

## Förderhinweise

### **Social and Environmentally-Friendly Mobility (Kick-Start)**

Um die Mobilität auf den neusten Stand der Umwelt- und Sozialfreundlichkeit zu bringen startet die ESA eine Kick-Start Initiative. Für die Themenbereiche „Shared Mobility“, Optimierung der Navigation und optimale Wegfindung, Planung und Verbesserung der Transportinfrastruktur, sowie neue Mobilitätsmöglichkeiten, werden kreative und innovative Lösungsansätze aus der Fernerkundung gesucht welche Satellitenbilder, -kommunikation, oder -navigation verwenden. Weitere Informationen finden Sie [hier](#) (**Bewerbungsschluss 11. Februar 2022**).

### **Carbon capture, storage, and sequestration (Kick-Start)**

Diese ESA Kick-Start Initiative sucht innovative Ansätze der Fernerkundung um beträchtliche Mengen CO<sup>2</sup> aus der Atmosphäre zu nehmen. Die Hauptbereiche sind hier die Identifikation von möglichen passenden Orten für sichere CO<sup>2</sup>-Speicher (technische Lösung), sowie Flächen für die Aufforstung zu erkennen und überwachen (biologische Lösung). Weitere Informationen finden Sie [hier](#) (**Bewerbungszeitraum 08. Februar – 26. März 2022**). Ein [Webinar](#) zu der Ausschreibung findet am **19. Januar** statt.

## Stellenausschreibungen

### **Earth Observation Services Coordinator**

Das ESRI in Frascati, Italien schreibt eine Stelle aus als Earth Observation Services Coordinator im Common Services Section (EOP-GES), ESA Ground Segment and Data Management Division in the Mission Management and Ground Segment Department, Directorate of Earth Observation Programmes. Weitere Informationen finden Sie [hier](#) (**Bewerbungsfrist 07. Februar 2022**).

### **Stellen am ECMWF**

#### [Scientist - atmospheric composition developments](#)

(Bonn: Bewerbungsfrist 14. Februar 2022)

#### [Scientist: uncertainty quantification for Destination Earth using statistical post-processing methods](#)

(Bonn: Bewerbungsfrist 15. Februar 2022)

#### [Analyst to work on the Data Handling System \(DHS\)](#)

(Bologna: Bewerbungsfrist 21. Februar 2022)

## Veranstaltungshinweise

### **Save the Date: Kickoff KI&EO Förderprogramm**

Die Deutsche Raumfahrtagentur im DLR lädt Sie am **09. März 2022 von 9:00 – 16:00 Uhr** zum Kickoff für das KI&EO Förderprogramm ein.

Mit dem Ziel eine aktive Community aufzubauen, präsentieren sich die von der Raumfahrtagentur geförderten Vorhaben und deren Projektbeteiligte in drei Blöcken vor. Weiterhin wird das kürzlich gestartete EO-Lab vorgestellt, eine performante Cloud-Umgebung für die Entwicklung innovativer EO-Anwendungen im Bereich Forschung und Entwicklung. Schließlich werden weitere Maßnahmen vorgestellt die die KI-Community in der Erdbeobachtung unterstützen sollen, wie ein Benchmark Repository und geplante Workshops zu KI&EO Spezialthemen zu denen Sie abstimmen können! Weitere Informationen, eine Agenda und die Möglichkeit der Anmeldung erhalten Sie mit unserem nächsten Newsletter.

### **Kostenfreie Online-Schulungen zum Einstieg in die Arbeit mit Copernicus-Daten & -Services**

Das Wissenstransfer-Projekt SAPIENS vom Deutschen GeoForschungszentrum Potsdam (GFZ) erleichtert den Einstieg in die Arbeit mit Satellitendaten. In kostenfreien Online-Schulungen werden die Grundlagen der satellitengestützten Fernerkundung vermittelt sowie verschiedene Anwendungsfelder vorgestellt. Die interaktiven Live-Online-Schulungen wenden sich an alle Interessierten, die sich einen leichten Einstieg in die Satelliten-Fernerkundung wünschen und erste praktische Erfahrungen sammeln möchten.

