

## Ausschreibungen

### **Ausschreibung | EnSAG - Anwendungsarbeitsgruppe**

In Vorbereitung auf den EnMAP Start wird die EnMAP Scientific Advisory Group in zwei Arbeitsgruppen aufgeteilt:

- A) Validationsarbeitsgruppe mit Aufgaben zu Missionsperformance, Kalibrierung und Validierung.
- B) Anwendungsarbeitsgruppe mit Aufgaben zu wissenschaftlichen Nutzungs- und Anwendungsmöglichkeiten.

Mit dieser Ausschreibung sollen Wissenschaftler:innen aus dem hyperspektral Bereich angesprochen werden welche Interesse haben in der Anwendungsarbeitsgruppe des EnSAG mitzuarbeiten. Senden sie Ihren Lebenslauf an folgende Adresse: [Anke.Schickling@dlr.de](mailto:Anke.Schickling@dlr.de)

[Terms of Reference](#)

**Bewerbungsschluss: 26.04.2021**

## Trainingskurse

### **Workshop Fernerkundung**

Von schrumpfenden Regenwäldern bis zu wachsenden Städten lassen sich viele Themen aus dem Bildungsplan mit dem „Blick von oben“ – der Fernerkundung analysieren. Ziel des Workshops „Fernerkundung im schulischen Kontext“ ist es Lehrkräfte darin zu schulen, Fernerkundungsanwendungen im Unterricht zu nutzen. Der nächste Online-Workshop findet am 17.05.2021 „in“ der GIS-Station der Abteilung Geographie der Pädagogischen Hochschule Heidelberg statt.

Weitere Informationen zur Anmeldung finden Sie [hier](#).

## Informationen zum Erdbeobachtungs-Programm der ESA

### **ESA startet die 9. Ausgabe des 'Space for sustainability Award'**

Der Award richtet sich an die junge europäische Generation (< 30 Jahre) und soll Ideen auszeichnen, mit denen die Raumfahrt eine nachhaltige Entwicklung unserer Gesellschaft fördern kann. Ideen werden von einer Expertenjury beurteilt und die zwei besten Projekte werden ausgezeichnet.

Weitere Informationen und alle Fristen finden Sie [hier](#).

## Events & Workshops

### **ESA Infotage online**

Die Aufzeichnung und Präsentationen der ESA Infotage vom 9.-12. März sind online und können [hier](#) abgerufen werden.

### **Earth Day mit ESA**

Bei der ESA ist jeder Tag „Earth Day“ aber auch am Internationalen Earth Day am **22. April** gibt es bei der ESA ein spannendes Programm. Um 10:55 Uhr beginnt die Berichtserstattung zum Mission Alpha

Launch, der für 12:11 Uhr angesetzt ist und den ESA Astronauten Thomas Pesquet zu seiner zweiten Mission auf die ISS bringt. Um 18:00 Uhr gibt es ein Instagram Live aus der „Get to know your Planet with ESA“-Serie mit Simonetta Cheli – Head of Strategy, Programme & Coordination Office. Weitere Spannende Möglichkeiten den Tag zu feiern finden Sie [hier](#).

## **PolinSAR Workshop**

PolinSAR 2021 – Der 10. Internationale Workshop zu Anwendungen von SAR Polarimetrie und Polarimetrischer Interferometrie findet statt am **26.-30. April 2021**. Zwei Nebenveranstaltungen sollen den Workshop ergänzen: Der 6. *Advanced Course in Radar Polarimetrie* und das 2. *Biomass Retrieval Inter-comparison eXperiment (BRIX-2)*. Der Workshop soll ESA Principal Investigators, Wissenschaft und Studierende aus dem Feld der SAR Polarimetrie und Polarimetrischen Interferometrie zusammen bringen. Weitere Informationen finden Sie [hier](#), Registrierung [hier](#).

## **Satellite Data for Investigation of Environmental Crimes and Crimes against Humanity Workshop**

Am **13. Mai 2021** veranstaltet die ESA einen Workshop zum Thema Satellitendaten zur Untersuchung von Umweltverbrechen und Verbrechen gegen die Menschlichkeit. Ziele des Workshops sind die Förderung des Bewusstseins für die Nutzung von Satelliteninformationen sowie deren Integration in bestehende Praktiken. Der Workshop wird als virtuelles Treffen mit einer begrenzten Anzahl an Teilnehmenden organisiert. Es sollen insbesondere Mitglieder von Strafverfolgungsbehörden als auch Organisationen der Zivilgesellschaft einbezogen werden. Einen Flyer zum Workshop finden Sie [hier](#).

