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Inhalte

1. /DFG/ Deutsch-afrikanische Kooperationsprojekte in der Infektiologie, Termin: 27.10.2021

Die Deutsche Forschungsgemeinschaft (DFG) fordert zur Einreichung von Antragsskizzen für gemeinsame Forschungsvorhaben mit Wissenschaftlerinnen und Wissenschaftlern in Afrika auf.

Gegenstand der Ausschreibung ist:

- Die Erforschung von vernachlässigten tropischen Infektionskrankheiten bei Mensch und Tier einschließlich deren soziale und verhaltensbezogene Aspekte. Vernachlässigt heißt in diesem Zusammenhang, dass nur geringe Mittel für Grundlagenforschung zu diesen Krankheiten zur Verfügung stehen.
- Die Etablierung oder Vertiefung gleichgewichtiger Partnerschaften zu gegenseitigem Nutzen, um afrikanischen Wissenschaftlerinnen und Wissenschaftlern Forschung in den vor Ort wichtigen Themen zu ermöglichen und langfristig der deutschen Wissenschaft in Afrika Forschungsmöglichkeiten zu erschließen.
- Die nachhaltige Förderung und Unterstützung akademischer und beruflicher Karrieren von jungen afrikanischen Wissenschaftlerinnen und Wissenschaftlern in ihren Heimatländern, um damit einen Beitrag zum Aufbau von Forschungskapazitäten in Afrika zu leisten.
- Die Stärkung der innerafrikanischen wissenschaftlichen Vernetzung; daher können auch mehrere afrikanische Partnerinnen beziehungsweise Partner an einem Projekt beteiligt sein.

Die DFG will schwerpunktmäßig Forscherinnen und Forscher in der Human- und in der Veterinärmedizin ermutigen, Fördermittel für die Erforschung vernachlässigter tropischer Infektionskrankheiten zu beantragen. Projekte zu HIV, Malaria und Tuberkulose fallen nur dann in den Fokus der Ausschreibung, wenn sie Mechanismen der Virulenz oder die Immunabwehr der genannten Krankheiten bearbeiten. Dabei können auch Ko-Infektionen Gegenstand der Antragsskizzen sein. Projekte mit sozial- und verhaltenswissenschaftlichen Fragestellungen können beantragt werden, sofern sich diese mit den Folgen oder Bedingungen vernachlässigter tropischer Infektionskrankheiten beschäftigen.

Weitere Informationen:

https://www.dfg.de/foerderung/info_wissenschaft/info_wissenschaft_21_55/index.html

2. /BMBF/ Partnerschaften für nachhaltige Problemlösungen in Entwicklungsländern - Forschung für Entwicklung, Frist: 13.08.2021, 1. Stufe

Ziel der Fördermaßnahme ist es, die Kapazitäten deutscher entwicklungsbezogener Forschung auszubauen und nachhaltig zu vernetzen. Die Zuwendungen dienen dazu, deutschen Hochschulen und außeruniversitären Forschungseinrichtungen durch Forschungsvorhaben zu ermöglichen, neue Kooperationen mit Partnern aus Ländern der Asiatisch-Pazifischen Region entsprechend ihrer wissenschaftlichen Stärke und Problemlösungskompetenz zu erschließen.

Die Fördermaßnahme hat zudem das Ziel, den Ausbau der wissenschaftlichen Forschungskapazitäten der ausländischen Partner zu stärken, um qualifizierten (Nachwuchs-)Wissenschaftlerinnen und Wissenschaftlern eine Forscherkarriere im Heimatland zu ermöglichen. Die Zuwendungen dienen daher auch dem Zweck, Qualifizierungsmaßnahmen für wissenschaftlichen Nachwuchs (Doktorandinnen und Doktoranden, Postdoktorandinnen und Postdoktoranden) und Beiträge zum Ausbau des Forschungsmanagements zu ermöglichen sowie zur konkreten Erweiterung der –Forschungsinfrastruktur

beizutragen. Darüber hinaus soll die Einbindung von Partnern aus den Zielländern in inter-nationale Konsortien mit deutscher Beteiligung verbessert sowie die Vernetzung mit Forschern aus anderen Ländern unterstützt werden (z. B. durch trilaterale Kooperationen mit anderen Industrie- oder Schwellenländern).

