

ANNUAL REPORT

European Science Foundation Science Connect

2021



September 2022

"European Science Foundation – Science Connect 2021 Annual Report"

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Foreword



2021 has been an exciting year for ESF-Science Connect. Despite the adverse conditions caused by the global pandemic, ESF-SC succeeded in overcoming these challenges and moving forward with its operations, thanks to the flexibility and commitment of our team and partners.

Staying true to its mission, ESF-SC has been serving the European research ecosystem relentlessly. It has increased its overall volume of activity and enlarged its partnership base, efficiently helping research organisations to reach their objectives. The present Annual Report highlights the most significant contributions throughout 2021:

- **Research Quality Assessment and Grant Evaluation:** ESF-SC processed the assessment of more than 4,200 research proposals and applications for 16 partner funding organisations.
- **Hosting scientific structures and networks:** ESF-SC supported the activities of six independent committees and institutional networks. It also expanded its operational capacities to new organisations actively involved in the European research landscape.

“As a facilitator and enabler supporting the conduct of scientific research, ESF-SC helps European research stakeholders and actors to deliver high-quality science in all disciplines.”

- **European project coordination and management:** providing its unique set of science management skills, ESF-SC participated in 15 EU-funded projects (Horizon 2020 and Horizon Europe), coordinated eight and led communication activities for five of them.
- ESF-SC also set up and operated the office of the **Fight Kids Cancer (FKC) research programme** on behalf of four European charities. 2021 saw the completion of the second open call for projects (3M€ budget), the opening of the third (4M€ budget) and the signing of the grant agreements for the first six FKC research projects.

2021 confirmed the value and relevance of ESF-SC's unique positioning as a facilitator and enabler in the European Research Area. Besides reinforcing our current activities, we also progressed in defining our future strategy with the consultation of more than 40 key European research actors and in preparing a high-level event to reflect on ESF-SC activities, strengths and its future role within the European, and global, Research Area.

Prof. Véronique Halloin
ESF-SC President

2021 at a glance

30+

grant evaluation
missions coordinated

4.2k

applications
assessed

6

scientific platforms
hosted & operated

7.4
M€

annual
turnover

15

EU projects
in progress

10k

college of
international experts

33

staff
members

15

staff
nationalities

Who we are

The European Science Foundation-Science Connect (ESF-SC) is a non-governmental, internationally oriented, nonprofit association implementing high-quality, independent science operations for the European Research Area since 1974. Its headquarters are in Strasbourg, France, at the crossroads of many European endeavours.

ESF membership is open to public or private organisations from European countries (members of the Council of Europe) acting in the European research landscape. Currently, ESF-SC gathers ten members from eight European countries and counts 33 staff members of 15 different nationalities who contribute to its activities. The organisation has an annual turnover of 7.4 M€ (2021).

The ESF-SC is committed to promoting the highest quality science in Europe to drive progress in research and innovation. It aims to initiate, support, develop, and implement actions striving, at European and international levels, to:

- Serve and strengthen all disciplines of science
- Foster cooperation between the various research stakeholders
- Support and assist the conduct of scientific research.

ESF-SC's actions are politically neutral, of pan-European and worldwide scope, addressing all domains of sciences and are guided by the principles of integrity, openness, excellence, transparency, and common interest.

Executive Board Members



Véronique Halloin

Secretary-General, Belgium
Fund for Scientific Research
(FNRS)



Eva Pacheva

Vice-President,
Bulgarian Academy
of Sciences



Marc Schiltz

CEO, Luxembourg National
Research Fund (FNR)



Matthias Girod

Secretary-General,
EuroScience

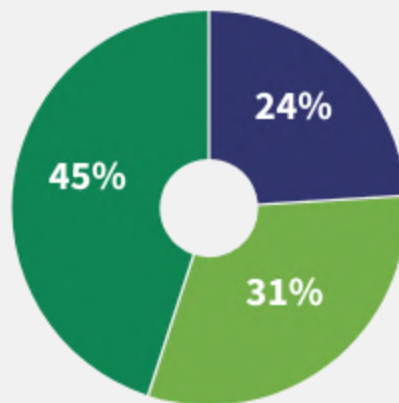
Member Organisations

BELGIUM	Fund for Scientific Research (FNRS)	Associate member
BULGARIA	Bulgarian Academy of Sciences (BAS)	Full member
FRANCE	EuroScience	Full member
FRANCE	Core Technologies for Life Sciences (CTLS)	Associate member
FRANCE	French Research Institute for Exploitation of the Sea (Ifremer)	Associate member
HUNGARY	Hungarian Academy of Sciences (MTA)	Associate member
LUXEMBOURG	Luxembourg National Research Fund - FNR	Full member
ROMANIA	National Council for Scientific Research (CNCS)	Associate member
SERBIA	Serbian Academy of Sciences and Arts	Associate member
TURKEY	The Scientific and Technological Research Council of Turkey (TÜBİTAK)	Associate member

Financial Highlights

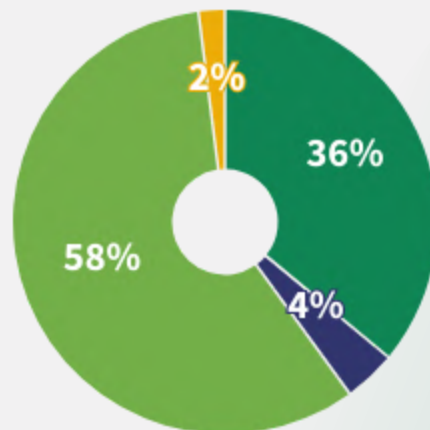
In line with the past years' trend and despite the COVID-19 crisis, ESF-SC's revenues have increased in 2021. This is due to a significant increase in activities triggered by new projects and new partnerships but also to the continuation and renewal of existing collaborations. ESF's cost structure relies on its staff, as well as services and grants paid on behalf of the various committees and programmes. In 2021, ESF employed 35 persons, 55% of whom are scientists.

Income sources



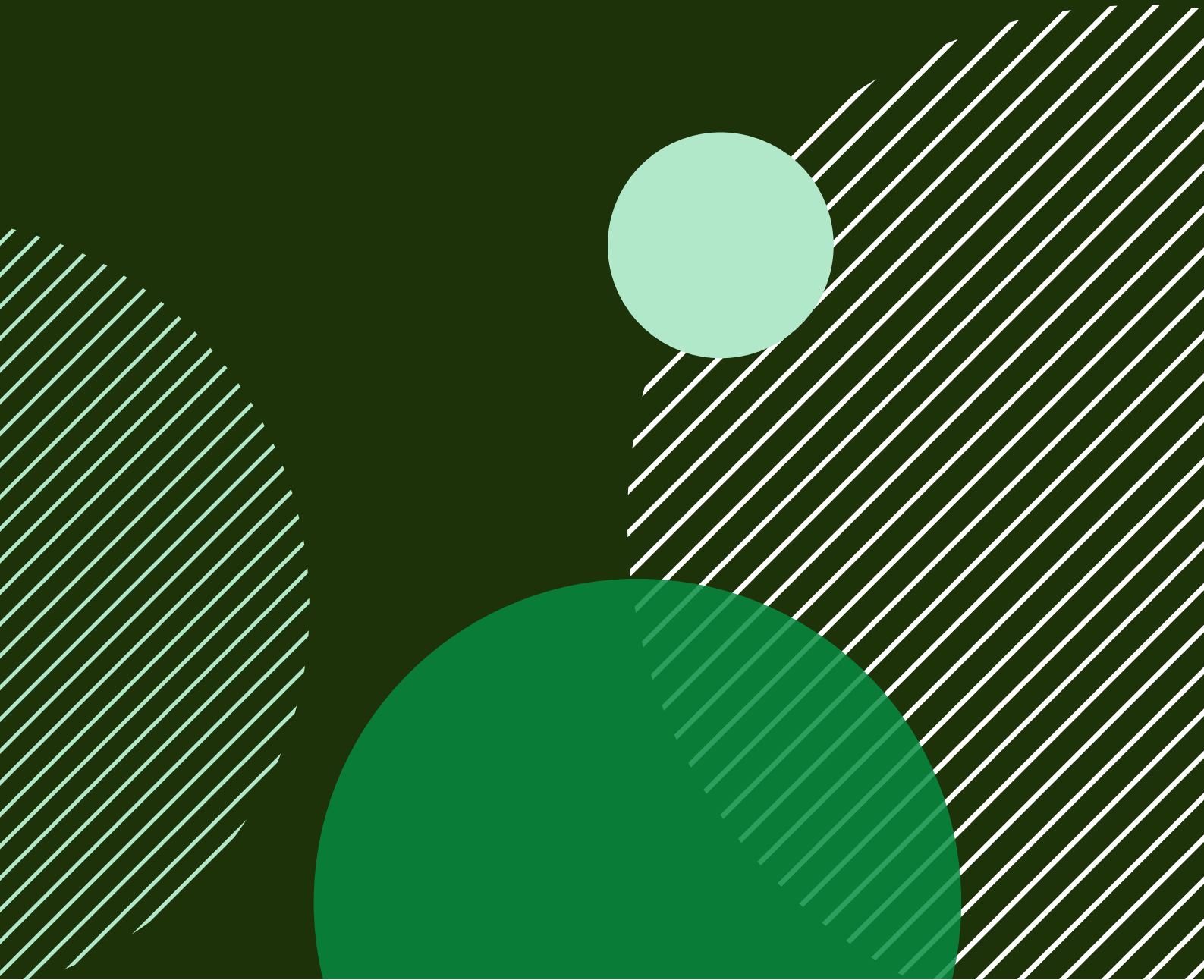
■ EC contracts ■ Grant Evaluation ■ Platforms & committees

Expenses breakdown



■ Staff costs ■ Fixed costs & infrastructure
■ Science costs incl. grants
■ Investment (depreciation) & provisions

ACTIVITY AREAS



01.

RESEARCH QUALITY ASSESSMENT AND GRANT EVALUATION

ESF-SC's Grant Evaluation activities support research funders, programmes and universities in identifying and selecting the best research projects and applications across all domains of science. This support is tailored to each partner's needs and can involve:

- Providing two or more expert evaluation reports for each research project or application to be assessed to support the partner's selection process.
- Setting up disciplinary international review panels who collectively assess projects and applications and delivers a ranked list.
- Full-scale support, involving support with the call text and selection criteria definition, proposal collection, and full selection process tailored to the funding programme's objectives.

ESF-SC has been implementing independent Grant Evaluation processes for its own programmes for decades. Since 2009, ESF-SC has provided independent grant evaluation support to European National research funding organisations (e.g. Research Foundation Flanders - FWO, Austrian Science Fund - FWF, the Shota Rustaveli National Science Foundation of Georgia - SRNSFG), Universities (e.g. Bordeaux, Aix-Marseille, Luxembourg, Ghent, Torino, Naples), philanthropies (e.g. the AXA Research Fund), European agencies and programmes (e.g. HERA Joint Research Programmes, ESA, Graphene Flagship Ramp Up, Europlanet 2024 RI, MSCA Co-funds).

