

ANNEX I – TENDER SPECIFICATIONS

Title: Framework service contract for Copernicus Local Land Monitoring Services - Production of Very High Resolution Land Cover/Land Use dataset for coastal zones of the reference years 2012 and 2018.

Reference: Call for tenders EEA/DIS/R0/18/008

Closing date: 01.02.2019

Tender specifications purpose:

1. specify what the EEA is to buy under the contracts resulting from this tender procedure (*technical specifications*)
2. announce the criteria which the EEA will apply to determine the successful contractor(s) among the offers received (*evaluation of the tenders*)
3. provide information on how to submit an offer and the expected timeline

These tender specifications will form Annex 1 of the contract resulting from this tender procedure and will be binding during the contract implementation.

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1 TECHNICAL SPECIFICATIONS

1.1 Introduction to the EEA

The European Environment Agency (EEA) is a European Union public body governed by Regulation (EC) No 401/2009 of the European Parliament and of the Council of 23 April 2009¹. The EEA role is to support the European Union in the development and implementation of environmental policy by providing relevant, reliable, targeted and timely information on the state of the environment and future prospects. The EEA also provides the necessary independent scientific knowledge and technical support to enable the Union and the member countries to take appropriate measures to protect and improve the environment as laid down in the Treaty and by successive Community action programmes on the environment and sustainable development. Currently, the EEA has 33 member countries² and 6 cooperating countries³ in the Western Balkans, jointly referred to as the EEA-39.

The EEA is the hub of the European Environment Information and Observation Network (Eionet), a partnership network consisting of the EEA itself, six European Topic Centres (ETCs) and a network of around 1000 experts from 39 countries in over 350 national environment agencies and other bodies dealing with environmental information. The EEA and Eionet contribute to the European Shared Environmental Information System (SEIS), a distributed, integrated, web-enabled information system based on a network of public information providers sharing environmental data and information. It builds on existing e-infrastructure, systems and services in the Member States and EU institutions.

Copernicus is the European Programme for the establishment of a European capacity for Earth Observation. The EEA has been delegated the implementation of the pan-European and local components of the Copernicus Land Monitoring Service (CLMS). The objective of CLMS is to provide users in the field of environment and other terrestrial applications with information based on space data combined with other sources. It addresses a wide range of policies such as environment, agriculture, regional development, transport and energy at EU level, and European commitments to International Conventions.

EEA is responsible for the cross-cutting coordination of the Copernicus In Situ Component and in cooperation with the Joint Research Centre (JRC) the implementation of the CLMS. Use of the Copernicus services is an integrated part of EEA's strategy to improve environmental information. Copernicus also plays an important role in the implementation of the principles of SEIS, and has the potential to make effective use of existing infrastructures in accordance with the INSPIRE Directive. In the global context, Copernicus is an integral part of the Global Earth Observation System of Systems (GEOSS).

The **thematic hotspot mapping** of CLMS aims, complementary to a more generic wall-to-wall mapping, to provide specific and detailed LCLU (Land Cover and Land Use) information by addressing specific types of hotspots. As mentioned and approved in the European

¹ OJEU L 126 of 21.5.2009, p. 13.

² The Member States of the European Union, Iceland, Liechtenstein, Norway, Switzerland and Turkey.

³ Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Serbia, as well as Kosovo under the UN-Security Council Resolution 1244/99.

Commission Copernicus work programmes from 2014 to 2018, some of the operational activities for the thematic hotspot mapping will focus on the continuation of the production of a series of services that have been started, namely: Urban Atlas (UA), Riparian zones (RZ) and the Natura 2000 (N2K) family of products and others to the implementation of new services, namely: Coastal Zones (CZ).

Further information about the work of EEA can be obtained on its website: <http://www.eea.europa.eu>.

Further information on Eionet can be found at: <http://www.eionet.europa.eu/about>.

Further information on the Copernicus programme can be found at: <http://www.copernicus.eu>.

1.2 Subject of the contract

This call for tenders aims at the establishment of a framework service contract with an economic operator covering the production of LCLU maps on coastal zones for the reference years 2012 and 2018. In detail the following data outputs are expected:

- 1) LCLU status map 2012
- 2) LCLU change map 2012-2018.
- 3) LCLU status map 2018

For a detailed description of the tasks and the deliverables, please refer to section 1.4.16

Each tenderer can only submit one offer. No tenderer may participate in more than one consortium aiming at the framework service contract. Disregard of this rule will lead to the exclusion of all consortia involved in this practice.

1.3 Task description and product specifications

LCLU processes and changes have serious implications for ecosystem services depending on them, relating e.g. to climate, biodiversity, vulnerability and resilience to global changes, agricultural production and food systems and almost all aspects of the interconnected human-environmental systems. The need to balance human needs and longer-term environmental sustainability leads to very complex trade-offs around land use that need to be adequately considered in a number of policy areas. This is particularly true for coastal regions, as approximately 40 % of the EU's population lives within 50 km of the sea. Almost 40 % of the EU's GDP is generated in coastal regions, and a staggering 75 % of the volume of the EU's foreign trade is conducted by sea. However, this important role played by our coasts has come at a cost to the environment. Activities such as tourism, urbanisation, shipping, resource extraction, renewable energy and fishing are all putting pressure on marine and coastal areas. These pressures have been felt across most of Europe's coastal regions. This has resulted in habitat loss, pollution and accelerated coastal erosion. Climate change is likely to make these regions — and the societies that live in them — more vulnerable.

CLMS is in close cooperation with Copernicus Marine Environment Monitoring Service (CMEMS)⁴ to setup a monitoring system that addresses the complex situation in coastal environments. The main scope of this tender is to implement the LCLU mapping of coastal

⁴ <http://marine.copernicus.eu/>

areas with the typical specifications of a thematic hotspot mapping product for the reference years 2012 and 2018 and a Corine Land Cover (CLC) coherent tailored nomenclature.

The output of the work shall be under the form of thematic LC/LU vector maps. The overall accuracy shall be $\geq 85\%$, and the minimum class specific user and producer accuracies should not be less than 80 %.

The following sections describe in detail the tasks requested under this call for tenders.

1.3.1 Task 1: Preparatory and service evolution tasks

1.3.1.1 Task 1a: VHR2012 data assessment

As sufficient coverage of the area of interest (AoI) by VHR2012 imagery cannot be guaranteed beforehand, the contractor is expected to perform an assessment of the completeness of the coverage with usable VHR2012 imagery. Existing VHR2012 data will be made available via the ESA Data Warehouse (DWH)⁵ and depending on the degree of available coverage the EEA will decide if 2012 related LCLU products (status and change) can be implemented or not. Based on the level of missing coverage, the following scenarios are possible:

1. Major gaps in coverage: All 2012 related LCLU mapping (i.e. status 2012 and change 2012-2018) are omitted and only LCLU 2018 status map shall be produced;
2. Minor gaps in coverage: The EEA intends to procure necessary additional VHR2012 data. If gaps still persist, some alternative datasets, such as Landsat, can be envisaged up to a limited degree, provided that the quality of deliverables is not tangibly affected. As far as the available imagery allows (including gap filling), 2012 related LCLU mapping will be performed.

The delivery of this task is an assessment report summarising the usable coverage of the coastal zone AoI with VHR2012 data and a vector file containing footprints and essential information on selected (usable) VHR2012 files (e.g. file name, file location, cloud cover...). This report shall allow EEA to evaluate to which extent 2012 LCLU status and 2012-2018 LCLU change shall be implemented.

