

Bertrand Piccard unveils *Climate Impulse*, a new flagship for climate action:

Flying non-stop around the world in a green hydrogen-powered airplane,
with Syensqo as the main technological partner

After achieving the first circumnavigations of the globe in a balloon and more recently in a solar aircraft, Swiss explorer Bertrand Piccard unveils his new emission-free project: a green hydrogen-powered airplane to fly non-stop around the Earth, demonstrating how concrete solutions can help build a cleaner and more efficient world. With science company Syensqo as the main partner of this technological, environmental and human adventure, the limits of innovation will be pushed back to enable the development of the airplane, built in France by engineer and navigator Raphaël Dinelli.

Lausanne, Switzerland & Brussels, Belgium – February 7, 2024 – Climate Impulse plans to complete in 2028 the first non-stop round-the-world-flight in a green hydrogen powered airplane, with science company Syensqo as main partner. After two years of research, development and design supported by Airbus, Daher, Capgemini and with the participation of Ariane Group, the construction of the aircraft has begun and will last two years under the direction of Raphaël Dinelli, composite engineer and navigator. Following another two years of testing, this unique aircraft will attempt to fly non-stop all around the Equator with pilots Bertrand Piccard and Raphaël Dinelli. A climate action adventure aiming to restore confidence in technological solutions for the common good.

More than a flight, Climate Impulse is an environmental flagship aiming to play its part in revolutionizing the aviation sector and beyond, showing the way to global sustainability through innovative solutions in areas traditionally considered difficult to decarbonize.

Climate Impulse represents a technological breakthrough. Beside the production of green hydrogen from renewable energies, and its use through fuel cells to feed electric motors, the major challenge lies in maintaining liquid hydrogen at -253°C during an estimated nine days of flight. This will require revolutionary innovations in the creation of adapted thermal tanks, opening new horizons in aviation technology. The collaboration with Syensqo will enable Climate Impulse to develop these cutting-edge systems.

Climate Impulse, a new project in a lineage of sustainability exploration

The latest adventure of Bertrand Piccard was Solar Impulse, the unprecedented round-the-world flight in a solar-powered airplane in 2016. An achievement with an environmental purpose, directly in line with those of his grandfather Auguste, the physician who invented the pressurized capsule to explore the stratosphere, and his father Jacques, the oceanographer who took his bathyscaphe to the bottom of the Mariana trench.

The day of its announcement in 2004, Solar Impulse was a symbol based on the intuition that renewable energies and cleantech solutions could achieve environmental objectives considered to be impossible. Since then, more than 1'500 efficient solutions have been identified and [labeled](#) by the [Solar Impulse Foundation](#), certifying their environmental benefit and economic viability.

Born of this heritage and taking it further, [Climate Impulse](#) wants to showcase concrete technologies that can revolutionize the aviation industry, and the mobility sector in general.

“In this world full of eco-anxiety, we need to restore hope and stimulate action by demonstrating disruptive solutions that lead to sustainable progress. More than flying around the world with a hydrogen airplane, Climate Impulse will explore new ways of thinking and acting to promote a better quality of life,” says Bertrand Piccard. *“Efficient solutions will unite people from citizens and environmental activists to political and business leaders, shifting the narrative from sacrifice and fear to enthusiasm and action”*.

A challenge made possible by Syensqo’s expertise and technological know-how

Syensqo (formerly part of Solvay) was the first and main technological partner to team up with Bertrand Piccard nearly 20 years ago with the Solar Impulse flight. This time again, Syensqo will put its extensive expertise and innovation power at the service of the adventure by enabling the manufacture of the plane with tailor made materials.

Syensqo’s composite materials, films and additives will be crucial to the manufacturing of the entire structure of the hydrogen aircraft, its fuselage to the wings and hydrogen tanks. It will provide lightness, alongside mechanical and thermal properties. When it comes to green hydrogen, the company’s high-performance materials (for Proton Exchange Membranes and binders for electrodes of the fuel cell) will be key enablers to confer exceptionally high-power density and efficiency, also allowing more compact design of the plane.

“We are thrilled to be part of this ultimate flight, a non-stop zero emission round the world fueled by green hydrogen. Our 13.200 Syensqo’ employees are proud to be part of this human, environmental and scientific adventure, showcasing the power of their sustainable innovations that will drive carbon neutrality for our customers and advance humanity” says Ilham Kadri, CEO at Syensqo.

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About Bertrand Piccard

A serial explorer, psychiatric doctor and pioneer of clean technologies who combines innovation and adventure to meet the major challenges of our time.

Born into a legendary family of explorers who have conquered the stratosphere and the abyss, Bertrand Piccard made history by achieving two aeronautical firsts: non-stop around-the-world in a balloon and more recently without any fuel in a solar-powered aircraft. A pioneer in considering ecology from the angle of economic viability, he has been promoting renewable energies and clean technologies since the early 2000s. His dual identity as psychiatrist and explorer allows him to serve as an inspirational speaker and a recognized interlocutor for major institutions, sharing his vision of *“qualitative growth”* that reconciles ecology and the economy. With his [Solar Impulse Foundation](#), he has achieved his objective of identifying more than 1,500 “Efficient Solutions”, which he is now endeavoring to bring to the attention of political and industrial decision-makers to enable them to achieve their climate objectives. A humanist, this former United Nations ambassador for the environment uses his reputation to promote progress, sustainability and quality of life, three themes that are reflected in his efforts to unite the forces at work and encourage non-partisan political action to modernize the legal framework.

The new hydrogen-powered aircraft project, Climate Impulse, is part of this passion to explore new ways of doing and thinking.

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About Raphaël Dinelli

Experienced sailor, test pilot and composite engineer, he is passionate about combining energy issues with his areas of expertise to develop eco-innovations.

An accomplished sailor with several transatlantic races to his name (winner of the 1997 Jacques Vabre, 3^e in the 1998 Route du Rhum) and four circumnavigations of the globe (10^e in the 2008 Vendée Globe), he is also an airplane pilot, trained as a test pilot for experimental aircraft. As Research Director of the Laboratoire Océan Vital and an expert lecturer in renewable energies, he combines his know-how in applied research to meet the challenges of tomorrow, by proposing concrete solutions in renewable energies, green aviation and the mobility. Since 2007, he and his team have been developing a vertical axis wind turbine, a research program on the encapsulation of photovoltaic cells and a program on bioclimatic buildings. In 2008, his laboratory sailboat with solar modules and a wind turbine was entered in the Vendée Globe. After producing a number of solar demonstrators, he presented his hybrid bioenergy/solar electric aircraft, the Eraole, at COP21 in 2015. With 200 hours' flying time and a record for autonomy and altitude to his credit – more than 10 hours at almost 10,000 feet – this eco-adventurous engineer is now devoting his time to the technical development of the liquid hydrogen aircraft as part of the Climate Impulse project.

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About Syensqo

Syensqo is a science company developing groundbreaking solutions that enhance the way we live, work, travel and play. With a diverse, global team of more than 13,000 associates in 30 countries, we bring great minds together to push the limits of science and innovation for the benefit of our customers.

Building on 160 years of legacy, our solutions contribute to safer, cleaner, and more sustainable products found in homes, food and consumer goods, planes, cars, batteries, smart devices and healthcare applications. Our innovation power enables us to deliver on the ambition of a circular economy and explore breakthrough technologies that advance humanity.

Learn more at www.syensqo.com.

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