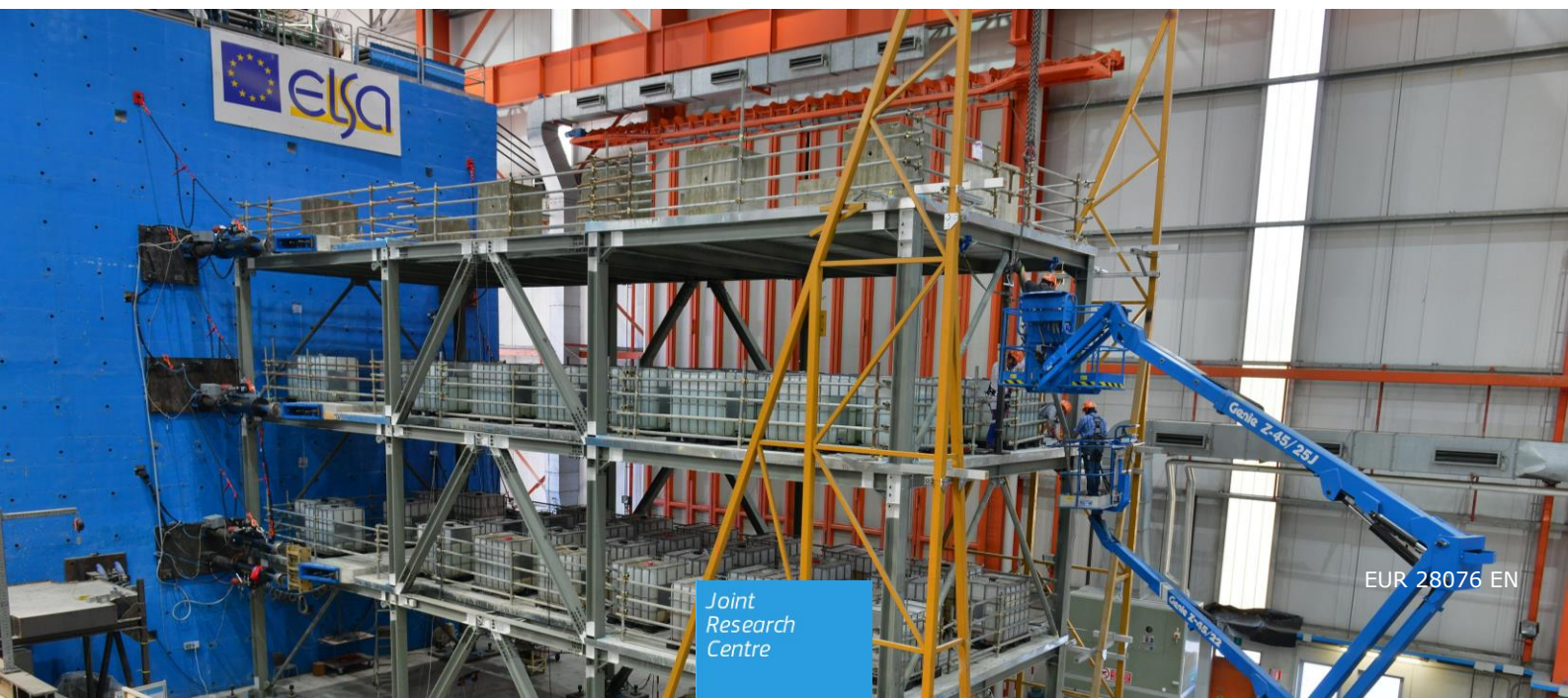


## JRC TECHNICAL REPORTS

# Preparation for call for proposals for access to ELSA

Tsionis Georgios, Taucer Fabio

2016



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## **Abstract**

The JRC Strategy 2030 for 'Infrastructure fit for purpose' includes an action to open up JRC's research infrastructure to external use. This will give European research and business organisations access to equipment that they would not normally have. It will also raise the value and visibility of DG JRC's research infrastructures. ELSA-OPEN is a pilot project of this action that will make available to researchers and industry the ELSA reaction wall and the HopLab facilities. Access will be granted through open calls and proposals will be evaluated by a selection panel, considering a set of priority topics and other criteria. This report gives an overview of the facilities, the framework for access and the procedure and timetable for the submission and evaluation of proposals and the execution of accepted proposals.



## **1 Introduction**

The JRC Strategy 2030 for 'Infrastructure fit for purpose' includes an action to open up JRC's research infrastructure to external use. This will give European research and business organisations access to equipment that they would not normally have. It will also raise the value and visibility of DG JRC's research infrastructures. ELSA-OPEN is a pilot project of this action that will make available to researchers and industry the ELSA reaction wall and the HopLab facilities. Access will be granted through open calls and proposals will be evaluated by a selection panel, considering a set priority topics and other criteria defined by a steering committee.

ELSA-OPEN will give a direct contribution to the implementation of the European policy for research and innovation, in particular the European Research Area priority as regards transnational access to research infrastructures and collaborative research and transfer of knowledge. The selected projects will address the pre-, peri- and co-normative research needs for the Eurocodes and other standards for the construction sector, foster innovation and strengthen the knowledge base of the European construction industry, and thus support the implementation of the single market and growth and jobs policies. HopLab in particular gives a direct contribution to the European Agenda on Security in the fields of physical protection of soft targets and critical infrastructure protection. Furthermore, opening up the access to ELSA and HopLab will create the framework for JRC to integrate with the European Strategy Forum for Research Infrastructures (ESFRI), raising its research infrastructures to a status of pan-European relevance.