1.3.1.2 Task 1b: Fine tuning of Coastal Zones AoI

Coastal zone extent towards land is based on JRC analysis of evolution of percentage of land cover surfaces according to distance from the coastline, where an optimal cut-off line for land cover monitoring was set for 10 km from the coastline⁶.

For the scope of this call for tender, the EU-Hydro⁷ public beta was used to create an approximated AoI. More precisely the two polygon features *coastal_p* and *transit_p* were used to mark the beginning of water from which a 10 km landwards buffer was applied, resulting in a 671.601 km² large area. EU-Hydro is now undergoing a revision which also corrects for topological inconsistencies and geometric misalignments. The contractor is

⁵ <https://spacedata.copernicus.eu/>

⁶ European Commission, 2000. The LaCoast Atlas: Land cover changes in European Coastal Zones. Editors: Vanda Perdigão and Susan Christensen, 272 p.

⁷ <https://land.copernicus.eu/pan-european/satellite-derived-products/eu-hydro/view>

expected to create the final buffer area based on the release version of the EU-Hydro dataset hereby creating the base AoI.

Once the base AoI has been created, the contractor is expected to carry out for **every reference year that will be mapped** (i.e. 2012 and/or 2018, depending on the result of task 1a) the following amendments:

Seawards amendments:

The contractor shall make sure to map all permanent seawards structures, such as ports or protective infrastructure, even if not covered by the base AoI. As a threshold of what to include, all permanent structures (to be mapped according to the coastal zones nomenclature table, section 1.3.1.3) which begin not further away than 3 km from the coastline, shall be **completely** included (even if reaching beyond the 3 km search radius) in the mapping. Clearly non-permanent changes, such as the changes of the coastline due to the tide should not be mapped (i.e. in such cases the coastline should remain as it is).

Once all elements are included (seawards amended coastline) a 1 km seawards buffer shall be applied and, later in task 2, filled with the relevant classes from the nomenclature. **The area within the 1 km seawards buffer will not be eligible as such as mapped area to be compensated for, but rather should be accounted for in the landwards area and calculated in the price/km² to be given in the financial offer** (section 1.8).

Landwards amendments:

The land area under coastal influence might in some cases reach further than the 10 km buffer. In particular this can happen in estuaries and marshes. The contractor shall make sure to amend the current Coastal Zones AoI to adequately include area under a direct and tangible influence of coastal phenomena. To accomplish that and to account for regional differences the contractor shall contact regional and/or local authorities to perform this task.

The tenderers shall explain how they intend to include coastal zones beyond the 10 km landwards buffer.

The contractor is free to decide at which stage these AoI amendments are implemented. Resulting additional **land area** is part of the mapped area to be compensated for.

The delivery of this task is the amended final Coastal Zones AoI. The size of that area is not expected to be increased by more than 10 % compared to the approximated AoI (671.601 km²), resulting in an AoI of maximum 738.761 km². Technical details on the deliverables can be found in the following table.

| | |
|------------------------|--|
| Title | Task 1b: Fine tuning of Coastal Zones AoI |
| Abstract | Amendment of the Coastal Zones AoI in order to include near coast permanent structures and coastal influence areas not covered by the current AoI. |
| INSPIRE themes | N.A. |
| Geographic description | EEA39 (33 member countries and 6 cooperating countries) |

| | |
|--|---|
| Temporal description | N.A. |
| Purpose | Finalising the AoI definition for LCLU mapping in coastal zones |
| Minimum Mapping Unit | N.A. |
| Minimum/Maximum mapping width | N.A. |
| Nomenclature | N.A. |
| Projection | ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035) |
| Delivery formats | Vector |
| Metadata | As specified in Section 1.4.6 |
| Positional accuracy | N.A. |
| Overall classification accuracy (thematic) | N.A. |

1.3.1.3 Task 1c: Finalization of Coastal Zones mapping guidelines

Similarly as for the other thematic hotspot mapping products the Coastal Zones product uses a tailored nomenclature to address LCLU dynamics. The European Topic centre for Urban Land and Soil systems (ETC/ULS) has prepared a first version of the mapping guidelines⁸.

In the summer of 2017 nomenclatures of hot spot monitoring products, in particular Riparian Zones and Natura2000, were revised. This revision comprised a:

- Harmonisation of nomenclatures within the thematic hotspot mapping
- Reduction of classes to a set of classes reliably derivable based on EO data
- Removal of thematic overlaps and gaps
- Harmonisation of hierarchical inconsistencies

In task 1c the contractor shall revise the Coastal Zones mapping guidelines document prepared by the ETC/ULS in order to match the new revised Coastal Zones nomenclature. In order to keep the consistency across the thematic hotspot mapping products, common classes shall also use the same class descriptions. Most class descriptions are already present in the mapping guidelines of Riparian Zones and Natura2000 and shall be copied from those documents⁹:

1. Coastal Zones class definitions elaborated by the ETC (nomenclature/Delivery2_II_Task13_v6.docx)
2. Nature2000 revised mapping guidelines (nomenclature/N2K_Task01_N2k-Nomenclature-Guideline_v_1-3_final.docx)
3. Riparian zones revised mapping guidelines (nomenclature/RZ_Nomenclature_Guideline_v1_3_06-06-2018.docx)

⁸ Accessible via a web link, see section 1.4.1.

⁹ Accessible via a web link, see section 1.4.1.

4. Core class definition document (N2K_Task01_Core_Class-Definition_Technical_Note_v1-3.docx)
5. Coastal Zones nomenclature table (nomenclature/Nomenclatures_LocalComponent_20181204.xlsx)

The delivery of this task is the revised Coastal Zones mapping guidelines document used for the mapping of Coastal Zones.

1.3.1.4 Task 1d: Interaction with national stakeholders - Service evolution

Due to the complexity of interests, directives and natural dynamics in coastal zones, it is essential to stay in close contact with national stakeholders over the entire project duration (i.e. throughout implementation of tasks 1-3). The contractor is expected to set up a platform for consultation and interaction with stakeholders and national authorities, with the aim of increasing user involvement and uptake of planned and future Coastal Zones monitoring products and activities. Beside the eventual improvements of products foreseen within this call for tender, planned and also not yet planned new products shall be discussed. The exchange shall include:

- i. Landwards amendment of the Aol. Task 1b: Fine tuning of Coastal Zones Aol (section 1.3.1.2);
- ii. Nomenclature amendment (add/remove/reshape classes, consider regional special requirements). Task 1c: Finalization of Coastal Zones mapping guidelines (section 1.3.1.3);
- iii. Planned upcoming CZ monitoring products, which are currently under discussion with the Copernicus User Forum and the European Commission:
 - a. Evolution of EU-hydro¹⁰ (e.g. integration of the European catchments and Rivers network system (Ecrins)¹¹ into EU-hydro, NRT River discharge monitoring...);
 - b. Coastal vulnerability monitoring: e.g. erosion/accumulation, coastal protection, pressures...;
 - c. Coastal dynamics: e.g. tides, wind, currents;
 - d. Synergy products with CMEMS.
- iv. New products: The discussion shall also lead to an understanding of eventually uncovered user needs and requirements.

Timing: while a good interaction with stakeholders shall persist for the entire project duration, several elements require a stricter schedule:

- Short-term: In order not to delay the finalisation of tasks 1b and 1c, points (i) and (ii) shall be discussed and clarified with stakeholders within a short timeframe;
- Mid-term: Outcomes of points (iii) and (iv) are candidates for the mid-term evolution of Copernicus coastal monitoring and should be usable for this purpose by the end of 2019.

