



# Guidelines for proposers

## 2018 SAF€RA joint call

*T1: New technologies and the effects of major changes in industry*

*T2: Measuring and monitoring safety performance*

November 2017

SAF€RA is a partnership between 19 research funding organizations from 10 European countries who collaborate on research programming and launch joint calls in the field of industrial safety. It prolongs the work developed in the SAF€RA ERA-NET, which was funded by the European Union's Seventh Framework Programme for research, technological development and demonstration.

## 1. Introduction

SAF€RA is a partnership between research funding organizations working in the field of industrial safety in Europe. SAF€RA publishes joint calls for proposals on various topics related to industrial safety and organizes dissemination activities to ensure that research results lead to improvements in safety management. The scope of SAF€RA includes coordination of research on the prevention of major accidents, with off-site consequences and risks to the environment and society, and in particular the economic benefits of industrial safety solutions, safe innovative processes, preparedness and response as well as protection of the environment, new methods to enhance the creation of a safety culture and prudent attitudes, risk reduction strategies, reference technologies for life extension of aged and repaired structures, as well as products and systems required to improve industrial safety.

SAF€RA is a continuation from the ERA-NET project which was funded by the European Commission between 2012 and 2015. The SAF€RA ERA-NET coordinated research investment on industrial safety among a number of EU Member States. After the end of the support by the European Commission in 2015, 19 organizations decided to continue to invest jointly in research and founded SAF€RA.

Two joint calls for proposals were launched during the SAF€RA ERA-NET, one on Human and organizational factors including the value of industrial safety (2013) and one on *Innovating in safety and safe innovations* (2015). A third joint call in 2016 concerned *Intelligent prognostics and developing professional competencies*.

In 2018, the SAF€RA call comprises two topics, which are described below:

- Topic 1: *New technologies and the effects of major changes in industry*
- Topic 2: *Measuring and monitoring safety performance*

SAF€RA brings dynamism to safety research in Europe by promoting collaboration in research programmes and by fostering lateral thinking as well as favouring innovations. Its objectives include:

- Building up sustainable channels for communication and effective instruments for collaboration between national programme owners and/or managers and promoting the creation of strategic coalitions at a European level.
- Increasing awareness about the importance of research in the field of industrial safety as a major contributor to a dynamic knowledge-based economy as well as working to strengthen the impact of this research at the EU, national and international levels.
- Exploiting synergies and avoiding duplication of research and development among the partners of the Consortium by increased coordination.

- Establishing collaborative research projects between the involved Member States.
- Developing and implementing joint strategic activities to establish a durable European network for cooperation between key actors in the field of industrial safety.

For more information:

- SAFERA's 2018 joint call > <https://call.safera.eu/>
- SAFERA's website > <https://www.safera.eu/>

## 2. Call objectives

**Scope of the call.** The scope of the call includes research on the management of industrial risk, avoiding major impacts on the environment or society, as well as research on products and systems required to improve safety in industrial settings. Industries involved include, among others, the process industries, energy, dangerous goods transport, construction and operation of major infrastructure and the services industry. The scope includes occupational safety as long as there is a relation with major accident hazards in industrial settings. For example, if research primarily with an occupational safety perspective aims to prevent an accident sequence which could also lead to off-site consequences, then it is included in the scope.

Most projects funded within this joint call will be relatively small (2 to 4 partners, duration between 12 and 36 months, with budgets typically between 20 and 150 k€ per project partner). The call aims to fund mainly **applied research** carried out in universities and research institutes, though proposals from industry may also be eligible if they contain a significant research component. **Interdisciplinary research** is encouraged. Cooperation and joint activities between different consortia funded within the call will be encouraged. Research proposals which adopt a comparative approach (analyzing similarities and differences between different European countries, between different industry sectors, between large and small organizations, etc.) are encouraged.