Following the introductory Chapter 1, Chapter 2 of the report presents an overview of the ELSA and HopLab facilities. The general framework for access to the JRC research infrastructures and the two modes of access, namely relevance- and market-driven, are introduced in Chapter 3. Finally, Chapter 4 describes the procedure and timetable for submission and evaluation of proposals. The forms for submission and evaluation of proposals are given in Annex A.

It is noted that the framework, procedures and forms are still being in the process of being finalised and are subject to formal approval before the call for proposals can be launched.





## 2 The ELSA and HopLab research infrastructures

### 2.1 ELSA reaction wall

The ELSA reaction wall<sup>1</sup>, see Fig. 2.1, is a unique facility in Europe and among the top in the world, by virtue of the dimensions of the reaction wall and strong floor, the loading capacity and the implementation of the hybrid cyber-physical method for testing real-scale buildings and other civil engineering constructions for the safety assessment against earthquakes and other natural and man-made hazards.



Fig. 2.1 View of the east platform of the ELSA reaction wall – strong floor facility

The dimensions of the ELSA reaction wall and strong floor are shown in Fig. 2.2. The bending moment capacity of the reaction wall is 200 MNm and its base shear capacity is 20 MN. The bending moment capacity of the reaction floor is 240 MNm. ELSA is equipped with more than 50 hydraulic actuators with load capacity ranging from 150 kN to 4000 kN and stroke up to  $\pm 0.5$  m.

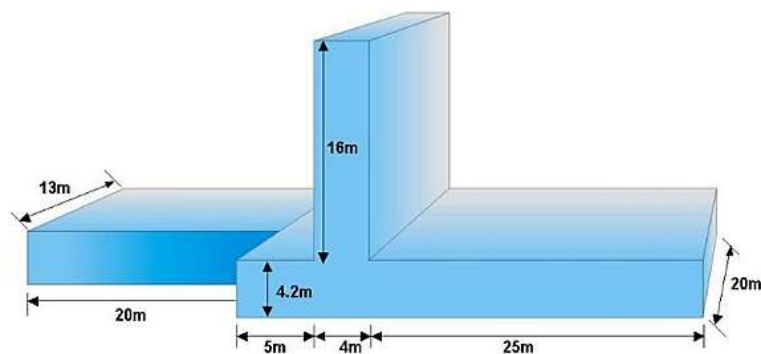


Fig. 2.2 Dimensions of the ELSA reaction wall – strong floor facility

The ELSA team is made up of highly competent and specialised staff, which is necessary to operate the laboratory for performing complex experiments (seismic tests of full-scale buildings and civil engineering structures with a wide variety of geometric configurations) with the relevant quality and safety requirements. In fact, although the

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<sup>1</sup> <https://ec.europa.eu/jrc/en/research-facility/elsa>

main tasks of experimental projects are always the same (design, construction, calibration, mounting, cabling, checking, testing, un-cabling, dismantling and demolition), the complexity and the duration of these tasks are highly dependent on the specimen, the resulting loading system and the configuration of the tests.

The ELSA team has developed and implemented the pseudo-dynamic (PsD) testing method and performed numerous large-scale reference tests. The actuators control system is designed in-house to perform tests with the continuous PsD method with substructuring, that permits bidirectional testing of multi-storey buildings, testing elements of large structures and strain-rate dependent devices.

ELSA has been continuously participating in competitive European research projects and maintains a close collaboration with the major earthquake engineering research infrastructures in Europe, USA, Japan, China and Korea. A series of reference tests of buildings and bridges designed with the Eurocodes (the European Standards for structural design) have been performed at the reaction wall facility. ELSA is also regularly used for demonstration tests by industry (e.g. bridges with innovative materials, components of energy production plants).

ELSA has offered access to European researchers in earthquake engineering through European projects financed by the EU Framework Programmes for Research Infrastructures: ECOLEADER (European Consortium of Laboratories for Earthquake And Dynamic Experimental Research, 2002-2004, FP5) and SERIES (Seismic Engineering Research Infrastructures for European Synergies, 2009-2013, FP7). The participation to these projects has brought to ELSA ample experience in providing access to its reaction wall infrastructure to user teams carrying out experimental testing on near-to-full scale structures on earthquake engineering. ELSA has extensively been used for carrying out experiments with European partners within projects funded the EU Framework Programmes for Research and Innovation.

## 2.2 HopLab

The HopLab facility<sup>2</sup> is the world's largest Hopkinson bar, extending for a length of more than 200 meters, see Fig. 2.3. It is used for the study of large material samples and of structural components and sub-assemblies to very fast dynamic loads, such as those due to blasts and impacts, where knowledge of the material behaviour under high strain-rates is necessary. According to the needs of the experimentation, other Hopkinson bar devices are also available, which complement the laboratory and are suitable for performing dynamic testing using small material specimens. HopLab is currently finalising the setting-up of a new generation of experimental equipment (blast simulator) with increased testing capabilities.



