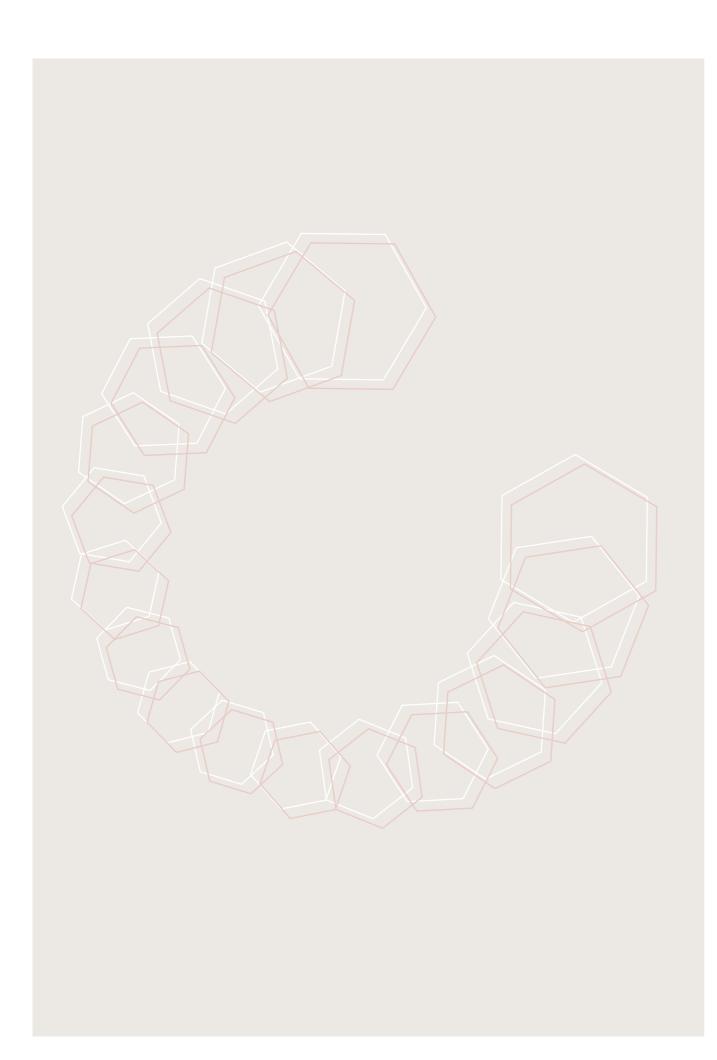


Annual Review 2021



CERN & Society Foundation





A word from the Chair, Michel Spiro

2021 marked the CERN & Society Foundation's eighth year of activity. Since its creation, the Foundation has successfully spread CERN's spirit of scientific curiosity for the inspiration and benefit of society, and 2021 was no exception.

Despite the backdrop of the COVID-19 pandemic, we successfully overcame the challenges that arose. For the past two years, our commitment and investment were our best allies in adapting to the "new normal": work from home and the digital transformation of our activities. 2021 was a mixed year, some events and programmes having taken place on site while others were held either in hybrid mode or entirely online. In all cases, maintaining a safe and interactive environment was our key motivation and we managed it.

For example, notwithstanding the difficulties faced by schools during the pandemic, the 2021 Beamline for Schools competition attracted a record number of high-school teams that submitted their proposals, and we were able to welcome the two winning teams at DESY research centre in Hamburg. The first edition of the Sparks! serendipity forum at CERN took its first steps brilliantly, adopting a thrilling hybrid format.

The first-stone ceremony for Science Gateway, the Laboratory's new flagship infrastructure for science education and outreach, was also held in 2021. The fundraising campaign is ongoing and we hope to reach the final target very soon, ahead of the opening scheduled for the first half of 2023.

After eight successful years as the Head of the CERN Partnerships & Fundraising section, Mr Matteo Castoldi stepped down. Matteo played a key role in the launch and consolidation of the Foundation's fundraising activities, establishing partnerships with more than 80 organisations since it was established in 2014. A great foundation on which to build by his successor, Ms Pascale Goy, in the next exciting chapter.

In this review, you will find an extended overview of the achievements made possible by our supporters, to whom I want to address a sincere thank you. Your support for and commitment to our mission are invaluable and none of this would have been possible without your trust, which is even more appreciated under the present challenging circumstances.

Looking ahead, the International Year of Basic Sciences for Sustainable Development will be celebrated in 2022. This will be a unique opportunity to convince all stakeholders that greater awareness of basic sciences brings opportunities for new discoveries that can improve human well-being within the framework of sustainable development. The CERN & Society Foundation will ride this momentum to spread the values of fundamental science through society. I hope you will also join our celebrations and continue to stand by science in the year ahead.

Sincerely,

DEAR DONORS AND FRIENDS

MSpin

SUMMARY

P5 WHO WE ARE

P6 OUR IMPACT AROUND THE WORLD

P8 HIGHLIGHTS OF 2021

P11 **OUR DONORS**

P14 **EDUCATION & OUTREACH**

P19 **INNOVATION & KNOWLEDGE EXCHANGE** P21 **CULTURE & CREATIVITY**

P22 **HOW YOU CAN SUPPORT THE CERN & SOCIETY FOUNDATION** PROGRAMMES

P23 **FOUNDATION BOARD**

P24 **FINANCES**

P26 CREDITS

WE DON'T NEED ANYTHING BUT EACH OTHER TO DO ABSOLUTELY INCREDIBLE THINGS.