Gefördert werden im Rahmen dieser Fördermaßnahme Forschungsprojekte sowohl als Einzel- wie auch als Verbundvorhaben, die entsprechend des oben beschriebenen Zweckes in internationaler Zusammenarbeit mit den oben aufgeführten Partnerländern eines oder mehrere der nachfolgenden Schwerpunktthemen bearbeiten:

- o Gesundheit und Medizin, inklusive Telemedizin: Gefördert werden soll Forschung zur Reduzierung von Mangel-ernährung und für verbesserte Ernährung, zu geeigneten Monitoring-, Kontroll- und Versorgungssystemen und anderweitigen Innovationen im Gesundheitssystem, zur Bekämpfung von vernachlässigten und armutsassoziierten Krankheiten, bakteriellen Infektionskrankheiten sowie zu nicht-übertragbaren Krankheiten.

- o Klima, Energie, Biodiversität, Nahrungsproduktion: Nachhaltige Nutzung natürlicher Ressourcen und Verbesserung von Innovations- und Wertschöpfungsketten, inklusive digitaler Lösungen.

Um die Implementierung von Maßnahmen sicherzustellen und die Wertschöpfung durch Forschungsergebnisse in Zukunft zu gewährleisten, sollen sozioökonomische Forschungsaspekte integraler Bestandteil der Themen sein. Interdisziplinäre Forschungsansätze werden besonders berücksichtigt. Da Grundlagenforschung Voraussetzungen für -wissensbasierte Problemlösungen schafft, können auch Projekte gefördert werden, die durch eine geeignete Verzahnung mit den oben genannten anwendungsorientierten Forschungsfeldern den Kapazitätsausbau in der Grundlagenforschung in den Partnerländern zum Ziel haben.

Es werden Pilotmaßnahmen für Forschungspartnerschaften gefördert, die

- o neue oder erweiterte Möglichkeiten gemeinsamer Forschung als Pilotprojekt umsetzen und damit deutsche und asiatische bzw. pazifische Hochschulen und Forschungseinrichtungen bei der Internationalisierung ihrer Forschung unterstützen,

- o relevante und gemeinsame Themen durch Forschungskoooperation vorantreiben,

- o Innovationskerne im Partnerland ausbauen,

- o bestehende Kooperationen nutzen oder neue konzipieren,

- o lokales und regionales Know-how einbinden und verfügbar machen,

- o Antragstellungen für Folgeprojekte vorbereiten - z. B. bei Fachprogrammen des BMBF, der Deutschen Forschungsgemeinschaft, den nationalen Programmen des Partnerlandes (falls vorhanden), den EU-Programmen oder auch Programmen von nationalen und internationalen Organisationen der Entwicklungszusammenarbeit (Kreditanstalt für Wiederaufbau, Gesellschaft für Internationale Zusammenarbeit, Weltbank, Asian Development Bank u. a.).

Die Vorhaben sollen eine hohe Praxisrelevanz aufweisen und Strategien zur Implementierung der Forschungsergebnisse in Politik, Gesellschaft und Wirtschaft aufzeigen.

Antragsberechtigt sind staatliche und staatlich anerkannte Hochschulen und außeruniversitäre Forschungseinrichtungen.

Das Antragsverfahren ist zweistufig angelegt.

Mit der Abwicklung der Fördermaßnahme hat das BMBF derzeit folgenden Projektträger (PT) beauftragt:

DLR Projektträger

Europäische und internationale Zusammenarbeit

Heinrich-Konen-Straße 5, 53227 Bonn

Ansprechpartner/in sind:

Fachlicher Ansprechpartner:

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Weitere Informationen:

<https://www.bmbf.de/foerderungen/bekanntmachung-3624.html>

<http://www.internationales-buero.de>

3. /EU Horizon*/ Engineered Living Materials: EIC Pathfinder Challenges 2021 (HORIZON-EIC-2021-PATHFINDERCHALLENGES-01), Deadline: 27.10.2021 17:00 Brussels time