Fig. 2.3 Aerial view of the HopLab facility

The principles of operation of the HopLab are illustrated in Fig. 2.4. A rectangular force pulse of up to 2 MN, of rise time 250  $\mu$ s and of duration 40 ms can be generated. The machine has a maximum stroke of 700 mm. In the basic configuration, the incident and transmitter bars have a diameter of 72 mm. The incident strain pulse ( $\epsilon_1$ ) is generated

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<sup>2</sup> <https://ec.europa.eu/jrc/en/research-facility/hopkinson-bar-facility>

by pre-stressing and abruptly releasing a long bar (100 m), which is the continuation of the incident bar of the machine. This pulse propagates along the incident bar with the velocity of the elastic wave (5500m/s for steel), with its shape remaining constant. When the strain pulse reaches the tested specimen, part of it ( $\epsilon_R$ ) is reflected back, whereas another part enters the specimen and exits into the transmitter bar ( $\epsilon_T$ ), loading dynamically the specimen to failure. The relative amplitudes of the incident, reflected and transmitted pulses, depend on the mechanical properties of the specimen material. With a proper elaboration of these three pulse records, the stress-strain relation of the material for a particular strain-rate can be determined, which is then used for numerical simulations.

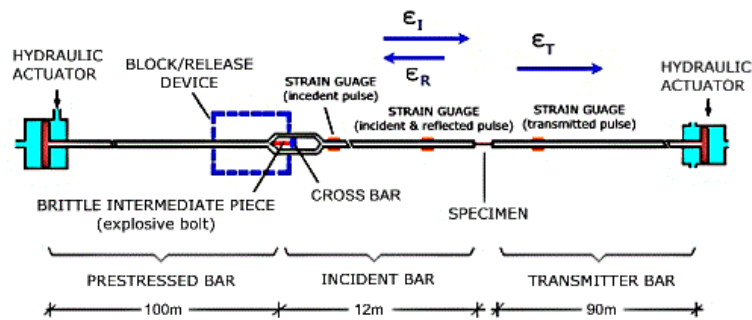


Fig. 2.4 Components of the Hopkinson bar facility

## 2.3 Services offered by ELSA and HopLab

ELSA and HopLab will perform tests for the selected proposals based on a project program (User Access Project) agreed between the Users and the JRC. Users will be given access to the infrastructure with visits ranging from a few days up to a few weeks, depending on the complexity of the test and the type of activities carried out, e.g. design of the test model and of the instrumentation, execution of the tests, the processing and interpretation of test results. Meetings for planning the test campaign will require fewer days, while hands-on training, implementation of instrumentation and analysis of test data will entail longer stays.

### 2.3.1 Technical and scientific assistance

Depending on the needs of the User Access Project and the activities previously scheduled at the research infrastructure, the services that will be made available to users are:

- Technical assistance in the definition and design of the test model and of the experimental set-up, in order to adapt the testing programme to the characteristics of the infrastructure.
- Assistance in the construction of test models. Depending on the available resources, the construction of models may be covered by JRC resources, partly shared or entirely covered by users.
- Preliminary destructive or non-destructive tests for identification of material properties.
- Assistance in the design, calibration and implementation of the instrumentation, providing – within the availability of the sensor stock – state-of-the-art sensors, materials and components and the workmanship for their installation.
- Data acquisition systems.
- Assistance in the choice of the input signals.

- Support in the use of analytical tools to assist the design of the specimen and the test campaign.
- Photographic and video records of the test model before, during and after the test campaign.
- Photogrammetric techniques for tracing deformations and damage of the structures.
- A computer network with access to software for static and dynamic analysis of structures.
- Training in topics specific to the users' interests and to the project, in areas related to the experimental activities of the infrastructure.
- Opportunity to collaborate with international partners.
- Safety training of users.
- Data processing, analysis and interpretation of the test results.
- Demolition and disposal of the test model.
- A data repository system accessible via Internet.

Concerning the actual experimental testing, the following services will be offered:

- Use of the pseudo-dynamic method with sub-structuring techniques for the simulation of the seismic action on large-scale structural systems.
- Quasi-static push-over and cyclic tests.
- Modal assessment and system identification.
- Fast dynamic testing with the Hopkinson bar device.

The E.4 Unit staff will plan, within the test campaign, preparatory tests conducted to guarantee the functionality and safety of the experiment, to ensure the reliability of data and to calibrate the instrumentation and servo-systems.

E.4 will provide at the end of the test campaign all the generated data via internet, and will deliver a test report co-authored with users.

Users will be integrated into the scheduling of the infrastructure during the execution phases of each project, from the design and construction of the test model, to instrumentation, experimental testing and interpretation of the experimental results, receiving from E.4 staff all the support needed to carry out their project. A user support team will be allocated to each user group, to develop and execute the test programme, including technicians for test model design, instrumentation, etc.

A long-term schedule of the experimental projects and use of the infrastructure will be carried out and continuously updated along the course of the year, in order to prevent any conflict between new activities and the ones already assigned.

### **2.3.2 Logistic support**

The JRC is well prepared to host external researchers that during their stay will be integrated with the permanent staff, from which they will receive technical and scientific assistance. The JRC will provide assistance and information for organizing the logistics, transportation, accommodation, etc. The infrastructure will also provide facilities for the organisation of project meetings. Users will have access to the library facilities of the JRC.

The infrastructure will maintain a logbook to record the dates and actions delivered, indicating the type of tests performed and the project or user group to which access is offered.

### **3 Framework for access**

The framework for access is being developed by Unit A.3 in cooperation with Unit A.4 and I.4 as part of the implementation of the action 'Infrastructure fit for purpose' of the JRC Strategy 2030. The information given in the following corresponds to the version of 19 May 2015.