## **Fringe 2021 Workshop**

11th International Workshop on “Advances in the Science and Applications of SAR Interferometry and Sentinel-1 InSAR”. Der Workshop findet statt: **31. Mai – 4. Juni 2021**. Der freie Workshop ist offen für Wissenschaftler:innen, Student:innen, und Sentinel-1 Datenanwender:innen, sowie Repräsentant:innen der nationalen, europäischen oder internationalen Raumfahrtagenturen oder -unternehmen. Weitere Informationen finden Sie [hier](#).

## **HYDROSPACE2021 Workshop**

Mit dem Thema “Inland Water Storage and Runoff: Modeling, In Situ Data and Remote Sensing” findet am **7.-11. Juni 2021** der HYDROSPACE2021 Workshop bei ESA-ESRIN in Frascati, Italien statt. Er ist die Nachfolgeveranstaltung für den HYDROSPACE2015 Workshop und wird in Zusammenarbeit mit CNES und GEOGLOWS organisiert. Weitere Informationen finden Sie [hier](#).

## **Permanently Open Call Proposal**

Das Ziel des Calls ist es ein Rahmen zu schaffen um schnelle Antworten auf neue innovative Ideen zu finden. Der spezielle Fokus für innovative Ideen liegt auf folgenden Elementen:

- GrandScience Challenges
- EO for a Resilient Society
- Artificial Intelligence for EO
- Regional Initiatives
- EO for Civil Security
- Public Sector Applications and Enabling Industry
- Evolving Shared Technical Platform Capabilities

Der maximale Auftragswert von 150.000 € und die maximale Vertragsdauer (12 Monate) bleiben unverändert. Antragsteller:innen müssen den innovativen Inhalt ihres Proposals hervorheben. Proposals für die GrandScience Challenges müssen wissenschaftliche Exzellenz demonstrieren. Weitere Informationen finden Sie auf dem neuen [ESA Portal](#).

## Invitations To Tender (ITTs)

Activity	Description	Budget	Status	Note
<b>Advancing EO Methods and Techniques</b>				
<b>SEASAR</b>	Develop and validate novel methods for wave-field and radial surface velocity retrieval from Sentinel-1 Interferometric Wide Swath (IWS) products. Produce experimental wave- and surface velocity products and demonstrate their value in coastal science, models, and the marginal ice zone in the arctic	500 K€	In Preparation	Planned ITT Q2 2021
<b>ATMOS+</b>	New activity responding to the recommendations from the ATMOS-2018 conference, Salzburg (AT), November 2018. The focus will be on studying the recovery of the ozone layer, assessment of air quality based on new sensor data. An additional highlight will be on research of stratospheric aerosols.	1.0 M€	In preparation	Planned ITT Q2 2021
<b>Aeolus+ Aerosols</b>	The ITT will include two components: one dedicated to develop a novel multisession aerosols products incorporating Aeolus data; second a scientific study on the impact of Aeolus to better describe and characterize atmosphere dynamics and processes.	750 K€	In preparation	Planned ITT Q2 2021
<b>SMOS10 Land</b>	Exploitation of the 10 years of SMOS data to enhance the characterization of the links between the water and vegetation carbon by using SMOS VOD in synergy with other observations.	500 K€	In preparation	Planned ITT Q1/2021
<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€	In preparation	Planned ITT Q2 2021
<b>Earth System Science - Grand Science challenges</b>				
<b>Climatic Extremes</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 hazards such as fires or floods, especially with respect to understanding and characterizing their impact on society.	1000 K€	In preparation	Planned ITT Q3 2021
<b>Coastal Hazards</b>	This activity will represent a contribution to the ESA- EC Flagship action on Climate Adaptation and Extremes. The objective of this Project is to better characterize the local sea level and the related hazards and to deal with all of the risk components in the Coastal Zone: the forcing (water level, storm surges, waves, etc.), hazards (erosion, submersion), exposure (exposed stakes, buildings, etc.) and their vulnerability.	1000 K€	In preparation	Planned ITT Q2 2021