This year's progress

In 2021, the ESF-SC coordinated 30+ Grant Evaluation missions, involving the assessment of 4200+ applications and the provision of 9900+ assessment reports by expert reviewers and members of ESF-SC Review Panels. 100% of the missions were completed in compliance with partner quality standards and timeline requirements, thanks to the efficiency of our teams, tools, and processes.

Over 90% of our reviewers were satisfied with the quality of the review processes and the user-friendliness of the ESF-SC online evaluation platform (feedback survey of 964 reviewers, spring-summer 2021).

Type of applications assessed



n=4,273

Geographical balance

79 Countries represented
across all Reviewers



Highlights

Expert reviews of 1,300+ FWO Fundamental Research Projects (Belgium)

In the frame of its partnership with the [Research Foundation - Flanders \(FWO\)](#), from Spring to Summer 2021, ESF-SC coordinated the peer review of over 1300 [Junior and Senior Fundamental Research Projects](#) across all research domains, whereby each project was assessed by two international expert reviewers.

600+ applications evaluated by 19 review panels under SRNSFG calls (Georgia)

At the request of the [Shota Rustaveli National Science Foundation of Georgia \(SRNSFG\)](#), from June to November 2021, ESF-SC implemented the scientific assessment of 600+ research proposals received under two calls for proposals – [Fundamental Research and Young Scientist](#) calls. ESF-SC set up altogether 19 international review panels bringing together nearly 200 experts who participated in online panel meetings between October-November 2021.

Evaluation of 196 research grant applications for the University of Naples (Italy)

From June to October 2021, ESF-SC carried out the evaluation of 196 [Established Principal Investigator Grant \(EPIG\)](#) applications from researchers at the [University of Naples Federico II](#). The goal was to foster the participation of the University's researchers in EU competitive research funding programmes. The evaluation process involved organising assessments by external expert reviewers as well as setting up three international review panels responsible for the final evaluation and ranking of the applications.

Assessment of FIBE's "Energy for Future" post-doctoral fellowship applications (Spain)

In August-September 2021, ESF-SC set up a pool of 40+ experts in the area of clean and sustainable energy to support the [Fundación Iberdrola España \(FIBE\)](#) in the peer review of post-doctoral fellowship applications. These were received under the first ["Energy for Future"](#) call, supported by the [Marie Skłodowska-Curie Action COFUND](#) under Horizon 2020.

What's in store

In 2022, ESF-SC grant evaluation activities will involve peer review support within the frame of several ongoing existing partnerships: Research Foundation Flanders (Fundamental Research Projects, Strategic Basic Research projects, Odysseus programme projects, as well as the postdoctoral fellowships projects), the Luxembourg National Research Fund (FNR) CORE programme, the “Clusters of Excellence” projects of the Austrian Science Fund (FWF), the Shota Rustaveli National Science Foundation calls (e.g., Fundamental Research, Young Scientists calls), continuing support to MSCA COFUND actions (e.g., ADAGIO co-fund between the University of the Basque Country and the University of Bordeaux) as well as support to our partner universities (Ghent University, University of Luxembourg, University of Bordeaux, University of Grenoble).

The ESF-SC Community of Experts plays a vital role in sustaining scientific collaboration and supporting excellence in grant and programmatic evaluation.

Today it comprises nearly 10,000 international experts across all scientific disciplines.



Learn more:

- www.esf.org/grant-evaluation/research-grant-evaluation
- www.esf.org/community-of-experts

02.

HOSTING SCIENTIFIC STRUCTURES & NETWORKS

ESF-SC has a long track record of establishing and hosting scientific structures and networks across diverse scientific fields, including space sciences, radio-astronomy frequencies, nuclear physics, and Open Access.

In 2021, ESF-SC facilitated the work of the following scientific platforms by hosting and operating their executive offices:

- European Space Sciences Committee (established in 1974)
- Committee on Radio Astronomy Frequencies (established in 1988)
- Nuclear Physics European Collaboration Committee (established in 1991)
- Europlanet Society (established in 2018)
- European Astrobiology Institute (established in 2019)
- cOAlition S (office established at ESF in 2020)

These scientific structures and networks are composed of high-level, independent researchers or research managers who provide expert advice and develop strategic approaches related to their domains in close collaboration with national authorities, European agencies, research entities and international stakeholders.

Mobilising its staff and infrastructure, ESF-SC provides tailored secretariat services to these entities: general administration, coordination of activities, communication support as well as financial and contractual management. This support enables stakeholders to focus exclusively on their scientific goals.

The following pages present highlights of their scientific work.

cOAlition S is an international consortium of 27 research funding and performing organisations, supported by the European Commission and Science Europe, that implements Plan S, an Open Access publishing initiative built on 10 strong Principles. The European Science Foundation has been hosting the cOAlition S Office since January 2020.

Plan S requires that, with effect from 2021, all scholarly publications on the results from research funded by public or private grants must be published in Open Access Journals, on Open Access Platforms, or made immediately available through Open Access Repositories without embargo.

This year's progress

Membership

In 2021 cOAlition S increased its international footprint by welcoming two new members: the Québec Research Funds (QRF) and the Foundation for Science and Technology of Portugal (FCT).

Journal Comparison Service (JCS)

Plan S principles require that when Open Access fees are applied, they must be commensurate with the publication services delivered, and the structure of such fees must be transparent. For this reason, in late 2021, cOAlition S started developing the Journal Comparison Service, a secure online platform to allow academic publishers to present the nature and price of their services in a transparent way, thus enabling their customers, the libraries and funders to understand better how the fees they pay are commensurate with the publication services they receive.

Journal Checker Tool (JCT)

Using a database of more than 50.000 journal titles, the Journal Checker Tool enables researchers to identify venues that provide routes to compliance with Plan S. The tool is well used, attracting an average of 3000 new users every month in 2021.

Rights Retention Strategy

The Rights Retention Strategy aims to give researchers supported by Plan S funders the freedom to publish in their journal of choice, including subscription journals, whilst remaining fully compliant with Plan S. To this end, cOAlition S funders require that a CC BY licence is applied to all Author Accepted Manuscripts or Versions of Record supported by their funding, and that grantees ensure Open Access at the time of publication to all research articles which arise from their funding.

Transformative Journals

The Transformative Journals framework has been developed to accelerate the transition of hybrid journals to full Open Access. In 2021, 14 publishers (large and small, for-profit, not-for-profit, society publishers and university presses) and some 2240 journals enrolled in the Transformative Journals framework. These journals must show that their share of OA articles is growing according to annually set targets with an aim to become fully Open Access latest by the end of 2024 and that they offset their subscription income from payments for publishing services to avoid “double-dipping”.

Open Access books

cOAlition S has issued recommendations regarding academic books in line with Plan S principles that all cOAlition S organisations will seek to adopt within their own remits and jurisdictions. cOAlition S will collaborate with the OA books community to develop implementation guidelines that respect the diversity in academic book publishing practices and business models.

Diamond OA journals

cOAlition S supports the diversity of business models for Open Access publishing venues, including the so-called “non-APC” models. A study commissioned by cOAlition S and Science Europe on community-driven open access journals that are free for readers and authors, usually referred to as “OA diamond journals”, revealed a vast archipelago of over 17-29.000 relatively small journals serving a wide variety of scientific communities, largely dependent on volunteer work, universities, and government funding. cOAlition S will consider the recommendations of the report and work together towards a scholarly publishing model that is equitable, community-driven, academic-led and -owned.



What's in store

cOAlition S will continue to support its funders to successfully implement Plan S by providing advice, services and tools, like the development of the Journal Comparison Service to help determine if prices for publishing services are fair and reasonable. cOAlition S will step up its communication efforts around the Rights Retention Strategy (RRS) and monitor the effects of Plan S for Early Career Researchers. cOAlition S will also continue seeking new members and fostering alignment around Plan S principles to ensure that it has a more international and diverse footprint.



Learn more: www.coalition-s.org

CRAF's mission is to coordinate activities to keep the frequency bands used by radio astronomers in Europe free from interference. The Committee represents all the major radio astronomical observatories in Europe. CRAF is organised in teams, which work on particular fields, such as satellite-services or mobile communication, and meet regularly every 2-3 weeks. The management team meets every week, discusses high-level spectrum management issues of interest and organises the CRAF work.

This year's progress

The overall workload for CRAF (and generally in spectrum management) has steadily increased over the last years. In 2021, several members have managed to organise additional funding. Three new FTEs are now available to work exclusively on spectrum management issues. Prior to that, the only full-time person to work for CRAF was the “Frequency Manager”.

CRAF members participated in a large number of international (ITU-R), European (CEPT/ECC) and national spectrum management meetings to prepare for the next World Radiocommunication Conference (WRC-23), and address issues of radio astronomy (RA) interests. Discussion topics included: the international mobile telecommunication service (IMT) and threats to RA observations, possible new allocations to IMT in the so-called mid-band (3 to 11 GHz) that would affect several RA frequencies, the impact on observations from the operation of cell-phone base stations on aerial platforms, as well as whether new allocations to IMT in the frequency range between 470 and 960 MHz would affect the RA frequency at 610 MHz.

A lot of work has been done on possible future protection of the Global Geodetic VLBI network with its new VGOS application. At the moment, VGOS uses RA frequencies. However, this would not suffice for their operations in the long run. Likewise, discussions were held about the future protection of space weather observatories, which partly use existing RA stations, but do not yet have a regulatory status on their own. For all these topics, CRAF produced compatibility studies, submitted related documentation to the working groups of CEPT/ECC and ITU-R and contacted national network agencies asking for protection.

Compatibility studies

On top of the WRC-23 agenda, CRAF also dealt with other topics that are currently discussed in Europe. For example, ultra-wide-band short-range devices at various frequencies were under investigation by working group CEPT/ECC SE24 and CRAF contributed compatibility studies. Some of this work has been concluded and results are contained in ECC Reports 325 and 327.

CRAF was also heavily involved in discussions about the introduction of Internet-of-things satellite constellations at frequencies of 150 MHz and 400 MHz (CEPT/ECC SE40). A major threat to passive scientific radio services (RA and the Earth-exploration satellite service) is an initiative by the German administration, which would like to permit active services to operate in so-called passive radio bands. However, these passive bands are exclusively reserved for passive observations in the ITU-R Radio Regulations (RR). CRAF sees that as a violation of the RR, which have the status of an international treaty.