The framework for access to the research infrastructures of the JRC defines the principles and modalities under which the JRC will open its facilities to external users, following an open access policy.

#### **3.1 Definitions**

*Access* refers to the legitimate and authorised physical, remote and virtual admission to, interactions with and use of research infrastructures. Such access can be granted, amongst others, to machine time, computing resources, software, data, data-communication services, trust and authentication services, sample preparation, archives, collections, the set-up, execution and dismantling of experiments, education and training, expert support and analytical services. Access to research data will be in line with the JRC Data Policy.

*Users* of research infrastructures are individuals, either alone or in teams. They are engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of projects.

A *User Access Project* defines the objectives and the technical details concerning the scope and description of the access of Users to the JRC facility to which access is granted to. A User Access Project identifies a Lead User Institution and one or more User Institutions. It is regulated by the *User Access Agreement*.

A *User Institution* is a public or private legal entity (e.g. academia, business, industry, public services, etc.) representing the User in what concerns liability, intellectual property and medical insurance.

The *Lead User Institution* is the User Institution that signs the User Access Agreement with the JRC for a User Access Project. The Lead User Institution is in charge of coordinating the User Access Project in close collaboration with the JRC facility delivering access.

The *Lead User* is a User from the Lead User Institution responsible for the preparation and submission of the proposal for access. The Lead User acts as main point of contact with the JRC.

#### **3.2 General conditions for access**

Access to the JRC research infrastructures will be in accordance to the rules and procedures of the JRC. This applies in particular to the granting of access and selection of User Access Projects, entrance permits, length of stay, health and safety and security of Users to the JRC sites.

The JRC shall undertake the necessary measures to ensure the health, security and safety of any User accessing its research infrastructures as well as to take the necessary actions to minimise the impact on the environment. Users must comply with security, health and safety and environmental rules and with procedures in force at the JRC as specified in the User Access Agreement, in particular concerning the notifications on introduction of material and instrumentation that could induce risks or ethical issues to the JRC facilities.

Users shall comply with confidentiality requirements and should adhere to the code of conduct and standard ethical behaviour in scientific research when conducting research and using and disseminating research data and findings, as detailed in the European Code of Conduct for Research Integrity of the European Science Foundation.

Users should acknowledge the contribution of the research infrastructure in any output (i.e. publication, patent, data, etc.) deriving from research conducted within its realms.

All users accessing the JRC shall be covered by a proof of medical insurance, accident insurance and third party liability, where relevant, as a function of the mode and type of access granted by the JRC.

### **3.3 Access policy**

The policy for access to the JRC research infrastructures defines access in terms of access days, states the specific access mode and conditions for access, describes the processes and interactions involved in the access and elaborates on the support measures facilitating the access. Access to the research infrastructure will include all infrastructural, logistical, technical and scientific support (including training courses) that is necessary to carry out the User Access Project.

Access to the JRC research infrastructures may be provided according to relevance-driven and market-driven modes. The *relevance-driven access* mode is exclusively dependent on the scientific and socio-economic relevance at European level, excellence, originality and technical and ethical feasibility of an application evaluated through peer review conducted by a User Selection Committee. Users will have the possibility of contributing to a User Access Project through the provision of physical resources, such as testing models, instrumentation, testing rigs and components, complementary testing and any other material needed for the User Access Project. These resources, free of charge for the JRC, are considered as in-kind contributions, and shall be managed in line with the administrative procedures and safety regulations of the JRC.

The *market-driven access* mode applies when access is subject to an agreement between the Lead User Institution and the JRC research infrastructure providing for a 'full' fee for the access, according to the established procedure for the calculation of costs, including overheads.

For the relevance-driven access mode, the JRC will issue calls for proposals announced at periodic intervals of time through the dedicated JRC portal and shall be publicised as much as possible throughout the research community in Europe. Proposals shall be submitted through the JRC portal using a common template.

The Lead User and the majority (2/3) of the users submitting a proposal for a User Access Project are required to work in an organisation located in an EU Member State or EU Associated or candidate country. The Lead User must be from a university, research or public institution, or an SME.

The research infrastructures of the JRC will offer technical training to Users in so far as it is necessary for carrying out the User Access Project.

Access to the JRC Research Infrastructure shall be regulated by a User Access Agreement. The User Access Agreement will detail the organisation and management of the User Access Project and will cover any necessary technical and legal aspects (including the modalities for access, the rights and obligations of the JRC and the Users, intellectual property rights, data protection, confidentiality, liability, insurance, eventual fees to be paid by the User, reports and provisions for early termination).

The technical description of the User Access Project in the User Access Agreement may differ from the description of the project in the proposal phase and will reflect the results from the cost and feasibility assessment of the JRC research infrastructure undertaken in agreement with the Lead User Institution. The User Access Agreement will also specify matters related to payment from the Users.

The User Access Agreement will be signed by the Lead User Institution, the JRC and the User(s) and will contain a list of the User Institutions.

## 4 Procedure for submission and evaluation of proposals

### 4.1 Overview

A dedicated public portal at the JRC Science Hub will be set-up to manage the access to all JRC research infrastructures.

The conditions for access and the selection procedure, including the priority topics of each research infrastructure and JRC thematic focus areas, ethical considerations, weighing factors of the selection criteria and the composition of the User Selection Committee will be communicated, together with the call for proposals, through the dedicated JRC portal.

The timetable for submission and evaluation of proposals and execution of the User Access Projects in ELSA and HopLab for the relevance-driven mode is shown in Fig. 4.1.

