

**Federal Ministry of Education and Research of the Federal Republic of Germany**

**and**

**Japan Science and Technology Agency**

**Call for Proposals 2021**

**German – Japanese Academia-Industry International Collaboration Program  
on Hydrogen Technologies  
Terms and Conditions**

**Proposal Submission Period:  
23rd June to 10th September 2021  
(10:00 German time / 17:00 Japanese time)**

#### German Side:

Please refer in any case to the official call text (“Regulations for funding international projects on the topic of green hydrogen”) which was announced on 29 March 2021 in German in the Bundesanzeiger (Federal Gazette) and the specific call for the cooperation with Japan under the regulations above which will be published on the BMBF landing page (<https://www.bmbf.de/de/internationale-kooperationen-gruener-wasserstoff-13966.html>).

#### Japanese Side:

For further application instructions and guidance, please refer to the appendix for Japanese side (available only in Japanese).

### **1 Aim and purpose of program**

The Federal Ministry of Education and Research (BMBF) and Japan Science and Technology Agency (JST) are supporting joint projects through strategic project support measures in order to promote cooperation between the Federal Republic of Germany and Japan. On the German side, this funding measure is carried out under, the High-Tech-Strategy 2025, the international component of the National Hydrogen Strategy and German contributions to the funding programme “European Innovation Union”. On the Japanese side, this funding measure is carried out under the Strategic International Collaborative Research Program (SICORP). The measure is aimed at promoting joint research projects of mutual interest and thus contributing to intensified scientific and technological cooperation (STC) with each country.

Knowledge, experience, research infrastructures and other resources of both sides will be pooled to generate added value for the participating partners. The exchange of knowledge and joint developments are intended to provide the long-term basis for mutual market access and lasting economic cooperation.

Specifically, funding will be provided for cooperation between representatives of German and Japanese industry and science in the form of “2+2 projects” in the field of hydrogen technologies. “2+2 projects” is deemed to mean research and development (R&D) projects involving at least one German and one Japanese research-performing industrial partner and at least one German and one Japanese research institution. In the case of the German industrial partner, particularly small and medium-sized enterprises are encouraged to apply. The funding is intended to create the basis for a lasting R&D innovation partnership.

### **2 Object of funding**

Funding will be provided for research projects in the field of hydrogen technologies that involve international cooperation with partners from Germany and Japan and address one or more of the following priority areas in line with the funding purpose described above:

1<sup>st</sup> topic:

“Efficient and sustainable materials for hydrogen technologies; especially novel and innovative approaches for identifying suitable materials including life-cycle assessment”

2nd topic:

"Sustainable propulsion for maritime transport based on Green Hydrogen"

- (1) Innovative highly efficient synthetic fuels based on green hydrogen: synthesis, chemical processes and concepts for utilization including unconventional synthesis routes such as green ammonia as fuel.
- (2) Research on and analysis of combustion processes using Artificial Intelligence, numerical analysis, fluid dynamics, etc. with particular regard to the developments under (1).
- (3) Design and analysis of new combustion systems.
- (4) Innovations on highly efficient fuel cells for maritime propulsion.

Socio-economic analyses related to the topics above are encouraged.

The projects will be expected to have great practical relevance and to produce insights and exploitable research results which lead to new technologies, products and/or services. Upon completion, the projects should attain a technology readiness level (TRL) of 3 to 5.

TRL 1: Observation and description of the functional principle

TRL 2: Description of the application of a technology

TRL 3: Evidence of a technology's capacity to function (proof of concept)

TRL 4: Experimental set-up in a laboratory

TRL 5: Experimental set-up in the relevant environment

TRL 6: Prototype in the relevant environment

TRL 7: Prototype in the operational environment

TRL 8: Qualified system with evidence of the capacity to function in the field of application

TRL 9: Qualified system with evidence of the successful application

The benefits for Germany and Japan should be clearly identifiable and strategies for implementing the research findings in industry and society should be set out. Furthermore, the projects should contribute to achieving the following cooperation objectives:

- International networking and intensification of German-Japanese cooperation in the stated priority areas
- Preparation of follow-up activities, e.g. application for funding under specialist BMBF programmes, DFG, Horizon Europe and similar programmes for the German side, JST programmes and similar programmes for the Japanese side.