<b>Ocean Health</b>	This activity will represent a contribution to the ESA- EC Flagship action on Climate Adaptation and Extremes. The objective is to address 3-4 concrete science cases dedicated to Ocean Health and demonstrate the potential offered by the integration of the latest EO European satellite capacity together with in-situ observations, advanced models and novel technologies.	1500 K€	In preparation	Planned ITT Q1 2021
<b>Polar Science Gaps</b>	This activity will represent a contribution to the ESA- EC Flagship action on Polar regions. It aims at enhancing our observing capacity and to better understand the complex physical and chemical processes governing Polar changes and its impact worldwide: e.g., arctic amplification, polar jet stream and Arctic changes, arctic Methane emissions, freshwater fluxes, arctic ocean spin-up, Southern Ocean carbon and energy, exploitation of MOSAIC data. Topic will be defined after the EO for Polar Science Workshop in October 2020.	2000 K€	In preparation	Planned ITT Q2 2021
<b>Science Contribution to the Regional Initiatives</b>				
<b>4DMed-Hydrology</b>	Merged with Planed ITT under EOEP-5, this activity responding to the recommendations of the Med 2018 workshop. Focus will be given to two main priorities: 1) develop a novel HR integrated dataset of the terrestrial water cycle to address the water-food nexus in the Mediterranean and 2) develop a 4D reconstruction of the physical and biological state of the Mediterranean Sea (Temperature, Salinity, Chl, currents) from the combination of EO and in-situ data for ecosystem studies.	1000 K€	In preparation	Planned ITT Q2 2021
<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€	In preparation	Planned ITT Q2 2021
<b>WorldEmission</b>	The project will prepare the ground for a long-term exploitation of atmospheric emission data (e.g. CH <sub>4</sub> , VOC, NH <sub>3</sub> , NO <sub>2</sub> , SO <sub>2</sub> ) by large user communities.	1.000 k€	In preparation	Planned ITT Q2 2021
<b>EO Africa</b>				
<b>Continental Rangeland Monitoring</b>	This activity will develop and demonstrate innovative algorithms for continental rangeland monitoring over Africa at 10 meters, addressing African regional livestock management under climatic pressure.	1.200 k€	Open	Closing Date 7/05/2021
<b>Incubators</b>	Incubators facilitate the adoption of EO for sustainable agricultural practices and drought monitoring with national R&D partners in selected African countries. Develop, demonstrate and validate algorithms and EO products at national scale in close collaboration with African experts.	3 x 500 k€	In preparation	Planned ITT Q3/4 2021
<b>Explorers</b>	Test experimental techniques and new EO data sources such as airborne P-band SAR, high resolution thermal ECOSTRESS observations and innovative multi-mission's data sets for water resources management. Develop & transfer algorithms, perform scientific experiments & campaigns, publish results.	3 x 300 k €	In preparation	Planned ITT Q3/4 2021
<b>EO solutions for a Resilient Society EO for SDGs</b>				
<b>SDG Pathfinder: Land Degradation Monitoring at HR</b>	This activity will develop and showcase new methodologies to increase the spatial details of national assessments of land degradation and restoration and help countries setting their Land Degradation Neutrality (LDN) targets and reporting on their progress at appropriate scales.	400 k€	In preparation	Planned ITT Q2 2021

<b>SDG Pathfinder: Informal Settlement Mapping</b>	This activity will develop advanced AI-based models to automatically identify, delineate and characterize the spatial extent of slums, and support countries monitoring progress on the proportion of urban population living in informal settlements.	300 k€	In preparation	Planned ITT Q2 2021
<b>SDG Pathfinder: EO for Sustainable Forest Management</b>	In partnership with FAO, this activity will develop innovative EO approaches for the production of indicators on the sustainable management of natural, semi-natural and planted forests, addressing the changes in extent and conditions for use in national and global forest assessment.	400 k€	In preparation	Planned ITT Q2 2021
<b>SDG Engines: EO Platform Solutions for SDG monitoring</b>	This activity will integrate EO data processing and analytics engines on existing EO exploitation platforms for seamless integration into national SDG monitoring systems and processes.	3x 150 k€	In preparation	Planned ITT Q2 2021
<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€	In preparation	Planned ITT Q4 2021
<b>Enabling Industry Growth</b>				
<b>Video Analytics</b>	This ITT will be released in 2020 to develop and demonstrate prototype data analytics and machine learning capabilities linked to the combined exploitation of satellite video data with other satellite and in-situ (including other video) data sets.	800 K€	In preparation	Q4 2021
<b>Best Practices for Utilizing EO in the Shipping Industry</b>	This ITT is issued under the Best Practices line and is intended to support the elaboration and specification of agreed methodologies for using EO derived information in different sectors of the shipping industry. This includes naval architecture/vessel design, operations management, autonomous vessels, environmental protection, marine safety and end-of-life disposal	500 K€	In preparation	Q4 2021
<b>Super-resolution for EO</b>	An ITT will be released to start 3 contracts to develop super-resolution enhancement techniques. These will address satellite video, SWIR channels and integration of Sentinel 2 10m channels	3 X 200k€	In preparation	Q4 2021
<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 - urban management	3 X 700k€	In preparation	Q4 2021
<b>Network of Resources</b>				
<b>NoR Platform Services</b>	Onboard European platform services	~3000 K€	Batch 1-2 in on-boarding, batch 3-4 in negotiation	Permanently open with rolling evaluation
<b>Regional resources</b>	Onboard resources for regional initiatives: Atlantic, Alpine, Black Sea/Danube, Baltic	~1000 K€ per region	In preparation	Planned Q2 2021