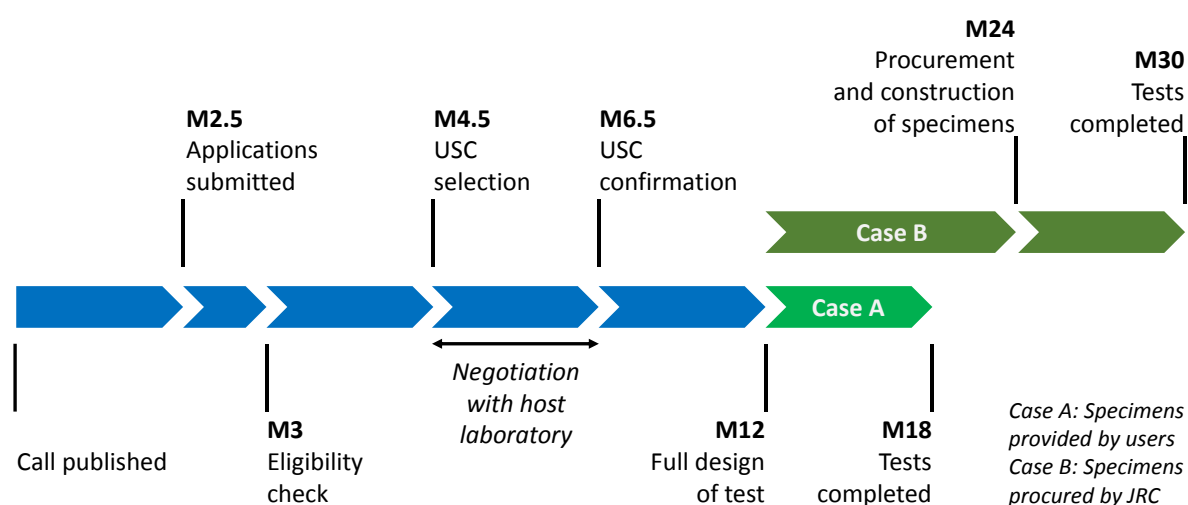


Fig. 4.1 Timetable for submission and evaluation of proposals and execution of User Access Projects in ELSA and HopLab for the relevance-driven access mode

### 4.2 Submission of proposals

Prospective users can submit a proposal following the publication of a call for proposals. Proposals must be submitted using the Proposal Submission Form (see Annex A). The Lead User must submit a PDF file of the Proposal Submission Form to the functional mailbox listed in the call for proposals.

Lead Users are encouraged to contact the Research Infrastructure during preparation of the proposals, in order to assess cost and feasibility aspects.

The Lead User is notified by e-mail for the receipt of the proposal. The Lead User may re-edit or withdraw a proposal until the deadline for submission. Withdrawn proposals are subsequently not considered for evaluation or for selection, nor count against possible reapplication restrictions. Once the deadline has passed, no further corrections or resubmissions are possible.

### 4.3 Eligibility check

Submitted proposals are first checked for eligibility by the central services of the JRC according to the following criteria:

- the Lead User and the majority (2/3) of the users submitting a proposal for a User Access Project are required to work in an organisation located in an EU Member State or EU Associated or candidate country;
- the Lead User must be from a university, research or public institution, or an SME;
- ethical considerations in accordance with EU law and applicable laws and regulations in the EU Member States;
- the proposal submission form is complete and complies with the instructions.

The JRC will communicate to the concerned Lead User its decision on non-eligible proposals within two weeks after closure of the call for proposals.

## **4.4 Evaluation of proposals**

### **4.4.1 User Selection Committee**

The submitted proposals are evaluated by a User Selection Committee (USC). The role of the USC is to evaluate the proposals submitted for access to the Joint Research Centre and possibly to advise on technical matters during the negotiation of the project details. The USC may also propose priority topics to include in the call for proposals.

The USC is composed of a minimum of three, to a maximum of five members: one representative of the JRC Unit that operates the research infrastructure and two to four independent European experts in the relevant field. External members of the USC are reimbursed for travel and subsistence for attending meetings at the JRC and for their working time by establishing a contract for experts. The JRC may terminate the appointment of any of the members of the USC by written communication and no later than five weeks prior to a USC meeting.

The members of the User Selection Committee receive the submitted proposals within two (2) weeks after the deadline for submission.

Each member of the USC evaluates independently each proposal according to a set of selection criteria and provides an evaluation form (see Annex A) with the grades of all submitted proposals. The evaluation forms are kept at the JRC and are accessible, upon request, to all applicants.

The USC meets to review and decide on proposals. The meetings are convened by the JRC and shall take place no later than six (6) weeks after the proposals are sent to the members of the USC, preferably at the JRC site hosting the research infrastructure. The JRC will send invitations to the USC meeting five (5) weeks prior to the date of the meeting. The meeting will convene with a minimum of three members, of which one from the research infrastructure, while the remaining ones, in case of impossibility of physically attending the meeting, shall send their signed evaluation forms one day prior to the meeting.

The USC may return incomplete proposals for completion and re-submission to a subsequent call. Resubmitted proposals are evaluated as new ones.

The USC may be convened to express a non-binding opinion on issues that may arise between the JRC and the user team of a successful proposal during the negotiation of technical details.

The USC may be convened to discuss issues related to the implementation of User Access Projects, in particular when there are strong deviations from the project plan as contained in the User Access Agreement.