WHO WE ARE

We at the CERN & Society Foundation believe in igniting scientific curiosity, inspiring more young people to choose scientific careers and working towards improving lives around the globe by engaging more people in science, technology, engineering and mathematics (STEM). We operate nationally and internationally to pursue this mission, across three main areas: Education & Outreach, Innovation & Knowledge Exchange, and Culture & Creativity. Since 2018, the CERN & Society Foundation has also supported and promoted the operation of the Globe of Science and Innovation, notably through its use as a venue for scientific exhibitions, conferences, meetings and public debates.

WHO WE SERVE

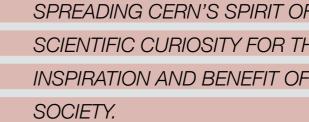
Our activities primarily target students and science educators and aim to engage more young people in the scientific method, while developing their interest in understanding and pursuing careers in the science, technology, engineering and mathematics (STEM) fields.

Many of our initiatives also seek to improve society at large by developing practical applications from fundamental research, achieving greater public engagement with science and inspiring individuals in conjunction with science.

WHAT SETS US APART

CERN has a long tradition of scientific and technological excellence, generated by a culture of openness and knowledge sharing across borders, and nurtured through education and training. The CERN & Society Foundation is in a unique position to leverage this expertise and give back to society.





WHO WE ARE

-		
ŀΕ		

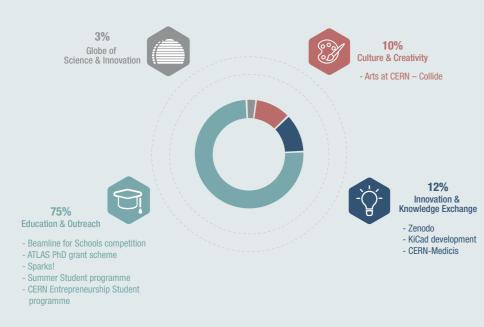
THE IMPACT OF YOUR DONATIONS

OUR REACH AROUND THE WORLD

THE AGE GROUPS OF OUR BENEFICIARIES SINCE 2014



OUR GRANTS IN 2021 (EXCLUDING THE SCIENCE GATEWAY)



BEAMLINE FOR SCHOOLS COMPETITION

Engaging high-school students in real experimental particle physics research at CERN. **2044** students submitted **289** proposals. Gender distribution:

1263

CERN ENTREPRENEURSHIP STUDENT PROGRAMME

Engaging master's level students in training on high-tech venture creation. **7** successful students attended a **5-week** programme. Gender distribution:

5 44 2 Through various projects in 2021, the CERN & Society Foundation had an impact on students and science educators from **83 countries** around the world in the fields of science, technology, engineering and mathematics (STEM).

NON-MEMBER STATE SUMMER STUDENTS

Giving the next generation of scientists the opportunity to gain hands on experience, working on an advanced technical project in a scientific team at CERN. **128** students were selected for a summer internship. Gender distribution:



ATLAS PHD GRANT

Unique education for outstanding PhD students in particle physics research. 2 PhD awards granted Gender distribution:



2021 HIGHLIGHTS IN PICTURES

16 FEBRUARY

Black Quantum Futurism wins the Collide Residency Award. The artistic duo is composed of Camae Ayewa and Rasheedah Phillips.

18 MARCH

CERN launches Technology Impact Fund to address global challenges. The Fund was launched with the support of CERN's Knowledge Transfer group and the CERN & Society Foundation. The first technology selected under the Fund was the Compact Precision Laser Inclinometer (CPLI). This novel solution could be a lower-cost and more precise alternative to existing earthquake detection devices.

14 APRIL

Arts at CERN and Pro Helvetia extend their partnership with the launch of "Connect". This new collaboration framework will serve as a platform for interaction and dialogue between artistic and scientific communities in different countries.

23 JUNE

Winners of the Beamline for Schools competition announced.

Two teams of high-school students from the Liceo Scientifico Statale "A. Scacchi" (Bari, Italy) and from the Escuela Nacional Preparatoria "Plantel 2" (Mexico City, Mexico) won a trip to the DESY research centre in Hamburg, Germany, in September 2021, where they carried out their proposed experiments with the support of scientists from CERN and DESY.

The CERN Sparks! Podcast

Artificial Intelligenc

19 JULY

CERN Sparks! podcasts explore artificial intelligence. The podcast series was released in the run-up to the first edition of the Sparks! serendipity forum in September, when over 30 leading thinkers converged on the Laboratory for high-level multidisciplinary discussions designed to spark innovation. The Sparks! podcast is available on Audioboom, Spotify and Apple Podcasts.

13 APRIL

Award ceremony for the ATLAS PhD grant winners. These talented and motivated students will receive 1.5 years' funding for their studies at CERN. giving them the opportunity to enhance their doctoral studies in a one-of-a-kind research environment.

21 JUNE

SPARKS

CERN lays first stone of Science Gateway.

Fabiola Gianotti, CERN's Director-General, John Elkann, Chairman of Stellantis and the FCA Foundation (the main donor), Renzo Piano, architect and founder of Renzo Piano Building Workshop, and Antonio Hodgers, representing the Geneva Canton, were present to mark the successful start of the construction of the Laboratory's new flagship infrastructure for science education and outreach.

17 AND 18 SEPTEMBER

Sparks! event at the Globe.