Aufgrund der großen Nachfrage im Herbst 2021 werden die Lernmodule in Kürze in einer zweiten Schulungsreihe erneut angeboten. Diese startet am **08. Februar 2022** mit dem Modul "Satellitendaten kennenlernen – Basiswissen Fernerkundung". Alle Informationen zur Anmeldung und zum Schulungsangebot finden Sie auf der [Webseite](#). Darüber hinaus informiert die Webseite über weitere [Wissenstransfer-Projekten](#) des GFZ im Bereich Fernerkundung.

### **Earth Explorer BIOMASS Summer School**

Vom **30. Mai bis zum 01. Juni 2022** findet in Jena, die [BIOMASS Summer School](#) statt! Diese Summer School zielt darauf ab, Sie in die verschiedenen Dimensionen der Earth Explorer Mission BIOMASS einzuführen und Erdbeobachtungsthemen zu schulen! Zielgruppe der Summer School sind (Nachwuchs-)WissenschaftlerInnen aus den Bereichen Fernerkundung, Forstwirtschaft und Erdsystemwissenschaften. Sie können sich für einen der 35 Plätze bis zum **11. Februar 2022** über das [Online-Formular](#) anmelden. Wenn alle 35 Plätze belegt sind, werden Sie auf eine Warteliste weitergeleitet. Nähere Informationen finden Sie [hier](#).

## 12th EARSeL Workshop

Für den EARSeL Imaging Spectroscopy Workshop 2022, der vom **22. bis 24. Juni 2022** in Potsdam stattfindet, wurde der "Call for Abstracts" geöffnet. Die Einreichungsfrist endet am **14. Februar**. Weitere Informationen zu dem Workshop finden Sie [hier](#). Den Link zu der Abstract Submission finden Sie [hier](#).

## INNOspace Masters

Die siebte Wettbewerbsrunde des INNOspace Masters läuft und Innovative Projektideen können noch bis zum **04. Februar 2022** von Unternehmen, Forschungseinrichtungen, Universitäten und Einzelpersonen bei dem Wettbewerb eingereicht werden. Teilnehmende können aus fünf verschiedenen Challenges wählen, die von den Wettbewerbspartnern der Deutschen Raumfahrtagentur im DLR, den deutschen ESA Business Incubation Centres, Airbus, OHB und Mercedes-Benz ausgerichtet werden. Die Gewinner erhalten neben fachlicher Unterstützung der jeweiligen Partner auch Preise und Fördermittel von bis zu 400.000 € pro Team, um ihre Ideen nachhaltig umsetzen zu können. Das Thema des Wettbewerbs ist in diesem Jahr nachhaltige und effiziente Innovation für Weltraum und Erde. Weitere Informationen finden Sie [hier](#).

## Umfrage

### Women in Copernicus – Umfrage zur Gleichstellung der Geschlechter

Die [Umfrage](#) der Initiative „Women in Copernicus“ richtet sich an alle Personen, die mit Copernicus-Daten bzw. im Tätigkeitsbereich von Copernicus arbeiten oder gearbeitet haben. Die Ergebnisse werden genutzt, um Erkenntnisse über die Gleichstellung der Geschlechter und die Vielfalt in diesem Bereich zu gewinnen und um zu verstehen, ob Männer und Frauen unterschiedliche Erleichterungen oder Hindernisse bei ihrer Arbeit wahrnehmen. Die Beantwortung dauert max. 15 Minuten und ist bis **Ende Januar 2022** möglich. Mehr Informationen „[Women in Copernicus](#)“ finden Sie auf der Webseite.