The current members of the USC are listed in the call for proposals.



#### 4.4.2 Evaluation criteria

Proposals are evaluated by each member of the USC with the grades 10 (excellent), 8 (good), 6 (fair), 4 (poor) and 0 (irrelevant), for each criterion in Table 4.1. Intermediate grading is also possible.

Table 4.1 Criteria for selection of proposals in relevance-driven mode and corresponding weights

Criterion for selection	Relevant sections of proposal form	Weight (%)
Scientific and technical value and interest	a, b	15
Originality and innovation	a, b, c	10
Relevance to priority topics	a, b, c	5
Importance for European standardisation	c	5
Importance for European integration and cohesion	c	5
Importance for sustainable growth and European competitiveness	c	5
Importance for a resilient Energy Union with a forward-looking climate change policy	c	5
Relevance to JRC thematic priority areas (Nexus)	c	7.5
Availability of similar infrastructures in any of the users' countries	d	7.5
Previous use of research infrastructure by any user	d	5
Synergies and complementarities with existing research projects and ESFRI Research Infrastructures	e	5
Dissemination plan	f	5
Cost and feasibility according to research infrastructure	b, d, g	10
Quality of proposing team	h	10
		100

The research infrastructure delivering access defines a set of priority topics, possibly in consultation with the USC. These topics are aligned with the Commission priorities and the needs of society, industry and the scientific and technical communities.

The grades are averaged per criterion across the evaluators. If the average is less than 6 in any criterion, the proposal is rejected. For the retained proposals only, the final grade is calculated as the weighted sum of the average grade for each criterion.

A proposal evaluation form is released by the USC (see Annex A). The evaluation forms are kept at the JRC and are accessible, upon request, to applicants.

Proposals are shortlisted and ranked according to their final grade.

#### 4.5 Negotiation of shortlisted proposals

The Lead Users of the shortlisted proposals are contacted, starting by the highest ranking, for negotiation with the research infrastructure. The objective of the negotiation is to delineate the details of the test program and the specimen(s), the experimental equipment to be used, as well as payment from the Users. If an agreement is reached with the Lead User, the JRC and the Lead User Institution may start preparation of the User Access Agreement.

An agreement with the Lead User shall be reached within two months of the start of the negotiation procedure. In case an agreement is not reached, the proposal will be

rejected and the Lead User may resubmit the proposal in the next call for proposals. Negotiation will then start with the next proposal according to the shortlist ranking.

The negotiation will take into account the schedule of the research infrastructure, the available resources and the technical feasibility of the test campaign. A list of the successful proposals will be published at the JRC Science Hub.

## 4.6 Successful proposals

After an agreement is reached with the Lead User of a successful proposal, the JRC and the Lead User Institution may start preparation and signature of the User Access Agreement. The User Access Agreement will detail the organisation and management of the User Access Project and will cover any necessary technical and legal aspects (including the modalities for access, the rights and obligations of the JRC and the User, intellectual property rights, data protection, confidentiality, liability, payment, reports and provisions for early termination).

The User Access Agreement will contain the name of the Lead User, and a list of User Institutions that can be updated upon approval of the JRC research infrastructure with due respect to the eligibility criteria of the selection process.

The technical description of the User Access Project in the User Access Agreement may differ from the description of the project in the proposal phase and as accepted by the USC, and will reflect the results from the cost and feasibility assessment of the JRC research infrastructure undertaken in agreement with the Lead User. The User Access Agreement will specify payment related issues.

Significant changes affecting the schedule, scope and cost during the implementation of a User Access Project will be dealt by the concerned facility, with the support of the relevant USC.

A JRC scientific officer is designated as the local scientific contact for the successful user team. He/she is the first contact point during the assessment of the project technical details and is in charge of the user team during their stay at the RI. The local contact functions as a liaison with the RI operators and with the JRC administration.

## 4.7 Proposals for market-driven access

For the market-driven access mode, the JRC will review proposals on a first-come basis or at periodic intervals. Proposals will be first checked for eligibility in respect to ethics and in terms of competitive considerations regarding similar research infrastructures available in Member States and in candidate and associated countries. Retained proposals will be evaluated considering the criteria listed in Table 4.2.

Table 4.2 Criteria for selection of proposals in market-driven mode and corresponding weights

<b>Criterion for selection</b>	<b>Relevant sections of proposal form</b>	<b>Weight (%)</b>
Scientific and technical value and interest	a, b	25
Relevance to priority topics	a, b, c	20
Relevance to European Commission priorities		15
Relevance to JRC thematic priority areas (Nexus)	c	10
Previous use of research infrastructure by any user	d	10
Technical feasibility	e	10
Participation of SMEs	h	10

For proposals examined on a first-come basis, the concerned research infrastructure initiates negotiation if the proposal is eligible; in case of several proposals being examined, negotiation starts with the first acceptable highest-ranking proposal. The negotiation will take into account the availability and schedule of the research infrastructure, and if successful within a time limit defined by the research infrastructure, a User Access Agreement is signed. If not, negotiation proceeds with the following proposal.



## **5 Concluding remarks**

The rationale, policy background and objectives of opening up access to the ELSA reaction wall and Hopkinson bar facilities of the JRC is presented in this report. A framework for access, which foresees relevance- and market-driven modes of access, was developed for all JRC research infrastructures. Furthermore, a timetable of the detailed procedure for submission and evaluation of proposals, including a set of evaluation criteria and relevant weights, has been established.