CERN launched an annual two-day multidisciplinary science innovation forum and public event. Sparks! the serendipity forum at CERN, brought together renowned scientists from diverse fields around the world, along with decision makers, representatives of industry, philanthropists, ethicists and the public, to bring a novel, multi-faceted approach to addressing some of the big questions of our time.

OUR DONORS

WE ARE GRATEFUL TO THE NUMEROUS DONORS AND PARTNERS WHO GENEROUSLY SUPPORTED THE CERN & SOCIETY FOUNDATION IN 2021. THANK YOU FOR YOUR CONTINUOUS AND OUTSTANDING SUPPORT.

INDIVIDUALS:

Aaron Harris Adam Siwek Adrien Ferro-Luzzi Albertas Mickènas Alberto Parravicini Alexandra Hahnstadt Alexandre de Villardi de Montlaur Alexey Bokov Alison Bulson Allan Baggesø Amsyar Malek Anders Andersen André Mayoraz Andrea Zucchini Andreas Egli Andreas Hecht Andrew Makiejewski Anna Cook Antonio Bianchi Arnaud Glorian Arran Ridley Arturo Sapiña Asher Scott Barry Gannon Bas van Eechoud Bastien Cuvillier Beat Seeliger Ben Dooks Benedikte Førland Solen Bernhard Poiss Bernhard Seidl Bjarne Friis Eriksen Blake Byers Bo Gao Bob Baeck Bob Head

27 OCTOBER

VERA "Ce que nous ne voyons pas". A creation at the crossings between art and science, dance, theatre and cosmology was presented at the Globe by the Hallet Eghayan Company to celebrate Dark Matter Day 2021. This hybrid format – dance and theatre – was built around the life and work of cosmologist Vera C. Rubin.

25 NOVEMBER

CERN's newly appointed Cultural Advisory Board holds its first meeting. Comprising experts and leaders from the arts and science sectors, the Board will provide advice to shape the Laboratory's arts programme and promote CERN's engagement with art in collaboration with leading cultural organisations.

25 DECEMBER

Release of KiCAd v6. Many new important changes made this release a substantial improvement on the 5.x series and a worthwhile upgrade for users on all platforms. Hundreds of new features and improvements are included, and hundreds of

bugs have been fixed.

Brandon Chan Brendan O'Sullivan Brianne Mitrani Bruce Benamran Calvin Persad **Charles Rouillard** Chase Kimes **Choquert Guillaume** Chris Hartley Christian Kruschitz Christian Loitsch Christian Pohen Christoph Rehmann **Christoph Stehlin** Christopher Hentschel Ciara Close Clara Richard Clark Eagling Claudio Bortolin Constantin Engelmann Corentin Wicht Cristian Garrido Tamm Damiano Bortolato **Daniel Parcerisas** David Comer David D'Amico David Merwin David Witten Davide Cirioni Davide Laudicina Davide Mondin Dayton Taylor Dennis Sydekum Dhananjay Palshikar Diego Tacconi Diogo Monteiro Dmitry Melnichansky Dobromira Minarikova Dominik Sliwa Douglas Kerns

Fabiola Gianotti Edmond Offermann Eduardo Larrea Edward Karavakis Eir Valkyrie Elijah Lickerish Emil Bannebjerg Møller Emilio San Martin Pérez Eric Farrow Erik Nowak Fabian Otto Farid Jafari Finn Von Ameln Florian Faber Florian Kerle Francesco Zappon Francois Gervais Frank Prins Franyó János Frederic Tachet Free Karma Gabriel Smith Gancho Angelov Garth Berry Georgi Karavasilev Gerald Kollenda Ghanshyambhai Khatri Gijs Van Weelden Gilles Rouffaud Giovanni Dicanio Giulio Voqt Graham Dresch Guy Wetherbee Haruki Kato Hassam Haruki Helene Ekenstrom Henriette Phang Hiroshi Tokita Ingrid Rocklingerlilla Irene Andreou

J Hartnett James Ahlstrom **James Gillies** Jan Martinus Hendriks Jan Wegrzynowski Jefferson Flowers Jiayin Du Joerg Uetzmann Johannes Obermüller John Ferrell Jose Elvira Joseph Levine Julia Truchsess Julian Swiestowski Julien Delmotte Juraj Streicher Jürgen Gottwald Jürgen Karmann Jussi Ylanen Justin Williams Kai Ruland Karen McCabe Kelvin Tan Kersten Gerlich Khalid AlAwadhi Kingpai Koosakulnirund Klaus Borchers Konrad Rosenbaum Kris Brickman Kris Hampel Lanie Quinn Laurie Greasley Lei Straßburg Luc Schnell Luca Frontini Luca Ruzzola Luigi Marinucci Lukas Kretschmann Magnus Ringman Magnus Skog Malte Pöggel Manuel Kolb Manuel Raya Marc Wapelhorst

Marcel Belmans Marcel Ochsendorf Marco Frattolillo Margarita Louis-Dreyfus Maria Villanueva Marijn Hasebos Mario Hüttel Marko Pirih Markus Pyykkö Markus van Schelve Martin Jungwirth Massimiliano Gabrielli Massimo Concas Matteo Mellone Matthieu Huot Matthieu Rouy Maurizio Vretenar Max Böhm Maxime Rubis Maximilian Rehkopf **Michael Chadwick** Michael Davis Michael Mangelsdorf Michel Spiro Mikhail Lyamasov Mikkel Larsen Miklos Kassai Mikolaj Wielgus Mikus Veits Mohd Rais Monish Chakravarty Rajkumar Nacer Aitmani Nicholas Clark Nicolas Frenay Nicolas Joannes Nicole Graber Nikolaos Mouratidis **Obrian Herzig** Oliver Edel Olivier Betschi Ondrej Dutko Pablo Costas Franco Pascale Goy

