

## Annex

to the Understanding for the cooperation in the frame of the  
Sentinel Collaborative Ground Segment between the European Space Agency and the UK Space Agency,  
acting in its capacity of the United Kingdom's National Point of Contact  
(hereinafter "Letter of Understanding")

This Annex to the Understanding for the cooperation in the frame of the Sentinel Collaborative Ground Segment between ESA and UK Space Agency, acting in its capacity of the United Kingdom's National Point of Contact, of 18 March 2015, describes the technical details and specific provisions of Sentinel Collaborative Ground Segment initiatives conducted under the said Understanding.

### 1. Collaborative Archiving and Dissemination Centres (CAC), National mirror site

Entity conducting the initiative	UK Space Agency Represented by Mr R Fielding, on behalf of UKSA CEO
Activity	UKSA will set up a national mirror site, to be located at the STFC facility at the Harwell site. This facility is sized to hold all S1, 2 and 3 data and is planned to come online as soon as the relevant data links to the ColIDH are connected. STFC and Space Applications Catapult will act as agents on behalf of UKSA to distribute Sentinel data to the UK academic, government and commercial user base. Sentinel data will be made available through the national mirror site to the national user base via the UK academic IT network and a new space data portal run by the Catapult. Access will be granted through a single sign in system. Data for academic users will be unlimited and free to download, including mirror site archive data. Data for commercial and government users will be free to download, and for the first two years of service, archive data will be made available for no charge.
ESA support	<b>a) Access to Collaborative Data Hub</b>  ESA grants STFC, on behalf of UKSA, access to the Collaborative Data Hub (ColIDH), a rolling archive, providing bulk dissemination capabilities for Sentinel data products. The ColIDH will continuously store all 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 CSC Operations Concept Document. It enables searching, browsing, previewing and downloading the Sentinel data. The time interval covered by

the ColIDH rolling archive will be scalable and include at least the last month of data.

Access to the ColIDH is allowed via a web authentication module. ESA will provide UKSA with a username and password to access the ColIDH. This username and password may be used only by UKSA (including its representatives, employees and contractors involved in the initiative) for the purpose of the initiative and will not be shared with other natural or legal persons.

UKSA will use the ColIDH access only for the purpose of its activity in the initiative described above. Through registration at the ColIDH, accessing and/or downloading available content, UKSA or its contractors shall not misuse or interfere with the service of the ColIDH portal. The UK aims at building up an own mirror archive of Sentinel data and hence will not repeat the download of identic datasets from the ColIDH, but store downloaded Sentinel data for re-use and re-dissemination.

All functionalities and contents offered by the ColIDH are provided by ESA on a best efforts-basis, as set out in the Letter of Understanding and the "General Clauses and Conditions for the Sentinel Collaborative Ground Segment cooperation with GMES Space Component Participating States" (hereinafter "General Clauses"). The transmission of content from the ColIDH may be interrupted or delayed by ESA in the event of technical constraints, such as the internet bandwidth. In such case, the download requested by STFC will be enabled later taking into account other users' requests.

#### **b) Data transfer**

ESA will provide appropriate interfaces, to transfer Sentinel data from the ColIDH to STFC via internet.

The primary UK access point will be to the Harwell STFC UK mirror site facility. This will access the ColIDH by linking the UK academic JANET high-speed network to the European GEANT network, which is connected to the ColIDH.

#### **Data Hub Relay**

ESA will set up a Data Hub Relay at STFC premises in Harwell, UK. ESA will manage the circulation of data up to this Data Hub Relay, whilst the data dissemination between this Data Hub relay and the Participant mirror site is under the Participant responsibility.

In addition, ESA will set up a Data Hub Relay at Airbus UK premises in Farnborough. ESA will manage the circulation of data up to this Data Hub Relay, including also the installation and maintenance of required firewalls.

	<p>The data dissemination between this Data Hub relay and the Participant mirror site is under the Participant responsibility.</p>
<p>Time schedule</p>	<p>The ESA support will start once Sentinel-1 data will become available in accordance with ESA data provision plan (e.g. after launch, commensurate with the ramp-up plan for data provision). Further data from Sentinel-2, Sentinel-3 and Sentinel-5 Precursor will be included as soon as available in accordance with the related ESA data provision plans.</p> <p>Access to Sentinel data will be made available by ESA from the ColIDH. In addition, the deployment of the Data Hub Relay by ESA is expected to be completed by end 2015.</p>
	<p><b>The National Mirror Site</b></p> <p>The UK will set up a national mirror site, to be located at the STFC facility at the Harwell site. This facility is sized to hold all S1, 2 and 3 data and is planned to come online as soon as the relevant data links to the ColIDH are connected. The UK will require FTP, and/or RSYNC type access to the files in the ESA archive for data transfer. The UK requires this access to be made available as soon as possible after signature of the agreement.</p>
<p>Reporting</p>	<p>In line with section 5 of the Understanding, the NPC will keep ESA informed about the course and success of any Sentinel Collaborative Ground Segment initiative.</p> <p>The regular reports regarding the national mirror site shall have at least annual frequency. The UK endeavours to provide on a best efforts basis annual reports which contain the following minimum information regarding:</p> <ul style="list-style-type: none"> <li>• Sentinel data use and applications;</li> <li>• Onward-dissemination of Sentinel data, from UK facilities, including user statistics</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><b>User account statistics, including:</b></p> <ul style="list-style-type: none"> <li>• Utilisation domain (i.e. research, commercial, education, other)</li> <li>• Usage field (i.e. atmosphere, emergency, marine, land, security, climate, other)</li> <li>• Country of the account user</li> </ul> <p><b>Data dissemination statistics, which may include:</b></p> <ul style="list-style-type: none"> <li>• Data delivered per user account</li> <li>• Data volume per user account</li> <li>• Statistics on the core product delivered</li> </ul>

	<p>In addition to the data listed above, the UK will share with ESA any other information it collects as part of the routine operation of the data provision service which does not contravene the UK data protection act.</p>
Sentinel data governance	<p>Sentinel data made available via the COLLIDH is governed by the provisions of section 6 of the Understanding.</p>

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