Engineered living materials (ELMs) are composed, either entirely or partly, of living cells. ELMs entirely composed of living cells are called biological ELMs and they self-assemble via a bottom-up process - e.g. synthetic morphogenesis for organoids' production. ELMs only partly composed of living cells are called hybrid living materials (HLMs) and are built with a top-down process with integrated polymers or scaffolds. In both cases, the cellular components extract energy from the environment to form or assemble the material itself, and to adapt its morphology and function to environmental stimuli. This endows these materials with a combination of properties not present in any non-living material: self-regeneration, adaptation to environmental clues, longevity and environmental sustainability. By being alive, ELMs represent a fundamental change in materials' production and performance, enabling new, better or similar functionalities, compared to traditional materials but with decreased costs and environmental impact. ELMs have the potential to transform virtually every modern endeavour from healthcare to infrastructures to transportation.

With this Pathfinder ELMs Challenge the EIC seeks to seize the opportunity to position strategically Europe at the forefront of the ELMs field, which is still in its infancy. This Pathfinder Challenge aims to overcome the technological challenges to harness the engineering potential of nature for materials' production. The specific objectives of this call are to support the development of new technologies and platforms enabling the controlled production of made-on-demand living materials with multiple predictable dynamic functionalities, shapes and scales; and to build a community of researchers and innovators in ELMs. Reaching these objectives requires a research team that strongly integrates, among others and not exclusively, expertise in synthetic biology, materials engineering, control engineering, artificial intelligence, synthetic or engineered morphogenesis as well as ethical, legal and social aspects (ELSA).

Projects under this call are expected to develop technologies for the production of a minimum of two different living materials (i.e. with different applications, scale - 10 x difference- and cellular composition). The specific expected outcomes depending on the choice of the ELM production process (top-down or bottom-up) are:

o a proof of principle of technologies far beyond the current state-of-the-art enabling the production of a minimum of two novel biological ELMs bigger than 1 cm in all dimensions by programmable and controlled synthetic or engineered morphogenesis (whether with eukaryotic or prokaryotic cells);
or

o a laboratory validated, automated and computer-aided design-build-test-learn (DBTL) platform far beyond the current state-of-the-art able to produce a minimum of two novel HLMs in multiple scales with enhanced or unprecedented properties.

Projects are strongly encouraged to consider multi-cellular ELMs. They are also encouraged to develop technologies that can be easily generalizable and adapted for the production of a broad range of ELMs from different cells.

Projects funded under this call are also expected to collaborate and contribute to the wider ethical, societal and regulatory debate.

Specific conditions for this challenge

In order to apply, your proposal must plan to validate the technologies by producing at least two different living materials (i.e. with different applications, scale - 10 x difference- and cellular composition). These must not be a derivative of each other. The material needs to be formed by living cells as per the definition of ELMs in the introduction of this call. Alternatively if a synthetic cell is used, the synthetic cell must have, prior to the start of the project, a demonstrated ability (via a peer-reviewed scientific publication) of cellular reproduction via cell division and adaptation to environmental clues.

This Pathfinder Challenge supports collaborative research and innovation from consortia with at least 3 partners following the standard eligibility conditions, i.e. at least one legal entity must be from a Member State. The legal entities may for example be universities, research organisations, SMEs, start-ups, natural persons.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2021-pathfinderchallenges-01-05;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,31094502,31094503;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;geographicalZoneCode=null;historicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;ngPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;tenders=false;topicListKey=topicSearchTablePageState>

4. /EU Horizon*/ Tools to measure and stimulate activity in Brain Tissue: EIC Pathfinder Challenges 2021 (HORIZON-EIC-2021-PATHFINDERCHALLENGES-01), Deadline: 27.10.2021 17:00 Brussels time

Medical devices to measure and stimulate brain activity are emerging as tremendously powerful therapeutic tools that could revolutionise the treatment of brain diseases. Anomalous neuronal electrical signals are present in a wide range of disorders including memory impairment (Alzheimer's), epilepsy, chronic pain, mood disorders, movement disorders (Parkinson's), ischemic cognitive decline (post-heart attack), sensory disorders (hearing loss, tinnitus), cerebrovascular events, aging related neurodegeneration, traumatic brain injury amongst many others. Unfortunately, existing devices to restore normal patterns of brain activity by stimulation have serious limitations. Invasiveness, limited miniaturisation, poor resolution (with only coarse measurement and stimulation available), limited spatial coverage (not able to monitor or stimulate a sufficient number of neurons) hamper the therapeutic effect or render these solutions unattractive for clinicians and patients.