Patrick Lloyd Patrick Paschier Patrick Sterling Patrick Wacker Paul Cavalier Paul Guadagnin Paul Jerchel Paulina Barrena Pawan Ghildiyal Peter Dennett Philipp Wissneth Piotr Wieconkowski **Pippa Wells** Plüss Joel Portunus Portunus **Ralph Deters** Ranish Pottath Rayan Chane Kai Shing **Regina Usbeck** Rene Spani Richa Nevatia Richard Lake Robert Delisle Robert Seymour Roger Coignee Romain Bézié **Romain Fontaine** Roman Meier Roque Fernandez Fraile Sami Özdemir Satish Santhanam Sebastian Herzog Sebastian Walde Sebastien Van Cauwenbergh Sergio Calatroni Sergio Martín Rodríguez Shigeharu Gunji Silverio Manuel Rosales Santana Sjaak de Vries SM Fahmid Stefan Agner Stefan Bernegger Stephan Conradin

Stephan Slabihoud Stephane Brachet Stéphane Thiébaut Stephen Deinzer Subramanian Ramamoorthy Suitbert Ramberger Takehiro Homma Thomas Ziegenhals Tim Bell Tim Schuett Timothée Manaud Tina Kocks Tom Vandingelen Torben Esmann Molholt Tran Quang **Trevor Butler** Valerio Farolfi Victor Rodriguez Vincent Wiart Walter Lain Wayne Piekarski Will de Brett Will van de Corput William Baker Yacine Bezza Yngve Solbakken Yoshiro Tsuzuki Zbigniew Dziubek Ziming Wang

A special thank you to those who left a gift to the **CERN & Society Foundation** in their will in 2021.

FOUNDATIONS

Arconic Foundation Ernest Solvay Fund Ernst Gohner Foundation LEGO Foundation Simons Foundation Wilhelm und Else Heraeus-Stiftung Fondation Meyrinoise du Casino Fondation pour l'innovation sur le cancer et la biologie Didier and Martine Primat Foundation Fondation ProTechno

ORGANISATIONS

Pro Helvetia Dryad Institut de cultura de Barcelona

We also thank the many donors who supported us in 2021 but wish to remain anonymous.

"I THINK WHAT THE CERN & SOCIETY FOUNDATION DOES IS FANTASTIC.

EDUCATION IS TODAY ONE OF THE WORLD'S PRIORITIES, AMONG SO MANY OTHERS.

GIVEN THAT TODAY'S STUDENTS ARE TOMORROW'S RESEARCHERS AND SCIENTISTS.

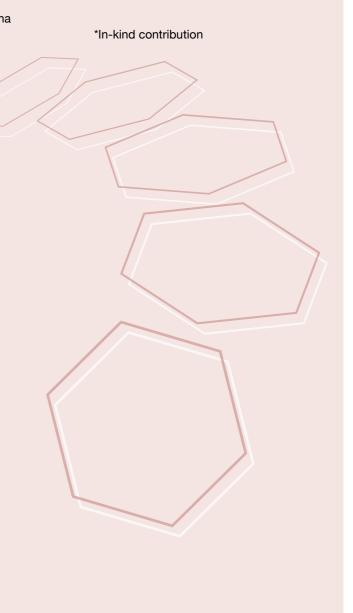
I THINK IT'S IMPORTANT TO DONATE AND HELP THEM ACHIEVE THEIR DREAMS."

Anna Cook

COMPANIES

Rolex S.A. Banque Privée Edmond de Rothschild S.A. UNIQA Fine Art Insurance, Switzerland Amgen Switzerland

Pestalozzi Attorneys at Law*





EDUCATION & OUTREACH

photo from 2019

NON-MEMBER STATES SUMMER STUDENT PROGRAMME



The Summer Student programme is one of CERN's key educational programmes. It aims to bring bright and promising young students to the Laboratory for a once-in-a-lifetime training opportunity. Under the umbrella of this Summer Student programme, the Non-Member States Summer Student programme specifically targets students who come from non-Member States of CERN with a view to facilitating equal access to scientific education.



52

different countries

For many of these students, who often do not have the opportunity to study physics to a high level in their countries, this programme can be a life-changer. These passionate students thrive scientifically, and the benefits are felt in turn by their home communities, where the students contribute to the scientific knowledge capital. Additionally, they return home with a range of valuable contacts to enlarge the network of potential future collaborators, contributing to international scientific and cultural diplomacy.

While the 2020 edition had to be cancelled due to the pandemic, the programme went ahead in 2021 but was held online as the health situation was still precarious.

"I AM GRATEFUL FOR THE SCHOLARSHIP AND ALL THE WORK YOU HAVE DONE

TO MAKE THIS PROGRAMME POSSIBLE BECAUSE NOW I HAVE MANY MORE

CHOICES AND POSSIBILITIES TO APPLY TO HIGHER-LEVEL UNIVERSITIES."

Mohammad Chalaki (Iran)



The CERN Beamline for Schools (BL4S) competition invites teams of high-school students to propose a scientific experiment that they would like to perform at a particle accelerator. The two teams with the best proposals then get the chance to perform their experiment at a fully equipped beamline.

Through BL4S, students test themselves as innovators, problem solvers and collaborators, often finding themselves motivated to embark on science, technology, engineering and mathematics (STEM) careers.

