CERN unveils its *Science Gateway* project

CERN is launching the Science Gateway, a new scientific education and outreach centre targeting the general public of all ages. The building will be designed by world-renowned architects, Renzo Piano Building Workshop. The project will be funded through external donations, with the leading contribution coming from FCA Foundation, a charitable foundation created by Fiat Chrysler Automobiles. Construction is planned to start in 2020 and to be completed in 2022.

As part of its mission to educate and engage the public in science, and to share knowledge and technology with society, CERN is launching the *Science Gateway*, a new facility for scientific education and outreach. The purpose of the project is to create a hub of scientific education and culture to inspire younger generations with the beauty of science. Aimed at engaging audiences of all ages, the *Science Gateway* will include inspirational exhibition spaces, laboratories for hands-on scientific experiments for children and students from primary to high-school level, and a large amphitheatre to host science events for experts and non-experts alike.

With a footprint of 7000 square meters, the iconic *Science Gateway* building will offer a variety of spaces and activities, including exhibitions explaining the secrets of nature, from the very small (elementary particles) to the very large (the structure and evolution of the universe). The exhibitions will also feature CERN's accelerators, experiments and computing, how scientists use them in their exploration and how CERN technologies benefit society. Hands-on experimentation will be a key ingredient in the *Science Gateway's* educational programme, allowing visitors to get first-hand experience of what it's like to be a scientist. The immersive activities available in the *Science* Gateway will foster critical thinking, evidence-based assessment and use of the scientific method, important tools in all walks of life.

"The Science Gateway will enable CERN to expand significantly its education and outreach offering for the general public, in particular the younger generations. We will be able to share with everybody the fascination of exploring and learning how matter and the universe work, the advanced technologies we need to develop in order to build our ambitious instruments and their impact on society, and how science can influence our daily life," says CERN Director General Fabiola Gianotti.*"I am deeply grateful to the donors for their crucial support in the fulfilment of this beautiful project."*

The overall cost of the *Science Gateway* is estimated at 79 million Swiss Francs, entirely funded through donations. As of today, 57 million Swiss Francs have been already secured, allowing construction to start on schedule, thanks in particular to a very generous contribution of 45 million Swiss Francs from the FCA Foundation, which will support the project as it advances through the construction phases. Other donors include a private foundation in Geneva and *Loterie Romande*, which distributes its profits to public utility projects in various areas including research, culture and social welfare. CERN is looking for additional donations in order to cover the full cost of the project.

John Elkann, Chairman of FCA and the FCA Foundation, said: *"The new Science Gateway will satisfy the curiosity of 300,000 visitors every year – including many researchers and students, but also children and their families – providing them with access to tools that will help them understand the world and improve their lives, whatever career paths they eventually choose. At FCA we're delighted to be supporting this project as part of our social responsibility which also allows us to honour the memory of Sergio Marchionne: in an open and stimulating setting, it will teach us how we can work successfully together, even though we may have diverse cultures and perspectives, to discover the answers to today's big questions and to those of tomorrow"*.

As part of the educational portfolio of the *Science Gateway*, CERN and FCA Foundation will develop a programme for schools, with the advice of Fondazione Agnelli. The main goal will be to transmit concepts of science and technology in an engaging way, in order to encourage students to pursue careers in STEM (Science, Technology, Engineering and

Mathematics). According to the approach of enquiry-based learning, students will be involved in hands-on educational modules and experiments in physics. Special kits will be delivered to classes, containing all necessary materials and instructions to run modules throughout the school year. As a follow-up, classes will be invited to take part in a contest, with the winners awarded a 2-3 day visit to the *Science Gateway* and CERN. There will be an initial period of experimentation, with a pilot programme in Italy focusing on junior high schools and involving up to 550,000 students. After the pilot, CERN plans to extend this initiative to all its Member States.

The *Science Gateway* will be hosted in a new, iconic building, designed by world-renowned architects Renzo Piano Building Workshop, on CERN's Meyrin site adjacent to another of CERN's iconic buildings, the Globe of Science and Innovation. The vision for the *Science Gateway* is inspired by the fragmentation and curiosity already intrinsic to the nature of the CERN site and buildings, so it is made up of multiple elements, embedded in a green forest and interconnected by a bridge spanning the main road leading to Geneva. *"It's a place where people will meet,"* says Renzo Piano. *"Kids, students, adults, teachers and scientists, everybody attracted by the exploration of the Universe, from the infinitely vast to the infinitely small. It is a bridge, in the metaphorical and real sense, and a building fed by the energy of the sun, nestling in the midst of a newly grown forest."*

Also inspired by CERN's unique facilities, such as the Large Hadron Collider (LHC), the world's largest particle accelerator, the architecture of the *Science Gateway* celebrates the inventiveness and creativity that characterise the world of research and engineering. Architectural elements such as tubes that seem to be suspended in space evoke the cutting-edge technology underpinning the most advanced research that is furthering our understanding of the origins of the universe.

A bridge over the Route de Meyrin will dominate the brand-new Esplanade des Particules and symbolise the inseparable link between science and society. Construction is planned to start in 2020 and be completed in 2022.

Architectural vision

Four major elements give shape to the architectural vision.