Satellite constellations

CRAF is heavily engaged in worldwide activities seeking solutions for the emerging large satellite constellations, such as SpaceX/Starlink and OneWeb consisting of hundreds to several thousands of satellites. The so-called mega-constellations have raised the awareness of the full astronomy community. They pose a threat to optical astronomy, as they can reflect sunlight, but are also a major problem for RA observations.

The International Astronomical Union (IAU) initiated the Centre for the Protection of the Dark and Quiet Sky from Satellite Constellation Interference (CPS). CRAF is a Tier-1 supporter of the Centre and has already started to contribute to its activities. Likewise, CRAF is heavily involved in the OPTICON-RadioNet Pilot (ORP) project, which is funded under the EU's Horizon 2020 programme. ORP has two work groups for the protection of the dark and radio-quiet sky. The ITU-R has also done some work to regulate mega-constellations. Unfortunately, this suffices only for the few frequencies that RA "owns". Modern RA, however, opportunistically observes in much larger bands of the spectrum to achieve their science goals. Even going to remote sites won't suffice to avoid satellite-borne interference and mega-constellations may be a burden to billion-dollar projects, such as ALMA and SKA, and the medium-scale European RA observatories alike.

This year's progress (cont'd)

Outreach

CRAF created a new team for outreach activities. The team gathered ideas for a new, improved CRAF logo. Furthermore, social media activities are under review and another newsletter issue is in preparation.

Work has started to produce another revision of the CRAF Handbook for Spectrum Management, which is a valuable resource of information for many, but is somewhat outdated with regards to specific topics.

Organisation changes

As of 1 October 2021, Dr. Benjamin Winkel from Max-Planck-Institute for Radioastronomy (Germany) has been appointed as the new Chair, replacing Dr. Michael Lindqvist from Onsala Space Observatory (Sweden).



What's in store

CRAF is preparing itself for the upcoming ITU-R World Radiocommunication Conference (WRC-23) that will take place either in Abu Dhabi or Dubai, UAE from 20 November to 15 December 2023.



Learn more: www.craf.eu



The European Astrobiology Institute (EAI) is a consortium of European research and higher education institutions and organisations as well as other stakeholders aiming to carry out research, training, outreach and dissemination activities in astrobiology in a comprehensive and coordinated manner and thereby securing a leading role for the European Research Area in the field.

This year's progress

Seminars & trainings

- The EAI organises a biweekly series of seminars by eminent astrobiologists. In 2021, 15 seminars were held, which were live-streamed on the EAI website and uploaded on Youtube. The attendance rate and feedback were very positive.
- The EAI Academy, a new international educational program, was launched by the Center for Astrobiology (CAB), Madrid. During the academic year 2021 – 2022, a series of 16 didactic talks were held on the topics: Trips to the Outer Solar System, Habitability of exoplanets, Life in the dark, Co-evolution of planetary geospheres, atmospheres and biospheres. The talks are offered for free every two weeks and are streamed online. At the end of the academic year, CAB will award a certificate of participation to those who attend at least 10 seminars. The University of Tartu will also award 3 ECTS and a certificate to those who complete a homework assignment.

Meetings

- The Management Committee met virtually four times.
- The Working Groups met regularly, notably the Planetary Environments and Habitability led by Ina Catalina Plesa and Dennis Honing.
- The Beacon Conference in 2021 had to be cancelled due to COVID-19 uncertainties.
- EAI held its General Assembly online in October 2021. The management structure remains the same for the period 2021-2022. The main discussion was centred around the need to identify appropriate European funding to ensure an astrobiology research infrastructure or similar network for the community.

Working group & project team activities

- "Life Beyond Us", a new anthology by the "Science Fiction as A Tool for Astrobiology Outreach & Education" team and Laksa Media, depicts the timeless quest for finding alien life in 22 science fiction stories and 22 short science essays. The Kickstarter campaign (12 April-12 May 2021) was a great success, unlocking all stretch goals. The Anthology publishes brilliant science fiction by authors such as Mary Robinette Kowal or Peter Watts and supports science understanding and critical thinking.
- The WG "Formation and Evolution of Planetary Systems and Detection of Habitable Worlds" together with the WG "Planetary Environments and Habitability" worked on a collaborative paper entitled: "Habitable Worlds: Formation, evolution, detection and characterization". The aim of this undertaking is to write an article with a special focus on astronomical aspects of habitability and to initiate future research projects along the lines identified in this article. The team will submit it to the Space Science Reviews.
- The Project Team: "Tracing life and identifying habitable environment" has established a working group at ISSI entitled "Towards a universal tracers portal". The work of this group started in November 2021 with a virtual kick-off meeting, to which 26 experts from different fields were invited. This event aimed to discuss and brainstorm on tracers of habitability as well as tracers of life (together with potential problems regarding nomenclature, misunderstandings between different scientific fields, and how to establish a common language) in three different domains: Earth, Solar System and exoplanets research.
- The EAI has launched its revamped website <https://europeanastrobiology.eu> with a new and improved look.

What's in store

- The seminar series will continue in 2022.
- Various summer schools and workshops are planned in 2022 by EAI Working groups: "The pathway to complexity: From simple molecules to first life" in May 2022, Heidelberg, "Life on Earth and Beyond" in June 2022 (Ven Island, SE) as well as "Volcanism, Plate Tectonics, Hydrothermal Vents and Life" on the Azores in October 2022.
- The Institute is organising **BEACON 2023**, which will be held in May 2023 in La Palma (Spain)



Learn more: www.europeanastrobiology.eu

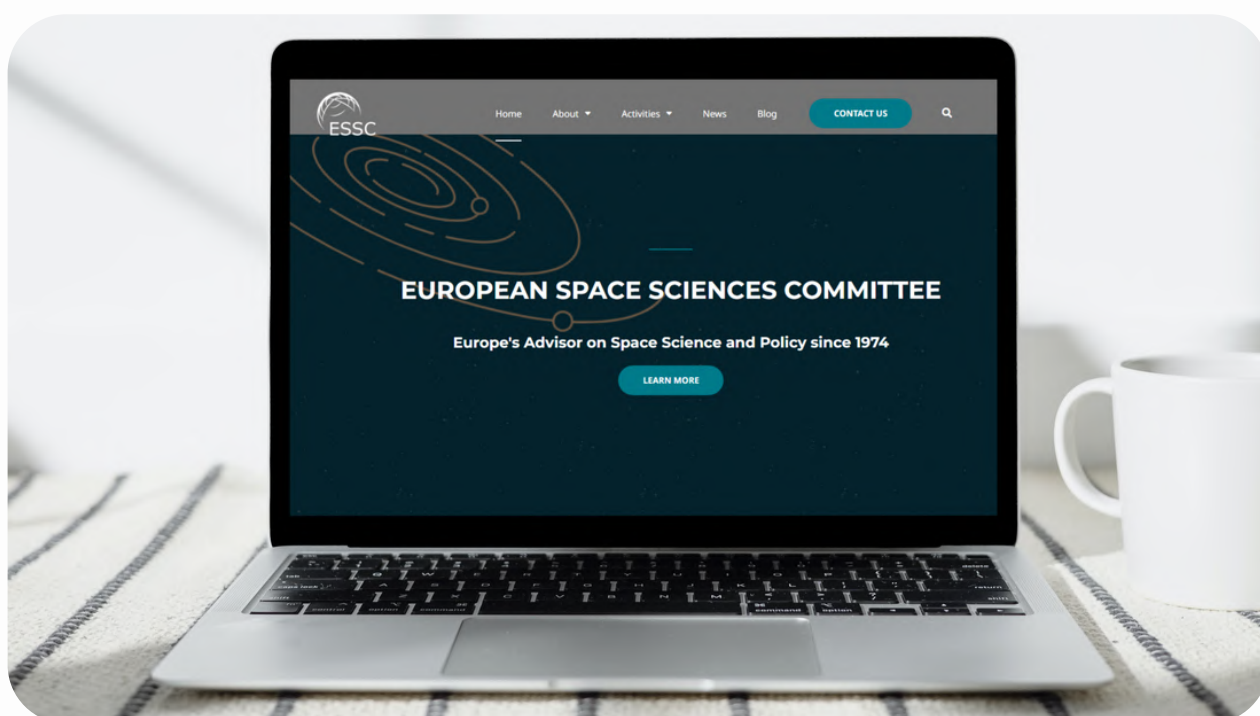


The European Space Sciences Committee (ESSC), established in 1974, grew from the need to give European space scientists a voice in the space arena at a time when successive US space science missions and NASA's Apollo missions dominated space research. More than 45 years later, the ESSC actively collaborates with the European Space Agency (ESA), the European Commission, national space agencies and the ESF Member Organisations. This has made ESSC Europe's most prominent independent advisory body on space sciences. The mission of the ESSC today is to assemble an independent forum for scientists to discuss space science issues and provide advice to the different stakeholders.

This year's progress

- The ESSC, guided by its new Chairperson, Professor Chris Rapley, who officially assumed the leadership from Athena Coustenis in November 2020, has embarked on several activities bringing it closer to the wider space community.
- In cooperation with COSPAR, ESSC started working on a three-volume book series on the 20 years anniversary of the International Space Station (ISS), aiming to provide a review of the research that has been conducted within the ISS in the fields of physical and life sciences.
- ESSC embarked on a consultation exercise for the definition of priorities within the microgravity research community for the next 10 years.
- A long collaborative effort between ESSC, ISSI, SSB, the European Marine Board, Paris Science et Lettres University led to the publication of the book "[Ocean Worlds: Habitability in the Outer Solar System and Beyond](#)". This collection of scientific papers provides a state-of-the-art look at current knowledge on ocean worlds in our solar system and beyond.
- The ESSC, via its Chair, Executive Secretary and ESF CEO, started discussions with the ESA Director-General to explore collaboration opportunities in the framework of the ESA Ministerial Council in 2022. ESSC is expected to provide input to the draft programs of ESA, for the scientific part of the ESA proposal.

- The European Space Science Committee (ESSC) conducted their 61st and 62nd plenary meetings, on the 26-28th of May, 2021 and from the 30th of November to the 1st of December, 2021 (both virtually). The meetings were attended by participants from the ESSC members, the ESSC Secretariat, and the representatives from European and International institutions, such as the European Space Agency (ESA), the EU Agency for Space Programme (EUSPA), the Committee on Space Research (COSPAR), the Space Studies Board and Aeronautics and Space Engineering Board (SSB), and the Chinese Academy of Science (CAS).
- The LPSP panel has completed the first phase of its survey of the life and physical sciences community, reaching out and interacting with over 150 members of the community regarding the future of space platform experimentation. This study is funded by the ESSC.
- The ESSC launched a revamped website, <https://www.essc.esf.org>, with a new, improved look and rich content (including blogs and research outputs).
- The ESSC renewed all its Panel Chairs. Professor Mahesh Anand and Professor Nabila Aghanim have been elected Chairs of the Solar System and Exploration (SSEP) and Astronomy and Fundamental Physics (AFP) panels, respectively. They took over from Professor Herman Opgenoorth and Professor Stephan Udry, who stepped down after nine years of valuable contributions. Professor Anny Cazenave and Professor Alexander Chouker took over from Maarten Krol and Dominique Langevin, as chairs of the Earth Sciences (ESP) and Life and Physical Sciences (LSPS) panels, respectively. The Committee added eight new members, bringing the total membership to 29.