Uriel, team Teomiztli

DID YOU KNOW?

- - Egypt and India.

- managed to come!

WE IMPROVED OUR WAY OF THINKING AND WE ARE REALLY SURPRISED ABOUT

HOW MUCH WE HAVE LEARNED HERE."

14 | CERN & Society







The team "EXTRA" from Italy and the team "Teomitzli" from Mexico were selected from among all the participants and won a two-week stay at DESY research centre in Hamburg to carry out their experiments, just like real scientists.

Beamline for Schools usually takes place at CERN, but the competition has exceptionally moved to DESY since 2019 due to the long shutdown of the CERN accelerators. In 2021, despite the difficulties related to the COVID-19 pandemic, both teams were able to travel to Germany to make the most of this unique experience.

Despite the pandemic, a record number of applications was received, and 15 new countries were represented in the competition for the first time. The largest number of submissions came from Turkey, followed by

By harnessing the students' passion for science, this unique competition creates bonds across countries and cultures. The number of teams consisting of students from different countries increased this year (23 teams, up from 7 last year).

For the Mexican team, it was their first time in Europe and, for some, their first time on an aeroplane! On top of that, they experienced three natural disasters (pandemic, earthquake and flood) and they still

"MOST OF OUR SKILLS HAVE IMPROVED, BECAUSE IN MEXICO WE DON'T HAVE

THIS KIND OF TECHNOLOGY AND WE LEARNT MANY THINGS WE DIDN'T KNOW.

ATLAS PHD GRANT SCHEME

Created by Peter Jenni and Fabiola Gianotti in 2013, the ATLAS PhD grant scheme offers a unique opportunity for students to spend part of their doctoral studies at CERN under the supervision and training of experts from the ATLAS collaboration. Students from all over the world apply to the grant scheme. Successful applicants receive 1.5 years' funding for their studies, spending a total of 18 months at CERN over a period of three years.

In 2021, two students - from Portugal and South Africa were awarded the PhD grant. Due to the ongoing global pandemic, this year's award ceremony was broadcast live on Facebook and LinkedIn, with CERN & Society donors and members of the CERN Management joining in remotely.

So far, a total of 20 students from 17 nationalities have received the award.



"SPENDING TIME AT CERN AS A STUDENT IS AN INVALUABLE EXPERIENCE. AS WE BENEFIT FROM THIS EXCITING ENVIRONMENT. BUT I THINK THAT THIS GRANT ALSO SHOWS HOW CERN, AND IN PARTICULAR THE ATLAS COLLABORATION, REALLY BENEFITS FROM THE HARD WORK AND THE IDEAS OF STUDENTS. I'M VERY THANKFUL FOR THE CONTINUED SUPPORT OF THE GRANT, AS IT GIVES RECOGNITION TO THE DIFFICULT AND IMPORTANT

Ana Luisa Carvalho (Portugal),

WORK THAT STUDENTS DO."

CERN ENTREPRENEURSHIP STUDENT PROGRAMME (CESP)

The CERN Entrepreneurship Student programme (CESP) is part of CERN's overall efforts to address the need for handson training and experience in entrepreneurship for young people. It consists of a five-week residential programme in the technology-intensive environment of CERN, under the direct guidance and mentorship of the CERN Knowledge Transfer group, with the objective of developing students' entrepreneurial skillsets and inspiring them to embark on business endeavours.

Due to the COVID-19 pandemic, the 2021 edition of CESP had to be held virtually, as it was in 2020. Seven master's students from across the globe threw themselves into the programme and developed five promising projects with the potential to become startup companies in the future. During the Demo Day, all the teams presented their final pitches covering a diverse range of topics: apps for the general public to contribute to science challenges, solutions for efficient energy storage, a job experience platform for college students, performance car trailers to facilitate transport, and an oxygen-optimisation device intended to alleviate the acute oxygen supply crisis that many countries have been facing because of the COVID-19 pandemic.

"WE HAD ONLY WORKED ON THE TECHNICAL SIDE OF OUR PROJECT BEFORE JOINING. THANKS TO CESP, WE HAD A SOLID VENTURE IDEA TO PITCH IN JUST FIVE WEEKS - I FOUND IT HARD TO BELIEVE! THANKS TO THE CLOSE MENTORSHIP AND INSIGHTFUL LECTURES, WE SET AND REACHED QUITE AMBITIOUS AND SPECIFIC GOALS EACH WEEK." Maja Sharevska (North Macedonia), **CESP 2021 participant**



SPARKS!

With the support of the CERN & Society Foundation, CERN has launched an annual two-day multidisciplinary forum and public event to spark innovation in issues related to science, technology, engineering and mathematics. Sparks!, the serendipity forum at CERN, aims to bring together renowned scientists from diverse fields around the world, along with decision makers, representatives of industry, philanthropists, ethicists and the public in order to bring a novel, multi-faceted approach to address some of the big questions of our time.

While 2020 marked the year of the virtual launch of Sparks!, 2021 saw the first event, which featured three elements: a podcast series, the Forum and the public event.

Due to the public health situation, the majority of the audience attending the public event was online, while the partners and Forum participants were welcomed in person at the Globe of Science and Innovation. Some 17 speakers - a diverse group in terms of gender, geography and knowledge of the field - helped to foster a new community and spark innovation.

