

EODC - Portal integration, EICD 2.0.0 and update of operations

Business Requirements

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Acronyms

ACT: Activity Detection Feature
CDS: Change Detection Service
DER: Sar Wind and Wave
EFS: Enriched Feature Service
EICD: External Interface Control Document
EO: Earth Observation
EOP: Earth Observation Product
EODC: Earth Observation Data Centre
EFS: Enriched feature service
EVS: Enriched Vessel Service
FDS : Feature Detection Service
JOU: Journaling component
OSN: Oil Spill Notification
QNO: Quality Notification
QUA: Quality package
STAR VDSCS: STAR VDS Correlation Service
VAP: Value Added Products
VDS: Vessel Detection Service
VDS: Vessel Detection Service
WDS: Wake Detection Service

1. Functional Requirements

1.1 Upgrade Earth observation data centre to EO products compliant with EICD 2.0.0.

Title: EO products		
ID: EOS-INF-0001	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Informative
<p>EO products refer deliverables by EO Service Providers to the EODC.</p> <p>EMSA External Interface Control Document (EICD) defines and regulates the content and structure of each one of these products.</p> <p>EO products are classified into the following categories:</p>		

- 1) Planning Files:** EODC planning file format has been defined, which is used for loading/exporting planning data into the EODC Planning Tool (POR).
- 2) Basic Products:** refer to the EO Products that shall be delivered for all EO services from the EO service providers to the EODC, they encompass:
 - EOP/EOPO: Earth Observation Package:
 - QNO : Quality notification:
 - DER : Derived product package:
 - QUA : Quality Notification Package:
- 3) Value Added Products (VAP)** refer to products which can be extracted from the EO images, they encompass:
 - OSN: Oil Spill Notification Package : product for which possible oils spills are reported.
 - VDS : Vessel Detection Service Package : product for which possible vessel detections are reported.
 - ACT : Vessel Detection Service Package for which possible activity detections are reported.
 - CDS : Vessel Detection Service Package for which possible change detections are reported.
- 4) New VAPS (EICD 2.0)**
 - EVS : Enhanced Vessel Detection Service Package product for which possible vessel detections are reported (contains more complex information when compared to VDS product).
 - FDS : Enhanced Feature Detection Service Package: product for which possible feature detections are reported.
 - EFS : Vessel Detection Service Package product: for which possible feature detections are reported. (includes more detailed information when compared to FDS product).
 - WDS : Vessel Detection Service Package for which possible wake detections are reported.

Title: Redelivery of CDS product

ID: EOS-INF-0002	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Information

A redelivery (or reinjection) of an EO product means that for the same service ID, the same type of product has been delivered more than once.

Title: Redelivery price calculation

ID: EOS-FUN-0001	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

A redelivery (or reinjection) of an EO EICD 2.0.0 product shall recalculate the prices in the JOU using the redelivery timestamp and metadata of the EO product, except if the EO service status is set to "Final" in the JOU component.

If the EO service is set to final no redelivery information shall be updated in the JOU.

Acceptance criteria 1: Redelivery of an EO Service (includes all products) with status not set to "Final" in the JOU, will recalculate the prices in the JOU using the redelivery timestamp and metadata of each EO product

Acceptance criteria 2: Redelivery of an EO Service (includes all products) with status set to "Final" in the JOU, will not recalculate the prices in the JOU using the redelivery timestamp and metadata of each EO product.

Title: Current EODC compatibility with EICD 2.0.0 products - Planning

ID: EOS-FUN-0002	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

EODC shall support planning files in EICD 2.0.0 format.

Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the planning product run successfully with EICD 1.4.4 and 2.0.0.

Title: Current EODC compatibility with EICD 2.0.0 products - QNO

ID: EOS-FUN-0003	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

EODC shall support QNO files in EICD 2.0.0 format

Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the QNO product run successfully with EICD 1.4.4 and 2.0.0.

Title: Redelivery of both QNO and EOP products

ID: EOS-FUN-0004	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

A redelivery of both QNO and EOP products shall overwrite the previous information, including image metadata in the EOP product.

Acceptance criteria: the planned acquisition information will be updated after a redelivery of both QNO and EOP packages.

Title: Current EODC compatibility with EICD 2.0.0 products - DER

ID: EOS-FUN-0005	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
EODC shall support DER files in EICD 2.0.0 format		
Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the DER product run successfully with EICD 1.4.4 and 2.0.0..		

Title: Current EODC compatibility with EICD 2.0.0 products - QUA

ID: EOS-FUN-0006	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
EODC shall support QUA files in EICD 2.0.0 format		
Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the QUA product run successfully with EICD 1.4.4 and 2.0.0.		

Title: Current EODC compatibility with EICD 2.0.0 products - EOP

ID: EOS-FUN-0007	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
EODC shall support EOP files in EICD 2.0.0 format		
Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the EOP product run successfully with EICD 1.4.4 and 2.0.0.		

Title: Current EODC compatibility with EICD 2.0.0 products - OSN

ID: EOS-FUN-0008	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
EODC shall support OSN files in EICD 2.0.0 format		
Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the OSN product run successfully with EICD 1.4.4 and 2.0.0.		