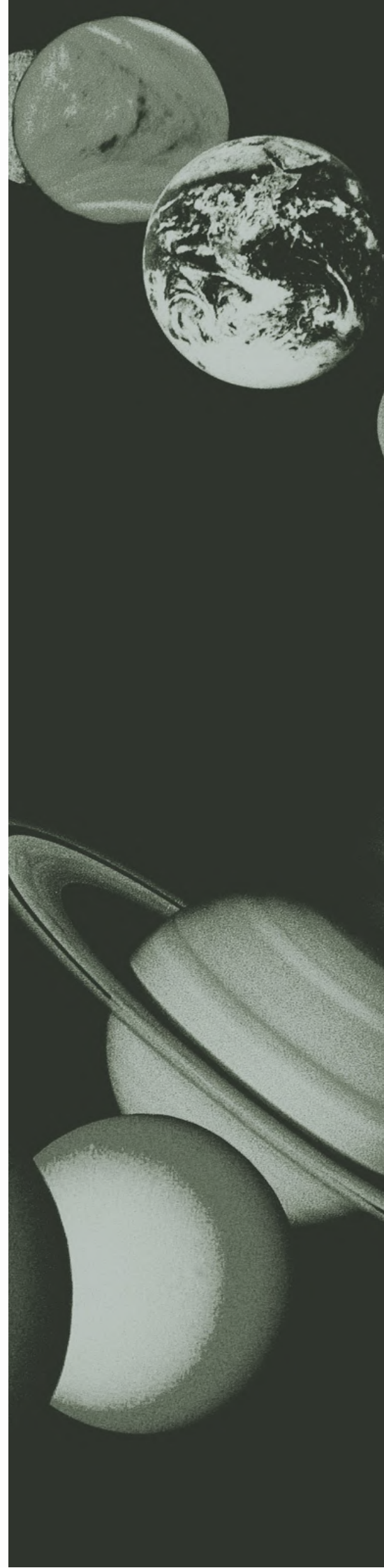


What's in store

- 2022 is an ESA Council at Ministerial Level year and thus most of the committee efforts are focussed on commenting on the ESA programmes. The process has started in Dec 2021 and the committee has already sent the first round of comments. The second round is expected in June 2022.
- The first – since 2019 - physical plenary of the ESSC will take place in Strasbourg on May 2022.
- The ESSC chair has been invited to give input to the high-level advisory committee of the ESA DG, regarding the future of space science.
- The Life and Physical Sciences Panel plans to publish a book, "The ISS Book", edited in partnership with COSPAR and published by Elsevier. The book will summarise the research achievements resulting from several thousands of experiments on the International Space Station since 2000. The Panel will also complete its survey of the life and physical sciences community, which should result in an overview of space research in microgravity for the decades ahead.
- The ESSC has sent a letter to the ESA DG bringing to his attention the concept of system science for space weather, discussing the integration of multiple instruments of various missions to different parts of the solar system being analysed as a comprehensive data set. With the Sun entering Solar Cycle 25, the importance of space weather for all space faring nations will increase. Efforts to a better model, understand, predict and protect will be necessary for the coming years, to avoid disasters like the recent loss of several commercial satellites due to solar activity.



Learn more: www.essc.esf.org



NuPECC aims to promote collaborative ventures between nuclear physicists within Europe. Its mission is to strengthen European collaboration in nuclear physics, define a network of complementary facilities within Europe and encourage their optimum usage, provide a forum for discussion of the provision of future facilities and instrumentation and issue recommendations on the development, organisation and support of European nuclear physics and particular projects.

This year's progress

- NuPECC Review Panel members, Dr. Michel Spiro (Chair), Dr. Witold Nazarewicz, Prof. Peter Thirolf and Dr. Hans Wilschut, presented the outcomes of the NuPECC activities review report for the period 2014-2020 at the NuPECC meeting on March 5, 2021.
- The NuPECC Task Force met at the INFN Headquarters in Rome on September 16, 2021. Marek Lewitowicz, NuPECC's Chair, marked the overall excellent matching of the Long Range Plan recommendations and the INFN policy as well as the open and frank discussion on several important topics. The next Task Force Meeting is planned to be held in Belgium in connection with the next NuPECC Meeting.

The 100th NuPECC meeting took place in Venezia on September 17-18, 2021. The Committee members elaborated on topics, such as the nuclear physics-related Horizon Europe projects under preparation, updates on the EURO-LABS, ENSAR2 and STRONG2020 projects, and the status of major European facilities (ALICE, FAIR, GANIL-SPIRAL2, ELINP, ECT). The agenda entailed the assessment of the "Implementation of the 2017 Long Range Plan", which is being prepared by NuPECC Liaison Members in collaboration with the Working Group Conveners, as well as the approval of support for the 2022 Conferences. Concerning the Joint ECFA-NuPECC-APPEC activities (JENAA), the Working Groups on "Diversity" & "Recognition of individual achievements in large collaborations" reported significant progress.

This year's progress (cont'd)

- NuPECC started producing a special Report on Nuclear Physics in Everyday Life.
- Concerning the NuPECC Survey of Nuclear Theory, information is available for nearly all countries. It will be used as input for the Assessment of the Implementation of the 2017 Long Range Plan.
- CERN was unanimously accepted as an Associated Member of NuPECC.



What's in store

- Preparations for the next seminar JENAS on May 3-6, 2022, in Madrid, are ongoing. The scientific programme is being prepared by NuPECC, ECFA and APPEC together with the local organisers.
- Preparations of the next NuPECC meetings in 2022 are in progress (101st in January in Mol, 102nd in May in Madrid, 103rd in September in Cape Town, 104th in December in Vienna).



Learn more: www.nupecc.org

The Europlanet Society was created in 2018 to promote the advancement of planetary sciences in Europe for the benefit of its community. It builds on 15 years of EU-funded Europlanet projects, currently running the Europlanet 2024 RI under the Horizon 2020 (started on 1 February 2020, with a budget of 10M€ over four years).

The Europlanet Society is managed by the Executive Office (ESF) and governed by the Executive Board, which was elected during the General Assembly of the Europlanet Society in 2019.

The Europlanet Society counts around 500 active members.

This year's progress

- The Europlanet Society funded three projects proposed by its committees: Community development and awareness around inclusion, Stairway to Space: the EPEC podcast and Light Fingerprints.
- Due to the pandemic situation the Europlanet Science Congress (EPSC) was organised virtually, for the second consecutive year, attracting ~800 participants from 47 countries.
- The Europlanet Society General Assembly was also organised online (during EPSC2021), with discussions focussing on the financial and sustainability challenges facing the Society. A new Treasurer was elected.
- The Europlanet Society released two editions of its Europlanet Magazine (June & December 2021).
- Lena Noack was appointed as Chair of the EPSC committee, which will oversee the organisation of the EPSC2022 in Granada.
- The Europlanet Society launched a series of topical webinars on a monthly basis addressed to its membership, with two webinars broadcasted in 2021 on Horizon Europe and how to apply for a Research Fellowship.

What's in store

- The Regional Hubs, Committees and Working Groups of the Europlanet Society will continue to support small local events across Europe, through funding from the Europlanet Society.
- The Europlanet Society executive board is planning to create a legal entity for Europlanet under Belgium law (AISBL, a not-for-profit association). The Europlanet trademark was registered at EUIPO.
- The physical Europlanet Science Congress (EPSC) that was planned to be organized in Helsinki in 2021 was postponed for 2024.
- The Europlanet Society is also discussing the organisation of a joint meeting with DPS in the USA in 2023.



Learn more: www.europlanet-society.org

03.

EUROPEAN PROJECT COORDINATION & MANAGEMENT

ESF-SC considers European Framework projects as fundamental means to address complex societal challenges. Active in European-funded projects since 2000, ESF-SC has accumulated considerable experience spanning all stages of proposal preparation, consortium building and project management and coordination, and covering several thematic domains.

In recent years, ESF-SC has extended its focus on Responsible Research & Innovation (RRI) governance, ethics, and gender studies.

Thanks to its highly competent staff in addressing technical, administrative, financial and other project-related specificities, in 2021 ESF-SC:

- coordinated 8 EU-funded projects (Horizon 2020 and Horizon Europe)
- led communication-related activities for 5 EU-funded projects, and
- participated in a total of 15 EU-funded projects related to responsible research and innovation, gender equality, ethics, doctoral education, open education, citizen science, research infrastructure, green innovation and materials.

In the following pages, we present the role and main activities executed by ESF-SC within these projects.

CASPER

Certification-Award Systems to Promote gender Equality in Research

ESF's contribution:

- **Project Coordinator**
- **Work package leader for Ethics**

Project duration: January 2020 – March 2022

Total funding: 1.5 M€ – ESF funding: 325K€

Horizon 2020 research and innovation programme, grant agreement n° 872113



The CASPER project examines the feasibility of establishing a European award/certification system for gender equality for Research Performing Organisations (RPOs).

Based upon an extensive assessment of available systems and needs across Europe and beyond, the project has developed and evaluated three possible scenarios that pave the ground for a realistic EU-wide award/certification framework.

Overall, the project is pursuing three objectives:



Map and assess existing award and certification systems for gender equality (and related schemes) and identify existing needs for such a system on the European level.



Design three different award/certification scenarios and assess the feasibility of these scenarios plus a fourth no-action scenario along several dimensions.



Prepare the ground for a successful roll-out of a European award/certification scheme.

This year's progress

Following three reports released in 2020 (Policy Framing Report, State of the Art Analysis: mapping the awarding certification landscape in Higher Education and Research, Key prerequisites for a Europe-wide gender equality scheme), the main focus of the project's activities in 2021, was to design the scenarios and assess their feasibility. As project coordinator, ESF ensured their timely implementation.

A series of 10 co-design workshops on potential GECAS scenarios was organised to define a first draft of the concept scenarios. ESF had the role of rapporteur in several co-creation workshops. These co-creation and consultation activities led to a proposal for four system scenarios that were used for the validation phase (feasibility assessment).