Yet today's state-of-the art microelectronics and microfabrication are potentially conducive to novel neuro-devices with high levels of miniaturisation, ultra-low power consumption, multi-site sensor/stimulator arrays (linear, planar or 3D with a wealth of geometries) and wireless architectures, leading to lower risk, shorter recovery times and better patient acceptance. Further, progress can also be achieved by the discovery of new physical principles for activity monitoring (invasive or non-invasive) and activity modulation. These could explore ultrasound, light (optogenetics or otherwise), mechanical stimulation, local release of neuroactive compounds, ionising radiation, etc. It is the right time to explore these opportunities and develop novel neurodevices that can be rapidly accepted by clinicians and patients.

Proposals submitted to this call should tackle at least one of the following two challenges:

1. A full device with unique features, e.g. targeting a currently untreated disorder, offering unprecedented miniaturisation, low latency closed-loop monitoring-stimulation feedback (if necessary), ultra-low power consumption, low/moderate invasiveness (e.g. compatible with implantation with endoscopic techniques), high-resolution, sustainable, etc.

or

1. New or nascent physical principles or methodologies that could be the basis for future brain sensing and/or stimulation technologies, with clear and quantifiable advantages. Focus is on techniques that can offer unprecedented data on brain function or that allow unprecedented modulation of brain activity for therapeutic purposes or brain-computer interfacing.

Specific conditions for this challenge

Proposals targeting a full device are strongly encouraged to establish a plausible work plan to realise by the end of the project at least 1) a working prototype device or instrument and 2) pre-clinical data with proof of therapeutic action.

Proposals targeting the discovery of a new mechanism for monitor and/or stimulate are advised to de-risk the work plan by exploring multiple strategies in parallel, merging competing strategies into a single proposal for cost efficiencies and increased likelihood of success.

Consortia considering both targets in a single proposal are advised to carefully analyse whether the high risk inherent to the discovery of new mechanisms or principles could hamper the plausibility of completing a full device hinging on said principles.

All proposals must fully justify the clinical need for the targeted development, and structure the work plan accordingly, towards credible future transition to market. Proposals need to consider the cost-benefit of the targeted technology and demonstrate that the outcome will be acceptable by clinicians and patients. The gender dimension in research content should be taken into account, where relevant.

This Pathfinder Challenge supports collaborative research and innovation from consortia or applications from single legal entities. In case of a consortium your proposal must be submitted by the coordinator on behalf of the consortium that includes at least two independent legal entities. Consortia of two must have independent legal entities from two different Member States or Associated Countries. Consortia of three or above follow standard rules i.e. at least one legal entity must be from a Member State. The legal entities may for example be universities, research organisations, SMEs, start-ups, natural persons. In the case of monobeneficiary projects, mid-caps and larger companies will not be permitted.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2021-pathfinderchallenges-01-02;callCode=HORIZON-EIC-2021-PATHFINDERCHALLENGES-01;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;mission=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;DateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

5. /EU Horizon*/ Emerging Technologies in Cell and Gene therapy: EIC Pathfinder Challenges 2021 (HORIZON-EIC-2021-PATHFINDERCHALLENGES-01), Deadline: 27.10.2021 17:00 Brussels time

Cell and gene therapy (CGT) are widely accepted as top biomedical trends for over three years now and continue to evolve in their use for treating human diseases. CGTs are expected to increasingly shape the medical treatment and diagnosis, as we are approaching the era of precision medicine. Cell-based therapy

is a promising strategy for effective treatment across a wide range of diseases though the focus so far, has primarily been on cancer, e.g. Chimeric Antigen Receptor T-cell (CAR-T) therapy made from removing T cells from individual patients, engineer them to be able to recognize and kill cancer cells before re-administer them to the same patient. CAR-T cell therapy is widely regarded as having revolutionised the treatment of some blood cancers. Recent research evidence suggests that cell therapy can effectively apply to solid cancers as well.