## Informationen zum Erdbeobachtungs-Programm der ESA

### ESA Events & Workshops

#### Ocean Carbon from Space Workshop

ESA und das Plymouth Marine Laboratory haben mit der Unterstützung der NASA einen Ocean Carbon From Space Workshop organisiert, der vom **14. – 18. Februar 2022** stattfindet. Das Hauptziel des Workshops ist es Expertinnen und Experten rund um das Thema Ocean Carbon zusammen zu bringen und dessen Prozesse und Interaktionen im gesamten Erdsystem zu verstehen. Die Anmeldung für den Workshop ist ab dem **14. Januar** möglich. Weitere Informationen finden Sie [hier](#).

## Open Invitations To Tender der ESA (ITTs): Future-EO

Activity	Description	Budget	closing date
<a href="#"><u>PEOPLE Lot 1</u></a>	<p>Pioneer Earth Observation apPLications for the Environment (PEOPLE). The objective of the PEOPLE series is to develop innovative high-quality EO-based products, indicators methods, tools and/or services, targeting specific high-priority research and development (RD) matters raised by the international environmental policy agenda and with a distinct connection to European matters. The first lot of the PEOPLE series (i.e., PEOPLE-1) presents 4 parallel and independent specific subjects:</p> <ul style="list-style-type: none"> <li>• Sustainable Blue Economy</li> <li>• Ecosystem Accounting</li> <li>• New CAP and Agriculture Ecoschemes</li> <li>• Ecosystem Restoration</li> </ul>	<p>4x 430 k€</p>	<p>14/02/2022 13:00 CET</p>
<a href="#"><u>EO AFRICA - EXPLORERS</u></a>	<p>The primary project aim is to develop and validate innovative EO analysis techniques focused on sustainable agricultural practices and/or drought monitoring matters, utilising: i) the ECOSystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS) data, and/or ii) the Hyperspectral Precursor of the Application Mission (PRISMA) mission data. The project also requires the deployment of a demonstrator involving relevant African end-user entities, called Early Adopters.</p>	> 500 KEURO	<p>Updated 04/02/2022 13:00 CET</p>
<a href="#"><u>EO AFRICA - NATIONAL INCUBATORS</u></a>	<p>The objectives of the National Incubators ITT are to: 1) develop and validate, together with African experts, innovative EO-based solutions addressing sustainable agricultural practices and/or drought monitoring matters at a National scale; 2) involve relevant African end-user entities throughout the project and integrate the developed solutions into their operational working practices demonstrating the achieved benefits.</p>	> 500 KEURO	<p>Updated 04/02/2022 13:00 CET</p>
<a href="#"><u>DEMONSTRATOR PRECURSOR DIGITAL ASSISTANT INTERFACE FOR DIGITAL TWIN EARTH (DTE)</u></a>	<p>This activity is part of ESA efforts for Artificial Intelligence for Earth Observation (AI4EO). This activity shall focus on the "convergence" and "integration" of two main actively developing fields of Artificial Intelligence: Computer Vision (CV) and Natural Language Processing (NLP). The new generation of ML-powered "Digital Assistant" interface to EO data and DTE-type information shall be prototyped and demonstrated. One of the key issues to foster the uptake of AI is also the lack of trust in the "black box". This activity aims to integrate Explainable AI (xAI) components, thus ensuring better interpretable sciences and innovative commercial application.</p>	200-500 KEURO	<p>Updated 31/01/2022 13:00 CET</p>
<a href="#"><u>EO Training Dataset Platform</u></a>	<p>Training datasets (TDS) are a critical element for most machine learning workflows in Earth Observation (EO). This tender seeks to implement a Training Dataset Platform (TDS-Platform) as a central resource and capability for the EO (and related) communities when working with training (and validation) data in EO.</p>	>500K€	<p>21/02/2022 13:00 CET</p>