Stakeholder consultations were then organised with relevant sectors (private/RFOs/RPOs) to assess the feasibility of the CASPER scenarios, considering the European Commission's new requirements in terms of Gender Equality Plans in Horizon Europe. ESF facilitated these consultations and reported on the results. Interviews with Gender Equality stakeholders (RPOs and RFOs) were also conducted to assess the feasibility of the scenarios, as well as with Gender Equality Certification/Award System owners to further assess their equivalency with the European Commission's new requirements in Horizon Europe.

What's in store

As the project ends in March 2022, its four scenarios for designing a Europe-wide Gender Equality Certification/Award Scheme (GECAS) will be made available on the project website at <https://www.caspergender.eu>. A final conference will showcase the project's outcomes and policy recommendations among stakeholders (including policy-makers, gender academics, existing scheme representatives, and scheme users).



Learn more: www.caspergender.eu

CatRIS

Catalogue of Research Infrastructure Services

ESF's contribution:

Project Coordinator & in charge of service provider engagement and validation as well as support to the conceptual catalogue design

Project duration: January 2019 – June 2021

Total funding: 1.5 M€ – ESF funding: 263K€

Horizon 2020 research and innovation programme, grant agreement n° 824173



CatRIS is an open, trusted and user-friendly portal to a harmonised and aggregated catalogue of services and resources provided by Research Infrastructures (RI), Core Facilities (CF) and Shared Scientific Resources (SSR) across Europe. It is a bottom-up initiative populated and run by RI, CF and SSR service providers at European, national, regional and institutional levels.



This year's progress

In 2021 CatRIS released the final version of the project portal (<https://portal.catris.eu>), which is fully compatible with the European Open Science Cloud (EOSC) standards, and officially launched the catalogue. CatRIS has built on and exploited data from the MERIL database by enriching it with specific information about services. An extensive stakeholders' engagement campaign involving ESFRI and other Horizon 2020 research infrastructure projects resulted in a catalogue featuring over 600 services from more than 130 service providers openly available online.

The final reporting was successfully completed in October 2021. The project has produced a final Outlook Report that presents the project's achievements and perspectives for future development and sustainability.



What's in store

As one of the projects which contribute to the European Open Science Cloud, CatRIS's technical teams are currently working on ensuring its full interoperability with existing catalogues of services, adding onboard service providers and services on an ongoing basis. New collaborations with Horizon Europe projects that focus on integrating services across different fields of research are foreseen for the future.



Learn more: www.portal.catris.eu

DOCENHANCE

Enhancing Transferable Skills for PhDs

ESF's contribution:

- Work package leader for Communication, dissemination and exploitation
- Task leader for creating, carrying out and publishing the results of the career-tracking survey of PhD graduates
- Coordination of the online stakeholder consultation

Project duration: January 2020 – December 2022

Total funding: 990 K€, ESF funding: 196 K€

Horizon 2020 research and innovation programme, grant agreement n° 872483



DocEnhance aims to enhance transferable skills intelligence and integration into existing PhD programmes by developing an employment and innovation-oriented curriculum for PhD programmes, facilitating business-education partnerships and tracking PhD graduate career paths.

The major outputs of the project include a transferable skills curriculum for PhD programmes, a new course concept and material, and a career-tracking survey, all available on an open-access platform.



This year's progress

During the second year of the project's lifetime, efforts were focused on implementing the career-tracking survey, developing the transferable skills courses and awareness-raising about the project's scope via communication actions, participation in events, video production and campaigns on social media.

The ESF team launched a career-tracking survey of PhD graduates from nine European Universities, intended to inform the transferable skills curriculum which is recommended by the project, as well as the roadmap for making use of the resources developed over the course of the project. Launched in March 2021, the survey collected 2,217 valid responses from PhD holders having obtained their degree in the last five years. Data collected were summarised in a report entitled: "[What comes after a PhD? Findings from the DocEnhance survey of doctorate holders on their employment situation, skills match, and the value of the doctorate](#)". Based on the survey, ESF also released a report on "Good practice recommendations for implementation of the career-tracking survey".

Additionally, ESF mapped relevant national and European stakeholders across the EU, inviting them to take part in the online survey focused on the recruitment of PhD holders and the transferable skills needed.

What's in store

By the end of 2022, DocEnhance will provide courses on Data stewardship, Supervision and Career Management and Entrepreneurship, freely accessible on the DocEnhance platform and adaptable to higher education institutions' own curricula. The ESF will continue to be involved in the elaboration of the report on the CEN Workshop Agreement (CWA) linked to the career-tracking survey, as well as in disseminating and exploiting the project's results.



Learn more: www.docenhance.eu

EUROPLANET 2024

Europlanet 2024 Research Infrastructure

ESF's contribution:

- **Involved in the overall management of the project**
- **Peer review for Europlanet Transnational Access calls**
- **Coordination of global collaboration activities**

Project duration: February 2020 – July 2024

Total funding: 10M€ – ESF funding: 383K€

Horizon 2020 research and innovation programme, grant agreement n° 871149



The Europlanet 2024 Research Infrastructure (RI) provides free access to the world's largest collection of planetary simulation and analysis facilities, data services and tools, a ground-based observational network and programme of community support activities. The consortium is led by the University of Kent, UK, and has over 50 beneficiary institutions from 24 countries in Europe and around the world, with a further 44 affiliated partners. The project draws on Europlanet Society's resources to disseminate activities and outcomes and develop a more diverse community of users. This infrastructure provides:



Transnational Access to 24 laboratories in Europe, 7 field sites, and additional facilities in South Korea and China



Virtual Access to services and tools



Networking activities to support the community and provide rapid response observations to support planetary missions

This year's progress

ESF completed the scientific evaluation of the applications submitted for the second Transnational Access (TA) call. Following the review panels' recommendations, 76 TA visits were funded by the project in April 2021. New facilities in South Korea were accessible through this call, but due to political events in Ethiopia, its field site was not accessible. ESF included the South Korean and Chinese research institutes in the Europlanet 2024 RI TA calls through MOUs, granting access to their facilities and field sites.

Due to the COVID-19 pandemic, and despite extensive work to set up virtual instead of physical visits, the TA facilities and field sites from the Europlanet 2024 RI accumulated a large backlog of TA visits.

In the meantime, the Europlanet 2024 RI launched the first "Fast Track" TA call in October 2021 to support "emergency applications", such as high-impact science, career impact or field work. The call notably provided access to field sites in Argentina for the first time. ESF coordinated the scientific evaluation of the "Fast Track" applications received.

ESF set up an online database designed to help planetary scientists find companies that could be relevant to their research areas. An internal version of the database was created in 2021, which will be reviewed and refined before being released to the community in summer 2022.

ESF also contributed to the launch of the Europlanet Magazine, with two issues released within the year.



What's in store

The next call for TA applications will be launched in October 2022, providing access to new facilities in South Korea and new field sites in China and Argentina. ESF will coordinate the scientific evaluation of the submitted applications and contribute to various activities of the Europlanet 2024 RI project.



Learn more: www.europlanet-society.org/europlanet-2024-ri

GOJELLY

Developing a gelatinous solution to microplastic pollution

ESF's contribution:

- **Project Office, assisting the coordinator with the running of the project**
- **WP Leader dealing with marked analysis for Jelly Fish products**

Project duration: January 2018 – December 2021

Total funding: 6M€ – ESF funding: 321K€

Horizon 2020 - BG-2017-1 CALL TOPIC, grant agreement n° 774499



As the global recommendations strive for a more innovative and sustainable society, the GoJelly project tries to tackle two environmental issues: the biological (jellyfish blooms) and the chemical (microplastic) pollution by using the first one (jellyfish) to fight the other (microplastic).

Funded within the Horizon 2020 Programme, the GoJelly project gathers 16 partners from all over Europe, working together to create a new paradigm shift, transforming an existing marine debris problem into new solutions in which jellyfish could also serve as an anti-microplastic filter and raw material for a variety of biotechnology as well as cosmetic products.

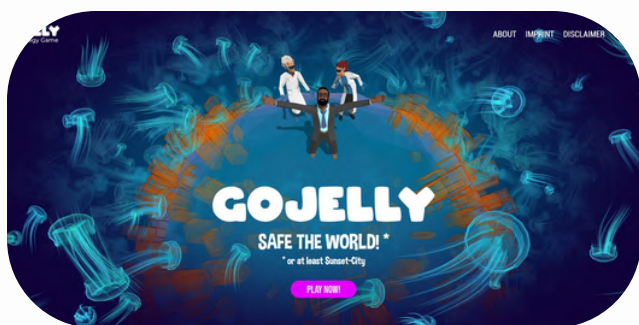
The GoJelly prototype products will be tested and demonstrated in three different European seas (Norwegian, Baltic and Mediterranean), by a range of stakeholders, including commercial fishers and industry partners.

This year's progress

ESF carried out a systematic literature review related to the potential use of jellyfish in the industry (cosmetics, food, feed & fertilizer), which was presented in the report entitled "Commercialisation potential: incentives and disincentives for the application of jellyfish-based products". Also, in collaboration with Southern Denmark University, ESF concluded its "Commercialisation potential – final report: report on the commercialisation of jellyfish-based products and related market analysis". Overall, the aim of the two reports was to examine the potential exploitation routes and any cross-selling potential that can be achieved.

Project partners met in Copenhagen (December 2021) to discuss the progress of the project activities towards the end of the project's lifetime. Apart from internal discussions regarding achievements, highlights and final reporting, GoJelly organised a stakeholder day, with invited politicians, EC staff, NGOs and private companies. The project has received extensive media coverage in major newspaper and documentaries about its results.

The project developed several resources for a wider audience, including:



[A video game](#)

[Children's books](#)

[A jelly-based cookbook](#)



Learn more: www.gojelly.eu

GRACE

Grounding RRI Actions to Achieve Institutional Changes in European Research Funding and Performing Organisations

ESF's contribution:

- **Project Coordinator**
- **Work package leader for Communication, dissemination and exploitation**
- **Work package leader for Ethics requirements**
- **Implementing organisation**

Project duration: January 2019 – December 2021

Total funding: 1.5 M€– ESF funding: 312K€

Horizon 2020 research and innovation programme, grant agreement n° 824521



GRACE aims to implement fundamental RRI-oriented institutional change in six research funding and performing organisations (RFPOs). With an intense mutual learning programme and a co-creation environment, four expert partners (cooperating organisations) support six other partners in implementing a set of specific RRI-oriented Grounding Actions.

These actions will provide a basis for developing tailored 8-year RRI Roadmaps within these organisations to ensure their sustainability and full implementation over the long term, as well as establishing a platform for achieving further institutional changes.



**WE HAVE DEVELOPED RRI
ROADMAPS IN SIX RESEARCH
ORGANISATIONS**

DISCOVER THE PROJECT TOOLS!

This year's progress

2021 was the last year of the GRACE project. From January to July 2021, the project activities mainly revolved around the implementation of the identified “RRI grounding actions” and institutional roadmaps within the six organisations, with the assistance and monitoring of all partners through a mutual learning process and an “empowering evaluation” scheme.