Gene therapy, on the other hand, is yet far from having revealed its full potential and, therefore, innovative gene therapies remain a top priority in genomic medicine. Some companies believe that, after having achieved a robust proof-of-concept, clinical development and downstream interaction with regulatory agencies will be easy. The reality, however, is that the whole process from concept to commercialisation, from research to commercial grade viral vector under GMP standards, is a very demanding one, with the constant need for technological improvements to successfully overcome challenges such as increasing accuracy/specificity and scaling up the production or the release of tests that must be completed before use in patients. Finally, combined cell- and gene-based approaches in preclinical studies, is a relatively new bio-trend that is increasingly gaining the interest of cell and gene therapy scientists worldwide.

With this Pathfinder Challenge, EIC strategically aims at reinforcing critical components of the European cell and gene therapy community, such as focused research consortia, start-ups and spinoffs, in their ability to compete and sustain in this fiercely competitive field, full of challenges and obstacles all along the way from discovery to the manufacturing step. Proposals submitted to this call should effectively address exactly that, by proposing convincing technological solutions and/or new breakthrough concepts that go far beyond the current state-of-the-art.

Proposers are invited to submit disease-specific or non-disease-specific proposals, focused on emerging technologies or technological solutions aimed to overcome the current cell and gene therapy challenges in one or several the areas listed below, but without being restricted only to these areas.

Advancing cell therapy manufacturing and products to a clinical stage:

- o Advanced technological solutions that can effectively support the GMP manufacturing step of cell therapy e.g. in terms of speed and cost effectiveness.
- o Novel cell therapy products, targeted to frequent diseases such as cancer and organ failure but also to less frequent diseases like immunodeficiency disorders, that can be used by clinical stage biopharmaceutical companies.
- o Cell therapy technological solutions that can improve important constraints in handling highly concentrated and complex formulations of recombinant biologics, such as controlled release of therapeutics and injectability.

Improving adoptive cell therapies (CAR-T, TCR, TIL):

- o New technological solutions that would help to improve current adoptive cell therapy approaches: i) by lowering the high cost and complexity of the procedure; ii) by overcoming the long known rejection problem observed in the off-the-shelf or allogeneic CAR-T cell therapies; iii) by targeting the CAR into one location, which would take away the variability problem (the CAR randomly goes into the genome of cells resulting in variable levels of potency) and iv) by developing CAR-T based new immunotherapeutic approaches against solid tumours with the use of monoclonal antibodies.

Identifying next generation cell therapies for cancer:

- o New technological platforms that can contribute to identifying next-generation cell therapies for cancer (finding new targets for the engineered immune cells to home in on, or novel source of cells for new therapeutic approaches) as well as improving existing therapies to make them more efficient and safer. The latter could include naive fully functional T-cells.

Applying cell therapy to treat cancer patients in a personalised manner:

- o Advanced technological solutions that would enable to apply cell-based therapies to treat patients in a personalised/precision manner. Single cell-based approaches (analysing DNA, RNA, epigenetic marks, proteins, metabolites used in combination with single cell sequencing, single cell imaging and spatial profiling) in particular to allow to map the presence of individual cells in the tumour environment.
- o New technological solutions including lab-grown cancer organoids or organs-on-a-chip which would allow to test the patient's response to various cell therapies and drugs, alone or in combination, prior to the initiation of the treatment, are sought.