PUBLIC EVENT IN NUMBERS:



over 369K

over 98.8K

impressions

impressions

17K+ people reached











GLOBE OF SCIENCE AND INNOVATION

In an effort to minimise the risk of COVID-19 transmission, CERN took a range of measures affecting the life of the Laboratory. As a consequence, public events at the Globe of Science and Innovation were cancelled as of October 2020 and resumed in June 2021 with the application of strict health and safety measures to protect both staff and the events' attendees. Up to the end of 2021, the CERN & Society Foundation supported 46 public events, including 40 science shows for families, the CineGlobe film festival and the Sparks! serendipity forum. The Globe and its activities are guided by the goal of fostering dialogue between science and society, in particular through scientific, cultural and educational activities, both in the Geneva region and internationally.



DID YOU KNOW?

Science shows are organised at the Globe to give the public the chance to have fun with physics. Since public events at the Globe resumed in June 2021, 1580 attendees discovered the different states of matter and magnetism at one of the 40 science shows, delivered by CERN tutors.

SCIENCE GATEWAY

Through its exhibitions and hands-on educational activities, Science Gateway will give visitors of all ages and from all walks of life the chance to find out about CERN's discoveries, scientific research and technologies. This new scientific education and outreach hub aims to encourage young people to pursue careers in science and technology, and is due to open to the public in the first half of 2023.

Science Gateway was designed by the Renzo Piano Building Workshop in collaboration with Brodbeck-Roulet architectes associés, and broke ground in 2021 with its first-stone ceremony. Since then, a lot more has been done, with the two large steel cylinders, which appear to be suspended in space, and the connecting bridge, symbolising the enduring link between science and society, already installed. The next steps will see the installation of the solar connector and the creation of the forest, which will provide a wonderful experience for people exploring the area on foot.

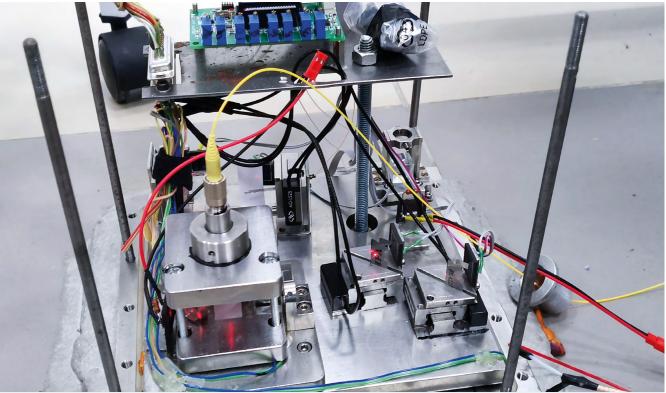


DID YOU KNOW?

Science Gateway has environmental sustainability at its core: it will be a carbon-neutral building and a local landmark, surrounded by a 400-tree newly-planted forest. Closely connected to the CERN campus, Science Gateway will also feature a modular 900-seat auditorium, immersive spaces and laboratories for hands-on activities for visitors from age five up.







INNOVATION & KNOWLEDGE EXCHANGE

CERN TECHNOLOGY IMPACT FUND

In March 2021, CERN launched its Technology Impact Fund, a new tool to bridge the gap between the technology developed for research at CERN and its potential applications to address global societal challenges, as identified by the United Nations Sustainable Development Goals (UN SDGs). The Fund was launched in collaboration with the Knowledge Transfer group, which shares the Foundation's goal of accelerating innovation and maximising CERN's positive impact on society. Indeed, over the years, CERN's research has brought real-world changes in society, and we aim to keep doing so for generations to come.

The first technology selected by the Fund was the Compact Precision Laser Inclinometer (CPLI), originally intended for measuring ground movements around CERN's ATLAS detector. The technology can be adapted as an extremely sophisticated early-warning system for seismic events, helping rescue operations in regions prone to such natural disasters.



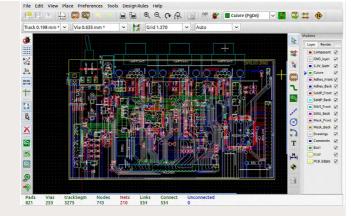
ZENODO

Born at CERN, through the European Commission's OpenAIRE project, Zenodo, an allinclusive Open Science repository, aims to facilitate and accelerate scientific collaboration. As the sharing of research findings has advanced science throughout history, research results, data and analysis code must be available to everyone, anywhere in the world, and safely stored in a long-term repository. Zenodo was created in 2013 to address this need and has become a world-leading platform.

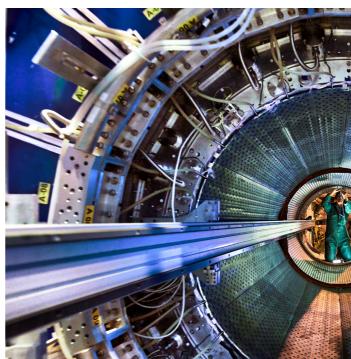
2021 saw some important milestones for Zenodo. Indeed, the repository crossed the threshold of 2 million records and reached 15 million annual visits. To keep up with this growing popularity, the Zenodo team, together with colleagues at the CERN Data Centre, worked on architecture enhancements to handle the new challenges. Their long-running expertise in handling the petabytes of data generated by the CERN experiments is one of the reasons why Zenodo can offer a reliable service to the world in the first place. Over the past year, the teams have tweaked and optimised the infrastructure to help solve a variety of scaling and performance issues. Zenodo also participated in several collaborative projects with Dryad, Plazi, CERN openlab and others.

