THE SENSE OF SILENCE

1.

Listening to Nature to save humankind

Nature is coming close to a breaking point. The balance of our planet is critically threatened by human activities and climate change: the whole food web is affected, which directly puts our fragile sustainability on Earth at risk.

The Sense of Silence Foundation contributes to resolving the Human - Nature conflict through a conciliatory approach: working for the conservation and regeneration of biodiversity while respecting current economic and societal challenges.

Humankind's future depends on a healthy planet

2.

A Silent Planet is a Dead Planet

Michel André

The perception of sound is shared by all forms of life on Earth

The perception of sound is shared by all forms of life on Earth. It performs a primary biological function by allowing information exchange, access to food, identification of other species, and orientation in space.

Primary forests, oceans and deserts govern this natural acoustic balance - essential to the survival of all living beings. Through pioneering technology born from bioacoustics, and a unique scientific programme based on listening to nature's sounds, The Sense of Silence checks the planet’s pulse and establishes a protocol for its regeneration.

Sound: The guarantor of life on Earth

Michel André

Bioacoustics opens up a new dimension in our perception of the world

Bioacoustics is the science of the sound of life. It studies the biological sounds produced by wildlife, their functions and the external alterations they may undergo. Thanks to it we know how the noise pollution, rife today both on land and sea, is causing disastrous consequences affecting the natural balance.

Bioacoustics opens up a new dimension in our perception of the world by making us discover sounds that were imperceptible to the human ear and yet essential to the survival of humanity.

Bioacoustics: How to reveal the invisible

3.

Technology to serve biodiversity

The most advanced techniques of artificial intelligence

Developed for more than 20 years at the Laboratory of Applied Bioacoustics (LAB) of the Technical University of Catalonia, BarcelonaTech (UPC), and through more than 150 acoustic observatories that integrate the most advanced techniques of artificial intelligence, The Sense of Silence monitors soundscapes 24/7, on land and at sea. It identifies and analyses all their components in real time: animal sounds, human-made noise and natural phenomena. It detects breaches, alerts governments and operators; and it offers solutions adapted to each habitat, in close collaboration with the local indigenous communities who represent the true guardians of biodiversity.

Already present in most oceans, in the Amazon rainforest and in Asia, our technology has made it possible to establish the first global mapping of underwater acoustic pollution. Thanks to this information, the Foundation is able to initiate targeted conservation programmes around the world.

Buoy pickup

1st

Mapping the underwater acoustics pollution

Already present in most oceans and forests.

24/7

Sound monitoring

It identifies and analyses all their components in real time

+20

Years

R+D development at BarcelonaTech (UPC)

The largest database of biological sounds in the world

+150

Bioacoustic observatories
Integrating the most advanced techniques of artificial intelligence

-3000

Meters depth
From the shallowest to the deepest waters

45

Meters
From the Amazon river to the top of the canopee

4.

Michel
André

Michel André, Photograph by Teresa Correa

A life dedicated to bioacoustics

Creating the first European research laboratory dedicated to the effects of marine noise pollution, the LAB (Laboratory of Applied Bioacoustics, Technical University of Catalonia, BarcelonaTech, UPC), in 2003, was Michel André's first commitment to the planet. The LAB has since played a key role in European Union research initiatives. His next great contribution, the company SONSETC, benefits from the advanced technologies developed at the LAB by guiding industries towards respecting the environment in which they operate.

It is based on the international credibility and reputation acquired by the LAB and SONSETC, that this engineer in biotechnology built The Sense of Silence Foundation. During the last twenty years, his work has revolutionised the way bioacoustics are applied to monitoring biodiversity, in order to initiate conservation programs in the most fragile habitats on the planet.

Antardida. Photograph by Heather Cruickshank

Born in 1963, Michel André is an engineer in biotechnology from the National Institute of Applied Sciences, INSA, Toulouse (France); He holds a PhD in Biological Sciences from the University of Las Palmas de Gran Canaria. He is a Professor at the Technical of Catalonia, BarcelonaTech (UPC), Director of the Laboratory of Bioacoustic Applications (LAB), CEO of SONSETC, Making Sense of Sounds, President of The Sense of Silence Foundation and International Ambassador of the Mamirauá Reserve (Amazonia, Brazil). He received the Felix Wankel Prize in 1999 (Ludwig Maximilians University, Munich) and the National Research Prize of the Spanish Geographical Society in 2016. He is a 2002 Rolex Awards Laureate.