Improving the effectiveness and lowering the risks of gene delivery systems (vectors):

- o Novel gene therapy approaches using the power of CRISPR-Cas or other molecular machineries leading to more effective and robust gene delivery systems (vectors) and/or more precise and reliable correction of genetic mutations.
- o Technological approaches that can tackle long lasting challenges in gene therapy (e.g. the transient instead of stable expression of the transfected gene).
- o New technological solutions to reduce toxicity, as a result, of administering repetitive doses of viral vector(s) to patients in clinical trials.
- o New or improved gene delivery vehicles using next generation AAV or other recombinant vectors with the ability to target specific tissue types and persist in non-dividing cells for long periods of time.

Improving gene therapy manufacturing processes and production:

- o With the first gene therapies on the market and dozens more in trials, the race is on to improve the production and manufacturing processes to deploy gene therapies at scale. Technological solutions are sought to effectively control challenges in the production of viral vectors at the large scales needed to reach the clinical trial step. Speed is critical, yet excessive speed can put product quality, safety, and efficiency at risk.

Specific conditions for this challenge

In order to apply, your proposal must focus on emerging technologies or breakthrough new concept-based technological solution that go far beyond the current state-of-the-art, aimed to overcome cell and gene therapy challenges and obstacles companies are currently being faced with, at the preclinical or clinical level or bio-manufacturing level. Proposers can submit disease or non-disease specific proposals.

This Pathfinder Challenge supports collaborative research and innovation from consortia or applications from single legal entities. In case of a consortium your proposal must be submitted by the coordinator on behalf of the consortium that includes at least two independent legal entities. Consortia of two must have independent legal entities from two different Member States or Associated Countries. Consortia of three or above follow standard rules i.e. at least one legal entity must be from a Member State. The legal entities may for example be universities, research organisations, SMEs, start-ups, natural persons. In the case of monobeneficiary projects, mid-caps and larger companies will not be permitted.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2021-pathfinderchallenges-01-03;callCode=HORIZON-EIC-2021-PATHFINDERCHALLENGES-01;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;mission=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;DateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

6. /EU Horizon*/ Awareness Inside: EIC Pathfinder Challenges 2021 (HORIZON-EIC-2021-PATHFINDERCHALLENGES-01), Deadline: 27.10.2021 17:00 Brussels time

Awareness and consciousness have been high on the Artificial Intelligence (AI) research agenda for decades. Progress has been difficult because it has been hard to agree on exactly what it means to be aware. Most researchers would agree though that we do not have any truly aware artificial system yet, that awareness is much more than a sensorial sophistication and that it is much more than any Artificial Intelligence as we know it. But, what is it then that a user would expect from a service or device that has 'awareness inside'?

Most scientific and philosophical accounts of awareness are based on a human subject perspective and at an individual level. They address the question of what it means for an individual human subject to be aware of, e.g., the environment, time or oneself and how one can assess awareness in this context. The problem is relevant, certainly, since many clinical and cognitive conditions can be linked to awareness issues. The concept is also relevant to emerging technologies as it has been argued, for instance, that humans will not accept robots (or chatbots, or decision support systems) as trustable partners if they cannot ascribe some form of awareness and true understanding to them. The individual human-centric concept of consciousness hinders the application of awareness as a measurable feature of any sufficiently complex system. The study of awareness in other species and artefacts, or even more elusive concepts such as social awareness require a new perspective applicable to many systems. It can then also serve to attack the inter-subjective state and experience of awareness (i.e., what is it like to interact with an aware robot that, most probably, does not have the same kind of awareness than the human?), or to include non-conscious objects into the sphere of awareness (e.g., to become aware of the time without looking at the watch). For technologies, awareness principles would allow a step-up in engineering complex systems, making them more resilient, self-developing and human-centric. Awareness is a prerequisite for a real and contextualised understanding of a problem or situation and to adapt one's actions (and their consequences) to the specific circumstances. Ultimately, awareness serves the coherent and purposeful behaviour, learning, adaptation and self-development of intelligent systems over longer periods of time.

