

## ANNEX I

### TECHNICAL ANNEX

to the Understanding for cooperation  
in the frame of the Sentinel Collaborative Ground Segment between ESA and CDTI, acting in its  
capacity as Spain's NPC for the Sentinel Collaborative Ground Segment

This Annex to the Understanding describes the technical details and specific provisions of Spain's  
Sentinel Collaborative Ground Segment initiatives, conducted under the Understanding.

#### National Mirror Site and Collaborative Archiving and Dissemination Centre (CAC)

Participants conducting the initiative in accordance with sections 4.1, 4.2, 6 and 7 of the Understanding	<p>Instituto Nacional de Técnica Aeroespacial (INTA). <i>Contact person: Eduardo de Miguel Llanes, head of Remote Sensing Systems (<a href="mailto:demiguel@inta.es">demiguel@inta.es</a>)</i></p> <p>Instituto Geográfico Nacional/Centro Nacional de Información Geográfica (IGN/CNIG). <i>Contact person: Bruno Pérez Martín, Unidad de Observación del Territorio (<a href="mailto:bpmartin@fomento.es">bpmartin@fomento.es</a>)</i></p>
Activity	<p>INTA and IGN/CNIG will implement a Mirror Site for Sentinel products. The Mirror Site will host all Sentinel products available at the ESA Collaborative Hub for the Spanish territory and adjacent maritime areas, and a reduced set of products for Latin America (baseline: Sentinel-1 and Sentinel-2 L1c, geographical areas to be confirmed depending on available resources)</p> <p>The Mirror Site will be open to all kinds of users after registration and the data distribution will follow the Sentinel data policy.</p> <p>The Mirror Site will include documentation on products characteristics and a help desk in Spanish intended to improve the uptake of Sentinel products by the Spanish-speaking community.</p> <p>On top of the archiving functionality provided by the Mirror Site, the Spanish Collaborative Ground Segment will include a processing capability for a limited set of tools or applications aimed to:</p> <ul style="list-style-type: none"><li>-the systematic generation of certain products (e.g. Sentinel-2 mosaics over predefined areas),</li><li>-specific research and development tasks to be requested by the user's community,</li><li>-the generation of to be defined added-value products.</li></ul>

	<p>These tools and applications shall be implemented for remote execution only by authorised users and under the terms and conditions for the use and distribution of Copernicus Sentinel data detailed in Annex IV.</p> <p>The access to the ESA's Collaborative Hub will be managed by INTA, while the CAC user's interface will be managed by IGN/CNIG. INTA and IGN/CNIG will share responsibilities for product archiving, reporting of the Mirror Site activities to CDTI and ESA, and the rest of activities of the CAC (such as generation of complementary collaborative data products, user support and help desk).</p> <p>In order to coordinate the different actors, a Steering Committee consisting of CDTI, IGN/CNIG and INTA and chaired by CDTI will meet once a year to evaluate the progress of the project.</p>
<p>ESA support</p>	<p><b>a) Access to Collaborative Hub</b></p> <p>ESA grants INTA access to the Collaborative Hub (ColHub), a rolling archive which forms part of ESA's Sentinel Data Access System and provides bulk dissemination capabilities for Sentinel data products to entities participating in the Sentinel Collaborative Ground Segment. The ColHub will continuously store Sentinel data acquired during the last month(s) at the processing levels agreed as part of the Sentinel core data product list and the associated timeliness as defined in the GMES Space Component Operations Concept (ref. GMES-GSEG-EOPG-PD-12-0056, issue 1.1, dated 9 August 2013), which is appended to the Understanding as Annex III. ColHub enables a user to search, browse, preview and download the Sentinel data. The time interval covered by the ColHub rolling archive will be scalable and include at least the last month of data.</p> <p>Access to the ColHub is allowed via a web authentication module. ESA will provide INTA with a username and password to access the ColHub. This username and password may be used only by INTA (including its representatives, employees and contractors involved in the initiative) for the purpose of the Sentinel Collaborative Ground Segment initiative(s). INTA will not share the username or password with any other natural or legal person.</p> <p>INTA will use the ColHub access only for the purpose of its activity in the Sentinel Collaborative Ground Segment initiative described above. INTA shall not misuse or interfere with the service of the ColHub portal, through registration at the ColHub, accessing and/or downloading available content. In particular, INTA aims at building the Spanish national mirror archive of Sentinel data and hence will not repeat the download of identical datasets from the ColHub, but will instead store downloaded Sentinel data for re-use and re-dissemination.</p> <p>All functionalities and contents offered by the ColHub are provided by ESA on a reasonable efforts-basis, as set out in Section 4.2 of the Understanding and in Section 3 of the "General Clauses and Conditions for the Sentinel</p>