### General remarks

- The research teams within a consortium should include investigators of complementary scientific disciplines and research areas necessary to address the proposed research aims.
- Given the applied nature of the topics, the participation of stakeholders within the project (either as subjects of investigation, or partners contributing to the work) is encouraged.
- Proposals should contain novel, ambitious aims and ideas, combined with (in full proposals) well-structured work plans. The scientific methodology should be described (in full proposals) in sufficient detail to allow reviewers to assess its quality.
- Projects that contribute to standardization efforts are encouraged.

### 3. Call topics

The 2018 call concerns two topics, which are described below.

#### **T1: New technologies and the effects of major changes in industry**

Recent years have seen a number of technological and related social evolutions, whose effects on industry are still ongoing. Safety managers and industry leaders need to better understand their impact on safety management. Projects referring to the impact of new technologies and major trends, as described in the examples below, should be proposed in this topic:

- Transformation of the industry (process, manufacturing...) and impact of digitalization (automation technologies, internet of things, big data...)
- Globalization of production, with increasingly complex supply chains and lower traceability of production methods and quality of components
- Security threats (terrorism, internal malevolence...) leading more industry sectors to grapple with the challenge of managing security and safety concerns in a coordinated and coherent manner
- Decentralized production models, with an increasing role for additive manufacturing technologies and flexible manufacturing
- Bio- and circular economy, with the increasing social concern for sustainability
- Use of nanoscale materials and associated nanosafety concerns, for workers, for the environment and for consumers

#### **T2: Measuring and monitoring safety performance**

The very definition of safety, commonly understood to mean the freedom from harm, in terms of an *absence* of something, makes it very difficult to measure and to control. However, as the management mantra goes, “what you can’t measure, you can’t manage”. The definition of key performance indicators relevant for safety performance is important for firms, for regulators, for stakeholders and (increasingly) for stockholders. Authorities and inspectors know that indicators give an incomplete view of safety, and use many other strategies to monitor company activity. Even when an accident reveals a failure of safety management, the full costs of an accident are difficult to establish, with multiple indirect and long-term effects that are often overlooked in financial analysis of safety issues. Projects are expected on the issues outlined below, or on the interplay between some of these issues.

- Measuring and reporting safety performance is an important and challenging problem for industrial companies and for regulators. It is increasingly an issue of concern for the financial markets, with new non-financial reporting obligations that have been introduced

in the EU<sup>1</sup>. Which relevant key performance indicators allow different company's performance in safety management and environmental impact to be measured and compared, without introducing biases in operational activities (such as under-reporting of incidents)? How can these indicators be communicated with stakeholders, including financial markets, without compromising firms' ability to innovate? What alternative approaches to KPIs can be used for safety management?

- The relationship between companies, regulators and authorities must find a balance along several axes:
  - prescriptive technological requirements, or performance-based or management-based regulations
  - an adversarial, highly independent relationship (which does not develop the trust and information sharing needed for control of complex activities) or a cozy understanding (which is not effective in controlling deviations from safe operation)
  - high public transparency of control activities, or limits to public visibility into the complex technical dialogue that establishes the contours of safety in high-risk industries.
- A better understanding of where various industry sectors in different countries are located along these axes, and the impact on the quality of the relationship between regulators and regulated firms, would improve safety management and public confidence in high-risk activities. Suggestions and experimentations of novel forms of interactions (new communication forms, self-regulated safety programmes...) might be proposed to improve understanding and effectiveness of control by authorities.
- The social and economic impacts of industrial accidents, and in particular long term effects such as ecosystem damage, social and psychosocial impacts, effects on corporate image and on public acceptance of high-hazard activities, are difficult to quantify. Improvements to measurement methodologies and the availability of datasets would be very useful for policy development (Seveso, Sendai, Sustainable Development Goals) and would improve loss prevention management by industry. A holistic multi-disciplinary approach will be necessary to go beyond the obvious figures (*e.g.* property damage, lost production) and quantify and monetize more indirect impacts.
- Human factors in safety management and safety culture, including individual, group, work and organisational factors in the working environment.