Title: Redelivery of OSN product

ID: EOS-FUN-0009	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
A redelivery of an OSN product shall overwrite the previous OSN product information, including the regeneration of the alert reports.		
Acceptance criteria: After a redelivery of an OSN product the alert report will be regenerated by the system with the information of the redelivered OSN product.		

Title: Current EODC compatibility with EICD 2.0.0 products - ACT		
ID: EOS-FUN-0010	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
EODC shall support ACT files in EICD 2.0.0 format		
Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the ACT product run successfully with EICD 1.4.4 and 2.0.0.		

Title: Current EODC compatibility with EICD 2.0.0 products - CDS		
ID: EOS-FUN-0011	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
EODC shall support CDS files in EICD 2.0.0 format		
Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the CDS product run successfully with EICD 1.4.4 and 2.0.0.		

Title: EOP for Optical Data		
ID: EOS-FUN-0012	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
All EODC functionalities available for the EO product EOPO, which is compliant with EICD 1.4.4, shall also be available for EO Optical Product EOP compliant with EICD 2.0.0.		
Information: EOPO package is discontinued in the EICD 2.0.0 and EOP can contain both SAR or Optical data.		
Acceptance criteria: All EODC functionalities available for the EO product EOPO (EICD 1.4.4 compliant), will also be available for the EOP (Optical products) compliant with EICD 2.0.0.		

Title: EICD 2.0.0 new value added products (VAPs) - EVS		
ID: EOS-FUN-0013	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional
All EODC functionalities available for existing EO products compliant with EICD 1.4.4, shall also be available for the EVS 2.0.0 compliant.		
EVS : Enhanced Vessel Detection Service Package product for which possible vessel detections are reported (contains more complex information when compared to VDS product).		
Acceptance criteria: All EODC functionalities available for existing EO products compliant with EICD 1.4.4, will also be available EVS EICD 2.0.0 compliant.		

Title: EICD 2.0.0 new value added products (VAPs) - FDS

ID: EOS-FUN-0014	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

EODC shall support FDS files in EICD 2.0.0 format.

FDS: Enhanced Feature Detection Service Package: product for which possible feature detections are reported.

Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the FDS product run successfully with EICD 1.4.4 and 2.0.0.

Title: EICD 2.0.0 new value added products (VAPs) - EFS

ID: EOS-FUN-0015	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

EODC shall support EFS files in EICD 2.0.0 format.

EFS: Feature Detection Service Package product: for which possible feature detections are reported. (includes more detailed information when compared to FDS product).

Acceptance criteria All regression tests applicable to EICD 1.4.4 format concerning the EFS product run successfully with EICD 1.4.4 and 2.0.0.

Title: EICD 2.0.0 new value added products (VAPs) - WDS

ID: EOS-FUN-0016	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

EODC shall support WDS files in EICD 2.0.0 format.

WDS: Vessel Detection Service Package for which possible wake detections are reported.

Acceptance criteria: All regression tests applicable to EICD 1.4.4 format concerning the WDS product run successfully with EICD 1.4.4 and 2.0.0.

Title: QUA: automatic Anomaly reports

ID: EOS-FUN-0017	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

EOS Product QUA compliant with EICD 2.0.0, may include an Anomaly report information.

Following the delivery of a QUA with anomaly report information, the EODC shall set automatically the status of an EO service to (status) and trigger the cancelation/anomaly alert:

- Anomaly Cloud Coverage (Status):
 - if inside the xml element CancellationAnomalyReport the value is: "anomaly- Cloud cover"
 - The evaluation of the string should not be case sensitive;
 - The spaces before and after the dash ('-') shall not be considered (trimmed);
- Anomaly (Status):
 - if the EOS product : QUA field CancellationAnomalyReport is set to *Anomaly*, and the QUA delivery timestamp is after acquisition stop time;
 - else if the EOS product : QUA field CancellationAnomalyReport is set to *Cancelled*, and the QUA delivery timestamp is after acquisition stop time;
- Cancellation by provider (Status):
 - if the EOS product : QUA field CancellationAnomalyReport is set to *Anomaly*, and the QUA delivery timestamp is before acquisition stop time;
 - else if the EOS product : QUA field CancellationAnomalyReport is set to *Cancelled*, and the QUA delivery timestamp is before acquisition stop time;

Acceptance criteria: For QUA product compliant with EICD 2.0.0, that includes an Anomaly report information EODC will set automatically the status of an EO service in accordance with the rules abovementioned.

Title: Platforms short name

ID: EOS-FUN-0018	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

All the platforms supported by the EODC for EO services compliant with 1.4.4, shall also be supported for EO services compliant with 2.0.0.