	<p>Collaborative Ground Segment cooperation with GMES Space Component Participating States”, which are appended to the Understanding as Annex II. The transmission of content from the ColHub may be interrupted or delayed by ESA in the event of technical constraints, such as the internet bandwidth. In such a case, the download requested by INTA will be enabled later, taking into account other users’ requests.</p> <p><b>b) Data transfer</b></p> <p>ESA will provide appropriate interfaces to transfer Sentinel data to the Participants via internet. In particular, the Participants will make use of a connection to the GÉANT network.</p>
Time schedule	<p>The ColHub is already providing Sentinel data core products to Sentinel Collaborative Ground Segment users on an operational basis, and ESA will support as soon as the Participants are ready to start downloading products. Further data from Sentinel-5 Precursor will be included in the Sentinel core data products offer, as soon as available in accordance with the related ESA data provision plans.</p> <p>Spain’s National Mirror Site and Collaborative Archiving and Dissemination Centre are envisaged to start operations 4 months after the agreement among CDTI, INTA and IGN is signed.</p>
Reporting	<p>In line with Section 5 of the Understanding, CDTI will keep ESA informed about the course and success of Spain’s Sentinel Collaborative Ground Segment initiative(s).</p> <p>The regular reports regarding the National Mirror Site will have at least annual frequency, and will as a minimum contain information regarding:</p> <ul style="list-style-type: none"> <li>• Sentinel data use and applications;</li> <li>• Onward-dissemination of Sentinel data, including user statistics of the National Mirror Site;</li> <li>• Complementary collaborative data products being generated and made available to users;</li> <li>• Any changes to the pre-agreed set up of activities that will have an impact on ESA’s support to the national activities.</li> </ul> <p>More specifically, as concerns National Mirror Site usage statistics, the following minimum set of information will be provided to ESA as part of the annual reports.</p> <p><b>User account statistics</b>, including:</p> <ul style="list-style-type: none"> <li>• Number of registered users</li> <li>• Number of ‘active users’, i.e. users who have made one or more successful download during the reporting period from the Spanish Mirror Site</li> </ul>

	<ul style="list-style-type: none"> <li>• Number of registered users per utilisation domain (i.e. research, commercial, public entity, education, other)</li> <li>• Number of registered users per usage field (i.e. atmosphere, emergency, marine, land, security, climate, other)</li> <li>• Number of registered users per country</li> </ul> <p>Note: to be able to compile these statistics, country of the registered user, utilisation domain (i.e. research, commercial, public entity, education, other) and usage field (i.e. atmosphere, emergency, marine, land, security, climate, other) will be requested as part of the user account registration</p> <p><b>Data dissemination statistics</b>, including:</p> <ul style="list-style-type: none"> <li>• Total number and volume of Sentinel core products available for use/download on the Spanish Mirror Site, and broken down per mission</li> <li>• Total number and volume of data products downloaded by the Spanish Mirror Site users, and broken down per mission</li> <li>• Number and volume of data products downloaded by the Spanish Mirror Site users per Sentinel core product type</li> <li>• Number and volume of data downloaded by the Spanish Mirror Site users per utilisation domain</li> <li>• Number and volume of data downloaded by the Spanish Mirror Site users per usage field</li> </ul> <p>ESA shall be entitled to ask CDTI, on an annual basis, to complete a questionnaire which asks for statistics such as these.</p>
Sentinel data governance	Sentinel data made available via the ColHub is governed by the provisions of Section 6 of the Understanding.