1992

First evidence of the effect of noise pollution on sperm whales

2002

Rolex Awards for Enterprise

2003

Creation of the LAB

2007

Creation of LIDO

2014

Creation of TSOS

Mélanie Laurent, French actress and director, Best documentary film Cesar (Demain, 2018), is the Godmother of The Sense of Silence Foundation

“ To give back a voice to the ones that we haveforgotten ...to listen to the very depths of the ocean and hear the sounds of sorrow, fear and distress of these neglected marine mammals... To dive in, and realise that there is no silence anymore... for men will destroy everything up until the very last leaf, the very last breath, while others will spend their lives trying to give a voice back to those that don't have one... When Michel told me about his project, I was immediately captivated by the beauty of this unique initiative... to listen to the ills that we aredoing to our oceans... to dive amongst the whales and hear what the folly of man has done. I am extremely proud and honored to be godmother and an ambassador to this unique, essential and wonderful project. We live and behave here on earth as though every part of it belongs to us, instead of being eternally thankful that it has welcomed us amongst it... this blue planet, originally so pristine, comprised of 70% oceans, and yet, again with contempt, we chose to call it Earth. It is time to repair our mistakes. To plunge into the water... and look for even the slightest bit of remaining silence...

5.

Partners & Ambassadors

Over the past two decades, our work has been proudly supported by:

Helping restore the planet's natural balance through listening to its sounds is quite an ambitious mission. The Sense of Silence Foundation's efforts would be in vain without the trust from our partners. We truly want to thank them, we are convinced that only together we can make a difference.

The Rolex Institute
Geneva, Switzerland

The Prince Albert II of Monaco Foundation
Monaco

The Gordon & Betty Moore Foundation
California, USA

The Planetary Health Alliance
Massachusetts, USA

The Meri Foundation
Santiago, Chile

The Monaco Yacht-Club
Monaco

The Bela & Ellen Hatvany Mustardseed
London, UK

The Fondation Pacifique
Geneva, Switzerland

Le Meridien RABeach Hotel & Spa
Tarragona, España

The Pan African Sanctuary Alliance
Oregon, USA

The Environmentalist Foundation of India
Coimbatore, India

Ondina Hatvany & Jamee Houk
California, USA

6.

Key Initiatives

1

Duration:
4 years

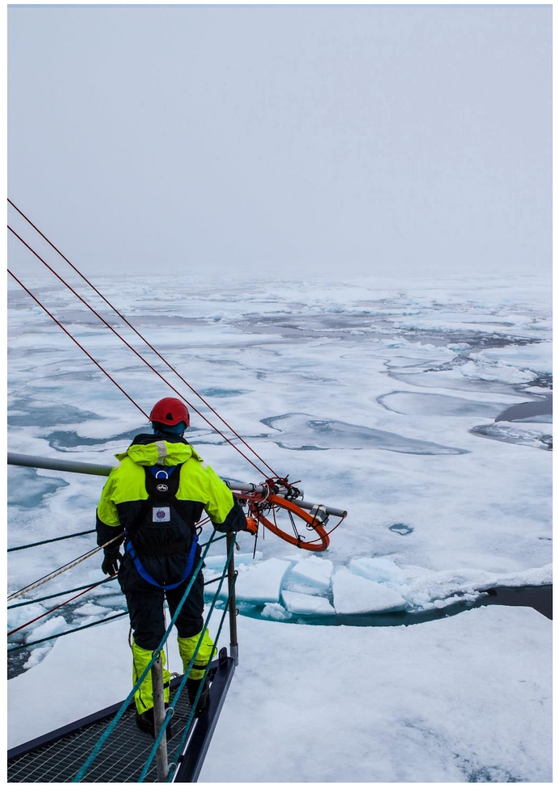
Budget:
5,7M €

Location:
Arctic and Antarctic

Status:
Active

Listen to the Poles is a research initiative that is part of the LIDO (Listen to the Deep-Ocean) international effort to monitor marine biodiversity. Its mission is to understand the dynamic balance of the oceans through the analysis of its soundscapes, and to propose solutions to protect it. Considering the multi-scale impacts of climate change on the Arctic and Antarctic marine habitats and the simultaneous increase in threatening activities, - including oil and gas exploration in the Arctic and maritime cruise activities in the Antarctic -, there is a critical need to understand and anticipate the loss of polar biodiversity.

LISTEN TO THE POLES



With the support of the Rolex Institute and the Prince Albert II of Monaco Foundation, this initiative is led by Michel André. Michel André is an eminent marine bioacoustician, director at the Laboratory of Applied Bioacoustics of the Technical University of Catalonia, BarcelonaTech (UPC) and founder & president at The Sense of Silence Foundation.