The framework, procedures and forms are subject to formal approval before the call for proposals can be launched. The remaining tasks for ELSA and HopLab facilities are the nomination of the members of the User Selection Committee and the definition of the priority topics; those at the JRC level comprise the drafting of the model User Access Agreement and the preparation of the necessary pages and tools in the Science Hub. Given the advanced state of preparation, the call for proposals can be announced shortly after the framework and procedures are formally approved.



## **A Forms for submission and evaluation of proposals**

The following forms are given in the following:

- Proposal submission form – relevance-driven access;
- Proposal evaluation form – relevance-driven access;
- User Selection Committee evaluation form – relevance-driven access;
- Proposal submission form – market-driven access;
- Proposal evaluation form – market-driven access;
- User Selection Committee evaluation form - market-driven access;







## 1. General information

Call	
Proposal full title	
Proposal acronym	
Date of submission	DD/MM/YYYY
Re-submission	YES <input type="checkbox"/> NO <input type="checkbox"/>

### Abstract

The abstract should describe the significance, scope of the proposed work and the expected outcome. The abstract should not extend beyond the first page.

Use Verdana 10pt fonts and single line spacing throughout the Proposal Submission Form.

The abstract should not exceed one page and should not contain figures.



## 2. Administrative data of participating organisations

### Lead User

Name Surname	
Nationality	
Organization legal name	
Organization address	
Organization web site	
Phone	
E-mail	

### Users

Name Surname	
Nationality	
Organization legal name	
Organization address	
Organization web site	
Phone	
E-mail	

(Repeat for all Users)



### 3. Scientific proposal

#### Section a. State-of-the-art

Describe the current knowledge on the subject, citing recent relevant references.

Identify any knowledge gaps and their significance.

This Section should not exceed one page.



## Section b. Detailed description of proposed project

Provide a detailed description of the objectives of the proposed project, the way these objectives will be fulfilled through the proposed work, as well as indications on the expected outcome and the fundamental scientific and technical value and interest of the proposal.

Specify the dimensions, scale and materials of the specimen(s) and give indicative drawings. Specify the number of tests to be carried out and their sequence, the type and level of excitation, the response quantities to be measured and the required instrumentation. Note that these aspects will be discussed with the Research Infrastructure after approval of the proposal and will be specified in the Agreement to be signed between the Research Infrastructure and the User Team.

The Lead User is encouraged to contact the Research Infrastructure during preparation of the proposal to discuss technical aspect and feasibility of the test campaign.

Describe any special requirements for equipment, safety measures, etc.

Point out any risks regarding the fulfilment of the project, as well as the means to mitigate such risks.

This Section should not exceed three pages.



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A large, empty rectangular box with a thin black border, occupying the majority of the page. This area is intended for the submission of a proposal or a response to the form.



### Section c. Originality and innovation – broader impact

Demonstrate the originality and innovation of the proposed work and the impact the expected results will have on current and future research or practice, and importance for European standardisation, integration and cohesion, growth and competitiveness, and for a resilient Energy Union with forward-looking climate change policy. Explain how the proposed work is relevant to the JRC thematic priority areas and priority topics of the Research Infrastructure listed in the call.

This Section should not exceed one page.



## Section d. Justification for the use of the JRC Research Infrastructure

Justify why the specified JRC Research Infrastructure is essential for carrying out the proposed project. Justification should be provided on the grounds of the test set-up, testing method, equipment, past experience in relevant subjects, etc.

If this type of Research Infrastructure exists in the countries of the users, explain why recourse is made to the JRC for the use of this type of facility.

State whether the User team intends to deliver to the premises of the JRC Research Infrastructure the specimens, instrumentation, testing rigs and components, equipment, any other material or in-kind contribution needed for the proposed project, to provide complementary testing, or to cover the whole or part of the related cost.

State whether the User team intends to provide in-kind contributions in the form of human resources, in which case specify if these or part of these, will be operating the JRC research infrastructure.

State whether any User has used the Research Infrastructure of the JRC in the past three years. Use of the Research Infrastructure includes inter alia the physical, remote and virtual access to machine time, computing resources, software, data, sample preparation, archives, the set-up, execution and dismantling of experiments, education and training, expert support and analytical services.

This Section should not exceed one page.





### Section e. Synergy with ongoing research

Provide information on any concurrent research project with the same or similar subject with the one proposed. Describe the synergy (if any) that will be sought between the existing and the proposed project.

Describe the synergies and complementarities (if any) with ESFRI Research Infrastructures.

This Section should not exceed ½ page.

### Section f. Dissemination and exploitation of results

Describe the means through which the results to be obtained from the proposed project will be diffused and made broadly known.

This Section should not exceed ½ page.



### Section g. Time schedule

Provide a time schedule for the proposed work and indicate a tentative starting date.  
This Section should not exceed ½ page.

### Section h. The User Team

Provide a short CV for each User.

Users operating the facility have to be clearly identified and are required to provide the necessary qualifications.

The CV should not exceed 10 lines for each User.