KICAD

KiCad is a free, open-source design tool for printed circuit boards (PCBs) - the heart of any electronic device, from toasters to smartphones. Benefitting a wide community of users, who actively contribute time and money to its development in return, KiCad gives back not only to hardware designers, but also to students and academic institutions. Thanks to KiCad, students are able to use professional-quality PCB design tools free from constraints imposed by cost, functionality or intellectual property restrictions. The objective of KiCad development is to enhance its functionality, making it an efficient tool for PCB design, which people can use freely to share their design information without compromising on productivity.



2021 marked the release of KiCad version 6.0.0. This is the first major version release of KiCad since 5.0.0, dated July 2018. New features and improvements – such as upgraded schematic editing, a modern look and feel and dozens of core functionality improvements, as well as hundreds of fixed bugs – make this release a substantial improvement on the previous series and a worthwhile upgrade for users on all platforms.



CULTURE & CREATIVITY

TOWARDS FUNDAMENTAL RESEARCH."

ARTS AT CERN

2021 marked the tenth anniversary of Arts at CERN, a pioneering arts programme that fosters dialogue between art and physics. In these ten years, 222 artists from across all creative disciplines have been welcomed on site to interact with more than 400 scientists and experience the way the big questions about our universe are explored by fundamental science.

Arts at CERN enjoys significant attention from the international art world, with several of the programme's commissions shown in leading art museums worldwide, including the Grand-Hornu (Mons, Belgium), Centre Pompidou Metz (Paris, France), Sprengel Museum (Hannover, Germany), MIT List Visual Arts Center (Cambridge, Massachusetts, US) and LUMA Arles (Arles, France).





Chiara Mariotti, particle physicist

"WORKING WITH ARTISTS REMINDS YOU OF THE PURPOSE OF

WHAT YOU DO AND REINVIGORATES YOUR DETERMINATION

For its anniversary, the programme was restructured into three main strands: artistic residencies, art commissions, and exhibitions and events. 2021 also saw the appointment of the New Cultural Advisory Board, comprising worldrenowned cultural and science experts from CERN's Member States.

In 2021, despite the pandemic, 11 artists came in residency, 5 art commissions are ongoing, and 20 exhibitions and events took place, all with the goals of inspiring significant exchanges between art and physics and participating in an international cultural community eager to connect with CERN.

In addition, Mexican artist Tania Candiani was named as the third laureate of the "Art, Science and Nature" residency and commission series funded by the Didier and Martine Primat Foundation and its special fund Odonata.

YOUR SUPPORT MAKES GREAT THINGS HAPPEN

In the preceding pages, you discovered some of the projects through which we can achieve more together for the benefit of society. There are many ways to support CERN & Society initiatives:

- MAKE A GIFT

You may choose to support them via earmarked donations or to make an unrestricted donation that can be used to support the immediate and pressing needs of the CERN & Society projects. We accept payments by credit card, PayPal, cheque or wire transfer.

Visit our website: https://cernandsocietyfoundation.cern

- GRANTS AND SPONSORSHIPS

Foundations, corporations and other organisations can help us leverage the benefits that science brings to society by collaborating with us on a joint venture or by granting us the necessary resources to enlarge the impact of CERN & Society projects.

Contact: partnerships.fundraising@cern.ch

- RENT THE GLOBE

Individuals, companies and other organisations can use the Globe of Science and Innovation for their private events. The Globe is a unique and remarkable venue able to accommodate up to 300 people and is fully equipped for meetings, conferences, cocktail parties and dinners. 100% of the revenue from renting out the Globe goes to CERN & Society projects. Contact us to schedule your event: partnerships.fundraising@cern.ch

OPERATING COSTS

CERN provides the large majority of operating resources for the CERN & Society Foundation. Unless otherwise agreed with the donor, only a fraction of unrestricted donations are used to cover the cost of processing contributions received by credit card or PayPal and other operating expenditures. Otherwise, all funds go directly to benefit projects and increase their impact.

- VISIT THE CERN SHOP

If you happen to be close to CERN, why not pay a visit to the CERN Gift Shop? There you will find authentic LHC Data Tapes that would make an original gift or a souvenir of your visit. 100% of your donation will go directly to support CERN & Society projects. Check when the shop is open or buy online if you have a CERN account: https://visit.cern/shop

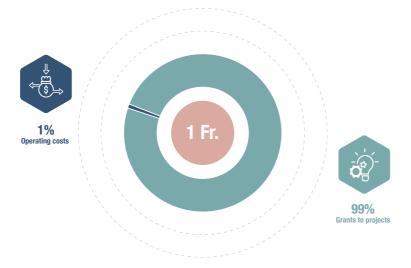
- MAKE AN IMPACT BEYOND YOUR LIFETIME

You can also consider supporting the CERN & Society Foundation in your personal estate planning. With legacies and bequests you can pass on your values to the next generation and help us plan for the future.

- SPREAD THE WORD

Raising awareness of our mission and work is also a great way to support us. Do you frequently use social media like Facebook and LinkedIn? Then follow us and like and share our posts to give more visibility to our projects and spread the idea of using science for the benefit of society.