¹⁰ <https://land.copernicus.eu/pan-european/satellite-derived-products/eu-hydro/view>

¹¹ <https://www.eea.europa.eu/data-and-maps/data/european-catchments-and-rivers-network>

At least two physical meetings shall be organised: (1) an upfront stakeholder meeting to discuss the outlined plans; and (2) a meeting in early Q4-2019 to allow for the timely preparation of the outcomes of points (iii) and (iv).

The delivery of this task shall, besides the physical meetings and the platform for consultation and interaction with stakeholders and national authorities throughout the entire project as mentioned above, consist of two reports covering the outcome of the exchange with stakeholders on points (i) and (ii), and (iii) and (iv) respectively.

1.3.2 Production tasks (tasks 2 and 3)

Production tasks cover the main scope and workload of this tender and consist of two separated tasks of coastal zones LCLU mapping:

1. LCLU status mapping: initial production of a LCLU status map.
2. LCLU change and status update mapping: LCLU change is typically based on existing LCLU status map (1) and by merging LCLU status and change a new LCLU status update is generated.

In case sufficient VHR2012 coverage can be guaranteed (task 1a, section 1.3.1) the LCLU status map shall be implemented for reference year 2012, LCLU change 2012-2018 and status update 2018. In case the 2012 coverage is insufficient, only a 2018 LCLU status map shall be implemented, omitting both change and status update. Any intermediate scenario (partial coverage of LCLU change and status update) may occur.

1.3.2.1 Task 2: Coastal Zones Land Cover and Land Use status map

This is the main task of this call for tenders. In case of sufficient coverage of VHR2012 data (task 1a, section 1.3.1.1) the status map shall be produced for the reference year 2012; in case of insufficient coverage the status map shall be based on the reference year 2018. This particularity is assumed in the subsequent text.

Task 2 aims at the production of the Coastal Zones LCLU status map. A minimum mapping unit of 0,5 ha and a minimum mapping of 10 m spatial details are typical for a product of the thematic hotspot mapping. To estimate the efforts of implementing the status map tenderers can use documents made available to accomplish task 1c (section 1.3.1.3) and the AoI provided for task 1b (section 1.3.1.2) and also referred to in section 1.4.11 (most important 'Landbuffer.zip').

The similarity of Riparian Zones and the Natura2000 products shall allow for a high level of integration of already mapped areas into the Coastal Zones product. This fact should considerably reduce the overall mapping efforts even in the event that the status map will be based on VHR2018 data, for more information refer to section 1.4.11.

The product is spatially defined by the AoI finalised in task 1b, based on VHR data (section 1.4.4) and the finalised Coastal Zones mapping guidelines under task 1c. Beside VHR imagery the production shall be backed by other reference data wherever possible, such as Open Street Map (OSM) navigation data or commercial off-the-shelf (COTS) data and topographic maps or any suitable datasets made available via CORDA (see section 1.4.5) or by regional and/or local authorities.

Wherever a reliable discrimination of a LCLU is not possible by means of single temporal VHR data the contractor shall obtain the information from multi-temporal datasets (e.g. time series

derived other sensors such as Sentinel2 or Landsat), and/or other products from CLMS (i.e. HRL).

All available and relevant Very High Resolution (VHR) satellite imagery will be made available through ESA Data Warehouse (DWH)¹².

The tasks shall be performed by applying a mixture of automatic classification routines and visual interpretation. Automatic classifications, segmentation, clustering, etc., may be applied whenever appropriate.

Tenderers shall explain in their offer which strategy and detailed workflow they intend to apply to implement this task.

Deliveries for task 2 are described in the following table:

| | |
|------------------------|---|
| Title | Task 2: Coastal Zones Land Cover and Land Use status map |
| Abstract | Production of a dedicated LCLU status map for coastal zones |
| INSPIRE themes | Land cover Land use |
| Geographic description | 10 km landwards buffer Coastal land zone within EEA39 (33 member countries and 6 cooperating countries). |
| Temporal description | Based on very high resolution (VHR) satellite imagery of the reference year 2012 or 2018 (see section 1.4.4). |
| Purpose | To produce a LCLU status map of the coastal land zone based on VHR satellite imagery, and coastal zones nomenclature. |
| Minimum Mapping Unit | 0,5 ha |
| Minimum mapping width | 10 m |
| Nomenclature | Tailored Coastal Zones nomenclature (see task 1c) |
| Projection | ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035) |
| Delivery formats | Vector |
| Metadata | INSPIRE compliant, as specified in section 1.4.6 |
| Positional accuracy | RMSE <= 5 meters |

¹² <https://spacedata.copernicus.eu/>

| | |
|---|--|
| Overall classification accuracy ¹³ | <p>≥ 80 % for class specific user and produced accuracies</p> <p>≥ 85 % overall accuracy</p> |
|---|--|

1.3.2.2 Task 3: Coastal Zones Land Cover and Land Use change and status update

This task will only be performed in case of sufficient coverage of VHR2012 data (section 1.3.1, task 1a). In such case LCLU change 2012-2018 and status update 2018 shall be produced. In the case of partial implementation the contractor may decide to implement a backwards processing as: full coverage of status 2018 (task 2) and partial coverage of LCLU change 2018-2012 and partial LCLU status update 2012. In the case the VHR2012 coverage is considered as insufficient by the EEA, this task may be completely omitted.

LCLU change shall be produced based on the LCLU status map produced in task 2. LCLU status update shall be produced by merging LCLU status (task 2) and LCLU change map (this task).

Tenderers shall explain in their offer which strategy and detailed workflow they intend to apply to implement this task.

All available and relevant Very High Resolution (VHR) satellite imagery will be made available through ESA Data Warehouse (DWH)¹⁴.

Delivery for Task 3, Coastal Zones Land Cover and Land Use change map:

| | |
|------------------------|---|
| Title | Task 3: Coastal Zones Land Cover and Land Use change map |
| Abstract | Production of a dedicated LCLU change map for coastal zones |
| INSPIRE themes | Land cover Land use |
| Geographic description | 10 km landwards buffer Coastal land zone within EEA39 (33 member countries and 6 cooperating countries). |
| Temporal description | Based on very high resolution (VHR) satellite imagery of the reference years 2012 and 2018. |
| Purpose | To produce a LCLU status map of the coastal land zone based on VHR satellite imagery, and coastal zones nomenclature. |
| Minimum Mapping Unit | 0,5 ha |
| Minimum mapping width | 10 m |
| Nomenclature | Tailored Coastal Zones nomenclature |

¹⁴ <https://spacedata.copernicus.eu/>

| | |
|---|---|
| Projection | ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035) |
| Delivery formats | Vector |
| Metadata | INSPIRE compliant, as specified in section 1.4.6 |
| Positional accuracy | RMSE <= 5 meters |
| Overall classification accuracy ¹⁵ | ≥ 80 % for class specific user and produced accuracies ≥ 85 % overall accuracy |

Delivery for Task 3, Coastal Zones Land Cover and Land Use status update:

| | |
|------------------------|--|
| Title | Task 3: Coastal Zones Land Cover and Land Use status update |
| Abstract | Production of a dedicated LCLU status update map for coastal zones |
| INSPIRE themes | Land cover Land use |
| Geographic description | 10 km landwards buffer Coastal land zone within EEA39 (33 member countries and 6 cooperating countries). |
| Temporal description | Based on very high resolution (VHR) satellite imagery of the reference years either 2012 or 2018 depending on the outcomes of task 1a. |
| Purpose | To produce a LCLU status map of the coastal land zone based on VHR satellite imagery, and coastal zones nomenclature. |
| Minimum Mapping Unit | 0,5 ha |
| Minimum mapping width | 10 m |
| Nomenclature | Tailored Coastal Zones nomenclature (see task 1c) |
| Projection | ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035) |
| Delivery formats | Vector |
| Metadata | INSPIRE compliant, as specified in section 1.4.6 |
| Positional accuracy | RMSE <= 5 meters |

| | |
|---|--|
| Overall classification accuracy ¹⁶ | <p>≥ 80 % for class specific user and produced accuracies</p> <p>≥ 85 % overall accuracy</p> |
|---|--|

1.4 General rules and requirements applicable to all tasks

1.4.1 Tender specific files

All auxiliary files required for this call for tenders are accessible via:

URL: <https://cft-100368.eea.europa.eu/>

User: cft100368

Password: D4Dse5f8N3

The account will remain active until the deadline for submission of tenders (25.01.2019).