Specific conditions for this challenge

Proposals are expected to address each of the following three expected outcomes:

1. New concepts of awareness that are applicable to systems other than human, including technological ones, with implications of how it can be recognised or measured. It will require to elucidate the relationship between, among others, complexity and awareness, information structure and representation, the environment and its perception, distributed versus centralized awareness, and time awareness. This will lead to better approaches for defining aspects of awareness over different temporal, spatial, biological, technological and social scales.
2. Demonstrate and validate the role and added-value of such an awareness in an aware technology, class of artefacts or services for which the awareness features lead to a truly different quality in terms of, e.g., performance, flexibility, reliability or user-experience. The specific expected outcome is a proof of principle of technologies far beyond the current state of the art or a laboratory-validated prototype enabling evaluation of the proposed technology's awareness features, relying where relevant on neuroscientific and psychological methods, and possibly in a range of application areas. As examples, projects could investigate the implications of 'awareness inside' for safer robots or self-driving cars, for better resilience of critical infrastructure, in artefacts that compensate for consciousness disorders, in decision support (e.g. for surgery, economics or epidemiology), or for chatbot-based conversation, language learning or translation.
3. Define an integrative approach for awareness engineering, its technological toolbox, the needs and implications and its limits, including ethical and regulatory requirements. On this aspect specifically, the projects that will be funded under this challenge are expected to collaborate and contribute to the wider

ethical, societal and regulatory debate since, ultimately, new awareness concepts may lead to a redefinition of how we look at the relation between humans, other species and smart technologies. The gender dimension in research content should be taken into account, where relevant, to maximise user experience.

This Challenge is only open to proposals for collaborative projects with at least 3 partners following the standard eligibility conditions. Proposals are required to comply with the Trustworthy Artificial Intelligence principles

This Pathfinder Challenge supports collaborative research and innovation from consortia or applications from single legal entities. In case of a consortium your proposal must be submitted by the coordinator on behalf of the consortium that includes at least two independent legal entities. Consortia of two must have independent legal entities from two different Member States or Associated Countries. Consortia of three or above follow standard rules i.e. at least one legal entity must be from a Member State. The legal entities may for example be universities, research organisations, SMEs, start-ups, natural persons. In the case of monobeneficiary projects, mid-caps and larger companies will not be permitted.

Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2021-pathfinderchallenges-01-01;callCode=HORIZON-EIC-2021-PATHFINDERCHALLENGES-01;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;missionCode=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;endDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

7. /EU Horizon*/ Novel routes to green hydrogen production: EIC Pathfinder Challenges 2021 (HORIZON-EIC-2021-PATHFINDERCHALLENGES-01), Deadline: 27.10.2021 17:00 Brussels time

The development of efficient, sustainable and flexible energy systems is a key challenge for Europe's energy decarbonisation and a corner stone of Europe's 2050 climate-neutrality goal, set out in the European Green Deal. To achieve such viable energy system, a particular support should be given to solutions aimed at increasing lifetime and decrease the cost of the overall system. In this context, Hydrogen (H₂) has the potential to contribute to the above mentioned objectives. Currently H₂ is largely produced from fossil fuels, commonly referred to as grey H₂, or promising but still expensive blue H₂ options, combining methane-to-H₂ with carbon capture and storage, or renewable H₂ pathways (green H₂), entirely based on renewable electricity. Referring to green H₂ production, the state of art technology is based on water electrolysis, with costs still higher than grey H₂ and production processes affected by the use of critical raw materials.

This Pathfinder Challenge aims at developing novel processes and technologies to produce green H₂, at different scales (from small to large) and capturing cross sectorial coupling and system integration opportunities, entirely based on (i) renewable sources and (ii) non-toxic, non-critical raw materials. It focuses on the potentials of new biological, chemical, and physical routes for green H₂ production which could also facilitate the implementation of the circular economy principles, possibly including the co-production of decarbonised chemicals. The specific target is to support the development of innovative technologies and platforms for green H₂ production, including both centralised and/or on-demand generation (i.e. at the premises of the end users and for onsite consumption). Reaching these objectives requires multidisciplinary competencies and cross sectorial approaches addressing also environmental,

industrial and logistic issues.

Specific conditions for this challenge

In order to apply, your proposal should develop a proof of concept or lab-scale validated innovative green H2 production technology by biological, chemical or physical routes without the deployment of fossil fuels, potentially including the use of salt or waste water, air moisture, biomass or recycled by-products, or the co-production of decarbonised chemicals.