**Call:**

Proposal acronym:

Proposal code:

Criterion	Weight (%)	USC 1	USC 2	USC 3	USC 4	USC 5	average	Remarks
Scientific and technical value and interest	15							
Originality and innovation	10							
Relevance to priority topics of the JRC Research Infrastructure	5							
Importance for European standardisation	5							
Importance for European integration and cohesion	5							
Importance for sustainable growth and European competitiveness	5							
Importance for a resilient Energy Union with a forward-looking climate change policy	5							
Relevance to JRC thematic priority areas (Nexus)	7.5							
Availability of similar infrastructures in any of the <b>users' countries</b>	7.5							
Previous use of Research Infrastructure by any user	5							
Synergies and complementarities with existing research projects and ESFRI Research Infrastructures	5							
Dissemination plan	5							
Cost and feasibility according to Research Infrastructure	10							
Quality of proposing team and number of users	10							
<b>Weighted sum:</b>								

NB: Select one of the following grades: 10 (excellent), 8 (good), 6 (fair), 4 (poor), 0 (irrelevant). Proposals that get an average below 6 in any criterion are not retained.

(Signature)

(Signature)

(Signature)

(Signature)

(Signature)

USC 1 Name and surname

USC 2 Name and surname

USC 3 Name and surname

USC 4 Name and surname

USC 5 Name and surname



Call:

Criterion	Weight (%)	Proposal				
		P1	P2	P3	...	Pn
Scientific and technical value and interest	15					
Originality and innovation	10					
Relevance to priority topics of the JRC Research Infrastructure	5					
Importance for European standardisation	5					
Importance for European integration and cohesion	5					
Importance for sustainable growth and European competitiveness	5					
Importance for a resilient Energy Union with a forward-looking climate change policy	5					
Relevance to JRC thematic priority areas (Nexus)	7.5					
Availability of similar infrastructures in any of the <b>users' countries</b>	7.5					
Previous use of Research Infrastructure by any user	5					
Synergies and complementarities with existing research projects and ESFRI Research Infrastructures	5					
Dissemination plan	5					
Cost and feasibility according to Research Infrastructure	10					
Quality of proposing team	10					
Weighted sum						

NB: Select one of the following grades: 10 (excellent), 8 (good), 6 (fair), 4 (poor), 0 (irrelevant). Proposals that get an average below 6 in any criterion are not retained. Intermediate grading is also possible.

(Signature)

Name and surname of USC member

Date:





## 1. General information

Call	
Proposal full title	
Proposal acronym	
Date of submission	DD/MM/YYYY
Re-submission	YES <input type="checkbox"/> NO <input type="checkbox"/>

### Abstract

The abstract should describe the significance, scope of the proposed work and the expected outcome. The abstract should not extend beyond the first page.

Use Verdana 10pt fonts and single line spacing throughout the Proposal Submission Form.

The abstract should not exceed one page and should not contain figures.



## 2. Administrative data of participating organisations

### Lead User

Name Surname	
Nationality	
Organization legal name	
Organization address	
Organization web site	
Phone	
E-mail	

### Users

Name Surname	
Nationality	
Organization legal name	
Organization address	
Organization web site	
Phone	
E-mail	

(Repeat for all Users)





### 3. Scientific proposal

#### Section a. State-of-the-art

Describe the current knowledge on the subject, citing recent relevant references.

Identify any knowledge gaps and their significance.

This Section should not exceed one page.



## Section b. Detailed description of proposed project

Provide a detailed description of the objectives of the proposed project, the way these objectives will be fulfilled through the proposed work, as well as indications on the expected outcome and the fundamental scientific and technical value and interest of the proposal.

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Describe any special requirements for equipment, safety measures, etc.

Point out any risks regarding the fulfilment of the project, as well as the means to mitigate such risks.

This Section should not exceed three pages.



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## Section c. Originality and innovation – broader impact

Demonstrate the originality and innovation of the proposed work and the impact the expected results will have on current and future research or practice and on the priorities of the European Commission, namely standardisation, integration and cohesion, growth and competitiveness, and a resilient Energy Union with forward-looking climate change policy. Explain how the proposed work is relevant to the JRC thematic priority areas and priority topics of the Research Infrastructure listed in the call.

This Section should not exceed one page.



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This Section should not exceed one page.



### Section e. Time schedule

Provide a time schedule for the proposed work and indicate a tentative starting date.

This Section should not exceed ½ page.

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The CV should not exceed 10 lines for each User.







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### Call:

Proposal acronym:

Proposal code:

Criterion	Weight (%)	Grade	Weighted grade	Remarks
Scientific and technical value and interest	25			
Relevance to priority topics of the JRC Research Infrastructure	20			
Technical feasibility	15			
Relevance to European Commission Priorities	10			
Relevance to JRC thematic priority areas (Nexus)	10			
Previous use of the Research Infrastructure by any User	10			
Participation of SMEs	10			
	Weighted sum:			

NB: Select one of the following grades: 10 (excellent), 8 (good), 6 (fair), 4 (poor), 0 (irrelevant)

(Signature)  
Name and surname





Call:

Criterion	Weight (%)	Proposal					
		P1	P2	P3	...	Pn	
Scientific and technical value and interest	25						
Relevance to priority topics of the JRC Research Infrastructure	20						
Relevance to European Commission Priorities	15						
Technical feasibility	10						
Relevance to JRC thematic priority areas (Nexus)	10						
Previous use of the Research Infrastructure by any User	10						
Participation of SMEs	10						
	Weighted sum						

NB: Select one of the following grades: 10 (excellent), 8 (good), 6 (fair), 4 (poor), 0 (irrelevant). Proposals that get an average below 6 in any criterion are not retained. Intermediate grading is also possible.

(Signature)

Name and surname of USC member

Date:



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