The project’s third and final mutual learning workshop was held online on 20-21 May by the ESF team, helping implementing organisations to improve the sustainability of their planned actions and further development of others to be included in the roadmaps.

As of September 2021, GRACE entered its next core phase consisting in planning the sustainability of the grounding actions beyond the project lifespan, during an eight-year roadmap and beyond.

Towards the end of the year, ESF organised the project’s final outreach event, in the form of eight final webinars, each focusing on a specific theme related to responsible research (i.e. Gender equality, public engagement, research ethics, governance and sustainability, among others). Building on the experience and lessons learnt within the project, the webinars also hosted external participants from sister projects. Two of these events were facilitated by ESF.

Find out more

The project's findings have been summarised in a [Guidance document on RRI-oriented grounding actions](#). All project outputs, including the Reflection tool to implement initiatives related to responsible research, are available on the project website.



Learn more: www.grace-rri.eu



ESF AS AN IMPLEMENTING ORGANISATION

As an “Implementing Organisation”, ESF developed a roadmap to implement institutional change towards responsible research. Six “Grounding Actions (GAs)” were implemented during the project’s lifespan:

- **Inclusion of gender issues in the ESF internal processes & structures**
- **Inclusion of gender issues in Grant Evaluation**
- **Personal data management in ESF activities**
- **Ethics in grant evaluation**
- **Building Open Science culture & competencies within the organisation and its network**
- **Defining the ESF strategy for embedment of RRI**

Three years down the line, responsible research and innovation (RRI) and its main principles, such as gender equality and open access, have now become relatively familiar and positive notions for most of the ESF staff, including those not directly involved in RRI activities. The number of RRI-related projects has grown over the year, now representing a significant fraction of the EC-funded projects run at the ESF. This has come hand-in-hand with increased expertise in the different keys, as well as an interesting source of potential business and funding opportunities.

The embedment of RRI in the ESF’s governance structures was led with a cross-cutting approach. This has enabled transversal changes within the institution and ensured the actions’ sustainability. Several ESF operative documents have thus undergone revision to embrace an RRI perspective:

- **The ESF Code Of Conduct was released, including RRI principles**
- **The ESF Gender Equality Plan was drafted**
- **The Grant Evaluation Guidelines for Reviewers were reviewed**

Next to these, various activities strengthened ESF’s involvement, specifically in gender equality. A Self-Assessment exercise on Gender Equality was led among the staff and analysed by ESF’s Gender Equality Working Group. The gender balance of the Grant Evaluation’s College of Experts was improved through identification and engagement with women scientific associations and regular invitations to women to join the College.

A roadmap has been developed for the post-project period to ensure the sustainability of the ESF’s grounding actions in all domains.

More details about the project’s legacy within the ESF-SC:
<https://www.esf.org/why-us/our-values>

GRAPHENE FLAGSHIP

Bring graphene and related materials from the lab to the market and help generate economic growth, new jobs and new opportunities.

ESF's contribution:

- **Task leader of the Work Package Management for European Alignment and International collaborations activities, acting as an interface between the activities carried out in the Core3 project and its technical work packages, research and innovation initiatives**

In charge of the following activities:

- **Graphene Flagship partnering mechanism and management of the Associated Members and Partnering Projects**
- **Monitoring of the EU and national funding in the field of graphene and related materials (GRM)**
- **Liaison with the National Funding Agencies via FLAG-ERA**
- **Management and organisation of international workshops**

Project duration: March 2020 – September 2023

Total funding: 150 M€ – ESF funding: 1 M€

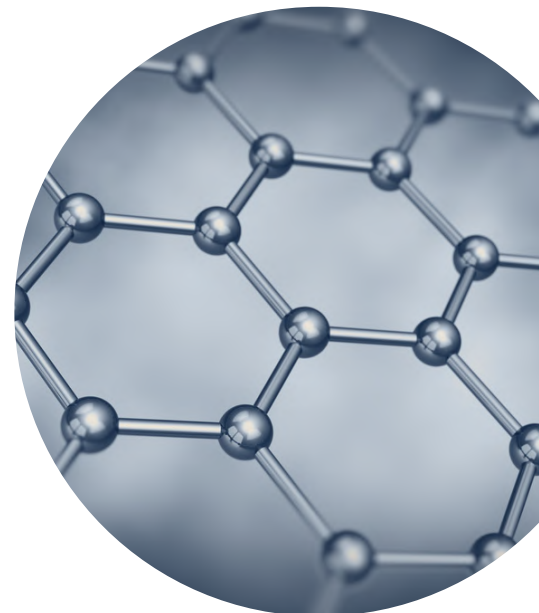
Graphene Core3: Horizon 2020 framework programme, grant agreement n° 881603



GRAPHENE FLAGSHIP

Nearly 170 academic and industrial research groups in 21 countries, and more than 100 Associate Members are joining efforts to take graphene from the realm of academic laboratories into European society within the frame of the €1 billion Graphene Flagship research initiative.

Graphene Core3 is the third core project of the Graphene Flagship, running between April 2020 and September 2023. It is characterised by a continued transition towards higher technology readiness levels while keeping a strong component of fundamental research.



This year's progress

The Graphene Flagship's Partnering Division is composed of Associated Members and Partnering Projects. It currently counts more than 110 members from both academy and industry, collaborating to bring graphene from the lab to the market.

ESF is successfully continuing the management of the association mechanism to the Graphene Flagship, i.e., its Partnering Division, ensuring the liaison between the Core project and the Partnering Division.

ESF continues to foster fruitful interactions with regional and national funding organisations and international collaborations with Australia, China, Korea, Japan and USA.

In this second year of the Core3 phase, feedback through interviews and a survey, implemented among Graphene Flagship Core project and Partnering Division members, were collected to prepare a deliverable on the integration of Partnering Division members within the Graphene Flagship and relative scientific and non-scientific collaborations.

Information analysis on the contribution of Graphene Flagship partners' activities to the Sustainable Development Goals (SDGs) resulted in a first impact assessment of the Graphene Flagship towards the SDGs.

The mapping of funding in the field of graphene has continued for the preparation of next year's related deliverable on the EU funding landscape.

A Partnering Division info session webinar was organised in early 2021 for Graphene Flagship partners and Partnering Division members.

Four international workshops in virtual format took place this year, with US, China, Korea and Japan. Organised jointly with overseas countries, these workshops foster the exchange of scientific experiences related to the latest advances in the field of graphene and layered materials and of international funding opportunities.



Graphene Week 2021

ESF participated in the organisation of the Graphene Week 2021, the Graphene Flagship main conference, being in charge of the organisation of the Partnering Division session.

The session welcomed excellent speakers from three companies and a strategic innovation program (Grafren AB, Grapheal, Dirigent Acoustics and SIO Grafen) to showcase their latest results in the field of GRM. Moreover, ESF actively participated in the Graphene Week 2021, exchanging with the conference participants via a virtual booth and presenting a video with a focus on ESF activities within the Graphene Flagship.



What's in store

In 2022, the Graphene Flagship will be pursuing its road toward translating research into new market applications and products, while ESF will continue providing support to achieve the project's goals.



Learn more: www.graphene-flagship.eu

OTTER

Outdoor Science Education for a Sustainable Future

ESF's contribution:

- **Joint dissemination actions, scientific outreach and programme exploitation plan**
- **Analysis of practical recommendations for assessment methods and development of guidelines for the accreditation of outside-the-classroom methods**

Project duration: September 2020 – February 2024

Total funding: 1.6M€ - ESF funding: 219K€

Horizon 2020 research and innovation programme, grant agreement n° 101006482



Learning **science**
outside the classroom
for a sustainable future



The overall objective of the OTTER project is to enhance the understanding of Education Outside the Classroom (EOC) methods and pedagogies and how they can help improve the acquisition of scientific knowledge and transferable skills in students, specifically in the field of environmental sustainability and the reduction of plastic waste. It aims to increase interest in scientific topics among young people while contributing to a range of innovative educational projects and increasing scientific citizenship within the EU.

This year's progress

The project started in September 2021, gathering eight partners, including universities, research centers and start-ups focused on Education outside the Classroom.

ESF was highly involved in the project's Gender Strategy to promote gender equality as a cross-cutting theme by implementing actions to ensure gender balance in all activities. During these first months, ESF contributed to the Literature Review by inventorying search terms linked to education outside the classroom and by compiling the findings of 10 relevant papers (peer-reviewed articles and grey material).

ESF was also responsible for identifying national stakeholders involved in education outside the classroom in France to contribute to the whole project's Stakeholder database.

What's in store

The project will strengthen EOC networks within Europe, connecting experts from four different regions within the continent (Finland, Hungary, Ireland, and Spain). The strengthening of these networks will be utilised to carry out a STEAM (Science, Technology, Engineering, Arts and Mathematics) programme of EOC pilot schemes and analyse the effect they have on the performance of participating students, including their levels of sophisticated consumption and scientific citizenship, as well as the transfer and acquisition of science skills and knowledge.

OTTER will also provide a quality insurance framework and practical recommendations for assessment methods in education outside the classroom leading to guidelines for accreditation of education outside the classroom in Europe.



Learn more: www.otter-project.eu

PASSENGER

Pilot Action for Securing a Sustainable European Next Generation of Efficient RE-free magnets

ESF's contribution:

- **Work package leader for Communication, dissemination and exploitation**

Project duration: May 2021 – April 2025

Total funding: 8.9M€ – ESF funding: 311K€

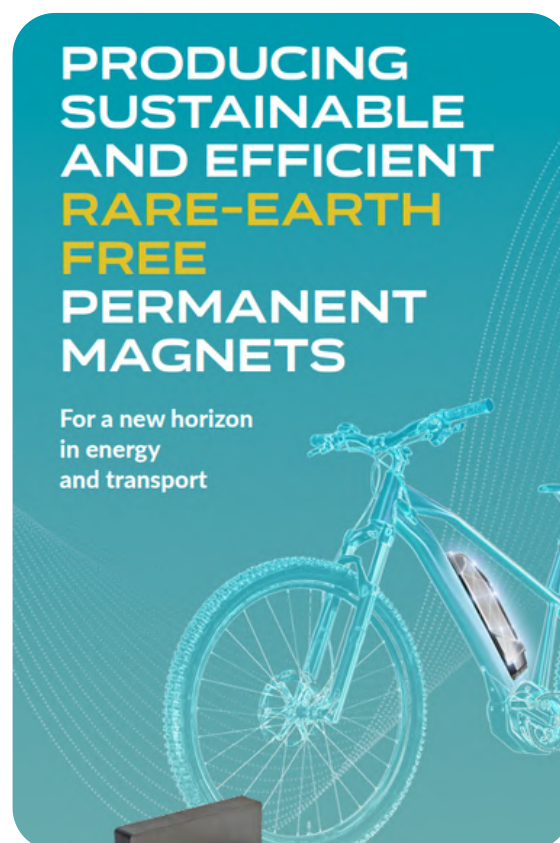
Horizon 2020 research and innovation programme, grant agreement n° 101003914



PASSENGER aims to resolve Europe's dependence on rare-earth elements imports for permanent magnets fabrication.