<a href="#">Demonstrator Digital Assistant interface for Digital Twin Earth</a>	This activity will address how to integrate principles of Natural Language Processing (NLP) in the search and discovery of EO and other data, in order to develop a kind of digital assistant which enables to interrogate and identify the right information in big data.	300K€	Updated 31/01/2022 13:00 CET
<a href="#">AI4DTE SOFTWARE STACK EXPRO+</a>	This activity aims to develop pilot software capabilities specifically for the use of Artificial Intelligence (AI) in Digital Twin Earth (DTE), to demonstrate the capabilities through the implementation of a set of DTE-specific use cases, to refine and consolidate the concept of AI4DTE, and to define a roadmap towards the operationalisation of AI4DTE functionalities in the medium term.	200-500 K€	07/03/2022 13:00 CET

## Open Invitations To Tender der ESA (ITTs): GDA

<a href="#">GDA - AID: AGRICULTURE</a>	This ITT will implement the new EO information developments that respond directly to Bank operations requirements for geospatial information in the thematic sector of Agriculture. An Agile Information Development approach is to be adopted consisting of three sequential development cycles each of 6 months duration to accommodate evolving requirements for new geo-information to be developed and tested	>500 K€	18/02/2022 13:00 CET
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## Planned Invitations To Tender der ESA (ITTs)

Activity	Description	Budget	Note
<b>Advancing EO Methods and Techniques</b>			
<b>Aeolus+ Aerosols</b>	The ITT will include two components: one dedicated to develop a novel multisession aerosols product incorporating Aeolus data; second a scientific study on the impact of Aeolus to better describe and characterize atmosphere dynamics and processes.	750 K€	Planned ITT Q1 2022
<b>Toolboxes</b>			
<b>SNAP Toolboxes Maintenance and Evolution</b>	Further maintenance and evolution of the SNAP toolbox platform and the main constituent toolboxes S1TBX/S2TBX/S3TBX. Community support for SNAP toolboxes users and 3rd party developers. Evolutions in platform architecture.	1.6 M€	Planned ITT Q1 2022
<b>Earth System Science - Grand Science challenges</b>			
<b>Climatic Extremes - Multihazards</b>	This activity will represent a contribution to the ESA- EC Flagship action on Climate Adaptation and Extremes. This activity aims at exploring the potential of multi-mission and multivariate EO data and products for the detection and attribution of extreme events such as heatwaves, droughts, extreme precipitation and the associated	1000 K€	Planned ITT Q2 2022

	hazards such as fires or floods, especially with respect to understanding and characterizing their impact on society.		
<b>Carbon Science Cluster</b>	Set of activities addressing the science needs and recommendation of the ESA Carbon Science Cluster. Priorities include carbon farming including high resolution carbon pools and fluxes at high resolution from agriculture practices, integrated multimission consistent joint retrieval of multiple carbon parameters and benchmarking activities.	1200 K€	Planned ITT Q1 2022
<b>Ocean Science Cluster</b>	Set of activities addressing the science needs and recommendation of the ESA Ocean Science Cluster. Priorities include community activities on ocean carbon, ocean health and biodiversity and DTO.	1200 K€	Planned ITT Q2 2022
<a href="#">Agriculture science precursors</a>	Set of activities addressing the science needs and recommendation of the Food under pressure workshop. Priorities include enhancement of yield forecasting, retrieval of nutrients and crops under multiple stressors. Each activity resulting from this ITT will be a feasibility study with preliminary developments and a roadmap, focusing on one of three following Themes: 1. Estimation and prediction of crop nutrient content (Theme 1); 2. Yield estimation and prediction at field level (Theme 2); 3. Understanding of impact on crops from multiple stressors (Theme 3). The activities will contribute to preparing a Flagship Action on food systems and agriculture within the EC-ESA Joint Earth System Science Initiative.	>500K	Planned ITT Q1 2022
<b>Water cycle science: Hyperresolution Hydrology</b>	This activity aims at bringing together the hydrological modelling community and the EO community to advance towards the development of hyper resolution hydrology targeting 1Km scale observations and modelling	1000 K€	Planned ITT Q1 2022
<b>Science Contribution to the Regional Initiatives</b>			
<b>4DMed-Ocean</b>	Focus on developing an advanced 4D high resolution reconstruction of the Mediterranean ocean and its dynamics connecting physical oceanography and biochemist	700 k€	Planned ITT Q2 2022
<b>4DBaltic</b>	New ITT on Baltic science based on the discussions and interactions with Baltic Earth. This activity will include the development of an advanced multi-variate reconstruction of the Baltic sea	500 k€	Planned ITT Q2 2022
<b>4DBlack-Sea/Danube</b>	New ITT on science for the Black sea and the Danube region. Activities will focus on advancing towards a 4D multi-variate reconstruction of the Black sea and Danube system	500 k€	Planned ITT Q2 2022
<b>Expanding Public Sector benefits</b>			



