy;

6. DISSEMINATION STRATEGY

At this stage, a list of relevant conferences and workshops on EO-ALERT related topics has been identified, as per the table in the following subsection. The European Workshop on On-Board Data Processing (OBDP2019), International Astronautical Congress (IAC) 2019, European Nowcasting Conference, and the 2019 Living Planet Symposium, have been selected as the most relevant venues to submit current project results in 2019. For these conferences and workshops, papers have been submitted or will soon be submitted.

6.1. List of relevant conferences & workshops

Name	Year	Open Access	Venue	Dates	Deadline	Website
Big data from space (BIDS'19)	2019	yes	Munich, Germany	19-21 February	15-Oct-18	https://www.bigdatafromspace2019.org/
International Astronautical Congress (IAC)	2019	verify	Washington, DC, USA	21-25 October	28-Feb-19	https://www.iac2019.org/
ESA Workshop on Simulation and EGSE facilities for Space Programmes (SESP)	2019	yes	ESA-ESTEC, The Netherlands	26-28 March	18-Oct-18	https://atpi.eventsair.com/QuickEventWebsitePortal/sesp-2019/website
Data Systems in Aerospace (DASIA)	2019	no proc.	Sicily, Italy	4-6 June	TBA	https://euospace.org/conferences-events/
IEEE International Geoscience and Remote Sensing Symposium (IGARSS)	2019	self arch.	Yokohama, Japan	28 July-2 Aug.	08-Jan-19	https://igarss2019.org/
European Workshop on On-Board Data Processing (OBDP)	2019	yes	ESA-ESTEC, The Netherlands	25-27 February	30-Oct-18	https://indico.esa.int/event/225/
IEEE International Conference on Image Processing (ICIP)	2019	self arch.	Taipei, Taiwan	22-25 September	31-Jan-19	http://www.2019.ieeeicip.org/
ESA Living Planet Symposium	2019	self arch.	Milan, Italy	13-17 May	11-Nov-18	https://lps19.esa.int/QuickEventWebsitePortal/living-planet-symposium-2019/website
JOINT EUMETSAT/AMS/NOAA CONFERENCE 2019	2019	yes	Boston, US	28 Sept. – 04 Oct.	01-Mar-19	https://www.eumetsat.int/website/home/News/ConferencesandEvents/DAT_4063458.html
European Nowcasting Conference	2019	yes	AEMET, Madrid, Spain	24-26 April	20-Jan-19	https://enc2019.aemet.es/
Global Conference on Space for Emerging Countries (GLEC2019)	2019	verify	Marrakech, Morocco	24-26 April	TBA	http://www.iafastro.org/events/global-series-conferences/glec-2019/

Workshop on Hyperspectral Image and Signal Processing: Evolution on Remote Sensing (WHISPERS)	2019	self arch.	Amsterdam, The Netherlands	24-26 September	15-Apr-19	http://www.ieee-whispers.com/
International Astronautical Congress (IAC)	2020	verify	Dubai, UAE	28 Sept.-2 Oct.		
IEEE International Geoscience and Remote Sensing Symposium (IGARSS)	2020	self arch.	Hawaii, USA	19-24 July		
Onboard Payload Data Compression workshop (OBPDC)	2020	self arch.	TBA			
European Conference on SAR (EUSAR)	2020	self arch.	TBA			
IEEE International Conference on Image Processing (ICIP)	2020	self arch.	Abu Dhabi, EAU	25-28 October		
Convection Working Group	2020	yes	TBA			

6.2. Planned Activities

The partners (DEIMOS and POLITO) will be presenting technical results from 2018 activities at the ESA OBDP2019 workshop.

The partners also plan to jointly present the high level status of the project and its objectives at the 2019 ESA Living Planet Symposium and the 2019 IAC.

Deimos Space intends to participate in the European Nowcasting Conference that will be held in Madrid in April 2019 (24th - 26th). Deimos Space, together with AEMET, will submit a paper and present results on convective storm detection using SEVIRI multispectral images. This is considered a very good opportunity to give some visibility to EO-ALERT project in the Meteorological/Nowcasting community.

DLR plans to present its own technical achievements at conferences like the European conference on SAR (EUSAR) and IEEE International Geoscience and Remote Sensing Symposium (IGARSS) once a good maturity of the technological area is reached. DLR is also planning to contribute to joint paper where the overall EO-ALERT data chain is discussed.

OHB-I will disseminate the results of its activity in conferences and/or journals dedicated to hardware processing and signal processing for Earth Observation, such as OBDP and IEEE-Whispers, especially during the second half of the project, when the architectural design will have reached a good detail level and its innovative content will become evident and relevant. The company will also participate in joint publications, if chances arise, regarding data processing and data chain, as well as full EO-ALERT project presentation.

6.2.1. Planned Workshops

Two dedicated workshops will be organised, where technological developers, end users and the scientific community, will join to discuss the evolution towards the next-generation of the EO satellite data chain.

- ❑ **Technology Workshop**, foreseen for M28, focused on the results of the technologies analysed and developed in the frame of the project.
- ❑ **End-User Workshop**, foreseen for M36, to present the overall project, the end-to-end satellite processing chain, the individual technologies and the developed applications, giving the opportunity for the consortium to maximise the impact across multiple disciplines and to show the benefits and overcome challenges covered in the project. This Workshop will be held at DMI-UrtheCast premises and involve the relevant actors of the Space community, thus allowing a “call for ideas” of different new applications/services that the innovative technologies/techniques developed in the project may enable for those actors.