### 3 Funding recipients

#### *German side*

Applications may be submitted by universities, non-university research institutions and other organisations performing research as well as commercial companies which have a plant or branch in Germany at the time of payment of the grant – particularly small and medium-sized enterprises (SMEs) as defined by the European Commission at [http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index\\_en.htm](http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm) – which fulfil the funding purpose and requirements. Research institutions which receive core funding from the Federal Government and/or the *Länder* can only be granted project funding supplementary to their basic funding to cover additional project-related expenditure or costs under certain preconditions.

#### *Japanese side*

Any independent researcher personally affiliated with and actively conducting research at a domestic Japanese research institution (or who would fulfil this requirement by the start of the research project), regardless of nationality, is eligible to apply.

Note: “Domestic Japanese research institution” in Japan refers to universities, independent administrative institutions, national/public testing and Research Institutions, specially authorized corporations, public-service corporations and enterprises, etc. that must satisfy pre-determined requirements designated by MEXT. Please refer to the MEXT homepage for more information:

[http://www.mext.go.jp/a\\_menu/kansa/houkoku/1324571.htm](http://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm) (in Japanese only).

### 4 Special prerequisites for funding

A prerequisite for funding is that projects include the participation of at least one German commercial company/industrial partner and one German research institution/university as well as one Japanese industrial partner and one Japanese research institution/university (“2+2 projects”).

Projects proposed for funding under this call should document their potential for longer-term sustainable cooperation.

Additional information for collaborative projects:

The terms of cooperation between the partners in a collaborative project must be set out in a written cooperation agreement. Before a funding decision on a collaborative project is taken, the cooperation partners must prove that they have reached a basic agreement on certain criteria stipulated by the BMBF.

Funding recipients are obliged to participate in possible evaluation measures and to provide any information needed to assess the success of the funding measure.

## **5 Type, scope and amount of funding**

### **5.1 Type and amount of funding**

#### *German side*

Funding will be awarded as project grants usually amounting to 600,000 euros per collaborative project for a maximum period of 36 months.

#### *Japanese side*

The funding amount will be up to 54.6 million Japanese yen per project (including 30% overhead expenses): approximately 18.2 million Japanese yen per project per year. The project period is usually for 36 months.

### **5.2 Type of financing**

#### *German side*

The basis for calculating the grants for universities, non-university research institutions and similar institutions is the eligible project-related expenditure (in the case of the Helmholtz Centres and the Fraunhofer Gesellschaft [FhG] the eligible project-related costs) which can be individually funded up to a maximum of 100 percent.

In the case of research projects at higher education institutions (public and private) and teaching hospitals (irrespective of the legal form), a flat-rate grant amounting to 20% of total expenditure will be awarded in addition to the eligible expenditure. It should be noted that the flat-rate grant is already included in the above-mentioned maximum grant amount of 600,000 euros.

Grants for commercial companies will be calculated on the basis of the eligible project-related costs, up to 50% of which can, as a rule, be covered by government grants, depending on the project's relevance to application. The General Block Exemption Regulations (GBER) allow various additional payments for small and medium-sized enterprises (SMEs) which could in some circumstances lead to a higher rate of funding. Financing rules are laid out in more detail in the underlying BMBF "Regulations for funding international projects on the topic of green hydrogen".

#### *Japanese side*

Japan-based commercial companies shall submit to JST annual financial reports of the own contribution to the research project. It shall be included in the annual report which is described in 8.3. JST expects commercial companies to cover at least 50% of project related costs through their own contribution. All of the eligible costs in 5.4 can be calculated in the project-related costs, including personal costs and equipment cost.

### 5.3 Form of financing

Funding will be awarded in the form of non-repayable grants.

### 5.4 Expenditure/costs eligible for funding

The following expenditure/costs will be eligible for funding:

#### *German side*

- a. Financial resources to cover staff required for the project
- b. Project-related non-cash resources and funds for equipment (see guidelines for applicants). Funding applications may also be submitted for contracts with third parties.
- c. Funding for travel and stays by German researchers and experts
- d. Travel expenses for international events  
In special exceptional cases, funds can be granted for travel to international events, e.g. for participating in international, project-relevant conferences held in the home country or abroad.
- e. Expenditure/costs for workshops
- f. Patents  
Expenditure required for obtaining and validating patents and other industrial property rights during the project period is eligible for funding (see annex for state aid for companies/SMEs).