1.4.2 Geographic coverage

The exact spatial coverage of the products to be delivered is defined by the Aol finalised in task 1b (section 1.3.1.2). It comprises the coastal area (10 km landwards buffer) of all 33 EEA member countries and 6 cooperating countries (i.e. the full EEA39).

1.4.3 Spatial Reference System

All geographic data must be referenced in the spatial reference system ETRS89 – Lambert Azimuthal Equal Area (LAEA), EPSG code 3035¹⁷.

1.4.4 Satellite data

Satellite data required for this call for tenders are described under “Copernicus Space Component Data access Portfolio: Data Warehouse 2014-2020”¹⁸. Access conditions will be the same as for the EEA (Copernicus service).

Thematic hotspot mapping uses the terminology ‘reference year’ to describe an acquisition period of plus minus one year around the ‘reference year’. This means that products of the reference year 2012 are produced based on 2011-2013 reference data. In the particular case of thematic hotspot mapping the following Very High Resolution (VHR) datasets are made available to contractors:

- VHR_IMAGE_2012 (CORE data)¹⁹
- VHR_IMAGE_2018 (CORE data)²⁰
- D2_MG2b_LOLA_011b (Additional Data)

¹⁷ <http://spatialreference.org/ref/epsg/3035/>

¹⁸ https://spacedata.copernicus.eu/documents/12833/14545/DAP_Release_Phase_2

¹⁹ At this point the full coverage of coastal zones by VHR2012 data cannot be guaranteed. In order to know how much LCLU 2012 area can be mapped the contractor will perform a data assessment, see section 1.3.1.

²⁰ Ongoing acquisition.

- D2_MG2b_NARA_011b (Additional Data)

Sentinel-2 data available in the dedicated Copernicus services hub is also an option for gap filling (for the relevant reference years), as well as the Landsat archive.

For some classes the differentiation based on mono-temporal imagery might be difficult. In such cases a multi-temporal approach, e.g. based on available Sentinel-2 data, should help to reduce the amount of misclassification and shall, therefore, be considered.

1.4.5 In-situ ancillary data

In-situ data as defined by the Copernicus Regulation means observation data from ground-, sea- or air-borne sensors as well as reference and ancillary data licensed or provided for use in Copernicus.

Three legal acts may to some extent facilitate the access to existing in-situ data, namely:

- Article 23 of the Copernicus Regulation²¹
- Article 3 of the Commission Delegated regulation (EU) No 1159/2013²²
- Article 17 of the INSPIRE Directive²³

In-situ data in the context of this call for tenders will be needed to support the processing of satellite data and the production processes of the VHR layers by providing ground truth data.

The future contractor is fully responsible for getting access to (and procuring when appropriate) the necessary in-situ data. However, the EEA strongly encourages tenderers to investigate with the covered countries in order to explore to which extent access to national and regional in-situ data can be provided for this open call for tenders. Either through services the countries are establishing in the framework of the implementation of the INSPIRE Directive, and/or through services the countries will set up as part of their contribution to CLMS.

The Copernicus reference data access portal (CORDA) gives access to a large number²⁴ of relevant national and regional spatial reference data sets, i.e. ortho-imagery, administrative units, transport networks, elevation, buildings, land cover, and land use. The future contractor is expected to use CORDA to the greatest extent possible.

A time-limited access to CORDA can be granted until the deadline for submission of tenders (25.01.2019). Tenderers may request a time-limited membership via <https://corda.eea.europa.eu/> citing the reference number for this call for tenders.

1.4.6 INSPIRE requirements

In order to enable the EEA to further publish and reuse the deliverables under the contract in accordance with the requirements of INSPIRE (Directive 2007/2/EC and the respective implementing provisions), the contractor shall provide the following documentation to each of its datasets:

²¹ See footnote 5.

²² OJEU L309 of 19.11.2013; <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R1159>

²³ Directive 2007/2/EC of the European Parliament and of the Council, OJEU L108 of 25.4.2007; <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:108:0001:0014:en:PDF>

²⁴ At the end of Q4 of 2018, 2096 data sets from 248 national and regional data providers are available via CORDA.

1. Metadata for each dataset following the “INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119”. The most up to date version of technical guidelines shall be used and can be found on <http://inspire.ec.europa.eu/index.cfm/pageid/101>.
2. Evidence that the data model delivered by the contractors is compatible with the INSPIRE Data Specification on Land Cover. The evidence shall be provided as table document showing the associations between the source (contractors deliverable) and the target data model (INSPIRE Data Specification on Land Cover). The data specifications and templates for mapping tables are available on the INSPIRE website, <http://inspire.ec.europa.eu/index.cfm/pageid/2/list/datamodels>. These templates shall be used, but can be extended if needed.

Best practices for metadata and mapping table development are available under <http://land.copernicus.eu/eagle/EAGLE-related-topics/inspire-related-work>.

1.4.7 Deliverables for mapping tasks

The area to be mapped under each LCLU mapping task (tasks 2 and 3) is usually split into sub units. Interim payments are typically made upon the finalisation and acceptance of a given percentage of the overall area agreed within a specific contract (see section 1.7.1). Timing and size of deliverables will be discussed and agreed at the kick-off meeting (see section 1.7.3).

1.4.8 Consistency of deliverables

Spatial consistency shall be guaranteed for all deliverables. This means that deliverables shall be fully harmonised (1) across boundaries of any sub units, as well as (2) deliverables produced by eventual sub-contractors. To minimize problems of streamlining and harmonizing deliverables across the EEA39, the contractor shall ensure that all consortium members and sub-contractors, as applicable, use the same production workflows, tools, documentation and software. Tenderers shall explain in their technical offer which specific measures will be taken to ensure a fully harmonised workflow and results.

1.4.9 Technical requirements of data deliverables

All deliverables are checked for their technical correctness. Technical conformity is assessed on submission to an automatic web based submission system²⁵:

- Naming convention
- File format
- Projection
- Attribute table (naming, formatting and entries)
- Correctness of class codes
- Unique identifier
- No multi-polygons
- Coverage (no holes, no gaps, no slivers, no overlaps)
- No neighbouring polygons with same class
- Minimum mapping unit and minimum mapping width (including boarder exceptions)
- Close polygon rings

²⁵ https://github.com/eea/copernicus_quality_tools

Features within vector format files, in particular polygons, shall neither contain gaps nor overlaps. When working with ArcGIS this also applies to spatial differences below the XY tolerance, meaning that no XY tolerance is allowed in datasets.

Compliance with these rules are tested and validated by the EEA.