It is generally understood that several human and organisational factors such as workload, communication and acting along norms affect the effectiveness of safety management, the maturity of the safety culture and finally, the service level of industrial processes. These

<sup>1</sup> Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095>

factors are classically measured as objective factors, by external parties. Practical and easy-to-use tools are needed, to allow operating companies to analyze their own performance and assess critical phases of their work processes, to model and better understand human contribution to safe industrial activity. Such self-assessment tools are expected to help front-line workers to make critical assessments of their own activity (a key competency in high-risk industries), and should also help supervisors, middle and top management to identify appropriate solutions for weak signals and weaknesses of the processes.

**Research types:** The call aims to fund primarily applied research and development projects. Given the nature of research questions concerning safety, multi-disciplinary projects are particularly encouraged.

#### 4. Funding rules

Funding organizations participating in the joint call will provide funding for a maximum of three years for transnational, collaborative projects, according to the conditions described in Annex 1.

The eligibility rules and funding principles will follow the regulations of the national/regional funding organization(s) to which the application for funding is addressed. Final funding decisions will be made by the national or regional funding agencies and research institutes. The scientific evaluation process will be made at a European level by a panel of independent experts.

Funding will be provided through direct contracts between participating SAF€RA funding organizations and the selected research teams. This means that each organization receiving funding is subject to the rules and regulations of their respective national/regional funding organization. Note that eligible costs and funding rates vary according to the national/regional funding organization (see Annex 1 for details).

#### 5. Eligibility criteria

**Eligible consortium structure.** In order to foster transnational collaboration, projects funded within this joint call will involve the collaboration of at least two research teams in two eligible countries. All EU member states plus the Republic of Serbia are eligible countries; please see Annex 1 for details of the funding available for organizations in each country.

Researchers requesting support for their project may submit either:

- A **transnational consortium pre-proposal**, comprising at least two partner organizations from two eligible countries;
- A **single-nation pre-proposal**, comprising one or more organizations from a single eligible country. In this case, the organization(s) accept the principle of a collaboration with one or more other organizations from one or more other eligible countries. After evaluation of the pre-proposals, the Call Steering Committee will suggest grouping two or more single-

nation pre-proposals into a transnational consortium, based on their thematic and methodological complementarity. Please note that there is no guarantee that an appropriate matching can be found by the Call Steering Committee.

In the second stage of the call, full proposals are to be submitted by a transnational consortium, which must comprise at least two consortium partners from two eligible countries.

Furthermore, additional consortium partners, not eligible for SAF€RA funding, may participate in the projects on the basis of self-financing. Such partners should state the source of funding for their contribution to the proposal and the conditions under which their funding will be available.

**Eligible organizations.** The funding scheme targets institutional collaboration: private individuals may not apply independently. Proposals are primarily expected from research teams from universities or public research/expertise organizations. However, some funding organizations participating in the present call can also fund researchers from industry (SMEs or large firms) or from NGOs<sup>2</sup> (see Annex 1 for details).

Other comments:

- Most funding organizations are only able to fund research undertaken within their country or region. Check Annex 1 for details.
- Consortia may not request all their funding from the same SAF€RA funding organization.
- The **duration of funding** requested should be compatible with that supported by the funding organization(s) requested during application. All projects will concern durations between 12 and 36 months. The funding durations requested from each funding organization may be different (but should be clearly specified in the response form).
- The **expected funding per project partner** is typically in a range between 20 k€ and 150 k€ (check Annex 1 for available budgets and acceptable project size for each funding organization).
- Some funding organizations are able to provide funding only if applicants are able to provide **co-funding** from industry or from another research funding organization. Check Annex 1 for details.
- The roles of each partner within the consortium should clearly add value to the objectives of the proposed project.

The list of funding organizations participating in the call is provided in Annex 1.

2 NGO: Non-governmental organization.

## 6. Application procedure

The joint call will use a **two-stage application process** with a pre-proposal mechanism for the first stage, according to the schedule outlined below.

Action	Date
Joint call is launched	20 <sup>th</sup> November 2017
Deadline for submission of pre-proposals	25 <sup>th</sup> January 2018
Information sent to applicants on results of the first stage. Requests for full proposals are sent to selected applicants, and collaborations proposed to single-nation applicants.	31 <sup>st</sup> January 2018
Deadline for submission of full proposals	22 <sup>nd</sup> March 2018
National funding decisions transmitted to applicants	September to October 2018
Projects start	October to December 2018

**Pre-proposals** (maximum of 5 pages) will be checked for validity and relevance by the SAFERA Call Steering Committee. The Call Steering Committee will also propose possible cooperation between single-nation applications at this stage. A subset of the first stage applications, selected by the Call Steering Committee on the basis of their eligibility and their relevance, will be requested to prepare a full proposal, as a transnational consortium, to be submitted in the second stage. Second stage proposals will then be assessed by the Evaluation Panel.

Organizations submitting a project are invited to use the pre-proposal form (maximum of 5 pages, in English) available on the call website. Applications in the first stage (pre-proposals) must be made by email to [applications@safera.eu](mailto:applications@safera.eu), before the submission deadline of 25th January 2018 at 16:00 CET. Applicants will receive a confirmation email within one working day. Applications should not be sent directly to the participating national/regional funding organizations.

**Project coordinator.** Researchers submitting a pre-proposal must designate a project coordinator, who will lead the consortium through the application procedure and is fully responsible for the overall project coordination. All communication with the Call Secretariat will be through the project coordinator, who should disseminate information to all parties to the proposal.

**Confidentiality.** Proposals and any information relating to them shall be handled in confidence, and only be made accessible to the organizations involved in the funding and the experts involved in the evaluation process. Proposals shall not be used for any purpose other than the evaluation of the applications, making funding decisions and monitoring of the project.

Projects selected for funding shall have a summary of their project published on the SAFERA website, and all relevant project deliverables will be disseminated by SAFERA, as a complement to dissemination activities undertaken by the projects.

## 7. Call management

Two boards, the Call Steering Committee and the Evaluation Panel, will manage the evaluation process of the joint call with the support of the Call Secretariat. The process includes the eligibility and relevance check of the proposals, the evaluation of the proposals and the final selection and award of research funding.

The **Evaluation Panel** is a panel of internationally recognized scientific experts within the disciplines identified as being relevant for the call topic, responsible for the evaluation of submitted proposals. Evaluation Panel members will not submit or participate in proposals within the call, and will accept a confidentiality agreement. The work of the Evaluation Panel will be organized so as to avoid conflicts of interest.

The **Call Steering Committee** is composed of a representative from each SAFERA funding organization participating in the joint call. All decisions concerning the call procedures will be made by the Call Steering Committee. It will supervise the progress of the call and the evaluation of proposals. The Call Steering Committee will make funding recommendations to the national/regional funding organizations regarding the proposals to be funded, based on the final ranking list provided by the Evaluation Panel. It will accompany the entire lifespan of the Call, evaluates the performance of the projects and resolves potential disagreements which may arise during the lifetime of the projects.

## 8. Evaluation process

A centralized evaluation of the full proposals will be performed by the Evaluation Panel and the Call Steering Committee. Based on the result of the evaluation, projects will be recommended (or not) for funding by the organizations concerned. Note that the national/regional organizations will make the final funding decisions.

The **evaluation criteria** are:

- Compatibility with the call topics
- Scientific or technological excellence
- Expected outcomes (scientific & operational)
- Project implementation

These criteria and the associated weightings are described in more detail in the *Guidelines for evaluators* document, which applicants are free to consult.

Each proposal will be allocated to at least two external reviewers and one Evaluation Panel member who fit the profile of the application. Based on the proposals' ranking established by the Evaluation Panel and on available funding, the Call Steering Committee will recommend the projects to be funded to the national/regional funding organizations.

Only proposals judged to be of high quality will be funded. If the number of proposals considered to have high quality, as judged by the Evaluation Panel, corresponds to a total requested funding which is smaller than the available budget, only part of the funds will be used. Projects not recommended for funding by the Evaluation Panel will not be funded in the context of this SAF€RA joint call.

For each proposal, the Call Steering Committee will communicate the final decisions and the evaluation report to the project coordinator.

## 9. Common SAF€RA activities

**Reporting.** The coordinators of all funded projects must submit an interim and a final (within three months of the end of the project) scientific progress project report to the Call Secretariat. All reports must be in English and use a common report form that will be provided. The research partners are jointly responsible for the delivery of the reports, and the Call Secretariat will only accept reports delivered on behalf of the consortium, via the project coordinator.

In addition, each project partner will be responsible for the necessary reporting to their funding organization according to national/regional rules in order to obtain and maintain funding during the lifetime of their portion of the project.

**Project review.** As a complement to the national/regional project review process, the transnational cooperation aspects will be monitored at a SAF€RA level. The project coordinator is responsible for providing concise reporting according to the requirements (publishable summary at project start, interim concise reporting and final reporting, participation in questionnaires). Any substantial change in an ongoing project must be reported promptly to the involved funding organizations. The project partners should be aware that changes might have effects on funding.

**Progress seminars.** Funded research projects will be required to participate once a year in a seminar organized by SAF€RA partners. The seminars will be organized so as to facilitate interaction between researchers from different projects and to disseminate research results to interested parties. Funding for travel of a project representative to the seminars (which will be organized in a location in Europe and last a full working day) should be included in proposal budgets.

**Dissemination.** Researchers funded within the context of this call will be required to acknowledge the support of SAF€RA and the specific funding organization in their publications, exhibitions, lectures and press information concerning results of SAF€RA-funded projects. In addition, electronic copies of all relevant publications and deliverables must be sent to the Call Secretariat.

A public database of projects funded within SAF€RA and the results of the research is maintained by the SAF€RA funding organizations. All research projects funded within this call must submit all relevant data created during the lifetime of the project to this database.

## **10. Support**

Frequently Asked Questions (FAQ) are listed on the SAF€RA 2018 joint call website. In addition, all funding organizations participating in the call will provide assistance to project proposers in case of questions. General inquiries concerning the call should be addressed to the Call Secretariat, at [call-secretariat@safera.eu](mailto:call-secretariat@safera.eu).

## Annex 1 – Specific requirements of the participating funding organizations

The following tables provide information on the available budgets, funding durations and other requirements of each participating funding organization. **Applicants must contact the national/regional funding organization for further information on eligibility.**

Concerning funding duration and available funding per applicant: applicants may request funding for a task included within a larger project, whose duration is less than the total project duration. In such cases, please identify clearly the scope of the larger project in which your requested funding is included, and specify precisely the scope of the task for which funding is requested.

### Finland

<b>Organization</b>	Finnish Institute of Occupational Health (FIOH) – Finland
<b>Contact persons</b>	Carita Aschan < <a href="mailto:carita.aschan@ttl.fi">carita.aschan@ttl.fi</a> >
<b>Topics</b>	Both topics in the call
<b>Budget</b>	250 k€ in person-months for FIOH personnel.
<b>Funding duration</b>	Between 12 and 36 months
<b>Other requirements</b>	Co-funding is required

<b>Organization</b>	Finnish Work Environment Fund (FWEF) - Finland
<b>Contact persons</b>	Kenneth Johansson < <a href="mailto:kenneth.johansson@tsr.fi">kenneth.johansson@tsr.fi</a> >
<b>Topics</b>	Both topics in the call
<b>Eligible applicants</b>	Research organizations and companies whose research may improve Finnish working life.
<b>Budget</b>	300 k€
<b>Funding duration</b>	Between 12 and 36 months
<b>Other requirements</b>	Co-funding is required.

<b>Organization</b>	Finnish Safety and Chemicals Agency (Tukes) – Finland
<b>Contact persons</b>	Minna Paivinen <Minna.Paivinen@tukes.fi>
<b>Topics</b>	Both topics in the call
<b>Eligible applicants</b>	Researchers working for an organization based in Finland.
<b>Budget</b>	150k€
<b>Funding duration</b>	Between 12 and 36 months
<b>Other requirements</b>	Co-funding and/or industrial co-operation is recommended.

## Germany

<b>Organization</b>	Bundesanstalt für Materialforschung und prüfung (BAM) – Germany
<b>Contact persons</b>	Claudia Eggert <claudia.eggert@bam.de>
<b>Topics</b>	Both topics in the call.
<b>Budget</b>	Person-month funding for a PhD candidate based in BAM.
<b>Funding duration</b>	36 months
<b>Other requirements</b>	

## Italy

<b>Organization</b>	Italian Workers' Compensation Authority (INAIL) – Italy
<b>Contact persons</b>	Paolo Bragatto <p.bragatto@inail.it>
<b>Topics</b>	Both topics in the call.
<b>Budget</b>	140 k€
<b>Funding duration</b>	Between 12 and 24 months
<b>Other requirements</b>	Only Italian universities or recognized Italian research institutes are eligible for funding. Co-funding covering 40% of the total cost is required.

## Netherlands / Europe-wide

<b>Organization</b>	RIVM
<b>Contact persons</b>	Viola van Guldener <viola.van.guldener@rivm.nl>
<b>Topics</b>	Both topics in the call.
<b>Budget</b>	100 k€ in person-month equivalents for RIVM personnel plus 50 k€ funding for external organizations in any EU country.
<b>Funding duration</b>	Between 12 and 24 months
<b>Other requirements</b>	Funding will take place under ARVODI conditions (General Terms and Conditions for Public Service Contracts with the Dutch government).

## Republic of Serbia

<b>Organization</b>	Serbian Ministry of Education, Science and Technological Development (MESTD)
<b>Contact persons</b>	Milicia Tasevska <milica.g.tasevska@mpn.gov.rs>
<b>Topics</b>	Both topics in the call.
<b>Budget</b>	40 k€ (maximum of 20 k€ per year) Funding per applicant limited to 20 k€
<b>Funding duration</b>	12-24 months
<b>Other requirements</b>	Researchers working for a research organization based in Serbia are eligible. Co-funding from companies may be required. Proposals selected for funding will be required later to submit their application in Serbian language.

## Spain

<b>Organization</b>	Instituto Vasco de Seguridad y Salud Laborales (OSALAN) – Basque country
<b>Contact persons</b>	Maria Nieves de la Peña, tel. +34 944032145, fax +34 944032107, e-mail: osalantpr16ba@euskadi.eus
<b>Topics</b>	Both topics in the call
<b>Budget</b>	100 k€ Funding per project per year between 10 and 50k€
<b>Funding duration</b>	12-24 months (if projects exceed 12 months duration, they may submit a new proposal to OSALAN the following year)
<b>Other requirements</b>	All legal or physical entities in the Basque Country are eligible for funding, as long as they have not been found guilty in legal cases related to occupational health and safety within the last five years, and have no debts due to the public treasury or the social security system. The organization must comply with occupational risk regulation. Projects which are accepted for funding will need to prepare a summary of their proposal in Basque language or Spanish, including the title of the project, the objectives, the workplan, methodology and a detailed budget.

<b>Organization</b>	Government of Navarra
<b>Contact persons</b>	Aitziber Oscoz <aitziber.oscoz.asiain@cfnavarra.es>
<b>Topics</b>	Both topics in the call
<b>Budget</b>	100 k€
<b>Funding duration</b>	12-24 months
<b>Other requirements</b>	All legal entities in the region of Navarra.

## United Kingdom / Europe-wide

<b>Organization</b>	Institute for Occupational Safety and Health (IOSH)
<b>Contact persons</b>	Mary Ogungbeje <Mary.Ogungbeje@iosh.com>
<b>Topics</b>	Only topic 2.
<b>Budget</b>	150 k€
<b>Funding duration</b>	12-36 months
<b>Other requirements</b>	<p>R&amp;D organizations in an EU country are eligible for funding. Applicants should have a proven track record in high-quality research and should be able to demonstrate that they have the research and project management skills to lead a successful proposal to completion.</p> <p>Applicants are strongly recommended to contact Mary Ogungbeje to ensure that proposed topics are relevant to IOSH priorities.</p>