Over the next four years, the project will develop innovative technology to produce permanent magnets without rare earth materials, using only resources that are widely available in Europe.

This innovation will foster a renaissance in the European production of permanent magnets, securing the supply chain for materials that are essential for electronic vehicles and pump motors, and promoting the transition to low-carbon mobility.



This year's progress

In May 2021, PASSENGER's 20 partners, including major European industries, academic leaders, and associations dealing with permanent magnets manufacturing, alloy production, powder fabrication, electric motors, e-vehicles, eco-design, product and process standardisation, gathered online to kick off the project.

During the first months of the project, the ESF communications team designed the project's visual identity and user guide, including templates for presentations and reports. The project website was launched, featuring content about the project's scope, activities, partners, and latest news. Social media channels were set up and managed with regular posting, including an initial campaign presenting the project's partners.

What's in store

In 2022, ESF will be developing an overall strategy to disseminate and exploit the project's outputs and empower partners and external stakeholders to raise awareness about the project. As the project develops new technologies to substitute rare-earth-based permanent magnets with new materials, ESF will guide its partners in promoting the project's outputs, through the organisation of workshops with identified stakeholders and participation in high-reach events.



Learn more: www.passenger-project.eu

PRO-RES

PRoMoting integrity in the use of RESearch results

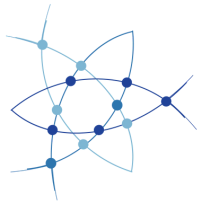
ESF's contribution:

- **Project Coordinator**

Project duration: May 2018 – October 2021

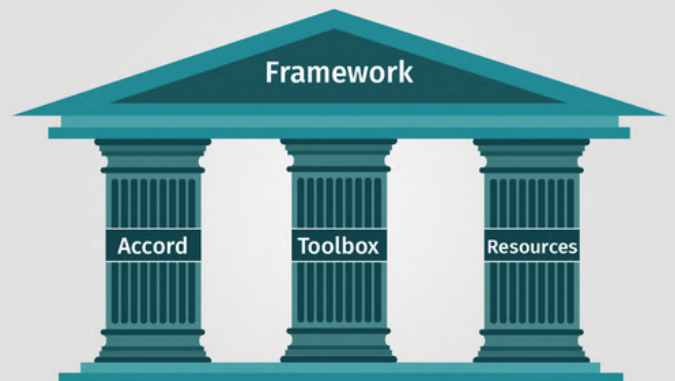
Total funding: 2.8M€ – ESF funding: 434K€

Horizon 2020 research and innovation programme, grant agreement n° 788352



PRO-RES

PRO-RES project aims to produce a guidance framework regarding the delivery of Responsible Research and Innovation (RRI), which is required from researchers and research funding and performing organisations (RFPO), in order to balance political, institutional and professional contradictions and constraints.



The PRO-RES Framework for Ethical Evidence

This framework aims to:

- cover the spectrum of non-medical sciences and
- offer practical solutions for all stakeholders, that will comply with the highest standards of research ethics and integrity.

In terms of the post-2020 European strategic funding policy, this offers a strong and sustainable contribution to RRI via a comprehensive ethics and integrity framework similar to Oviedo/Helsinki, which is being constructed in negotiation with relevant stakeholders.

This year's progress

The project concluded its work with a final event consisting of an online series of conferences, hosted by the European Policy Center. The discussions focused on Misinformation, Responsible Journalism, and on the application of the PRO-RES framework in the European Area.

The project concluded its STEP Accord and toolbox, publicly available on the project website.

Three Open Access volumes are expected to be published, with more than 30 chapters on ethical issues. The **books** have passed the review phase and are ready to be published.

- Ethical Issues in Covert, Security and Surveillance Research
- Ethical evidence and policymaking: Interdisciplinary and International Research
- Ethics, Integrity and Policymaking: The Value of the Case Study

The STEP (Scientific, Trustworthy, and Ethical evidence for Policy) ACCORD

As signatories to the Accord

- We recognize that an underpinning by high quality research, analysis and evidence, including policy appraisals and evaluations, is a pre-condition for evidence-based policy-/decision-making, and hence rational policy actions and effective outcomes.
- As individuals and institutions involved in commissioning, funding, sponsoring or conducting research, collecting or using evidence for policymaking, we aim to be as transparent as possible on how the high quality of that evidence is assured and will flag up any potential conflicts of interest.
- We agree that to a reasonable degree the independence and integrity of individuals responsible for the conducting and/or gathering of research evidence and its use in policymaking must be respected and supported in ways that ensure the evidence they produce is neither biased nor misleading.
- We will communicate, employ and/or apply only high quality evidence, research or enquiry, in other words evidence that has been undertaken, gathered, collated and analyzed using sound, robust and ethical methods appropriate to the task.
- We will ensure that the commissioning, funding, management, conduct, dissemination and governance of research meet high standards of ethics and integrity.



Learn more: www.prores-project.eu

RESISTIRE

Responding to outbreaks through co-creative sustainable inclusive equality strategies

ESF's contribution:

- **Project Coordinator**
- **Work package leader for Communication, dissemination and exploitation**
- **Project's recruitment and management of expert network**

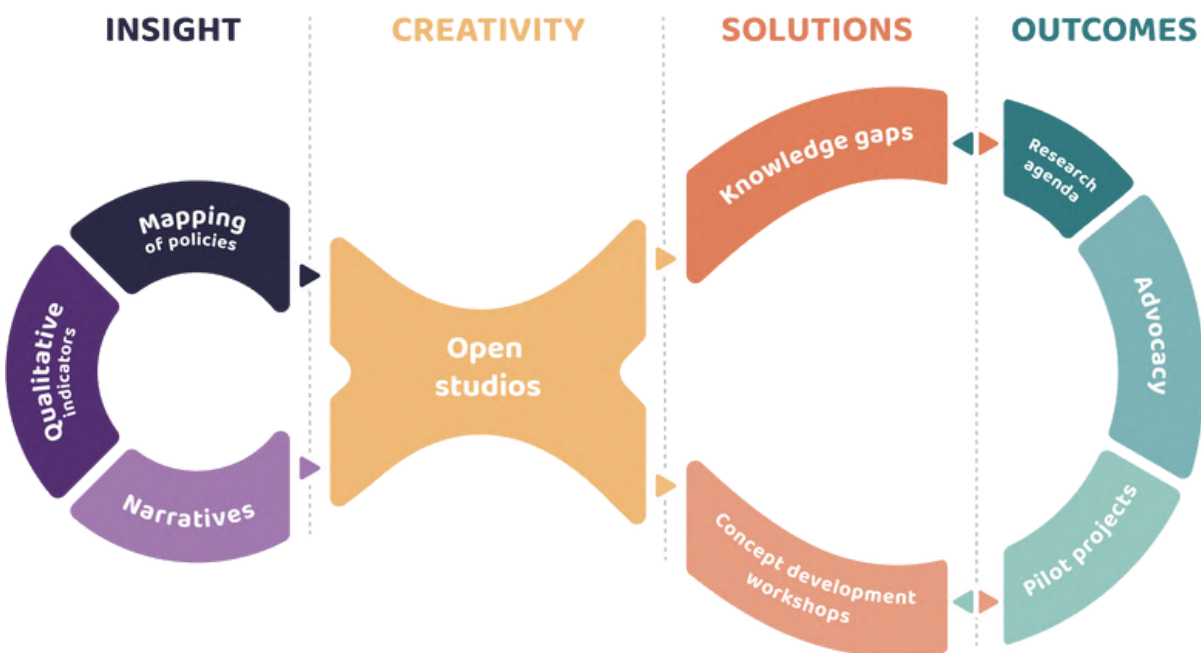
Project duration: April 2021 – September 2023

Total funding: 5.2M€ – ESF funding: 1.3 M€

Horizon 2020 research and innovation programme, grant agreement n° 101015990



RESISTIRÉ aims to understand the impact of COVID-19 policy responses on behavioural, social and economic inequalities in the EU27, Serbia, Turkey, Iceland, and the UK on the basis of a conceptual gender+ framework, and design, devise and pilot policy solutions and social innovations to be deployed by policymakers, stakeholders and actors in different policy domains.



This year's progress

RESISTIRE started its implementation at high gear due to its conceptual design consisting of four steps conducted in three COVID-19 cycles (insight generation, co-creation, solution development, and outreach). By the end of 2021, the project almost completed its first cycle, producing a set of insights based on the mapping and analysis of policies, societal responses and Rapid Assessment Surveys in 30 countries, a collection of individual narratives, interviews and thematic workshops with experts. This insight fed into the Open Studios – workshops based on co-creation activities, aiming to produce possible solutions to address the findings. The first Open Studios consolidated outputs led to a set of factsheets with operational recommendations for policymakers, a research agenda, and three open calls for pilot projects to test the solutions.

Alongside project coordination, the ESF was active in setting up the project communication channels (visual identity, website, social media, newsletters), engaging partners and stakeholders to communicate the project's mission and first outputs. Stakeholders were identified and engaged through social media campaigns, newsletters, and direct contact.



What's in store

The following research cycles will produce more outputs, consisting of policy recommendations, research agendas and the funding and implementation of another set of pilot projects showcasing potential solutions to the identified issues. An advocacy plan will be put into action to promote the operational recommendations.



Learn more: www.resistire-project.eu

TERRITORIA

Territorial Responsible Research and Innovation through the involvement of local R&I actors

ESF's contribution:

- **Project coordinator**
- **Supporting partners in the implementation of territorial experiment in North-East Romania**

Project duration: February 2019 – February 2022

Total funding: 2M€ – ESF funding: 263K€

Horizon 2020 research and innovation programme, grant agreement n° 824565

TeRRItoria

The overall objective of the project is to experiment with the adoption of a Responsible Research and Innovation (RRI) approach in European regional and territorial R&I systems.

TeRRItoria is based on the idea that RRI approaches, policies and practices, developed so far at the level of research institutions, may be adapted to regional and territorial governance.

The project contributes to developing a so-called “Territorial RRI” and stimulating the integration of the RRI approach into the governance of its five experimental territories (four regions and one municipality).



This year's progress

In 2021, the project entered its final year. The implementation and fine-tuning of the five implementation experiments had to be flexible and adapt to the specific impacts of the COVID pandemic, including limited possibilities to cocreation solutions with stakeholders from the Quadruple Helix.