1.4.10 Auxiliary information layer

For any LCLU products an auxiliary Parent Scene Identification Layer (PSIL) shall be maintained. The PSIL is a vector file containing spatially explicit reference information of the satellite images used for the production of a LCLU map. A template PSIL file and a short reference document can be downloaded via the designated web link (see section 1.4.1 for more information).

1.4.11 Integration of existing LULC data

In order to avoid duplication of work and facilitate the integrative use of Copernicus products, existing thematic hotspot datasets shall be integrated into the Coastal Zones product to the highest possible extent. This means that wherever an area is covered by a suitable dataset the contractor shall use it to the highest possible degree. It is expected that such integration considerably reduces the overall workload. The integration of exiting LCLU data shall result in a seamless CZ LCLU dataset, and it will also be validated as such. Any adjustment necessary for a seamless integration of existing datasets (e.g. boarder adjustments, knock-on effects, recoding ...) shall be covered by the offer.

| Product | Area (km ²) | Filename (see section 1.4.1) |
|--|--|------------------------------|
| Coastal Zones AoI (10 km landwards buffer) | 671.601 ²⁶ | AoI/Landbuffer.zip |
| Existing thematic hotspot mapping products inside the CZ AoI | Overlaps between N2K, RZ and UA are not considered | |
| N2K | ~ 45.367 | AoI/CzN2_AoI.zip |
| RZ | ~ 75.136 | AoI/CzRz_AoI.zip |
| Whereby RZ recoded UA ²⁷ | ~ 6.169 | AoI/CzRz_AoI_UaCore.zip |
| UA | ~ 171.492 | AoI/CzUa_AoI.zip |
| Whereby UA classes 1* | ~ 33.219 | AoI/CzUa1.zip |

AoI files reference table with approximated area figures for every layer within the CZ AoI.

With a minimum mapping unit of 0,5 ha and a minimum mapping width of 10 m Riparian Zones, Natura2000 and Coastal Zones share the same spatial characteristics. Also the nomenclatures are similar for these products as they are all building on the same baseline nomenclature (55 classes). Beside polygons with border exceptions or interpretation errors,

²⁶ As explained in section 1.3.1.2 the AoI may increase by up to 10 %, resulting in an AoI of maximum 738.761 km².

²⁷ In RZ existing UA core area is integrated by a 'recoding wherever possible' rule, meaning whenever the nomenclature allows a recoding it is recoded. Wherever recoding is not possible UA classes are kept. These areas are flagged within the RZ attribute table, and cannot be integrated as RZ data into CZ, but UA data has to be integrated instead.

polygons with identical classes shall be integrated, whenever possible, into the coastal zones maps as they are.

For Urban Atlas the situation is slightly different. In Urban Atlas artificial classes (UA classes 1*) have a higher spatial (minimum mapping unit of 0,25 ha) and higher thematic resolution. This makes artificial classes easier to integrate into Coastal Zones. For rural classes (UA classes 2*-5*) with a minimum mapping unit of 1 ha and less classes the possibilities of data integration remains more limited. Rural classes shall as far as possible integrated into Coastal Zones.

Tenderers shall explain in sufficient detail in their technical offer how they intend to integrate existing data.

1.4.12 Technical tasks

Dealing with large amounts of data, tenderers shall be aware that unexpected corrective work, which proves necessary for production progress, may arise. Such tasks are as a general rule considered an integral part of production, and should therefore become part of the basis upon which the financial offer is calculated (see section 2.2.3.2).

The following (non-exhaustive) list of types of tasks that are explicitly considered an integral part of production:

- Investigations around in-situ data usability, and internal technical and workflow related modifications of existing in-situ data to be able to make use of them (e.g. regarding data format etc.);
- Work on and documentation of internal validation concepts;
- Support in drafting and updating of product specifications and definitions for end-users;
- Solving technical issues with input satellite imagery, related to various levels of technical challenges (e.g. geometric/format/metadata) when dealing with large amount of satellite input imagery from a variety of sensors.

Should, unexpectedly, additional tasks arise during production, which are wholly unforeseeable and therefore cannot be considered an integral part of production, but which nevertheless are necessary for production progress, the EEA may launch a negotiated procedure without prior publication of a contract notice for new services with the future contractor (see section 1.6 for further details). However, the triggering of such procedure will be considered as **highly exceptional**, and therefore will require an in depth justification.

1.4.13 Data format

The default format for CLMS vector products is the ESRI-Shapefile. This de-facto open and long term standard format for vector files is preferred in order to allow the widest possible compatibility of CLMS products across GIS and image processing software. The limitations of ESRI-Shape files to cope with the often massive files produced for CLMS may oblige to choose instead a modern database based file formats. The decision of which format will be finally used for deliverables will be taken at the kick-off meeting. In the case a database format is required (very probably for LCLU deliveries) the contractor is expected to deliver for each delivery in ESRI geodatabase.

Along with any LCLU products the contractor shall create and maintain legend files. In detail each legend shall be delivered in the following formats: SLD²⁸, QML (QGIS) and LYR (ArcGIS).

The default format for raster files is GeoTIFF²⁹. Its open standards allows to be usable with almost any GIS and image processing environments.

1.4.14 Complex features

Too complex polygons may be split into GI-technical manageable units, the reference 1 km tiling system can be downloaded from the EEA website³⁰. As an example please refer to road polygons (classes 122*) in Urban Atlas³¹.

1.4.15 Internal/external validation and delivery reports for mapping tasks

Delivery reports are meant to give a concise overview of relevant information of a delivered product. The contractor shall produce two levels of delivery reports: (1) for each delivery and (2) when 100 % of the area of a product (e.g. Coastal Zones LCLU status map 2018) is mapped. Both reporting levels shall allow end-users to access concise and relevant information about product details and quality. The summarising final product report for each product is meant to give a more general and overall overview of product specific quality information.

An internal quantitative validation shall be performed for each delivery unit. The overall internal validation shall consist of a stepwise integration of individual delivery validations. Reference points interpreted for product level delivery reports can be recycled for the final delivery product report.

Tenderers shall describe in detail in their offer which, scientifically accepted, validation approach will be applied in terms of:

- Sampling schema (size, spatial distribution, stratification, regional spread, special rules)
- Reference data against which it will be measured
- Formula applied to measure accuracy (accuracies³² and confidence intervals)

The EEA maintains the right to implement changes to the proposed methodology, with a view of optimally ensuring consistency with external validation approaches as applied on the former Copernicus hotspot mapping products such as Riparian Zones and Natura2000. Relevant reports can be accessed on the CLMS portal³³.

The concise delivery level report shall contain at least the following key information:

- Overview of mapped area (map, legend and summary statistics)
- Key notes about the production process (i.e. issues)

²⁸ <http://www.opengeospatial.org/standards/sld/>

²⁹ <https://en.wikipedia.org/wiki/GeoTIFF> and <https://trac.osgeo.org/geotiff/>

³⁰ <https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>

³¹ <https://land.copernicus.eu/local/urban-atlas/urban-atlas-2012/view>

³² Overall, user and producer accuracy.

³³ https://land.copernicus.eu/user-corner/technical-library/copy3_of_technical-library#local_val

- Overview/keynotes of source files (used: in-situ data, VHR data, other data)
- Delivered files (short description of files contained in the delivery package)
- Quantitative assessment of LCLU data (confusion matrix and accuracy parameters)

The validation dataset (i.e. spatial file with interpreted points/polygons) shall be part of the delivery package.

The cumulative validation dataset (i.e. spatial file with all interpreted points/polygons) shall be part of this delivery.