Projects with multidisciplinary and cross sectorial approaches, looking for inspiration, ideas and knowledge in disciplines that are typically not in this kind of research, are particularly welcome. Projects are strongly encouraged to consider the recovery and recycling of by-products and wastes (circular approach), as well as the use of abundant natural resources. The safe and sustainable use of non-critical raw materials is mandatory and the projects should include a full life cycle analysis of the proposed solutions and their impact on Europe's decarbonisation goals.

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Further information:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2021-pathfinderchallenges-01-04;callCode=HORIZON-EIC-2021-PATHFINDERCHALLENGES-01;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;missionCode=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;dateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState>

8. /Sonstige*/ Seminar: Möglichkeiten der EU-Forschungsförderung im Leitmarkt „Energie, Maschinen- und Anlagenbau, Ressourceneffizienz“ (EMAR) des Landes Sachsen-Anhalt am 1. Juli 2021

Im Seminar wird die Leitmarktinitiative des Landes durch Hagen Fehse (EMAR-Koordinator) vorgestellt und über relevante Fördermöglichkeiten im Rahmen des neuen EU-Förderprogramms „Horizont Europa“ durch Dr. Marina Maicu (Nationale Kontaktstelle Klima, Energie und Mobilität, NKS KEM) sowie Jens Korell und Dr. Patricia Wolny (Nationale Kontaktstelle Digitale und Industrielle Technologien, NKS DIT) informiert.

Prof. Binder (Martin-Luther-Universität Halle-Wittenberg) und Kilian Hoffmann (Business Development Manager, TESVOLT GmbH) werden von ihren Erfahrungen mit erfolgreich beantragten Projekten zur Batterieforschung aus „Horizont 2020“ berichten.

Die kostenfreie Veranstaltung richtet sich an Unternehmer/-innen und Wissenschaftler/-innen im Land Sachsen-Anhalt, die sich für die Beteiligungschancen von Wirtschaft, Hochschulen und Forschungseinrichtungen am neuen EU-Forschungsrahmenprogramm interessieren.



Datum: 1. Juli 2021, 10:00-14:30 Uhr

Die Teilnahme an der Veranstaltung ist kostenfrei. Mit Ihrer Anmeldung stimmen Sie der Verarbeitung Ihrer personenbezogenen Daten zu.

Die Anmeldung erfolgt formlos per Mail bei:

EU-Büro Nord, Niko Isermann

Beratung, Antragstellung, Projektmanagement, +49 (0) 391 67 58836, niko.isermann@ovgu.de

EU-Büro Süd, Robina Geupel

Beratung, Antragstellung, Kooperationen mit KMU, +49 (0) 345 55 21389,

robina.geupel@verwaltung.uni-halle.de

Weitere Informationen:

<https://www.euhochschulnetz-sachsen-anhalt.de/veranstaltungen.html>

9. /Sonstige*/ Europa Bowl: Nach den Sternen greifen - Förderprogramm Eurostars 3 leicht erklärt am 06.07.2021 von 17:00 bis 18:00 Uhr, online

Eurostars-Projekte sind technologieoffen und zielen auf die Entwicklung eines innovativen Produktes, Verfahrens oder einer Dienstleistung ab. Das Programm richtet sich in erster Linie an forschende KMU, Hochschulen und Forschungsinstitute können sich aber voraussichtlich auch in der neuen Förderperiode wieder als Projektpartner beteiligen. Forschungsinstitute und Universitäten sind als Projektpartner förderfähig. Erfahren Sie in der kurzen online-Veranstaltung, wie Sie Ihre innovativen Ideen mit einer Förderung vorantreiben können.

Die Anmeldung zu den Veranstaltungen erfolgt jeweils formlos per E-Mail an: niko.isermann@ovgu.de

Weitere Informationen:

https://www.euhochschulnetz-sachsen-anhalt.de/Veranstaltungen/Europa+Bowl+_+Online_Seminar_reihe+zusammen+mit+dem+EEN+%28SoSe+2021%29-p-5238.html