<b>WorldPeatland</b>	The project will prototype an improved mapping and monitoring of intact, degraded and cultivated peatlands for conservation, management and restoration in the tropics.	500 k€	Planned ITT Q1 2022
<b>EO solutions for a Resilient Society EO for SDGs</b>			
<b>SDG Scaling Up: Global Wetland Inventory</b>	In partnership with UNEP and Ramsar, this activity will scale up EO best practices on wetland mapping using a participatory and platform-based approach and deliver EO solutions for a global monitoring of vegetated wetlands that can support countries in the production of national data on the changes in spatial extent of water related ecosystems.	500 k€	Planned ITT Q1 2022
<b>Enabling Industry Growth</b>			
<b>EO4Security – embedding into operational practices</b>	Development of prototype platform-based approaches for integrating EO and conventional analysis capabilities within stakeholder working practices for crimes against humanity, terrorism/organized crime and environmental crime	3 X 500K€	Q1 2022
<b>EO4Security – Innovative SAR techniques</b>	Development and verification of prototype capabilities in Inverse SAR processing for enhanced target/feature identification, bistatic SAR analysis techniques and SAR/RF integration for enhanced process characterization	3 X 200K€	Q1 2022
<b>Best Practices – Arctic Operations and Finance</b>	Two parallel contracts establishing best practices for an agreed set of use cases in the Arctic Operations and Financial Management sectors. This will address the priority issues constraining operational uptake of EO based services	2 X 500K€	Q1 2022
<b>EO4Resilience</b>	An ITT is in preparation for release in Q4 to develop and demonstrate pre-operational capabilities to combine EO, non-EO and integration of customized models to characterize the resilience against perturbations such as climate change, environmental degradation, etc. Three contracts will be started, one in each of the following domains: health, Ecosystems and urban management	3 X 700k€	Q1 2022
<b>NoR Platform Services</b>	Onboard European platform services 2021 - 2023	~5691 K€	First Batch under Evaluation
<b>Regional resources</b>	Onboard resources for regional initiatives: Atlantic, Alpine, Black Sea/Danube, Baltic	~300 K€ per region	Planned Q1 2022
<b>Common Architecture &amp; Technology</b>			
<b>Common Architecture Operational Uptake Support</b>	Selection of extra Operators (interfaces and selected components)	~600K€	Planned Q1 2022
<b>Evolving Shared Technical Capabilities</b>			
<b>Near Realtime Exploitation Platform</b>	Procurement of extra consortium partners in the areas of: - New Missions	~1000K€	Best Practice for partnerships