On top of the internal validation, an independent external validation will be performed of the product. All deliveries come with a one year guarantee, starting from the day of submission of the delivery. The contractor shall repair and/or replace/amend, free of charge, any part of a result that is proven to be defective according to the specifications listed in section 1.4.9 and in this section.

1.4.16 Data submission and technical validation

In order to submit any LCLU products the contractor shall upload and submit deliveries to the EEA online submission system. This system will perform the verification of the compliancy of deliverables with the technical specifications listed in section 1.4.9.

This system is currently still under development, but it is expected to be ready before any data delivery is finalised. This free and open tool can be accessed and installed from https://github.com/eea/copernicus_quality_tools. For the purpose of pre-submission technical assurance tenderers are free to access and install the tool.

1.5 Place of performance

All services shall mainly be performed at the future contractor's own premises, with occasional meetings at the EEA's premises in Copenhagen, depending on the requirements of each specific contract. Travel to other locations may be required on an ad-hoc basis when requested to participate in Copernicus meetings organized by the European Commission, in which case the future contractor may claim reimbursement of travel and subsistence costs according to the EEA standard rules and rates (see Annex 6).

The future contractor shall have videoconferencing tools such as skype to organize virtual meetings requested on short notice or of a short duration.

1.6 Type and volume of contract

The successful tenderer will be awarded a framework service contract that will enter into force upon signature by both parties and be valid until 31.12.2020. The framework service contract will be implemented through specific contracts depending on the EEA's demand. Annexes to such specific contracts will include detailed descriptions of the services and deliverables to be provided as well as the terms of payment. For further details, reference is made to the terms and conditions of the draft framework service contract and draft specific contract forming part of the procurement documents (see Annex 5).

During the 3 years following the entry into force of the original contract the EEA reserves the right to exercise the option of conducting a negotiated procedure without prior publication of

a contract notice for new services with the future contractor in accordance with point (e) of the second subparagraph of point 11.1(e) of Annex I to the Financial Regulation³⁴.

The estimated maximum budget for the framework service contract is EUR 3 000 000 (three million euros), covering all services, tasks and deliverables.

The estimated budget for each task is as follows:

| Tasks | EUR |
|---|--------------------|
| Task 1: Preparatory tasks 1a, 1b, 1c, 1d | Max. EUR 300 000 |
| Task 2: Mapping of status map | Max. EUR 1 600 000 |
| Task 3: Mapping of change and status update | Max. EUR 1 100 000 |

Under no circumstances can a minimum volume of services be required by the contractor.

1.7 Implementation of the contract

1.7.1 Deliverables and schedules

The types of deliverables depend on the specific tasks and may include project management reports, technical reports, delivery reports, geospatial datasets of a specified format, metadata, etc.

The specific contracts to be established under the framework contract will further specify the tasks to be carried out, the expected deliverables and estimated schedule. The specific contracts will also establish the payment terms. For the specific contract(s) to cover the production tasks (tasks 2 and 3), an interim payment will typically be made upon the finalisation and acceptance of a given percentage of the overall area agreed within a specific contract. The number of specific contracts that will be established, will correspond to individual main tasks or an aggregation of tasks, but is expected to be limited to two or three.

1.7.2 Project management

Every offer submitted in response to a request for service, with a view to signing a specific contract, shall contain key elements of project management in order to define, organize and monitor activities. These shall provide a feasible and effective breakdown of the activities and shall include the following items:

- Description of methodology
- Staff planning and proposed key personnel relevant for the tasks at stake
- Tasks breakdown and content with deliverables and delivery milestones (production plan)
- Facilities and resources

³⁴ Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012, OJEU L 193/1 of 30.07.2018.

- QA/QC procedures, including an internal validation of the products (see section 8.3 for more details)
- Risk analysis and mitigation measures.

1.7.3 Meetings

Meetings will take place depending on the needs defined in every specific contract. However, a kick-off meeting, a final meeting as well as two ad-hoc meetings are expected within the duration of the framework contract. In addition, participation in Copernicus meetings organized by the European Commission may be requested. The table below provides information on the estimated meeting schedule for implementation of the project:

| MEETINGS | | | |
|----------|---|--|--|
| Meeting | | Estimated timing | Comments |
| 1 | Kick-off meeting | 1 month after signature of the first specific contract | To be held at EEA premises in Copenhagen |
| 2 | Final meeting | After final delivery of the products | To be held at EEA premises in Copenhagen |
| 3 | Up to two technical ad-hoc meetings organized by the EEA to discuss progress of work, if needed | | To be held at EEA premises in Copenhagen or via video-conference |
| 4 | Participation in Copernicus ad-hoc meetings organized by the European Commission ³⁵ | | |

1.8 Price

Tenderers are required to quote prices for the services to be provided as follows:

- Prices quoted must be **all-inclusive**, i.e. inclusive of all costs involved in the performance of the contract (e.g. of management, administrative and travel costs, with the exception specified in section 1.5, first paragraph above for ad-hoc travel to locations other than Copenhagen) and **expressed in euros**, including for tenderers established in countries that are not part of the Eurozone. For tenderers in countries that do not belong to the Eurozone, the price quoted may not be revised in line with exchange rate movements. It is for the tenderer to select an exchange rate and assume the risks or the benefits deriving from any variation. Tenderers shall give details of the price according to the requirements specified in section 2.2.3.2 and in the financial offer form attached as Annex 4 to these tender specifications.
- No additional expenses incurred in the performance of the services will be reimbursed separately by the EEA.
- The price quoted must be fixed and not subject to revision for the duration of the contract.

³⁵ See section 1.5.

Under Articles 3 and 4 of the Protocol on the Privileges and Immunities of the European Communities and the Headquarters Agreement between the Agency and the Government of Denmark of 17 August 1995, the EEA is exempt from all charges, taxes and dues, including value added tax. Such charges may not therefore be included in the calculation of the price quoted — the VAT amount must be indicated separately.

The costs incurred in preparing and submitting tenders are borne by the tenderers and will not be reimbursed.

2 EVALUATION OF THE TENDERS

2.1 Participation in the tendering procedure

2.1.1 Eligibility

This call for tenders is open on equal terms to all natural and legal persons from one of the 28 EEA Member States of the European Union and to all natural and legal persons established in an EEA member country, which has signed an agreement with the European Commission for participation in the Copernicus Programme³⁶.

As proof of eligibility, tenderers must indicate in the tender submission form (see Annex 1) in which country they have their headquarters, registered office or residence, and provide the necessary supporting documents in accordance with their national law. If the tenderer is a natural person, he/she must provide a copy of identity card/passport or driving license and proof that he/she is covered by a social security scheme as a self-employed person.

2.1.2 Application

All eligible natural and legal persons (as per above) or groupings of such persons (consortia) may apply.

A consortium may be a permanent, legally established grouping or a grouping, which has been constituted informally for a specific tender procedure. If awarded the contract, the members of the consortium (i.e. the coordinator and all other partners) will have an equal standing towards the EEA in executing the framework service contract and they will be jointly and severally liable to the EEA.

The participation of an ineligible natural or legal person will result in the automatic exclusion of that person. In particular, if that ineligible person belongs to a consortium, the whole consortium will be excluded.