During two project meetings this year, invited speakers from sister projects and the European Commission's Joint Research Centre shared their experiences and vision for the future of RRI and Smart Specialisation.

A mutual learning workshop, including TeRRitoria's Advisory Board, took place virtually in September. TeRRitoria also participated in a poster session at the SeeRRI final conference and organised regular webinar series throughout the year: "#ResponsibleRegions".

What's in store

The project is to end at the beginning of 2022 with its Final Conference taking place as three virtual events.

TeRRitoria's final outputs consist in a report on the lessons learned, policy recommendations for the implementation of territorial RRI, and reports on the implementation and sustainability plans of territorial experiments.



Learn more: www.territoriaproject.eu

TIME4CS

Supporting sustainable Institutional Changes to promote Citizen Science in Science and Technology

ESF's contribution:

- **Work package leader: "Roadmap framework leading to Institutional Changes"**
- **Facilitator partner supporting the mutual learning and evaluation programmes**

Project duration: January 2021 – December 2023

Total funding: 1.5M€ – ESF funding: 181K€

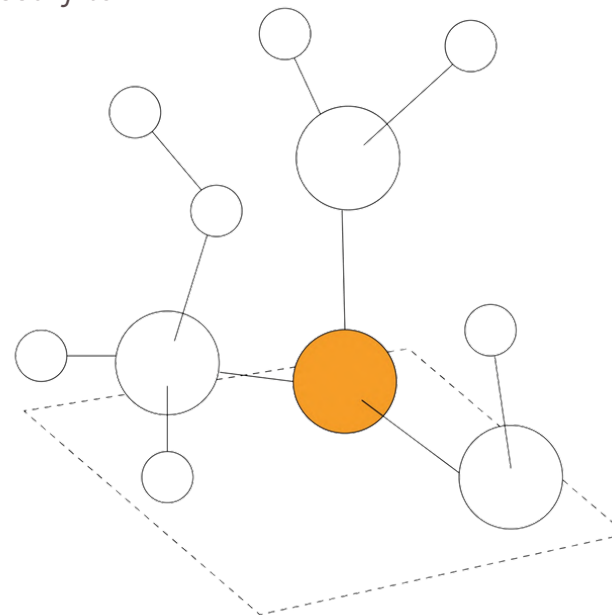
Horizon 2020 research and innovation programme, grant agreement n° 101006201



TIME4CS aims at supporting and facilitating the implementation of sustainable Institutional Changes in Research Performing Organisations (RPOs) to promote Public Engagement (citizens and citizens associations) and Citizen Science in science and technology.

TIME4CS has identified four Intervention Areas (IAs) that alone or combined can stimulate the Institutional Changes necessary to promote Public Engagement in R&I activities:

- ✓ Research
- ✓ Education and Awareness
- ✓ Support resources and Infrastructure
- ✓ Policy and Assessment



This year's progress

TIME4CS kick-off meeting took place virtually on January 2021. The website was published soon after the launch of the project, followed by the development of the communication and dissemination strategy. TIME4CS focused on defining the state-of-the-art, collecting best practices and expertise on Citizen Science, and supporting the implementers in building their own roadmaps for institutional changes, while developing the evaluation framework of the project.

As work package leader, ESF prepared a “[Reflection tool for Institutional Changes in Citizen Science](#)” and conducted interviews with the implementing organisations to discuss the results of the exercise. A general roadmap framework and templates were defined and delivered to the implementers to help them prepare the first version of their institutional roadmaps.

ESF drafted the compilation of these roadmaps ([Compilation of roadmaps and Grounding Actions for the Implementers - First Version](#)).

ESF also supported other work packages by facilitating workshops, reviewing key deliverables and organising stakeholder's events.

Publications

The project's most relevant publications in 2021 were a [Collection of Case Studies on institutional adoption of Citizen Science](#), a [Report on TIME4CS Knowledge Transfer from Front-Runners to Implementers](#) and the [Evaluation and Impact Assessment Plan](#).

What's in store

In 2022, TIME4CS will focus on the implementation of the roadmaps. Monitoring and mentoring meetings will be organised periodically between the implementers and the front-runners (Implementers' Journeys) and among the implementers (Implementers Forum). The roadmaps will be revised according to the experiences gathered, and updated versions will be published.

Other outputs expected are a TIME4CS Policy Brief, a description of the TIME4CS training programmes, the second version of the “Knowledge sharing and Mutual learning plan”, and an “Interim Evaluation and Impact Assessment”.



Learn more: www.time4cs.eu

UNISAFE

Ending gender-based violence in universities and research organisations

ESF's contribution:

- **Project coordinator**
- **Work package leader for Communication, dissemination and exploitation**

Project duration: February 2021 – January 2024

Total funding: 3.2M€ – ESF funding: 500K€

Horizon 2020 research and innovation programme, grant agreement n° 101006261



UniSAFE is an EU-funded project that aims to produce in-depth knowledge on gender-based violence and sexual harassment in research-performing organisations, and to translate this research into operational tools for higher education and research organisations.



“ Gender-based violence

Gender-based violence refers to **harmful acts** directed at an individual **based on their gender**. UniSAFE's definition of GBV encompasses all the different forms of violence, violations and abuse. It includes physical violence, psychological violence, economic and financial violence, sexual violence, sexual harassment, gender harassment, stalking, organisational violence and harassment in both **online** and **offline** contexts.

This year's progress

In this first year of the project, the project's overall management structure, communication strategy and tools were set up. 46 universities and research organisations from 15 European countries were recruited and engaged to participate in the project. This UniSAFE Community was launched with an online event on September 2021, held by the ESF. National and regional policies on gender-based violence (GBV) targeting EU universities, research institutes and RFOs were mapped and analysed, resulting in a [Report on the European Policy Baseline](#). Existing policies and measures responding to GBV in European universities and research organisations were also inventoried and compiled in an [aggregated report](#).

Quantitative research, consisting of a survey among students and staff of the UniSAFE Community on GBV (one of the largest of its kind in Europe), was prepared and launched successfully, along with adequate communication material.



An awareness-raising campaign on gender-based violence in higher education and research was led along with sister projects in gender equality.

What's in store

By the end of the project, UniSAFE aims to provide solid and comparable data on gender-based violence, recommendations for policymakers and concrete tools for research performing organisations developing a GBV policy and plan.



Learn more: www.unisafe-gbv.eu

WBC-RRI.NETResponsible Research and Innovation
in Western Balkan Countries**ESF's contribution:**

- **Work package leader for Evaluation and Impact Assessment**
- **Supporting partner for the implementation of the 'anchor' initiatives in Albania and Montenegro**

Project duration: March 2021 – February 2024

Total funding: 2M€ – ESF funding: 245K€

Horizon 2020 research and innovation programme, grant agreement n° 101006279



The overall aim of WBC-RRI.NET is to foster the application of Responsible Research and Innovation (RRI) principles at the territorial level in Western Balkan Countries (WBCs), to promote a multi-level steering R&I governance framework.

The RRI principles will act as enablers to the shared learning and diffusion of R&I governance innovations at the territorial level and this in turn can lead to enhancing R&I planning, including the existent or upcoming Smart Specialization Strategies (S3) in the WBCs.



This year's progress

The WBC-RRI.NET project kicked off in March 2021 in a virtual meeting. In 2021, the project focused on its first analytical phase, where representatives of the Western Balkan (WB) territories used tools developed within the project to map and analyse the key actors, practices and policies in their region. These results fed into the reflection phase that started with the Future Scenario Workshop organised towards the end of the year.

During 2021, the evaluation scheme was set up by the ESF team; inter-regional working groups with a focus on specific RRI keys (gender and ethics, science education and public engagement, open access and open science) were formed and their action plans established.



What's in store

In 2022, the reflection phase of the project will be concluded with the final co-designs of RRI 'anchor' initiatives for five Western-Balkan territories, and their implementation will start. By the end of the project, RRI principles should be embedded in the territorial Research and Innovation planning as well as in Smart Specialization Strategies for the regions. In addition, a business plan for sustainable WBC-RRI network will be established.



Learn more: www.wbc-rri.net

04.

PROGRAMME MANAGEMENT

In 2019, three philanthropic organisations approached ESF-SC to investigate the possibility of establishing a collaborative research programme supported by a common pot of philanthropic funding.

This initiative led to setting up the Fight Kids Cancer research programme in 2020, presented in the following pages. So far, the programme has initiated three joint open calls for projects (10 M€ total budget over three years) that resulted in the selection of 11 research projects in 2020 and 2021.

In partnership with, and on behalf of, the Fight Kids Cancer funders, ESF-SC is managing the research programme. This involves operating the competitive calls and implementing the scientific assessment as well as managing the grants and monitoring projects.

FIGHT KIDS CANCER FUNDING PROGRAMME

European Childhood Cancer NGOs are calling for innovative treatments to improve survival and quality of life



Fight Kids Cancer (FKC) is a Collaborative Research Programme to support academic research for paediatric cancers, initially founded by three European NGOs: **Imagine for Margo** (France), **Fondatioun Kriibskrank Kanner** (Luxembourg) and **KickCancer** (Belgium). A fourth philanthropy, **FIAGOP** (Italy), joined the initiative in October 2021, increasing the amount of the funding programme to 4M€.

The European Science Foundation contributes to the Fight Kids Cancer by applying its expertise in programme management, including implementing the calls for proposals and managing the grant agreements with the selected projects.



This year's progress

In 2021, ESF finalised the grant agreements for the six projects issued from the programme's first call, consisting of one early-phase clinical trial (max 1.5M€ per project) and five translational research projects (max 500K€ per project).

Building on the successful management of the first call, 2021 saw the launch of the programme's second call for funded projects. Out of the 43 submissions reviewed by the FKC programme committee, 28 selected applicants were invited to submit a full proposal.

The full peer-review process was managed by ESF, including the rebuttal phase and regular updates on progress to the FKC programme committee. Grant Agreements were signed with the five successful projects, preparing the start of these projects in January 2022.

The three philanthropies decided to add 500k€ to the budget, increasing the overall budget to 3,45M€ and allowing to fund an extra translational research project.

This second call led to the selection of five innovative projects about the following diseases: B-cell non-Hodgkin's lymphoma, Ewing's sarcoma, medulloblastoma and neuroblastoma.

In November 2021, the third call for funded projects was launched, following the two-stage approach already applied for the second call, with applicants first submitting an Expression of Interest for the end of November 2021.

What's in store

In 2022, ESF will be managing the peer review of the proposals submitted for the third call. A fourth call will also be launched. Thanks to this programme and the collaboration of research on paediatric cancers, more projects will be financed, accelerating the most innovative treatments.



Learn more: www.esf.org/funding-programmes/fight-kids-cancer-2022-2023-call-for-proposals






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