List of platform short name for EO services compliant with 1.4.4 :

- ENVISAT
- RADARSAT-1
- RADARSAT-2
- ERS
- TERRASAR-X
- TANDEM-X
- PAZ1 (please refer to requirement : Change Platform short name for PAZ satellite)
- COSMO-SKYMED-1
- COSMO-SKYMED-2
- COSMO-SKYMED-3
- COSMO-SKYMED-4

- SENTINEL-1A
- SENTINEL-1B
- EROS_B
- GEOEYE-1
- IKONOS
- QUICKBIRD
- WORLDVIEW-1
- WORLDVIEW-2
- WORLDVIEW-3
- WORLDVIEW-4
- SPOT-6
- SPOT-7
- PLEIADES-1A
- PLEIADES-1B
- DEIMOS-1
- DEIMOS-2
- FORMOSAT-2
- LANDSAT-8

Acceptance criteria: All the platforms supported by the EODC for EO services compliant with 1.4.4, will also be supported for EO services compliant with 2.0.0.

Title: Change Platform short name for PAZ satellite

ID: EOS-FUN-0019	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

Platform short name for the PAZ satellite, shall be changed from “PAZ” to “PAZ1” for EO services compliant with EICD 1.4.4 and EICD 2.0.0, in accordance with the defined nomenclature from satellite owner.

Acceptance criteria: EODC will support the platform PAZ1, for EO services compliant with 1.4.4, and 2.0.0.

Title: EODC New Platforms

ID: EOS-FUN-0020	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

All EODC functionalities, available for existing EO products based on the EICD 1.4.4 platforms, shall also be available for EOS products based on the new platforms both in EICD 2.0.0 and EICD 1.4.4 formats:

List of new EO platforms :

- SUPERVIEW-1
- SUPERVIEW-2
- SUPERVIEW-3
- SUPERVIEW-4
- ICEYE
- KOMPSAT-6
- GAOFEN-3

Acceptance criteria: All abovementioned platforms shall be supported by the EODC for EO services compliant with 1.4.4 and 2.0.0.

1.2 List/Update/add/remove operations to an EO service

Title: List /Add / remove / update operations of multiple EO services

ID: EOS-FUN-0021	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

A script that can be used to consult and update the operations associated with a EO service shall be developed according to the following conditions:

- the input list shall contain for each service ID the list of operations to be removed and/or the list of operations to be added.
- An EO service needs to be linked to at least one operation
- An EO service can be linked to multiple operations (up to 100).
- The script shall enable to add / remove / update operations to multiple EO services (up to 5000)
- The script should consider all EODC related systems impacted by this change and update the necessary information in the different components
- The script shall be able to run in any stage of the EO service lifecycle (e.g. planning, approval, tasking, delivery) and for any EO service status (i.e. all status as defined in the EODC POR database, including cancelled and anomaly)
- Script shall generate a log with the output of the action (successfully implemented, failed with reason for failure)
- Effects of the changes should be immediately propagated to the different EODC components affected by the change
- Script shall enable to list the existing operations linked with multiple EO services (input parameters for this script are a list of EO services, output parameters are the list of EO services with the associated operations). This is to enable the validation of update processes.

Note: Changes to operations are related to user rights and are not related to Budget;

Note: This script will be run by EMSA administrators run directly on the CSNDC database.

Acceptance criteria:

- The script will be executed successfully (updating/adding/removing 5 operations) at any stage of the acquisition lifecycle for 500 EO services.
- The script will be executed to list the operations of 500 EO Services

1.3 Portal Update

Title: Planning – Portal update

ID: EOS-FUN-0022	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

The planning component shall be migrated from Liferay 6.2 CE/WebLogic to Liferay 7 DXP/Tomcat.

Acceptance criteria:

The planning component will keep the same functionalities in to Liferay 7 DXP/Tomcat as in Liferay 6.2 CE/WebLogic.

Title: Journaling – Portal update

ID: EOS-FUN-0023	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

The journaling component shall be migrated from Liferay 6.2 CE/WebLogic to Liferay 7 DXP/Tomcat.

Acceptance criteria:

The journaling component will keep the same functionalities in to Liferay 7 DXP/Tomcat as in Liferay 6.2 CE/WebLogic.

Title: User management – Portal update

ID: EOS-FUN-0024	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

The User management component shall be migrated from Liferay 6.2 CE/WebLogic to Liferay 7 DXP/Tomcat.

Acceptance criteria:

The user management component will keep the same functionalities in to Liferay 7 DXP/Tomcat as in Liferay 6.2 CE/WebLogic.

Title: Alerting – Portal update

ID: EOS-FUN-0025	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

The Alerting component shall be migrated from Liferay 6.2 CE/WebLogic to Liferay 7 DXP/Tomcat.

Acceptance criteria:

The alerting component will keep the same functionalities in to Liferay 7 DXP/Tomcat as in Liferay 6.2 CE/WebLogic.

Title: Financial system – Portal update

ID: EOS-FUN-0026	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

The Financial component shall be migrated from Liferay 6.2 CE/WebLogic to Liferay 7 DXP/Tomcat.

Acceptance criteria:

The Financial component will keep the same functionalities in to Liferay 7 DXP/Tomcat as in Liferay 6.2 CE/WebLogic.

Title: EICD 1.4.4 Activity

ID: EOS-FUN-0027	TeamForge: N/A	Priority: N/A
Service: EODC	Sub-service: N/A	Type: Functional

The EICD 1.4.4 Activity package shall accept the number 0 in the total number of detected activities found.

Acceptance criteria:

An activity package will be successfully ingested in the system with 0 activities