The EEA will not request consortia to have a given legal form in order to be allowed to submit a tender, but reserves the right to require a consortium to adopt a given legal form before the contract is signed if this change is necessary for the proper performance of the contract. This

³⁶ For British candidates or tenderers:

Please be aware that after the United Kingdom's withdrawal from the EU, the rules of access to EU procurement procedures of economic operators established in third countries will apply to candidates or tenderers for the United Kingdom depending on the outcome of the negotiations. In case such access is not provided by legal provisions in force, candidates or tenderers from the United Kingdom could be rejected from the procurement procedure.

can take the form of an entity with or without legal personality but offering sufficient protection to the EEA contractual interests (depending on the country concerned, this may be for instance, incorporation or partnership or a temporary association). Consortia must identify one of their members as coordinator who will interface with the EEA.

Each member of a consortium must fulfil the conditions for participation mentioned in this section and section 2.1.1 above.

2.1.3 Subcontracting

A contractor may subcontract part of the services.

Tenderers must state in Annex 1 (administrative data) what part of the work, if any, they intend to subcontract, and to what extent (i.e. what percentage of the total contract value).

If awarded the contract, the contractor may not choose subcontractors other than those mentioned in the offer unless he obtains the prior written authorisation of the EEA. The overall responsibility of the work remains with the contractor.

The EEA reserves the right to request tenderers to provide documentation in relation to exclusion and selection criteria for any proposed subcontractors at a later stage (see sections 2.2.1 and 2.2.2 below).

If awarded the contract, the contractor must ensure that Article II.19 of the draft framework service contract (see Annex 5) can be applied to subcontractors. Once the contract has been signed, Article II.9 of the above-mentioned draft framework service contract shall govern subcontracting.

2.2 Criteria

2.2.1 Exclusion criteria

2.2.1.1 Exclusion from participation and award in the procurement procedure

To be eligible to participate in this contract award procedure, tenderers must not be in any of the exclusion situations referred to in Articles 136 to 141 of the financial rules applicable to the general budget of the European Union (Financial Regulation).

2.2.1.2 Evidence to be provided by the tenderers

When submitting their bids, each tenderer (including any subcontractor or any member of a consortium) must provide a declaration on their honour in accordance with the form attached as Annex 2, duly signed and dated, stating that they are not in any of the situations mentioned under section 2.2.1.1 above.

The tenderer (including each member of the consortium and sub-contractors) to whom the contract is to be awarded will be required, prior to the signature of the contract, to provide the evidence specified in the declaration of honour mentioned above (see Annex 2).

The EEA may waive the obligation of the tenderer to whom the contract is to be awarded to submit the documentary evidence referred to above if such evidence has already been submitted to the EEA for the purpose of another procurement procedure and provided that the issuing date of the documents does not exceed one year and that they are still valid. In such a case, the successful tenderer shall declare on its honour that the documentary evidence

has already been provided in a previous procurement procedure and confirm that no changes to its situation have occurred. The EEA will also waive the obligation of the tenderer to submit the documentary evidence if it can access it on a national database free of charge.

It shall be indicated for each tenderer (and each member of a consortium) in the relevant field in Annex 1 (Administrative data) whether it is a Small or Medium Size Enterprise in accordance with Commission Recommendation 2003/361/EC³⁷.

2.2.2 Selection criteria

Tenderers should show their degree of economic and financial capacity, and technical and professional capacity to provide the requested services by providing information on the criteria described below. In case of a joint tender submitted by a consortium, the economic and financial capacity, and the technical and professional capacity will be assessed in relation to the combined capacities of the members of the consortium and subcontractors, as a whole, to the extent that they put their resources at the disposal of the tenderer for performance of the contract.

In accordance with Point 20(6) of Annex I to the Financial Regulation, the EEA reserves the right to reject a tenderer where it is established that he/she has conflicting professional interests, which may negatively affect the performance of the contract.

2.2.2.1 Legal and regulatory capacity

➤ Requirement

Any tenderer is required to prove that they are authorised to perform the contract under national law.

➤ Evidence to be provided by the tenderers:

Each tenderer (including any sub-contractor whose involvement represents 20 % or more of the framework contract's total estimated value specified in section 1.6 above or any member of a consortium) is required to submit a legal entity form (see Annex 1 for link to the document) duly filled out and signed, accompanied by a copy of inscription in a trade register and/or a copy of inscription in a VAT register, or a sworn declaration or certificate, evidence of membership of a specific organisation, or express authorisation, where applicable.

2.2.2.2 Economic and financial capacity

➤ Requirement:

Tenderers must be in a stable financial position and have the economic and financial capacity to perform the contract. In case of a joint offer submitted by a consortium, any economic and financial threshold will be verified at the combined level of the consortium, to the extent that members of a consortium or subcontractors put their resources at the disposal of the tenderer for performance of the contract.

The tenderer must have for each of the past two financial years for which accounts have been closed, an average annual turnover of at least EUR 3 000 000.

³⁷ Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:en:PDF>.

➤ Evidence to be provided by the tenderers:

- A duly completed and signed simplified Financial Statement, in accordance with the template provided as Annex 3³⁸;
- Balance sheets or extracts from balance sheets for at least the last 2 (two) years for which accounts have been closed, where publication of the balance sheet is required under the company law of the country in which the tenderer is established;
- Failing provision of balance sheets, tenderers should submit appropriate statements from banks or evidence of professional risk indemnity insurance.

If, for some exceptional reason, which the EEA considers justified, a tenderer is unable to provide the references requested above, he may prove his economic and financial capacity by any other means which the EEA considers appropriate.

Tenderers (in case of a consortium only the leader) shall also submit a financial identification form (see Annex 1 for link to the document and instructions) duly filled out and signed.

2.2.2.3 Technical and professional capacity

Tenderers should show their degree of technical and professional capacity to carry out the requested tasks by providing information on the criteria described below.

○ **Human resources:**

Tenderers shall provide the following documents:

CVs detailing the educational and professional qualifications and language skills of the tenderer's managerial staff, as well as those of the staff responsible for providing the services, indicating the required professional experience as follows:

- Managerial staff: Minimum 2 (two) CVs each documenting a minimum of 5 (five) years' relevant experience;
- Staff responsible for providing the services:
 - Minimum 4 (four) CVs for senior experts each documenting at least 5 (five) years' relevant experience;
 - Minimum 5 (five) CVs for junior experts documenting at least 2 (two) years' of relevant experience.
- In addition:
 - CVs detailing the educational and professional qualifications of additional 3 (three) experts who can potentially take over responsibility for providing the services in case of busy periods;
 - CVs detailing the educational and professional qualifications of relevant supporting specialists who will not be working full time on the contract.

³⁸ In case of a joint offer submitted by a consortium, the leader and all partners of the consortium must submit this statement; however, the threshold for the turnover will be verified at the consortium level.

By “*relevant experience*” is meant experience in the following main areas of work:

Managerial staff: documented experience in project management and leadership for large scale projects; good knowledge of project management principles and models.

Senior experts providing the services: knowledge of environmental aspects and human activities in coastal zones, remote sensing, classification and interpretation of satellite imagery, integration of multi-scale, multi-temporal and multi-sensor satellite imagery in the production chain, management of large scale datasets, accuracy assessment, QA/QC of spatial data, analysis of time series analysis.

Junior experts providing the services: practical technical expertise in satellite image processing and LC/LU mapping exercises, as well as basic GIS hands-on experience.

○ ***Past contracts:***

Tenderers shall provide details of contracts awarded in the past three years to them and/or the consultants whose CVs are provided relevant to the services required by the EEA, indicating the value, dates, brief description of the services provided and recipients of the services (public or private).