CERN & SOCIETY FOUNDATION BOARD



Michel Spiro Chair of the Foundation Board, President of the International Union of Pure and Applied Physics (IUPAP)

Daphne de Laleu Member of the Foundation Board, Senior Partnerships Manager - Corporate and Foundations. Save the Children Switzerland





Olivier Coutau Member of the Foundation Board, Delegate to International Geneva, Republic and State of Geneva

Fido Dittus Member of the Foundation Board, Former ATLAS Experiment **Resources Coordinator**



Fabiola Gianotti ex officio Member of the Foundation Board, **CERN** Director-General

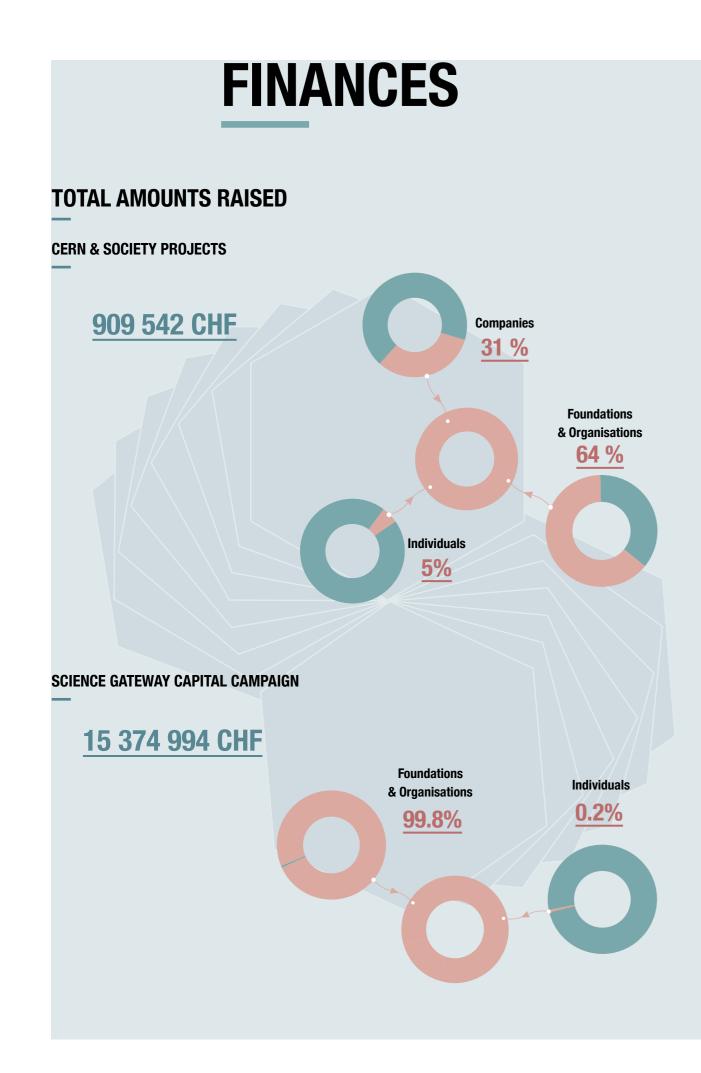


Rolf-Dieter Heuer Member of the Foundation Board. Council President, SESAME Laboratory





Nathalie Leuenberger Member of the Foundation Board Mayor, Ville de Meyrin



TOTAL EXPENDITURES

Fundraising costs
0.6%

Other operating expenditures

<u>0.1 %</u>

16 793 800 CHF



CREDITS

CERN Partnerships & Fundraising

Please get in touch with us. We look forward to getting to know you.

CERN & Society Foundation

Esplanade des Particules 1 P.O. Box 1211 Geneva 23 Switzerland Partnerships.Fundraising@cern.ch https://cernandsocietyfoundation.cern/

DOI10.17181/CERNandSocietyAnnualReview https://doi.org/10.17181/CERNandSocietyAnnualReview

CERN-Brochure-2022-002-Eng

Graphic design and layout: CERN Design and Visual Identity Service

Images:

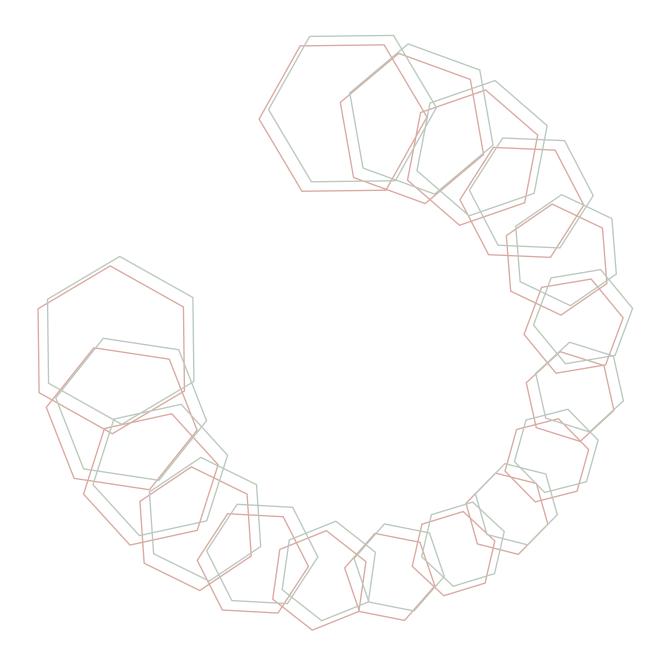
Kenzi Foto: p. 8 (top left) Compagnie Hallet Eghayan: p. 10 (top) KiCad: p. 20 CERN: all other images

© Copyright 2022, CERN

CERN publishes this volume open access under the Creative Commons Attribution 4.0 International licence https://creativecommons.org/licenses/ by/4.0/, in order to permit its wide dissemination and use, excepting the images that are published under copyright (see above).









CERN & Society Foundation