Evolving Shared Technical Capabilities				
<b>Quality Assurance Facility Phase 2</b>	Definition and implementation of processes for quality / traceability/ stamping for products to have credibility to a non-space-aware market.	500 K€	In preparation	Planned Q2/2021
<b>Near Realtime Exploitation Platform</b>	Procurement of extra consortium partners in the areas of: - New Missions - New Platform capabilities - New Regional services	~1000K€	In preparation	Planned Q2/2021
AI4EO				
<b>AI4Science</b>	Following the $\Phi$ -week community recommendations, this activity aims to develop new methodologies for causal process understanding, and to formalize an AI approach for generalization over EO problem sets: e.g., the identification of processes and interactions, tele- connections, combining AI and modelling and attribution of causal relations between biophysical processes, based on Earth Observations at various spatio-temporal scales, in-situ measurements and ancillary information.	200-500K€	Open	Closing Date 31.05.2021
<b>Deep ESDL</b>	Following the $\Phi$ -week community recommendations, this activity aims to expand and advance the capabilities of the Earth System Data Lab, by incorporating Machine Learning/AI libraries and modules, improving visualization and scaling up service provision.	1000 K€	In preparation	Planned ITT Q1 2021
<b>AI4Climate Adaptation and Natural Disasters</b>	This activity aims at exploring the potential of multimission and multivariate EO data and products for the detection and attribution of extreme events such as heatwaves, droughts, extreme precipitation and the associated hazards such as fires or floods, especially with respect to understanding and characterizing their compound and multi-hazards mechanism and their impact on society	1000 KE	In preparation	Planned ITT Q3 2021
<b>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.	150 K€	In preparation	Planned ITT Q4 2021
<b>AI-5: AI4Food</b>	Provision of an AI-driven capability to characterize global agricultural dynamics.	~600 K€	In preparation	Planned Q2/2021
<b>AI-6: AI4EO Challenge - Non-supervised learning.</b>	create new partnerships with the operational data cube facility in best practice open competition to enhance and demonstrate benefit AI capabilities	250 K€	In preparation	Planned Q2/2021
<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	~500 K€	In preparation	Planned Q3/2021
<b>AI-14 Theory-guided and explainable AI4EO.</b>	One of the key issues in adoption of AI is the lack of trust in the “black box”. This activity aims to develop some tools and methodology to enhance confidence in the results and better quantify uncertainties, and be demonstrated through a suite of explainable AI4EO use cases. This activity will also address how to merge physics with the statistical approach of AI to build “physics-aware” Machine Learning and emulators.	250 K€	In preparation	Q2 2021
<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	~600 K€	In preparation	Q2 2021



	universities) to tackle a suite of AI4EO societal and scientific challenges.			
<b>AI-16 Demonstrator Digital Assistant interface for DTE</b>	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 €	In preparation	Q2 2021
<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.	300K €		Q2 2021
<b>AI-18 AI4DTE software stack</b>	Expand the set of AI activities responding to the recommendations of the phi-week 2020, with special focus on the applications of AI to DTE.	350K €		Q3 2021
<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]		Q2 2021
<b>AI-20 AI-enhanced revisit of the Sentinel Archive feasibility study</b>	Exploring use of new AI scheme to enhance the value of Sentinel, e.g. data fusion optical/radar, super resolution, and extract more value from the archive	300K €		Q3 2021
<b>Regional Initiatives</b>				
<b>Prototype Regional Analytics</b>	Integrated EO derived information, non-EO data (e.g. IoT data collection networks, mobile networks, mobile network operators, vehicle telemetry etc.) and prototype modelling capabilities to characterize regional dynamics for regional ecosystem dynamics and human activity. Based on availability of data and prototype analytics capabilities it is intended to start one contract in each of the following regions: Baltic, Danube, Alps.	3 parallel contracts of 500K € each		Q1 2022
<b>Regional Application Stimulus</b>	For each of the Baltic, Danube/Black Sea, Alps regions, issue a contract in which a set of small-scale application developments can be executed. In each region application development shall result in a critical mass of innovative EO capabilities that address emerging requirements for national users driven by the relevant regional agreements (e.g. Helsinki Convention, Black Sea Convention) and opportunities driven by the relevant regional strategies.	3 parallel contracts of 500K € each		Q4 2021
<b>Global Development Assistance (GDA)</b>				
<b>EO agile information development urban sustainability</b>	Provision of an AI-driven capability to characterize global agricultural dynamics.	>500 K€	Open	Closing date 4/06/21