Further details are found in the “Regulations for funding international projects on the topic of green hydrogen” (Module C: International collaborative research projects with partners from science and industry (2+2)).

As a rule, no funding will be provided to cover any of the cost of the participating institutions' normal basic equipment.

The GBER must be taken into account in determining the respective eligible costs.

#### *Japanese side*

##### a) Eligible direct costs

In principle, eligible direct costs are those costs directly necessary for accomplishing the research, indicated below. Please refer to the guidance documents available at the

following link for further details of eligible direct costs (available in Japanese only).  
<http://www.jst.go.jp/inter/research/contract/contract.html>

(a-1) Facilities, Equipment and Consumables: costs of research equipment, spare parts, prototypes, software (in-line products) and purchase of books, reagents, materials and consumables.

Only for commercial companies: Equipment costs are not eligible. Equipment includes facilities for which the estimated usable period is more than a year and acquisition price is more than 500 thousand yen.

(a-2) Travel Expenses: costs and associated living expenses of the project members registered in the project plan, and costs of inviting external experts.

(a-3) Personnel costs: costs of the researchers, temporary staff, post-docs, etc., who are hired for the research and other costs such as honoraria for invited lecturers.

Only for commercial companies: Personnel costs are not eligible.

(a-4) Others: costs for the organisation of small scientific events in Japan including rental costs for the venue, food & beverage (excluding alcohol) costs and other costs which are deemed to be necessary for organizing the event.

b) Eligible indirect costs

Please refer to the following link for the provisions regarding indirect costs:

<https://www8.cao.go.jp/cstp/compefund/shishin2.pdf> (available in Japanese only)

## 6 Project Description and Evaluation

The applicants must jointly prepare their Project Description. The Project Description should not exceed ten pages. The Project Description should include the following aspects:

- I. Information on the project coordinator and project partners
- II. A meaningful summary (of goals, research priorities, exploitation of results)
- III. The scientific framework of the project
  - a. Planned measures to implement the aims and purpose of the funding measure set out in 1 and 2 above
  - b. A description of the scientific objective of the project and the envisaged innovation
  - c. Information on the state of the art and on existing intellectual property rights (own and third-party)
- IV. International cooperation within the project
  - a. Added value of international cooperation
  - b. Contributions of the international partners, access to international resources

- c. Experience of the participating partners in international cooperation; previous collaborations
- V. Sustainability of the measure/exploitation plan
  - a. Prospects for scientific, technological, and economic success as well as exploitation (target markets, market share/revenues sought in the medium term, scientific exploitation)
  - b. Lasting consolidation of the cooperation with the project partners in Germany and Japan
  - c. Plans for cooperation in follow-up projects
  - d. Plans for expansion of cooperation to other institutions and networks
- VI. Description of the planned steps of the cooperation project (work packages, milestones, etc.)
- VII. Estimated expenditure/costs

Committees consisting of experts and/or peer reviewers selected by BMBF and JST, respectively will evaluate all proposals. Based on the results of the evaluation, BMBF and JST will make a joint decision regarding funding of the selected proposals.

The Project Description received will be evaluated on the basis of the following criteria:

- I. Fulfilment of the formal prerequisites for funding as set out in sections 3 and 4 above
- II. Compliance with the funding aims and purpose of the announcement as stated in section 1 above and the thematic requirements stated in section 2
- III. Scientific criteria
  - a. Topicality, plausibility and innovativeness of the project approach
  - b. Quality, expertise and complementarity of the applicant(s) with regard to the objectives of the project, including active participation and involvement of companies and organizations
- IV. Impact of the project at a scientific, economic and societal level
- V. Compatibility with preconditions for cooperation with the partner country (see BMBF “Regulations for funding international projects on the topic of green hydrogen” (Module C: International collaborative research projects with partners from science and industry (2+2) specifying individual conditions for funding of this measure

## **7 Procedure in Germany**

### **7.1 Involvement of a project management agency, application documents, other documents and use of the electronic application system**

The BMBF has currently entrusted the following project management organization with implementing the funding measure:

DLR Project Management Agency

European and International Cooperation



Heinrich-Konen-Strasse 1

53227 Bonn, Germany

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

Contact persons:

Contact for scientific questions:

Dr. Ludwig Kammesheidt

Phone: +49 228/38 21-1729

Fax: +49 228/38 21-1444

E-mail: Ludwig.Kammesheidt@dlr.de

Contact for administrative questions:

Birgit Ehrenberg

Phone: +49 228/38 21-1471

Fax: +49 228/38 21-1444

E-mail: Birgit.Ehrenberg@dlr.de

Any modifications will be announced in the *Bundesanzeiger* (Federal Gazette) or in another suitable form.

