EUROPEAN COMMISSION
DIRECTORATE-GENERAL HUMAN RESOURCES AND SECURITY
Directorate HR.AMC –Account management Centre
HR.DDG. AMC 8

2021-IPR-E-000-018088	**Supporting the development of a GHSL Land Cover Service**

Position for: Trainee	As the science and knowledge service of the Commission, the mission of Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle. The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: http://www.jrc.ec.europa.eu **Short description of activity:** The successful candidate, under the supervision of the traineeship advisor, will carry out scientific and technical tasks in the Disaster Risk Management Unit (E.1); in particular he/she will contribute to the advancement of the Global Human Settlement Layer products in the development of a cloud-based GHSL Land Cover Service. The activity contributes to the corresponding Proof-of-Concept project of the JRC that aims to assess the potential of using Copernicus Sentinel data archives and cloud computing resources offered by the Data and Information Access Services (DIAS) to produce on-demand and up-to-date maps of human settlements. The GHSL data and indicators support the implementation of the EU Urban Agenda and international frameworks for Disaster Risk Reduction, Sustainable Development Goals, Climate Change and the New Urban Agenda. In detail, the trainee will contribute to the design and implementation of a set of experiments aimed at: i) implementing an advanced machine learning algorithm for land cover mapping from Sentinel-2 data archives providing a high degree of automation and ready to be used for global land cover mapping and ii) deploying the workflow on the WASDI (https://www.wasdi.net) operating platform

	that offers services to develop and deploy Copernicus Data and Information Access Services (DIAS) based EO on-line applications. The following activities should be supported by the trainee: • Test the dedicated front-end user interface on the WASDI platform to discover and run the application and define the parameters in an interactive environment • Development of the data-processing pipelines on the WASDI platform by exploiting additional functionalities for upscaling the area of interest, delegating workflow executions, storage management, logging, etc. • Upscaling the prototype: moving from single S2 tiles to regional and national scales. This involves splitting large area processing into smaller chunks to execute operations on multiple virtual machines as well as the mosaicking and compositing of outputs • Testing and optimising the processor in different clouds and automated cloud provider selection • Reporting of results **Qualifications:** **Essential:** • Academic background in remote sensing, geoinformatics, spatial data analysis and Geographic Information Systems, or similar fields • Experience in machine learning and/or cloud computing in Earth Observation downstream services (i.e. working with satellite data) • Knowledge of Python programming language • Excellent skills with respect to: communication; strong ability to search through data, analyse, and summarise critical information. • Good knowledge of spoken and written English (B2 level at least). **Advantage:** • Experience with data validation methods, exploratory data analysis • Knowledge of MATLAB and/or R programming languages **For general eligibility requirements,**

	please read the rules governing the traineeship scheme of the JRC: https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees
Unit /Directorate	E - Space, Security and Migration Disaster Risk Management Unit Peace&Stability Further information: http://ipsc.jrc.ec.europa.eu
Indicative duration **Preferred starting date**	5 months November 2021
JRC Site **Country**	Ispra Italy
JRC contact details	**For any technical problems with your application, please contact:** HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu