



# ACTIVITY REPORT 2021

2022@FonCSI

Publication director: René Amalberti

Coordination, design and production: Clotilde Gagey

Editors: Clotilde Gagey, Caroline Kamaté, Éric Marsden

# SUMMARY

<b>About the FonCSI</b>	<b>4</b>
<b>A word from our President</b>	<b>5</b>
<b>A word from our Director</b>	<b>6</b>
<b>How the Foundation is organized</b>	<b>8</b>
Our sponsors	
The board of trustees	
The secretariat	
Scientific governance	
The Team	
<b>The end of FonCSI 2</b>	<b>10</b>
Skills & competencies for safety	
HOF: Methods, tools and practical approaches	
<b>FonCSI 3</b>	<b>14</b>
Work and workers in the 2040's	
Contracting relationships in high-hazard industries	
Relations between regulatory authorities and industry	
Risks & Territories	
Impact of the Covid-19 crisis on safety management strategies	
Resilient briefing-debriefing	
<b>Preparations for FonCSI 4</b>	<b>22</b>
FonCSI 4 modalities	
Proposed themes	
Materials for new sponsors	
<b>International networks</b>	<b>24</b>
Collaboration with the REA and the NDM community, the symposium	
The NeTWork	
Saf€ra	
<b>Les publications</b>	<b>28</b>
SpringerBriefs in Safety Management	
FonCSI's collections	
<b>Dissemination</b>	<b>30</b>
Newsletters	
The website	
Social networks	

# A FOUNDATION FOR INDUSTRIAL SAFETY RESEARCH

## ABOUT THE FONCSI

FonCSI, the Foundation for an Industrial Safety Culture, is an officially-recognized nonprofit research foundation that was created in 2005.

**“To inspire, support and implement single and multidisciplinary research that is in the public interest, and maximize the dissemination of the products of this research in order to:**

- **improve safety in industrial companies of all sizes, and in all sectors;**
- **identify the conditions and practices that support an open debate between at-risk enterprises and civil society, with a view to developing a better mutual understanding; and, more generally,**
- **promote awareness and familiarize all of the actors in society to the problems of risks and industrial safety.”**

This is the statutory mission of the Foundation for an Industrial Safety Culture, which was officially recognized as a nonprofit organization by the French decree of 18 April 2005. Its status as a public-interest organization is particularly important to the FonCSI. It is committed to disseminating the results of its work to as many people as possible.

The Foundation’s mission is, therefore, to support and finance interdisciplinary research projects on risks, and the human and organizational factors of safety, and to ensure the transfer of the findings of this research to industrial safety stakeholders.

The new knowledge that results from its work, and the transfer of these outcomes to industry, means that FonCSI can drive forward industrial safety for the benefit of all stakeholders: administrations, associations, local authorities, researchers, companies, trade unions, etc.



# A WORD FROM OUR PRESIDENT



**“FonCSI’s mission is to review emerging ideas and provide innovative insights that will help to prepare us for the future governance of industrial safety.”**

Despite the difficulties caused by the Covid-19 crisis, the Foundation for an Industrial Safety Culture (FonCSI) made remarkable progress in 2021, in the framework of the current FonCSI 3 scientific program. The Foundation was able to hold various meetings with our sponsors on topics such as ‘the Operator of the Future’, ‘the Relationship with Contractors’, and ‘the Relationship between Regulators and Industrialists’, and these meetings illustrate the quality of its accomplishments. The FonCSI 3 program, like its predecessors – FonCSI 1, which ran from 2005 to 2014, and FonCSI 2, which ran from 2015 to 2019 – is a clear success.

To achieve its objectives, the FonCSI has put in place novel, forward-looking working practices. The aim is to review emerging ideas and provide innovative insights that will help us to prepare for the future governance of industrial safety. Tomorrow’s world is likely to be one of dizzying complexity, and humans will play a key role. The industrial sector must address these issues, and the FonCSI is there to help it do so. The Foundation is supported by, and works alongside, nine sponsors, and a tenth – the International Union of Railways (UIC) – joined in 2021.

The FonCSI 3 program is coming to an end, and will be followed by the new, FonCSI 4 program in early 2023. The Foundation’s team is currently working on building the next scientific program, and identifying new sponsors. The challenge is to continue this forward-looking work. And while the FonCSI 3 program is already very international, with the participation of experts from around the world, and publications in three languages, FonCSI 4 will be even more so. We expect to extend our circle of sponsors to Latin America and Northern Europe, and some of the Foundation’s work will take place abroad. This increased expansion of the FonCSI on the international stage is a challenge for the Foundation’s small team. But it is necessary to develop our thinking, open ourselves up to other points of view, and better-prepare the future of risk governance.

**André-Claude Lacoste,  
FonCSI President**

# A WORD FROM OUR DIRECTOR

**“We have done everything we set out to do.”**

2021 saw the continuation of the Covid-19 pandemic. The Foundation has had to learn, as we all have, to live with it: a few face-to-face meetings were held when conditions allowed, but the vast majority of our activities have had to be run by videoconference. Nevertheless, we have done everything we set out to do.

## **The highlights**

In addition to the international seminar on the topic of the Operator of the Future, which was held at the end of 2020, in March 2021, we organized (for the first time) a complementary forum for a debate on the role of digital technologies in safety in 2030, using the example of the rail sector. This workshop brought together an exceptional panel composed of executives, regulators and a Member of the European Parliament. We also experimented with a novel scenario that was based on a comic strip created especially for the occasion, which served as a common thread in debates with speakers. This innovation proved to be a great success, and we will repeat it in the future.

In addition, we have been able to present the lessons learned from our strategic analyses to industrialists. We would like to thank our sponsors for hosting these events and their warm welcome: TotalEnergies hosted the Operator of the Future presentation in July 2021, and IRSN hosted the presentation on ‘Relations with Contractors’ in October 2021.

The international strategic analysis seminar on ‘Relations between Regulators and Industry’ was another highlight of the year. Held at the end of 2021, the guest list included ten of the world’s leading academics from all continents, all specialists in fields as varied as nuclear regulation, oil & gas, health, maritime traffic and banking, not to mention the presence of numerous industrial directors, and directors of regulatory authorities (civil aviation, railway, nuclear). The format was demanding, with two and a half days of almost continuous videoconferences, made even more difficult by time differences between speakers at opposite ends of the world. Nevertheless, despite these difficulties, everyone stayed to the end, demonstrating participants’ interest and commitment to the discussion.

## **Innovation in our strategic analyses**

Beyond these highlights, we have learned new lessons and enriched our methods. The Operator of the Future strategic analysis brings together all of these new features: a more in-depth initial bibliographical analysis, invaluable insights from leading figures, a keynote international seminar, a thematic forward-look workshop, and a feedback seminar for industrialists to draw practical lessons. We have also published an English-language book that can be downloaded, free of charge, from our Springer collection, and an Industrial Safety Notebook, which is published in three languages (English, French, Spanish) will be free to download from the Foundation’s website. Finally, we are still benefitting from the outcomes of the analyses, and we will continue to work towards maximizing their value for our academic and industrial partners.

We have also improved our dissemination activities. We continued to regularly distribute the Strategic Analysis Journals, which began in 2020, and we have also published a series of ‘Recommended Reading’ bulletins on our website and social networks. These long summaries of key articles, on a wide variety of industrial safety topics, are aimed at not only the industrial community, but also students and young researchers. 25 reviews were added to our website in 2021.



### **Coming soon: FonCSI 4**

Preparations for FonCSI 4 (2023-2027) have kept our small team busy. We have begun to identify the strategic themes for this new program, following advice from our experts and sponsors. We have reduced the 16 initial themes to 6, and we have translated them into our three working languages. FonCSI 4 will build upon the achievements of its predecessors, while the themes will focus more on risk governance. We will be looking further afield to the international sphere, and aim to build broader partnerships with both academics and industrialists. The strategic analyses will be decentralized, and their management entrusted to coordinators in South America and Northern Europe.

To support this system, we have signed a memorandum of understanding with the RES. The RES is interested in the same issues as the FonCSI, but uses different methods and has a narrower perspective on the relations between regulatory authorities and at-risk industries. We have agreed to share our expertise and cross-fertilize our ideas, on a voluntary basis.

### **2022: new crises**

No sooner had the Covid-19 crisis begun to fade from our memory, when a very intense conflict erupted close to home. This conflict challenges the status quo for industrialists, and is likely to raise new safety issues in high-risk, globalized industries. We will be ready to address these issues, should they arise. Although we will continue to be guided by our five-year program, the Foundation has already proven its ability to be flexible and adapt to changing circumstances.

### **FonCSI: a small, but agile team**

I would like to end by reiterating my pride in leading this small team: Jean Pariès (Scientific Director), Jean-Marc Vaugier (Director of Development), Caroline Kamaté and Eric Marsden (Program Managers, and the Foundation's only two full-time members of staff), Clotilde Gagey (Communications Manager), and Pauline Fabre (General Secretary). The whole team meets twice a week to coordinate the Foundation's work, and plot the way forward.

I cannot conclude without emphasizing that we also owe a great deal to our President, André-Claude Lacoste, who gives us the benefit of his extensive expertise both in the form of FonCSI's governance, and in the substance of industrial risk governance. He is more than just the Foundation's President; he is a respected member of the team, and his inputs to the debates and events that punctuate our program are very welcome.

Come and join us in person, read our publications, participate. We need you, and in return we can offer a unique, trans-disciplinary and trans-sectorial experience of sharing expertise on industrial risk management.

**René Amalberti,**  
**Director of FonCSI**

# HOW THE FOUNDATION IS ORGANIZED

## OUR SPONSORS

By supporting industrial safety research, FonCSI's sponsors actively contribute to its mission of working in the public interest.

In 2019, the research program FonCSI 3 (2019–2023) was launched, thanks to the support of nine sponsors, who contributed €2.8 million:

- Airbus
- The Directorate General of Civil Aviation (DGCA-DSAC)
- EDF
- Établissement public de sécurité ferroviaire (EPSF)
- GRTGaz
- Institute for Radiation Protection and Nuclear Safety (IRSN)
- SNCF
- TotalEnergies
- VINCI

In September 2021, the UIC (International Railway Union) joined the group of FonCSI 3 sponsors, making a total of ten members.

## THE BOARD OF TRUSTEES<sup>1</sup>

The FonCSI is managed by a Board of Trustees which, through its deliberations, sets out the Foundation's agenda.

In 2021, Mr. Cyril de Coatpont was appointed to the Board of Trustees to represent the TotalEnergies group, replacing Mr. Ahmed Abzizi.

The composition of the Board of Trustees, as of December 31, 2021 was therefore as follows :

### *Ex officio* members

- CNRS: Joël Bertrand
- INP Toulouse: Thierry Bosch
- Occitanie Region: Bertrand Monthebert

### Founding members

- EDF: Cécile Laugier
- ENGIE: Xavier Perret
- SNCF: Isabelle Delobel
- TotalEnergies: Cyril de Coatpont

### Qualified experts

- Bruno Pahlawan
- Michel Descazeaux
- André-Claude Lacoste
- Jean-Paul Labarthe

### Government commissioner

Marianne Peyrot, Regional Delegate for Research and Technology for the Occitanie region.

### Honorary member

René Deleuze, former Director of ICSI-FonCSI

## THE SECRETARIAT<sup>2</sup>

The Foundation's officers are elected by the Board of Trustees for a period of two years.

In 2021, the election resulted in the renewal of existing mandates, and the addition of Mrs. Cecile Laugier as Vice President. Mr. Ahmed Abzizi left the position of Secretary in 2021, and was succeeded by Mr. Cyril de Coatpont.

As of December 31, 2021, the Secretariat consisted of the following members:

- President: André-Claude Lacoste
- Vice President: Cécile Laugier
- Secretary: Cyril de Coatpont
- Treasurer: Joël Bertrand

<sup>1</sup> and <sup>2</sup> Composition on December 31, 2021



## SCIENTIFIC GOVERNANCE<sup>3</sup>

### The Research Commission of the Board of Trustees

The Research Commission of the Board of Trustees is responsible for the overall coordination of the Foundation's scientific program.

Membership: *under renewal*

### Strategic Analysis Scientific Groups (SASG)

The Strategic Analysis Scientific Groups (SASGs) are responsible for carrying out the strategic analyses that make up the Foundation's scientific program. Different groups work on specific themes, in close collaboration with the Foundation's trustees. The following scientific experts are members of the SASGs:

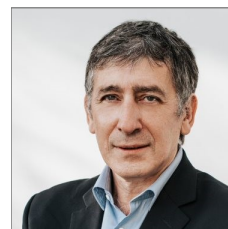
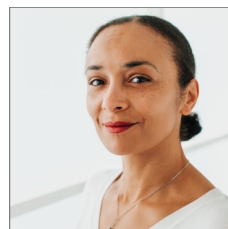
- Corinne Bieder, ENAC
- Laure Bonnaud, INRAE and Université Paris Dauphine
- Benoît Journée, University of Nantes
- Hervé Laroche, ESCP Business School
- Jean-Christophe Le Coze, INERIS
- Jesús Villena López, Ergotec
- Jorge Walter, University of San Andrés (Argentina)

Industrial experts, who are chosen as a function of the theme explored by the group, complete the team.

## THE TEAM

As of December 31, 2021, the FonCSI team consisted of the following:

- René Amalberti, Director (volunteer)
- Pauline Fabre, General Secretary
- Clotilde Gagey, Communications Manager
- Caroline Kamaté, Program Manager
- Eric Marsden, Program Manager
- Jean Pariès, Scientific Director
- Jean-Marc Vaugier, Director of Development



The permanent team is based in Toulouse:

6 allée Émile Monso  
ZAC du Palays - BP 34038  
31029 Toulouse Cedex 4 - France

FonCSI shares its premises with the Institute for an Industrial Safety Culture (ICSI) on the campus of the National Polytechnic Institute (INP), which lies south-east of Toulouse, near the town of Labège.

<sup>3</sup> Composition on December 31, 2021

# THE END OF FONCSI 2

In 2015, the Foundation launched its second, 4-year research program: FonCSI 2. This program marked the beginning of a new research modality, strategic analyses, on the following themes: skills and competencies for safety; safety culture and models; methods, tools and practical approaches to HOF, etc.

In 2021, two of these strategic analyses came to an end, and activities focused on the dissemination of their outcomes. We take a look back at these two areas of work.

## SKILLS & COMPETENCIES FOR SAFETY

### Strategic analysis

The strategic analysis on skills and competencies for safety was launched in January 2015, coordinated by Caroline Kamaté, one of FonCSI's program managers. Five industrial experts joined the Strategic Analysis Scientific Group (SASG): Franck Guarnieri (CRC Mines ParisTech), Pol Hoorelbeke (TotalEnergies), Jean-Paul Labarthe (EDF), Nicolas Herchin (ENGIE), and Philippe Haller (Arkema).

After conducting a review of the state-of-the-art of knowledge on professionalization, in November 2015 the group organized an academic seminar with the following world-renowned experts:

- Petter G. Almklov, Norwegian University of Science and Technology (Norway)
- Linda Bellamy, White Queen Safety Strategies (the Netherlands)
- Vincent Boccara, University of Paris-Sud (France)
- Paul Chadwick, University College London – Centre for Behaviour Change (United Kingdom)
- Rhona Flin, Aberdeen University (United Kingdom)
- Silvia Gherardi, University of Trento (Italy)
- Jan Hayes, Royal Melbourne Institute of Technology (Australia)
- Pascal Ughetto, University of Paris Marne-la-Vallée (France)

A seminar to present the outcomes of the analysis to industrialists took place on 17 March 2016, at ENGIE R&D in Paris Saint-Denis. About twenty representatives of various industrial sectors (transport, energy, petrochemicals, chemicals, etc.) were able to discuss the results of the analysis with SASG members, and explore avenues for future research.

### Call for proposals

As part of the FonCSI 2 research program (2015-2019), the Foundation also funded six research projects, coordinated by Eric Marsden, Program Manager, through a call for proposals on skills and competencies for safety:

- The “Transformations of activities, operators and organizations: towards proposals for training in and through resilience” project was headed by Germain Poizat (University of Geneva, Switzerland)
- The “Evaluation of safety training systems: work, actors, pathways” project was headed by Catherine Delgoulet (Université Paris Descartes, France)
- The “For an evaluation of the contribution of digital technologies in risk management training in at-risk industries” project was headed by Alain Garrigou (IUT Bordeaux, France)
- “The professionalization of safety: an exploratory qualitative and quantitative study” project was headed by Wim Van Wassenhove (CRC Mines ParisTech, France) and Hervé Laroche (ESCP Business School, France)
- The “Becoming actors in prevention: designing mechanisms to develop the ‘Power to act’ in safety” project was headed by Lucie Cuvelier (University Paris 8, France)
- “A multimethod system for the assessment and training of teamwork in simulated scenarios” was headed by Fabrizio Bracco (University of Genoa, Italy)

All of the projects financed by the FonCSI under the program had a clear practical focus, either in the form of observations and experiments conducted onsite at industrial facilities (ENGIE, ENEDIS, SNCF, hospitals, etc.), or at places dedicated to safety training/development (simulation, 3D virtual environment, etc.), or in the form of analyses of data or documents produced as a result of this type of activity (qualitative and quantitative studies produced in the context of ESCP's and ICSI's Specialized Masters' programs, etc.).

The majority of research projects funded under this call were completed in 2019 or early 2020.

## Conferences

FonCSI organized a conference on skills and competencies for safety in 2018 at the ESCP Business School. Nearly 170 people (industrialists from all sectors, trade unions, institutions and academics) participated in this event, which aimed to bridge the gap between research and practice in the field, by disseminating the outcomes of the strategic analysis on the theme, along with the initial results from teams funded under the call for proposals.

## Publications

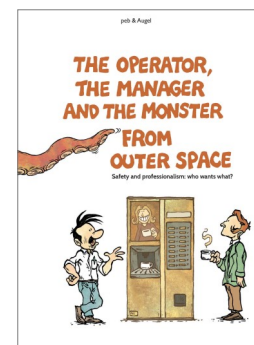
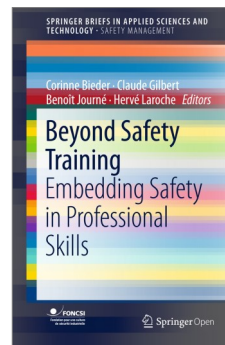
The results of the strategic analysis and the various research projects selected in the framework of the call for proposals have led to the following publications:

- An academic book published in English by Springer in October 2017, *Beyond Safety Training. Embedding Safety in Professional Skills*. Freely available from the Springer website, the book was downloaded more than 12,000 times in the first month after its release; it reached 100,000 downloads in 2021.
- The Industrial Safety Notebook entitled *Benchmark des dispositifs formateurs sur la sécurité des activités industrielles* [Benchmark of Industrial Safety Training Devices], by Sébastien Maitrenhenry, Luigi Macchi, Claude Valot and Jean Pariès, published in 2018.
- The Industrial Safety Notebook entitled *La sécurité, une affaire de professionnels ?* [Safety, a matter for professionals?] Also published in 2018, this Notebook explores the main avenues for reflection and improvement identified by the Strategic Analysis Scientific Group.
- A comic book entitled *The Operator, the Manager... and the Space Monster*, which is an adaptation of Hervé Laroche's chapter published in *Beyond Safety Training* by Springer. The French version was published in 2018, and the English translation in 2020.
- The Industrial Safety Viewpoint entitled *Contribuer à la sécurité industrielle « par le facteur humain » : Un regard pour aider à (re)penser la formation* [Contributing to Industrial Safety 'through the Human Factor': A new look to help (re)think training], by Simon Flandin, Germain Poizat and Romuald Perinet, published in 2019.
- The Industrial Safety Notebook entitled *Proactivité et réactivité: Deux orientations pour concevoir des dispositifs visant le développement de la sécurité industrielle par la formation* [Proactivity and Reactivity: Two directions for designing systems that aim to improve industrial safety through training] was published in early 2021. It is the result of the work of a team of researchers from the University of Geneva.

## What next in 2022?

The above publications marked the end of the two research axes on skills and competencies for safety, which were initiated within the framework of the FonCSI 2 program.

Nevertheless, topics related to skills remain relevant, particularly with the future safety challenges identified between now and the year 2040. Thus, they may be the subject of further work within the framework of the FonCSI 4 program.



# HOF: METHODS, TOOLS AND PRACTICAL APPROACHES

## Strategic analysis

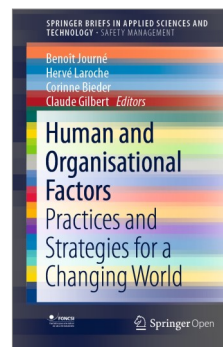
The strategic analysis on “Methods, tools and practical approaches to human and organizational factors”, coordinated by Caroline Kamaté, was launched in March 2017, in the context of the FonCSI 2 research program.

Nicolas Herchin (ENGIE), Valérie Lagrange (EDF), Jean-Christophe Le Coze (INERIS), Christian Neveu (SNCF), Philippe Noël (TotalEnergies) and Myriam Promé (ICSI) were selected as industrial experts to reinforce the SASG in this strategic analysis of the human and organizational factors of safety.

The international academic seminar was organized in January 2018 near Paris. Eight experts from Europe and the Americas participated:

- Ivan Boissières, ICSI (France)
- Caroline Lacroix, University of Evry-Val d’Essonne – Paris-Saclay (France)
- Daniel Mauriño, independent consultant (Argentina)
- Kathryn Mearns, Wood PLC (United Kingdom)
- Florence Reuzeau, Airbus SAS (France)
- Paul Schulman, Mills College (USA)
- David Woods, The Ohio State University (USA)
- Brendan Ryan, Nottingham University (United Kingdom)

The seminar that was organized to feedback the outcomes of this strategic analysis to industrialists took place on September 18, 2018 at TotalEnergies in Paris-La Défense. More than 60 representatives from various industrial sectors (transport, energy, petrochemicals, chemicals, etc.) were able to discuss the results of the analysis with SASG members, and explore avenues for future research.



Early 2020 saw the publication, in English, of the open access book Human and Organisational Factors. Practices and Strategies for a Changing World, by the international publisher Springer. All of the participants who attended the January 2018 research seminar (both international experts and SASG members) contributed.

In September 2021, FonCSI and ICSI co-organized a half-day session on human and organizational factors (HOF), during which, among other things, the results of the strategic analysis were presented to around thirty representatives of member organizations of the Institute for a Culture of Industrial Safety (ICSI). This meeting was based on a forward-looking approach to developing current safety models and preparing the safety of tomorrow.

## What next in 2022?

The half-day session organized with ICSI brought the research axis focused on HOF, initiated in the framework of the FonCSI 2 program, to an end.



Human and organizational factors (HOF) afternoon co-hosted with ICSI on September 14, 2021.

# FONCSI 3

In 2019, the Foundation launched its new scientific program FonCSI 3, which will continue to run until 2023. Several strategic analyses are being conducted during these 4 years (Work and workers in the 2040's, Contracting relationships in high-hazard industries, the regulator-regulated relationship, etc.) together with working groups (risks and the local area, the impact of the Covid-19 crisis) and a pilot (resilient briefing-debriefing).

## WORK AND WORKERS IN THE 2040'S

### Strategic analysis

The first strategic analysis under the FonCSI 3 program, entitled "Work and workers in the 2040's", was launched in May 2019. It is coordinated by Caroline Kamaté.

Florence Reuzeau (Airbus), Raluca Ciobanu (EDF), Bruno Dember & Laurent Cebulski (EPSF), Franck Ollivier (Eurovia), Nicolas Engler & Thierry Escaffre (GRTgaz), Alexandre Largier & Tania Navarro Rodriguez (IRSN), Stella Duvenci-Langa & Cyril Capi (SNCF), Raphaël Waxin (TotalEnergies) and Dounia Tazi (ICSI) were chosen as industrial experts to strengthen the Strategic Analysis Scientific Group for (SASG) in this study of the contribution of operators in at-risk industries between now and 2030.

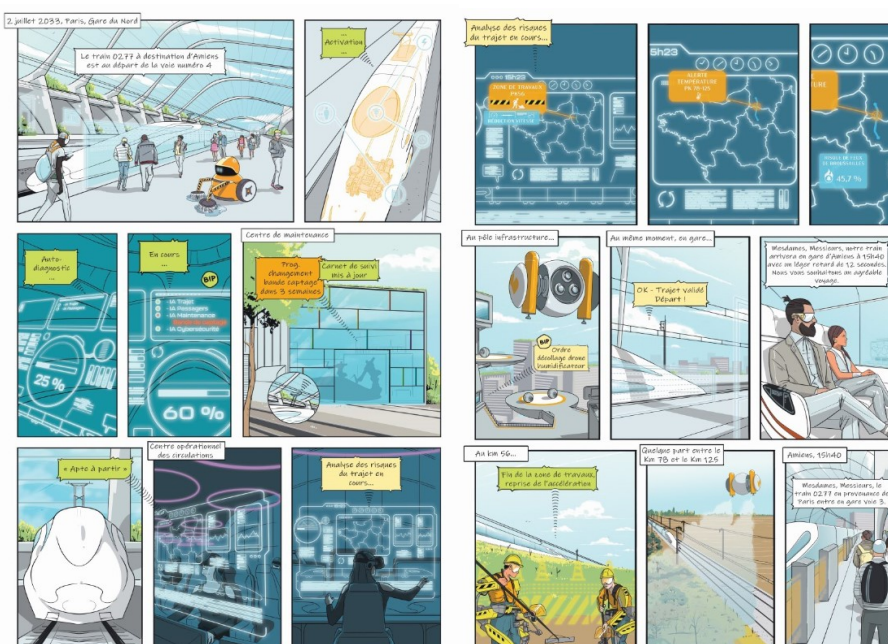
2019 and 2020 were devoted to the literature review and an analysis of the impact of megatrends, along with the organization of the international academic seminar. In 2021, the SASG met four times by videoconference to continue and consolidate the work that was initiated in 2019.

### Workshop on "Railway Safety in the Future"

A remote workshop dedicated to railway safety in the future was organized on March 23, 2021. It brought together five experts from the rail sector:

- François Davenne, Director General of the UIC (International Union of Railways)
- Loïc Dorbec, President of the AGIFI (French Association of Independent Railway Infrastructure Managers)
- Yann Leriche, General Director of Getlink (Eurotunnel, Europorte, ElecLink and CIFFCO)
- Pierre Messulam, Director of Safety and Security Risks, SNCF Group
- Dominique Riquet, Member of the European Parliament, member of the Committee on Transport and Tourism

On the basis of a futuristic scenario written by EPSF and SNCF representatives, presented as a short comic strip, participants were invited to express their views on the major safety challenges in this sector between now and 2030-40. The comic strip and a summary of the workshop's findings are available from the FonCSI's website.



## Feedback seminar

The feedback seminar, which was delayed due to the Covid-19 crisis, was finally held on July 1, 2021. It was hosted by TotalEnergies in Paris-la Défense. 34 representatives of FonCSI's sponsors (Airbus, DGAC, EDF, EPSF, GRTgaz, IRSN, SNCF, TotalEnergies, UIC and VINCI) attended in person.

The lessons learned from this strategic analysis can be divided into 3 key challenges:

- Human resources and skills;
- Roles, powers and responsibilities of actors and organizations;
- Safety management models and systems.

These themes were presented in detail by Jean Pariès (FonCSI), and illustrated by two presentations. The first was given by Dounia Tazi (ICSI) on the topic of “Over 50 years of careers... a case study of Japan”, based on work by Akira Tosé (Niigata University, Japan). The second was given by Florence Reuzeau (Airbus) on the topic of “What the military sector teaches us”, supported by Hervé Laroche (ESCP Business School), and based on work by Gérard de Boisboissel (CREC Saint-Cyr Coëtquidan).

A round table discussion with Xavier Perret (ENGIE), Xavier Bontemps (TotalEnergies), Cécile Laugier (EDF) and Yannick Malinge (Airbus) was another opportunity to gather the reactions of sponsors to these initial findings, explore issues related to the safety of the future, and discuss new topics that could be addressed by the FonCSI.

Finally, a [video tracing the path of the strategic analysis](#) was produced by FonCSI and presented during the seminar.



The feedback seminar held on July 1, 2021 at TotalEnergies.

## Publications

2021 was also devoted to the preparation of the academic book, written in English and published by Springer, which presents the results of the analysis. The international experts who were invited to the November 2020 academic seminar are contributing to this collective, 13-chapter work:

- Gérard de Boisboissel, the Saint-Cyr Coëtquidan Research Center (France)
- Stian Antonsen, Norwegian University of Science and Technology (Norway)
- John Allspaw, Adaptive Capacity Labs (USA)
- Akira Tosé, Niigata University (Japan)
- Flore Barcellini, Cnam (France)
- Michael Baram, Boston School of Law (USA)
- Steven Shorrock, Eurocontrol (France)
- Along with several members of the SASG.

The Foundation regularly publishes a Journal for its sponsors and partners. This journal summarizes the progress made by the SASG in the context of the various strategic analyses. Two issues of the journal were published, in June and December 2021, respectively.



## What next in 2022?

The book resulting from the contributions of our international experts, which will be entitled *Managing Future Challenges for Safety Demographic Change, Digitalization and Complexity in the 2030s*, is currently in the hands of the international publisher Springer. This open access work will be published in the first half of 2022 as part of the FonCSI collection Springer-Briefs in Safety Management.

The FonCSI has responded to a call for papers, and expects to present some of the results of this strategic analysis at the international conference “Working on Safety”, which will be held in Olhao, Portugal in September 2022.

An Industrial Safety Notebook, which summarizes the outcomes of the analysis for a broad audience will be prepared in 2022.

# CONTRACTING RELATIONSHIPS IN HIGH-HAZARD INDUSTRIES

## Strategic analysis

The second strategic analysis that makes up the FonCSI 3 program, is entitled “Contracting relationships in high-hazard industries”, and it was launched in May 2019. It is coordinated by Eric Marsden. Here, the focus is on the manufacture of safety in the relationship between principal contractors, subcontractors, and other types of partners in at-risk activities.

Jean-Yves Bligny (SNCF), Mohamed Chalabi (SNCF Réseau), François Jeffroy (IRSN), Florence-Marie Jégoux (DGAC), Nicolas Lot (EDF Lab), Céline Poret (IRSN), Sophie Rougé (Airbus) and Sébastien Roulier (TotalEnergies) were chosen as industrial experts to strengthen the Strategic Analysis Scientific Group (SASG) working on this study.

2019 and 2020 were devoted to a literature review and an impact analysis of megatrends, along with the organization of the international academic seminar. In 2021, the SASG met several times by videoconference to continue and consolidate the work that was initiated in 2019.

## Feedback seminar

The FonCSI organized an industrial seminar, which was held on October 21, 2021 at the IRSN offices in Fontenay-aux-Roses. About twenty people, representing the FonCSI’s sponsors (Airbus, DGAC, EDF, EPSF, GRTgaz-ENGIE, IRSN, SNCF, TotalEnergies, UIC and VINCI) participated.

This seminar provided an opportunity to examine the impact of changes in the organization of the economy on (industrial and strategic) risk governance, and the management of partnerships by large user companies and their supply chain partners. Three key ideas were presented:

- Subcontracting and other forms of industrial partnership have profoundly evolved, creating new safety challenges;
- Subcontractor safety during interventions has improved significantly in recent decades, but there is still room for progress;
- The new forms of subcontracting and dependencies between partners have brought to light new systemic risks; challenges are related to reciprocal dependency, contractualization and the life of the partnership, and safety performance indicators.

The outcomes of the discussion were illustrated by first-hand accounts from industrialists and academics – Benoît Journé (University of Nantes), Nicolas Lot (EDF) and Sophie Rougé (Airbus).

The following roundtable discussion brought together HSE directors and partnership governance managers from several of FonCSI’s sponsors: Hervé Bodineau (IRSN), Stéphane Corcos (DGAC), Jean-Claude Larrieu (SNCF), Cécile Laugier (EDF) and Sophie Rougé (Airbus). The discussion provided an opportunity to exchange views on the strategies that are put in place to address change in the economic and industrial context, and brought the industrial seminar to an end.

## Publications

2021 was also devoted to the preparation of an academic, English-language book published by Springer that will present the results of the analysis. The international experts who were invited to the October 2020 academic seminar are contributing to this collective work:

- Petter Almklov, Norwegian University of Science and Technology (Norway)
- Nadezhda Gotcheva, VTT Technical Research Centre (Finland)
- Colin Pilbeam, University of Cranfield (United Kingdom)
- Bruce Pinnington, University of Liverpool (United Kingdom)
- Michael Quinlan, University of New South Wales (Australia)
- Along with several members of the SASG.

## What next in 2022?

Work will continue on preparation for the publication of the new book in FonCSI’s SpringerBriefs in Safety Management collection, which is the outcome of the contributions of international experts.

In addition, the Foundation is preparing a new Industrial Safety Notebook. This publication will highlight the different strategies or mechanisms for managing risks and strengthening inter-industry relations, tested by members of the SASG.



# RELATIONS BETWEEN REGULATORY AUTHORITIES AND INDUSTRY

## Strategic analysis

The Foundation’s third strategic analysis under the FonCSI 3 program is entitled “Relations between regulatory authorities and industry”, and it was launched at the end of 2020. It is coordinated by Eric Marsden. It is an extension of the study undertaken by the working group on the regulator–regulated relationship that was carried out in 2017–2018 in the context of the FonCSI 2 program.

Olivier At (EPSF), Olivier Chanton (IRSN), Cécile du Cluzel (DGAC), Jean-Philippe Daniel (EPSF), Guilhem Nicolas (DGAC), Olivier Guillaume and Cécile Laugier (EDF), along with Jean-François Lechaudel (TotalEnergies) are the industrial experts who reinforce the Strategic Analysis Scientific Group (SASG) in this study of regulator-regulated relations.

The aim is to analyze the relationship that develops over time between regulatory authorities and companies that manage at-risk activities. This relationship is an important contributor to the production of safety, and ensuring the effective management and control of industrial risks.

The initial meetings that were held in 2020 allowed us to identify themes of interest to participants.

In 2021, the group heard from several French and international researchers who are conducting work related to the group’s theme: an analysis of the development of audit mechanisms, and the bureaucratization of regulatory activities observed in several industrial sectors in Norway, along with an analysis of the historical evolution of the regulatory relationship in the French nuclear industry. Other discussions concerned the role of different categories of third parties in the regulatory relationship.

## International academic seminar

The FonCSI organized an academic seminar which ran from December 15 to 17, 2021. The following international experts and researchers were invited to participate remotely:

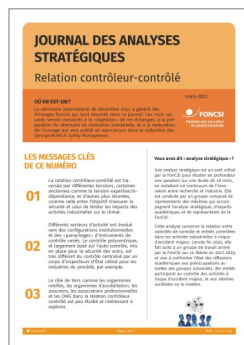
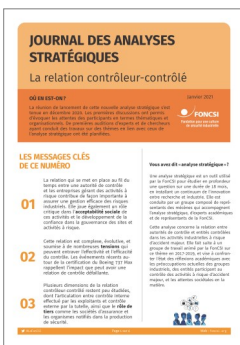
- Benoît Bernard, Bel V (Belgium)
- Julia Black, London School of Economics and Political Science (United Kingdom)
- Jeffrey Braithwaite, Macquarie University (Australia)
- Cary Coglianese, University of Pennsylvania (USA)
- Julien Etienne, independent consultant (United Kingdom)
- Ulla Forseth, Norwegian University of Science and Technology (Norway)
- Jean-Pierre Galland, Ecole des Ponts ParisTech (France)
- Christopher Hood, Oxford University (United Kingdom)
- Patrick Ky, EASA (Germany)
- Preben Lindøe, University of Stavanger (Norway)
- Martin Lodge, London School of Economics and Political Science (United Kingdom)
- Michelle Pautz, University of Dayton (USA)
- Kristine Størkersen, SINTEF (Norway)

Each contributor prepared his or her intervention in the form of a video, and a position paper that was made available to all participants before the seminar.



## Publications

The Foundation regularly publishes a Journal for its sponsors and partners. This journal summarizes the progress made by the SASG in the context of the various strategic analyses. An issue, dedicated to the launch of the analysis, was distributed in early 2021. A second issue, which will focus on the international academic seminar, will be published in early 2022.



## What next in 2022?

The FonCSI will organize an industrial feedback seminar and will begin preparations for the publication of a new, open access book, based on the contributions of international experts, which will be part of its SpringerBriefs in Safety Management collection.

# RISKS & TERRITORIES

## Working group

In September 2020, the FonCSI launched a working group on “Risks & Territories: Governance and citizen participation”. Drawing upon its earlier work on this topic, and in the light of the recent events at Lubrizol, the mission of this group is to study the scientific principles and the renewed operational conditions for a constructive debate between stakeholders at the local scale. The perspective adopted by the group is European, with a specific focus on the characteristics of the situation in France.

This working group is co-chaired by Caroline Kamaté and Jean-Marc Vaugier. It also includes four external experts:

- Corinne Bieder, ENAC
- Paolo Crivellari, University of Toulouse 3
- Emmanuel Martinais, École nationale des travaux publics de l'Etat, Lyon
- Olivier Guillaume, EDF R&D, who joined the group in April 2021

together with FonCSI's Scientific Director, Jean Pariès, and its Director, René Amalberti.



The group of experts at a working meeting in November 2021.

The group aims to enrich its investigations by hearing from academic experts, industrial and political decision-makers, and practitioners. It met seven times in 2021. In May 2021, a meeting was held at Gonfreville-l'Orcher, and the group heard from three key players in industrial risk management: Jean-Paul Lecoq (Member of Parliament for Seine Maritime and former mayor of Gonfreville), Christian Chicot (mayor of Gonfreville and AITF) and André Valin (local resident and former employee of the industrial platform).



Jean-Paul Lecoq, Christian Chicot and André Valin, who were invited to speak to the FonCSI WG.

The group collaborates with, and complements the work of the “Alert process and crisis management” discussion group led by the Institute for a Culture of Industrial Safety (ICSI) and Amaris (a national association of local authorities to manage major technological risks), notably the chair of each group attends the other group’s meetings.

### **What next in 2022?**

Building on the knowledge that has been gained and the material that has been provided by experts, the group’s work is entering the production phase. An Industrial Safety Notebook is expected to be published at the end of the year.

The group’s work may be presented during the Resilience Forum organized by the Metropole Rouen Normandie in October.

Finally, it could also form the foundation for the launch of a strategic analysis on a related theme in the second half of 2022.

# IMPACT OF THE COVID-19 CRISIS ON SAFETY MANAGEMENT STRATEGIES

## Working group

The Covid-19 crisis has wreaked havoc on certain safety practices, notably those related to teamwork, which has become more difficult. Not only have adaptations had to be made, but also more profound changes, in the medium and long term, are emerging as a result of the changes to industry brought about by the crisis.

The economic crisis has led to different choices being made about the globalization, capitalization and fragilization of companies, and investment priorities. Can the strategies that were set out before the crisis still be implemented? Or will the crisis force us to take another look at more ecological, sustainable, and localized trade-offs with the aim of supporting local business?

The extent of the changes in whichever direction, could have a greater impact than we think on tomorrow's safety methods: greater resilience, new certification techniques, a reduced role for the state... It is possible that this could also lead to companies being given greater autonomy to manage the specific characteristics of their context, greater tolerance for managed safety and the contribution of the human being, or to less pressure to reduce safety expenditure.

In May 2020, FonCSI launched a working group to explore these questions. The FonCSI team (Eric Marsden, Jean Pariès, Jean-Marc Vaugier, René Amalberti) is supported by several external experts:

- Hervé Laroche (ESCP Business School),
- André Lannoy (IMDR),
- Thierry Weil (Mines ParisTech),
- and Ivan Boissières (ICSI).

In 2020 and early 2021, the group met with several national and international experts:

- André-Claude Lacoste (President of the FonCSI, former President of the ASN),
- Jacques Repussard (former Director General of the IRSN),
- Frédéric Delorme (President of SNCF Frêt),
- Christian de Boissieu (member of the Circle of Economists),
- David Woods (Ohio University, USA),
- and Jean de Kervasdoué (member of the French Academy of Technologies).

In June 2021, a summary of the group's findings and analyses was presented at an international symposium co-organized by the REA, the NDM community, ICSI, and FonCSI.

## What next in 2022?

The outcomes of the group's work will feed into another group led by the Institute for a Culture of Industrial Safety (ICSI) on the impacts of the Covid-19 crisis on the activities of major French and multinational industrial groups. A document is currently being drafted and will be published by ICSI in 2022.

# RESILIENT BRIEFING-DEBRIEFING

## Pilote

Consistent with its mission of transferring research to the field, the FonCSI aims to set up, with the Institute for an Industrial Safety Culture (ICSI), a pilot project to help industrialists to understand the outcomes of academic research, and operationalize them in the field. The aim is for FonCSI and ICSI teams to work together, from the initial stages of research projects, in order to develop tools that will be tested and, if successful, used and deployed within industries and organizations.

In the context of the “Preparation and Execution of Work” component of its “Vision 2021” South-West Safety Action Plan, GRDF Sud-Ouest approached FonCSI’s experts, to ask for help in professionalizing its theories and practices. The company provided FonCSI with an opportunity to test an experimental briefing-debriefing approach that aimed to improve the reliability and safety of its network operations (installing connections, etc.). The project was launched in June 2019.

The operational objectives of this pilot project are, for FonCSI and GRDF Sud-Ouest:

- to co-construct an approach and associated tools,
- to test them in the field and adapt them, and
- if they prove to be well-received and are evaluated positively, to implement them more widely within the company.

FonCSI’s overall objectives for the project are:

- to test, in the field, the theoretical/methodological drivers related to briefing that have been identified by researchers as contributing to improving the level of safety of activities;
- to observe and analyze the on-site experiment;
- to generalize and publish the results.

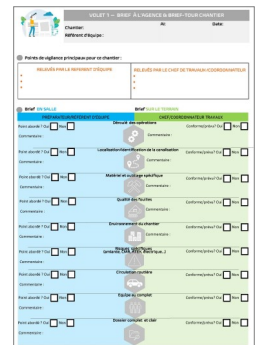
In the context of the project, FonCSI representatives are participating in GRDF Sud-Ouest’s Work Preparation working group. After an initial phase of immersion/ observation in the field (agencies, the operations office and on-site) in 2019, the working group developed and validated a tool to help in preparing briefings, and briefing/ debriefing materials for preparers and site managers. A second phase of immersion in agencies and on-site to test these

materials took place during the summer of 2020. The rest of 2020 was devoted to analyzing feedback from the field, and improving the materials to produce a new version, which was validated by GRDF’s working group in December. In 2021, a new version of the tool was tested internally by GRDF.

## What next in 2022?

The FonCSI will produce and disseminate a deliverable on this first pilot in order to capitalize on the lessons learned.

A mini-conference on the topic of this initial pilot will be organized on May 12 before the general assembly of the Institute for a Culture of Industrial Safety (ICSI).



# PREPARATIONS FOR FONCSI 4

In 2021, the FonCSI team began work on building the next scientific program, FonCSI 4 (2023-2027), and identifying new sponsors.

## FONCSI 4 MODALITIES

Like its predecessors, FonCSI 4 will combine several different activities:

- 6 strategic analyses, FonCSI's core action, each running for 2 years,
- 3 working groups, each running for 1 year,
- providing active and direct support to the international NeTWork, with an annual themed seminar on industrial safety issues,
- 1 industrial pilot,
- leading the scientific community.

In addition, the Foundation will establish an ongoing program of cooperation with the RES association, which carries out action research on the relationship between regulatory authorities and industry, notably with regard to industrial safety challenges. A Memorandum of Understanding (MoU) was signed in 2021.

## PROPOSED THEMES

In 2021, the FonCSI's team began to develop the new research themes that will make up the future scientific program. In July 2021, the FonCSI proposed 16 initial themes.

The summer and fall of 2021 were then devoted to consultations with the Foundation's principal sponsors in order to adjust this initial list of themes, add new ones, delete others, and finally arrive at a more limited set of potential topics.

By the end of 2021, the various meetings and discussions had resulted in a set of 10 themes that will be presented to sponsors in France and internationally during 2022.

### List of themes at the end of 2021:

For the strategic analyses:

- The new champions of safety performance
- Mastering simplification
- Safety practices in the era of the digital transition
- Skills and careers in 2040
- Safety governance in the broader context of sustainability and social responsibility
- Integrating industrial risks into ESG reporting

For the working groups:

- Stakeholders, the dynamics of participation
- NaTech risks
- Safety-security
- Safety culture

# MATERIALS FOR NEW SPONSORS IN FRANCE AND INTERNATIONALLY

In order to be able to provide potential sponsors of the future FonCSI 4 program with as much information as possible, the FonCSI team has created the following new materials, each available in three languages (French, English and Spanish):

- A brochure presenting the work of the FonCSI and the benefits of sponsorship,
- A booklet presenting the research themes,
- A video presentation of the novel strategic analysis method, which is unique to FonCSI's activities.

Finally, given FonCSI's aim of extending its strategic analyses beyond France and including foreign or international companies, a note has been drawn up to explain the modalities of the project to international experts who would be entrusted with its management in Latin America and/ or Northern Europe.

## What next in 2022?

In 2022, the team will dedicate itself to meetings and discussions with new potential sponsors of FonCSI 4, not only in France, but also Europe and South America. We expect to confirm and finalize the themes and modalities of the program by mid-year, to allow sufficient time for the various partnerships to be signed by the end of the year.



# INTERNATIONAL NETWORKS

## COLLABORATION WITH THE REA AND THE NDM COMMUNITY

The Covid-19 crisis has highlighted the need to know how to organize, decide, arbitrate and manage under uncertainty. The sudden emergence of a completely unforeseen pandemic has destabilized risk management models that are deeply founded in notions of anticipation and predetermination.

In order to reflect on these issues, and propose new forms of industrial safety management, the FonCSI, together with the Institute for an Industrial Safety Culture (ICSI), has joined forces with two renowned international networks and schools of thought: the Naturalistic Decision Making (NDM) community, and the Resilience Engineering Association (REA).

The Naturalistic Decision Making (NDM) community is led by Gary Klein, cognitive psychologist and best-selling author. This school of thought seeks to make the “natural”, rapid and intuitive decisions that are taken by operators in dynamic and uncertain situations more reliable.

The Resilience Engineering Association (REA) was launched in the early 2000s by researchers such as David Woods, Erik Hollnagel, Nancy Leveson, Sidney Dekker and Jean Pariès, who is the current Scientific Director of the Foundation and the Institute. The REA focuses on systems, processes and organizations, with the aim of identifying and developing the characteristics that make them resilient.

To find out more about the NDM community and the REA:  
<https://naturalisticdecisionmaking.org/>  
<https://www.resilience-engineering-association.org/>



### The symposium

Together with the REA and the NDM community, the FonCSI and ICSI co-organized an international academic symposium that ran from June 21 to 24, 2021 at the Ecole Nationale d'Aviation Civile (ENAC) in Toulouse.

Almost 400 people, from all over the world, registered for at least one of the 4 days of the symposium. While the majority participated remotely, many attended in person.

The program for June 23 was organized by the FonCSI and ICSI. The focus was on issues that concern the industry, and it addressed the specific question: “Is the at-risk industry in need of a safety management paradigm shift?”

The day featured a variety of interventions and round tables.

The kick-off roundtable discussion focused on signs that we might have reached the end of the road regarding current safety management strategies. What are the new challenges? What needs to change? Four industrialists shared their views:

- Xavier Bontemps, Senior Vice President HSE at TotalEnergies
- Frédéric Delorme, President of Rail Logistics Europe, SNCF Fret
- Etienne Dutheil, Director of EDF's Nuclear Generation Division
- Yannick Malinge, Senior Vice President Chief Product Safety Officer at Airbus

Jean-Christophe Le Coze (INERIS) presented a variety of alternative scientific movements including HRO, Resilience Engineering, NDM, Safety 1-Safety 2, etc. Two videos illustrated these currents of thought: one by Gary Klein on naturalistic decision making and the other by Richard Cook on resilience.

A second roundtable discussion debated the usefulness of these alternative approaches to safety management. Three international experts participated:

- Sidney Dekker, Griffith University (Australia)
- Gary Klein, ShadowBox (USA)
- David Woods, Ohio State University (USA)

Then, Dounia Tazi (ICSI) and Eric Marsden (FonCSI) shared the initial results of the Foundation's working groups and the Institute's work on the impact of the Covid-19 crisis on safety management strategies.

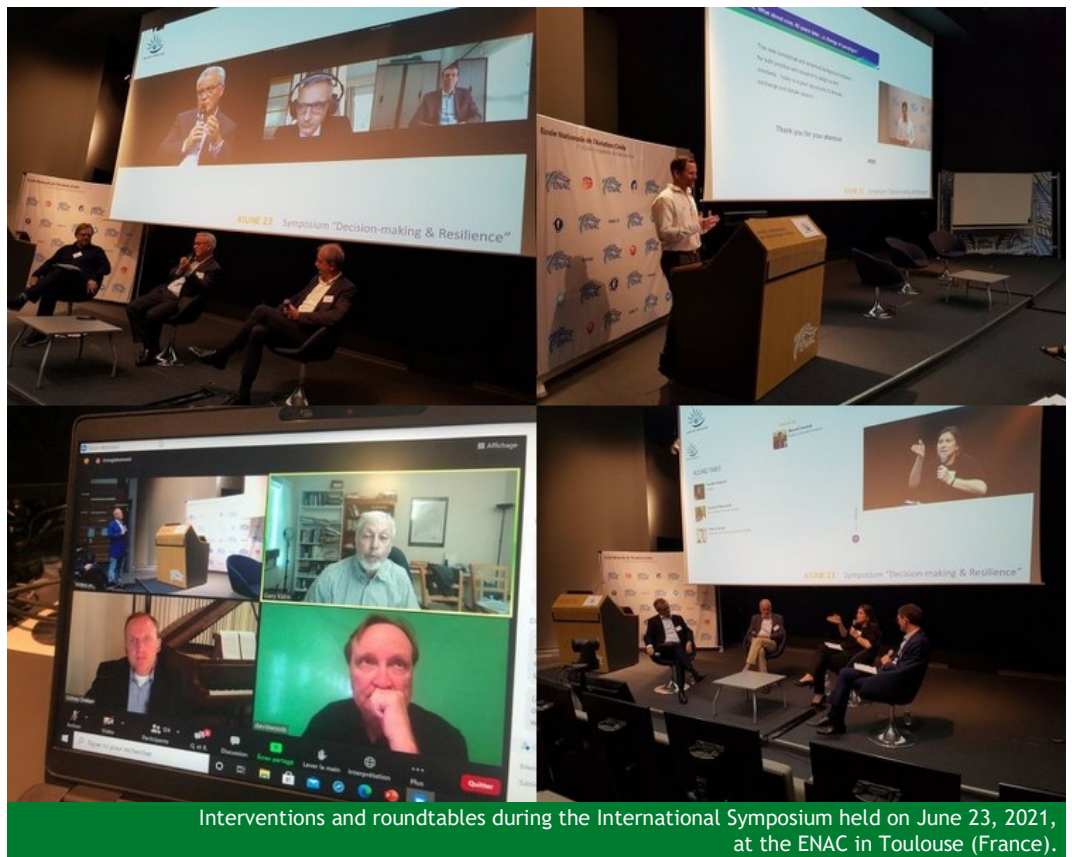


Finally, a third roundtable discussion addressed the issues of social acceptability, and acknowledging the unpredictable and the lack of total control, with the following speakers:

- Jacques Repussard, former Director General of the IRSN
- Aurélia Grignon, lawyer at Soulez-Larivière Avocats
- Pierre Verzat, Chairman of Systra's Management Board

Jean Pariès, Scientific Director, and André-Claude Lacoste, President of ICSI and the FonCSI, concluded the day.

Around 50 people attended in person at the ENAC in Toulouse, and 180 people followed proceedings remotely. A total of 230 participants worldwide followed the days' events.



## THE NETWORK

The Foundation supports the NeTWork (New and emerging Technologies and Work), which is a network of the world's leading scientific specialists on organizations at-risk of a major accident. The Foundation provides funding and organizes the annual seminar.

It also coordinates the publication of the results of the seminar in an open access book published by Springer, which is part of the SpringerBriefs in Safety Management collection.

### Seminar

From September 16 to 18, 2021, a seminar was held on the theme "Safety in the digital age: old and new problems. Algorithms, machine learning, big data & artificial intelligence". This seminar, initially planned for 2020 and postponed due to the Covid-19 pandemic, was run in a hybrid format, with about ten participants physically present at the Royaumont Abbey, near Paris:

- Sarah Backman, Stockholm University (Sweden)
- David Demortain, INRAE (France)
- Yann Ferguson, ICAM (France)
- Olivier Guillaume, UVSQ, EDF R&D (France)
- David Kaber, University of Florida (USA)
- Tor-Olav Nævestad, Institute of Transport Economics (Norway)
- Emery & Scott Roe, University of California (USA)
- Min Kyung Lee, University of Texas (USA)
- Mark Sujjan, University of Warwick (United Kingdom)
- Nicola Paltrinieri, Norwegian University of Science and Technology (Norway)

This seminar was led by Jean-Christophe Le Coze (INERIS, France) and Stian Antonsen (Sintef, Norway).

### What next in 2022?

The book resulting from the 2019 seminar "Visualizing Safety, an exploration: Drawings, pictures, images, videos, movies" is expected to be published in 2022. The theme of the 2022 seminar will be related to safety in the context of the ecological transition.

Find out more about the NeTWork:

[www.network-network.org](http://www.network-network.org)

## SAF€RA

The FonCSI is actively involved in the European consortium for industrial safety research, Saf€ra. This consortium regularly organizes calls for research proposals that bring together actors in European research, whether they be program owners (ministries, research agencies) or specialized institutes. Partners participate in projects by allocating months of the time of their experts and researchers. Saf€ra also organizes symposia to present the teams that are selected following the various calls for proposals, together with the results of projects. The FonCSI manages the European calls for proposals within the Saf€ra framework.



### Calls for proposals

The consortium's 2020 call for proposals was on the theme of "Safety concerns and opportunities related to advanced materials and new technologies in energy production and storage". The call provides funding for work that explores the role of new materials (for example, nano-structures) in energy storage, in particular, new battery technologies, at different phases of the product life cycle, including the little-explored phase of reprocessing. Four projects have been selected under this call, with total funding of €1.5M.

In 2021, in response to the Covid-19 pandemic, Saf€ra launched a "flash" call for proposals on the theme of "Industrial safety in the context of pandemics and exponential change". The call will fund projects that aim to provide feedback on the effects of the pandemic on industrial safety, and innovation in terms of organizational and societal resilience. It also supports the continuation of work on the use of nano-structure materials in filtration devices and personal protection equipment. Two projects were selected for financing, for total funding of half a million euros.

### What next in 2022?

Saf€ra is preparing the launch of a call for proposals focused on three areas: safety in the context of the ecological transition, in the field of nanomaterials, and in the platform economy. The content of the call will be announced at the Saf€ra symposium, which is expected to be held in May 2022 in Rome.

Find out more about Saf€ra:

[www.safera.eu](http://www.safera.eu)

# PUBLICATIONS

## SPRINGERBRIEFS IN SAFETY MANAGEMENT

### A partnership with Springer

Since 2016, the FonCSI has published an open access collection, SpringerBriefs in Safety Management, with the scientific publisher Springer. The collection is dedicated to the topic of risk management and decision making in at-risk environments. Thanks to insights from many different disciplines – ranging from the humanities to engineering sciences, psychology, economics, law and management – the collection explores new topics related to safety management, anticipates the operational challenges faced by industries, not forgetting the concerns of society.



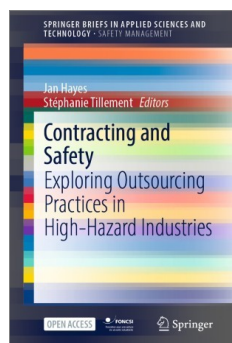
FonCSI's publications in the series are mainly intended for academics, experts, and practitioners. The concepts and results that are presented are relevant to all at-risk industries, including energy, chemicals processing, transport, and services (notably healthcare).

Consistent with the FonCSI's status as a public interest research Foundation, the works published in this collection are all open access publications. The entire collection is free to download, under a Creative Commons license. All you have to do is visit the Springer website.

### The impact of the Covid-19 pandemic

The Covid-19 pandemic has put a very significant damper on Springer's 2021 overall publication schedule, and the FonCSI series, SpringerBriefs in Safety Management, was no exception. Several books that were originally scheduled for release in 2021 have been delayed until 2022.

For example, the book *Contracting and Safety. Exploring Outsourcing Practices in High-Hazard Industries*, edited by Jan Hayes and Stéphanie Tillement, was published in February



2022, several months behind schedule. 2022 should therefore be a year of catching up, and we can expect to see more publications in the FonCSI collection.

### Our most popular books

While 2021 was not a year for new releases, it was nevertheless a successful year in terms of the number of times the SpringerBriefs collection was consulted and downloaded. By the end of 2021, FonCSI had published a total of 7 books in this collection, which were widely downloaded (figures at the end of January 2022):

- *The Coupling of Safety and Security* (2020): 24,000 downloads
- *Human and Organisational Factors* (2020): 90,000 downloads
- *Exploring Resilience* (2018): 110,000 downloads
- *Safety Cultures, Safety Models* (2018): 146,000 downloads
- *Risk Communication for the Future* (2018): 66,000 downloads
- *Beyond Safety Training* (2017): 112,000 downloads
- *The Illusion of Risk Control* (2017): 73,000 downloads

Three books have been downloaded over 100,000 times: *Beyond Safety Training*; *Safety Cultures, Safety Models*; and *Exploring Resilience*.

### What next in 2022?

In addition to the book *Contracting and Safety* that was published in February, several other books are in preparation in the SpringerBriefs in Safety Management series, and are expected to be published in 2022. The first will be the result of the strategic analysis on the Operator of the Future, and the second will be the result of the 2019 NeTWork seminar on "Visualising Safety, an exploration: Drawings, pictures, images, videos, movies".

Find out more about the SpringerBriefs in Safety Management collection:

> [www.foncsi.org/en/publications/collections/springerbriefts](http://www.foncsi.org/en/publications/collections/springerbriefts)

# FONCSI'S COLLECTIONS

## Industrial Safety Notebooks

Since 2008, the FonCSI has published a series of Industrial Safety Notebooks. This collection of publications promotes the results of the research funded by the Foundation. All of the books in the series can be freely downloaded from the Foundation's website in PDF format.

In February 2021, the Foundation published a Notebook that resulted from a research project of the program on professionalization and industrial safety: *Proactivity and Reactivity: Two directions for designing systems that aim to improve industrial safety through training*, by Simon Flandin and Germain Poizat of the University of Geneva, and Romuald Périnet of GRTgaz.

In addition, the English translation of the Notebook *La prise en compte des FHO dans le projet de conception d'un système à risques* by François Daniellou was published in July 2021 under the title *Taking account of human and organisational factors in planning and designing a high risk system*. This Notebook is now available in three languages: French, English and Spanish.



## Key figures

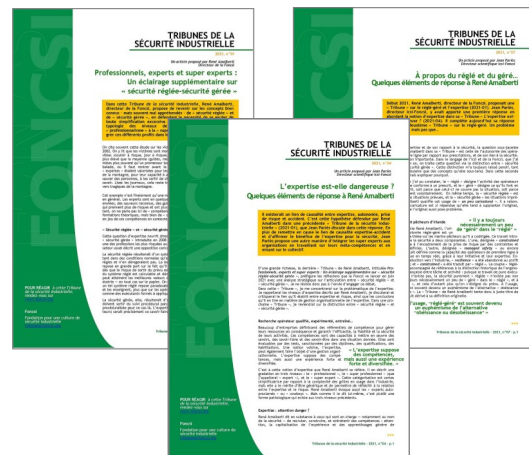
- 131,000 Notebooks were downloaded in 2021, in more than 150 countries
- FonCSI reports have been cited in 240 academic publications
- The Notebook collection comprises 91 publications

## Industrial Safety Opinion Pieces

The FonCSI began publishing its Industrial Safety Opinion Pieces series in 2013. The aim of this collection of short opinion pieces is to stimulate debate on critical topics related to industrial safety.

In 2021, FonCSI published in French a series of Opinion Pieces to stimulate debate on the notions of expertise and managed and initiative-based safety: *Professionals, experts and super experts*, by René Amalberti; *Is expertise dangerous?* by Jean Pariès; and *Another look at rule-based and managed safety...* by Jean Pariès.

These three Opinion Pieces have been translated and published in English and Spanish.



In addition, the team of Argentine experts from the Institute for a Culture of Industrial Safety (ICSI) has proposed an Opinion Piece on the topic of individual responsibility as a social tool for managing major crises, in particular, the Covid-19 crisis in Argentina: *La responsabilidad individual para controlar la pandemia: una estrategia insuficiente* has also been published in French.



## What next in 2022?

Several new Industrial Safety Notebooks are in preparation. The first summarizes the work of the Risks and the Local Area working group, and is expected to be published in 2022. Two other Notebooks, summarizing the results of other strategic analyses will be prepared during the year.

Find out more about FonCSI's publications:

> [www.foncsi.org/en/publications/collections](http://www.foncsi.org/en/publications/collections)

# DISSEMINATION

## NEWSLETTERS

### The FlashWeb

For over 9 years, the FonCSI has shared a monthly newsletter, the “FlashWeb”, with its community. This newsletter is an opportunity to keep subscribers up-to-date with the Foundation’s most important developments:

- progress on ongoing research projects (the operator of the future, the impact of the Covid crisis, the relationship with contractors, risks and the local area, the regulator-regulated relationship, etc.);
- new publications (SpringerBriefs, Industrial Safety notebooks, Opinion Pieces, etc.), all of which can be downloaded for free;
- conferences organized by the FonCSI;
- a monthly insight into the scientific literature and recommended reading.



In 2021, the FlashWeb had more than 850 subscribers: the community ranges from researchers and experts working on the Foundation’s projects, to sponsors and partners and, more broadly, anyone who registers to receive it.

Interested in finding out more?

> [register for the FlashWeb newsletter](#)

### Strategic Analysis Journals

In 2020, the FonCSI created a new way to communicate in greater depth, and more regularly with the members of the Foundation’s Board of Trustees and the sponsors of its FonCSI 3 program (Airbus, DGAC, EDF, EPSF, GRTGaz, IRSN, SNCF, TotalEnergies, UIC, and VINCI), about progress on its strategic analyses.



Entitled the “Strategic Analysis Journal”, the aim of this brief update is to inform recipients of progress regarding the Foundation’s ongoing strategic analyses.

In 2021, three Journals were issued; two on the results of the Operator of the Future and one on the Regulator-Regulated Relationship. At the beginning of 2022, a Journal was prepared to report on the international academic seminar on the topic of the Regulator-Regulated Relationship.



## THE WEBSITE

FonCSI’s website was launched in 2013. It provides information about the work of the Foundation, the research projects that it coordinates, its open access publications (SpringerBriefs, Industrial Safety Notebooks, Opinion Pieces, etc.), news, etc.

Since 2021, the FonCSI team has published a monthly “Recommended reading” bulletin. The aim is to decipher the scientific literature on the topic of industrial safety. 25 bulletins were published in 2021 on the Foundation’s website, and distributed via the FlashWeb and on LinkedIn.

Visit FonCSI’s website:

> [www.foncsi.org](http://www.foncsi.org)

## SOCIAL NETWORKS

### LinkedIn

The FonCSI has been a member of LinkedIn, the leading international professional social network, since 2020. LinkedIn allows the Foundation to communicate with as many people as possible about how its research is progressing, to promote its publications and its different collections (SpringerBriefs, Notebooks, Viewpoints, Opinion Pieces, etc.), and to invite people to participate in events (webinars, conferences, symposia, etc.) on the topic of industrial safety.

At the end of 2021, the account was followed by nearly 650 subscribers, both French and international, from the world of research and industry (industrial safety specialists, QHSE managers, safety directors, etc.), along with trade unionists and expert consultants.

In 2021, FonCSI published nearly 50 posts, which generated anywhere from a few hundred to over 2,200 views. The most-viewed post concerned the publication of the Industrial Safety Notebook on the topic of the consideration of HOF when designing projects for at-risk systems in three languages, French, English and Spanish.

Follow the FonCSI on LinkedIn:

<https://www.linkedin.com/company/foncsi/>



### Twitter<sup>1</sup>

The Foundation created its “Culture Sécurité@LaFonCSI” account on Twitter in 2012, and has posted more than 1,000 tweets since its creation. The FonCSI uses Twitter to share news and debate issues related to industrial safety. The account has more than 650 subscribers.

In 2014, the Foundation created an English-language account, “Safety Culture@TheFonCSI”, which has more than 400 followers. More than 500 tweets have been posted since its creation.

Follow the FonCSI on Twitter:

En français <https://twitter.com/LaFonCSI>

En anglais <https://twitter.com/TheFonCSI>



<sup>1</sup> Figures as of the end of January 2022



6 allée Émile Monso – BP 34038  
31029 Toulouse cedex 4 – France  
Tel: +33 (0)5 32 09 37 70  
[www.foncsi.org](http://www.foncsi.org)