Applicants are recommended to contact the project management agency for advice on applications. The agency will provide further information and details.

## 7.2 Two-step procedure

The application procedure takes place in two steps.

Applicants must use the 'easy-online' electronic tool for drafting project outlines and formal proposals.

### 7.2.1 Submission and selection of project outlines

In the first step, project outlines must be submitted to the project management agency in written and/or electronic form

by 10th September 2021 at the latest using the 'easy-Online' electronic tool.

It may not be possible to consider project outlines received after the above date.

Suitable project outlines will be selected for funding on the basis of the above criteria and evaluation. Applicants will be informed in writing of the result of the selection process.

Applicants have no legal claim to the return of their project outlines and of any other documents which they may have submitted in this phase of the procedure.

### 7.2.2 Submission of formal applications for funding and decision-making procedure

In the second step of the funding procedure, the applicants whose project outlines have been successful in step 1 will be invited to submit full formal proposals.

Formal proposals must include:

- I. A detailed (sub-)project description
- II. A detailed work plan and time schedule which allows to evaluate
  - a. Feasibility of the work plan
  - b. Plausibility of the time schedule
- III. Detailed information about the financing of the project
  - a. Appropriateness and need for the requested amount of funding
  - b. Guarantee of overall financing during the entire project period

The work and financing plans will be evaluated in accordance with the criteria listed under 7.2.2 (II and III).

The formal proposals must observe and fulfil any thematic or funding requirements above and/or the evaluators' recommendations for the implementation of the project.

When several German partners are involved (collaborative project), the formal proposals of the individual partners must be submitted in consultation with the envisaged coordinator.

Formal proposals must be drafted using the “easy-Online” electronic application system. It is absolutely imperative for applicants to include a project description in German in their formal proposals. The description should not exceed 12 pages.

Guidelines, information for applicants and the auxiliary terms and conditions for the award of grants are available at

[https://foerderportal.bund.de/easy/easy\\_index.php?auswahl=easy\\_formulare&formularschrank=bmbf](https://foerderportal.bund.de/easy/easy_index.php?auswahl=easy_formulare&formularschrank=bmbf).

The BMBF reserves the right to seek advice from experts before making the final decision on funding.

A legal claim to funding cannot be derived from the submission of a formal proposal. Applicants have no legal claim to the return of their formal proposals. A funding decision will be taken after a final review based on the above criteria and evaluation procedure.

## 8. Procedure in Japan

### 8.1 Submission

The joint proposal and Japanese application information should be submitted electronically via the Cross-Ministerial R&D Management System (e-Rad): <https://www.e-rad.go.jp/index.html>

For further application instructions and guidance, please refer to the additional guidelines for Japanese researchers (available only in Japanese).

Complete a research ethics training program conducted by the research institute with which they are affiliated and then declare the completion of the program to JST by the deadline of the call for proposals. If it is difficult for them to undertake a program provided by their own institute, they should contact JST to register for a research ethics program provided by eAPRIN (formerly known as CITI Japan). Unless applicants complete a research ethics program, their application will be deemed ineligible for funding.

## 8.2 Payments

JST's support will be implemented according to a multiple-year contract for commissioned research entered into between JST and institution to which the Japan based principal investigator (PI) belongs. Since the contract is agreed on condition that all administrative procedures related to the funded research are handled within the institution, the Japan based PI should consult with the relevant department(s) at his/her institution.

## 8.3 Reporting

Japan-based PIs shall submit to JST annual research plans for the year ahead and reports on the progress in the past year, and the institution with which the PI is affiliated shall submit an annual financial report.

At the end of the period of support and after completion of the joint research activities, the Japan-based PI shall promptly submit to JST a final report which shall include a financial report and a description of the research activities and outcomes. The report shall include a general summary of the activities of both the Japanese and the German research teams. If papers describing results of the research activities are presented to academic journals, societies etc., a list of those papers and other related information should be attached to the final report. Detailed instructions for preparation of the final report will be provided to the Japan-based PI during the final year of the project. Completed projects will be duly evaluated and excellent outcomes may be made public.

Contact persons for Japan:

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