	- New Platform capabilities - New Regional services		Planned Q1/2022
<b>AI4EO</b>			
<b>AI-03 MOOC – EO 4 Computer Scientists</b>	Following the $\Phi$ -Week 2019, this activity aims to introduce the computer scientists & IT specialists to characteristics of the EO data, typical problems in handling Earth Observations at different spatio-temporal scales, as well as providing basic training in geospatial analysis and EO.	[budget tbc]	2022
<b>AI-07 AI4Science</b>	Expand the set of AI activities responding to the recommendations of the $\Phi$ -week 2020, with special focus on the link between AI and Earth system sciences in support of the Digital Twin Earth concept development.	[budget tbc]	2022
<b>AI-08 AI4EarthScience</b>	New set of ITTs promoting a number of competitions and challenges to address key problems in EO and Earth science: e.g., automatic pan-European land cover change and dynamics (in collaboration with EEA).	[budget tbc]	2022
<b>AI-09 Super-resolution</b>	Enhancement of MSG data for terrestrial habitat characterization – use of 1km or better resolution LEO data to support super-resolved enhancement of MSG land surface observations	[budget tbc]	2022
<b>AI-10 AI4S2</b>	AI based exploitation of S2 instrument geometry and channel properties to generate enhanced datasets	[budget tbc]	2022
<b>AI-12: Datacube extension with AI capabilities</b>	create new partnerships with the operational data cube facility in best practice open competition to enhance and demonstrate benefit AI capabilities	[budget tbc]	2022
<b>AI-13 TEP extension with AI capabilities</b>	Create new partnerships in best practice open competition to create and demonstrate AI platform capabilities for thematic communities	[budget tbc]	2022
<b>AI-15 European Network of AI4EO labs</b>	This activity aims to foster the development of a European network of AI4EO labs coordinated via the “ $\Phi$ -lab philosophy”, which will capitalize on national capabilities in AI (leading AI centers and universities) to tackle a suite of AI4EO societal and scientific challenges.	[budget tbc]	withdrawn
<b>AI-17 Call for AI4EO Fellowship and Visiting Profs</b>	This activity capitalizing on the Living Planet scheme aims to attract AI talents to ESA, perform research and help shape future AI4EO strategy.	[budget tbc]	2022
<b>AI-19 AI training dataset platform implementation</b>	Training data curation mechanism and dedicated processing services, fully compliant to sound data principles, address the lack training of high-quality training datasets for AI, considered a major obstacle preventing the step-change impact that can be expected from AI in EO.	[budget tbc]	2022

<b>Global Development Assistance (GDA)</b>			
<b>AID Clean Energy</b>	Design solutions for rural and urban electrification planning in support of programmatic WB efforts such as ESMAP (Energy Sector Management Assistance Program).	~1500K€	Q1/Q2 2022



	Support energy demand and supply assessments based on groups of households in un-electrified villages. Assessments to take into consideration the distance from the national grid and clean energy resources availability such as seasonal solar irradiance, and surface water hydropower potential. Support sustainable solar program initiatives and programmatic shift to renewable energy and optimized energy efficiency		
<b>AID Water Resources</b>	Addressing the motto “A Water-Secure World for All”, improve EO solutions in support of IFI operations on sustainable use of water resources, including the water-agriculture nexus, as well as building resilience to climate change-induced water extremes and conflict/migration-induced crises; improved monitoring of surface water dynamics, water quality, and ecosystem services; basin planning and management. Development of products to support a more comprehensive approach of IFI water security investments. This includes water use in agricultural ecosystems, water levels in reservoirs, water distribution needs, and available surface water estimates for creation of new reservoirs or retrofitting of existing one	~1500K€	Q1/Q2 2022
<b>Space for IDA Communication</b>	Define a communications strategy and approach for the integrated Space for IDA initiative, with a common branding, methodology and goals agreed by WB, ADB, ESA. Define a communications implementation road-map for 3-5 years and generate example materials for each communication channel identified	[budget tbc]	Q1/Q2 2022
<b>Space for IDA Knowledge Hub</b>	Design & creation a comprehensive set of videos and learning resources to provide detailed insights and case studies of the EO capabilities and impact for development operations. This development should take advantage of the established MOOC ‘best practice’ features, be targeted to Development Assistance practitioners (Banks, Aid Agencies, developing countries), and provide a potential framework for formal professional accreditation. The activities will use a range of communication channels within the Development Assistance sector, such as the World Bank Open Learning Campus (OLC) and the Asian Development Bank Institute (ADBI).	~1000K€	Q1/Q2 2022