The "Bridge". It is the spine along which an ensemble of exhibition and educational spaces develops. The Bridge is conceived as a street raised 6 meters above ground and crossing the Route de Meyrin.

The "Photovoltaic collectors". Three square photovoltaic panels of 40x40 meters float above three respective pavilions. The central pavilion contains the classrooms. Located above the reception area, this is the place where the main vertical circulation connects the bridge to the ground. The north pavilion is conceived as a very flexible space which can serve as a 900-seat conference room, be split in three independent spaces, or accommodate two smaller venues and a full-height space for science shows. The south pavilion is destined to contain interactive exhibitions.

The "Tunnels". Two tubes, raised at the bridge level, are designed to accommodate CERN's permanent and temporary exhibitions. Within the Tunnels, the visitor is immersed in an environment representing the accelerator tunnels 100 meters below ground, where scientific experimentation unveils the deepest secrets of matter.

The "Forest". Nature is what connects everything together, existing buildings with the new facility. Nature creates a great pedestrian experience. With its 400 trees, the forest wants to say that all exploration is about nature, no matter what the scale is.

- **About CERN**

At CERN, the European Laboratory for particle physics, physicists and engineers are probing the fundamental structure of the universe. They use the world's largest and most complex scientific instruments to study the basic constituents of matter – the fundamental particles. The particles are made to collide together at close to the speed of light. The process gives the physicists clues about how the particles interact, and provides insights into the fundamental laws of nature.

The instruments used at CERN are purpose-built particle accelerators and detectors. Accelerators boost beams of particles to high energies before the beams are made to collide with each other or with stationary targets. Detectors observe and record the results of these collisions.

Founded in 1954, the CERN laboratory is located on the French-Swiss border, with its headquarters in Geneva. It was one of Europe's first joint ventures and now has 23 Member States. Its Member States are: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland and United Kingdom. Cyprus and Slovenia are Associate Member States in the pre-stage to Membership. India, Lithuania, Pakistan, Turkey and Ukraine are Associate Member States. The European Union, Japan, JINR, the Russian Federation, UNESCO and the United States of America currently have Observer status.

- **About FCA Foundation**

The FCA Foundation, the charitable arm of FCA, supports charitable organizations and initiatives that help empower people, build strong, resilient communities and generate meaningful and measurable societal impacts particularly in the field of education.

- **About FCA**

Fiat Chrysler Automobiles (FCA) is a global automaker that designs, engineers, manufactures and sells vehicles in a portfolio of brands including Abarth, Alfa Romeo, Chrysler, Dodge, Fiat, Fiat Professional, Jeep®, Lancia, Ram and Maserati. It also sells parts and services under the Mopar name and operates in the components and production systems sectors under the Comau and Teksid brands. FCA employs nearly 200,000 people around the globe. For more information regarding FCA, please visit www.fcagroup.com.

- **About RPBW**

The Renzo Piano Building Workshop (RPBW) was established in 1981 by Renzo Piano with offices in Genoa, Italy and Paris, France. The practice has since expanded and now also operates from New York.
RPBW is led by 10 partners, including founder and Pritzker Prize laureate, architect Renzo Piano. The practice permanently employs about 130 architects together with a further 30 support staff including 3D visualization artists, model makers, archivers, administrative and secretarial staff.
RPBW has successfully undertaken and completed over 140 projects around the world.
Currently, among the main projects in progress are: the Academy Museum of Motion Pictures in Los Angeles; the École normale supérieure Paris-Saclay and; the GES 2 Center for the Arts in Moscow.
Major projects already completed include: the Centre Georges Pompidou in Paris; the Kanak Cultural Center in Nouméa, New Caledonia; the Beyeler Foundation Museum in Basel; the New York Times Building in New York; the California Academy of Sciences in San Francisco; the Chicago Art Institute expansion in Chicago, Illinois; The Shard in London; Columbia University's Manhattanville development project in New York City; the Whitney Museum of American Art in New York; the Valletta City Gate in Malta; the Stavros Niarchos Cultural Center in Athens; the New Paris Courthouse and others throughout the world.
Exhibitions of Renzo Piano and RPBW's works have been held in many cities worldwide, including at the Royal Academy of Arts in London in 2018.

The *Science Gateway* involves Renzo Piano Building Workshop, architects, in collaboration with Brodbeck Roulet Architectes Associés (Geneva)

Design team: A.Belvedere, L.Piazza (partner and associate in charge)

Consultants: Arup / EDMS (structure); Transsolar (sustainability); SRG (MEP); Müller BBM (acoustics); Emmer Pfenninger (façades); Changement à vue (A/V, heater equipment); Arup (lighting); Charpente Concept (fire prevention); Atelier Descombes Rampini (landscaping)

- **About Fondazione Agnelli**

The Fondazione Agnelli is an independent, non-profit research organisation in the fields of human and social sciences, established in 1966 and named after founder of Fiat, the Senator Giovanni Agnelli. Its mission is *"to further understanding of change in contemporary society in Italy and in Europe"*. Since 2008 the Fondazione's focus is on education, as a powerful lever for an individual's fulfilment, an important channel of social mobility, and a key factor for a country's economic growth and social cohesiveness. It runs wide ranging studies to improve the Italian education system, works with schools to renew the teaching methodologies, and helps families in the school choice. www.fondazioneagnelli.it