○ ***Quality control:***

Tenderers shall provide details of any quality assurance accreditation that they hold. If no accreditation is held, tenderers shall provide an outline of any quality assurance policy specifying the status of implementation (e.g. measures employed to ensure the quality of services such as web services, delivered products, derived data and source code), and details of any quality assurance accreditations for which they have applied. In the event of a joint offer submitted by a consortium, each member of the consortium shall provide the requested information.

○ ***Environmental policy:***

Tenderers shall provide a description of their environmental policy specifying the status of implementation. In the event of a joint tender submitted by a consortium, each member of the consortium shall provide the requested description.

2.2.3 Award criteria

The assessment method that will be used to determine the choice of the tender will be based on the criteria given below, on the basis of the most economically advantageous tender in terms of

- the quality of the tender (Technical merit – TM)
- the financial value of the tender (Price – P)

2.2.3.1 Technical merit (TM) (max. 70 points, min. 42 points)

Tenders will be evaluated following the award criteria and weightings outlined below, producing a total potential score of maximum 70 points.

Tenderers shall elaborate on all criteria referred to below in order to score as many points as possible. The mere repetition of mandatory requirements set out in these tender specifications, without going into details or without giving any added value will only result in a low score. If essential elements of these tender specifications are not expressly addressed in the tender, the EEA may decide to give a zero mark for the relevant quality criterion. It is

important that the technical offer is presented in a simple and clear structure, following the numbering and the headings of the award criteria outlined below in order to enable the evaluation committee to assess them. Tenderers are requested to limit their technical offer to a maximum of 60 DIN A4 pages.

| No | Award criteria | Maximum Points (70) | Minimum Points (42) |
|----|--|---------------------|---------------------|
| 1 | <p>Methodological approach for the respective tasks documented by means of:</p> <ul style="list-style-type: none"> Proposed strategy for an effective involvement of national stakeholders. Completeness of the proposed workflow including the rationale for chosen methods and techniques (image processing, classification and interpretation, post-processing and internal validation, ...). Specific measures to ensure the reproducibility of delivered products (completeness of the documentation; accessibility of source code / scripts and/or technical reporting level, accessibility to base and background data). Specific measures to ensure fully harmonised mapping results. | 40 | 24 |
| 2 | <p>Management plan including:</p> <ul style="list-style-type: none"> Detailed production plan, including workflows and its optimisation aspects. Resources foreseen for the implementation of this project, organisation of work and available infrastructure. Strategy to deal with the complexity of the processing chains (efficiency of data management) and the data volumes at stake. Proposal for risk assessment (understanding of risks and mitigation measures, e.g. how to address production peaks and response time). | 10 | 6 |
| 3 | <p>Quality of test area mapping:</p> <p>Tenderers shall provide a representative example of the final LCLU status map for the selected test area in Spain. Details can be found in Annex 7 to these tender specifications.</p> <p>The test area will be evaluated based on:</p> <ul style="list-style-type: none"> Compliance to formal requirements as specified in section 1.3.2.1 (including the table); The completeness of the digital map composition, and the LCLU map as ESRI shapefile. | 20 | 12 |

| | | | |
|--|--|--|--|
| | <ul style="list-style-type: none"> • Correctness of delineation and class assignment (will be evaluated by means of 'look and feel') <p>The tenderer shall ensure and declare in writing that the method applied to the test area is representative for the proposed methodological approach.</p> | | |
|--|--|--|--|

Only tenders which obtain the indicated minimum number of points, both for each award criterion and in total, will be considered for the next stage, which involves determining the financial value of the tender and for the final assessment.

2.2.3.2 Price (P) (max. 30 points)

Tenderers are requested to submit a financial offer, thereby taking all tasks and deliverables as outlined under sections 1.2 and 1.3 above, giving the **all-inclusive** (i.e. include all relevant costs and all expenditure (e.g. management and administrative costs, travel costs)) for the services outlined below.

| Tasks | Price (€) |
|---|---|
| Task 1: Preparatory tasks 1a, 1b, 1c, 1d | P ₁ (total Price) |
| Task 2: Mapping of status map | P ₂ (Price/km ²) |
| Task 3: Mapping of change and status update | P ₃ (Price/km ²) |

For that purpose, tenderers shall fill out the Financial offer sheet using the template in Annex 4 to these tender specifications. Tenderers shall bear in mind that all fields are compulsory, and non-compliance will lead to exclusion of the tender from the award process.

Solely for the purpose of evaluation, EEA will calculate a reference price based on the scenario provided in the Financial offer sheet of Annex 4. The scenario is based on the mapping of an area of 738.761 km², which is the maximum AoI expected to be mapped under the contract (see section 1.3.1.2). Tenders meeting all mandatory requirements including the minima for technical merit will score points in function of the following formula $P = (P_{min}/P_0) \times 30$, where:

P = Price Score,

P_{min} = the total cost of the scenario of the lowest tender received,

P₀ = the total cost of the scenario of the tender being considered,

30 = the maximum number of points that can be awarded under this award criterion.

2.2.3.3 Final assessment

A framework service contract will be awarded to the tenderer whose tender achieves the highest total score for technical merit and price (TM + P). Should tenders obtain the same final score and tie for first place, the winning tender will be decided on the basis of the highest score achieved for price.

2.3 Performance

Competence in both selection and award criteria must be maintained throughout the framework service contract. Should the contractor fail to do this during the validity of the framework service contract, the EEA reserves the right to refuse any person if performance is not satisfactory and/or to choose another vendor from the tenders.

3 SUBMISSION OF OFFER AND TIMETABLE

3.1 Presentation of the tender

Tenders must be submitted through the electronic submission system (see point 1 in the Invitation to tender for further information).

Make sure you submit your tender on time: you are advised to start completing your tender early. To avoid any complications with regard to late receipt/non receipt of tenders within the deadline, please ensure that you submit your tender several hours before the deadline. A tender received after the deadline indicated in the procurement documents will be rejected.

For detailed instructions on how to submit a tender, please consult the e-Submission Quick Guide available at:

https://webgate.ec.europa.eu/esubmission/assets/documents/manual/quickGuide_en.pdf.

In case of technical problems, please contact the e-Submission Helpdesk (contact details are available in the Guide).

3.2 Environmental Considerations

The EEA runs a certified environmental management system (EMAS) and aims to minimise the environmental impact of all its activities, including those carried out under contract. The future contractor will, therefore, be requested to consider the EEA environmental management guidelines in the implementation of the contract, in particular, those relating to business travel, electronic means of communication, paper and energy consumption. Further information on the EMAS system can be found on the EEA homepage: <http://www.eea.europa.eu/documents/emas>.

3.3 Timetable

| | Date | Comments |
|---|-------------------------|--|
| Call for tenders launch date | 26.11.2018 | Dispatch of the contract notice to the Office of Publication |
| Last date for submission of clarifications to which EEA is bound to reply | 24.01.2019 | |
| Time limit for submission of tenders | 01.02.2019 | At 10:00 local time Copenhagen |
| Opening session | 01.02.2019 | At 14:00 local time in the EEA premises |
| Evaluation of tenders | 04.02.2019 – 21.02.2019 | Estimated |

| | | |
|---|------------|-----------|
| Award decision and notification of evaluation results | 22.02.2019 | Estimated |
| Contract signature | 07.03.2019 | Estimated |

3.4 Annexes

Annex 1: Administrative data

Annex 2: Declaration on exclusion criteria

Annex 3: Simplified financial statement

Annex 4: Financial offer

Annex 5: Draft framework contract and draft specific contract

Annex 6: Reimbursement of travel expenses

Annex 7: Specifications for the final product samples and test area

Annex 8: Checklist of documents to be submitted in the E-Submission Application