Founding Goals

Acoustic exploration of current polar marine biodiversity in both Arctic and Antarctic Oceans.

Monitoring the polar marine biodiversity in response to global climate change, in particular in terms of how it modifies the migratory behaviour of key species, such as baleen whales routes and grounds, and its implication in their distribution and future food competitions.

Studying and monitoring the impact of noise pollution, derived from the increase of human activities, on polar marine biodiversity.

Sharing knowledge with the scientific community, industry and policy makers with a view to preserving the poles, to supplement existing regulations and reduce the future impact of human activities.

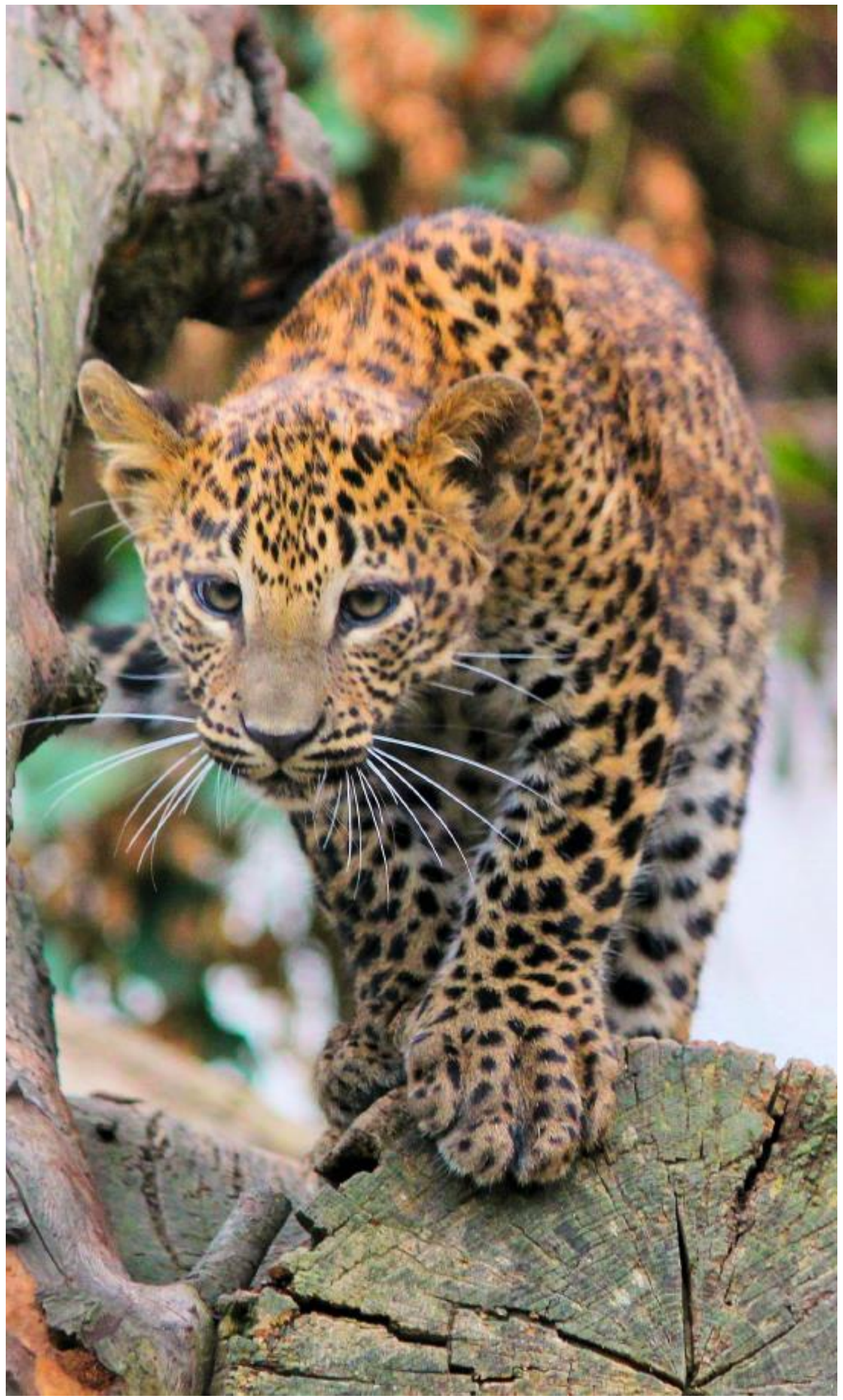
LISTEN TO THE POLES

Duration:
7 years

Budget:
17M €

Location:
Amazon rainforest

Status:
Phase 2 of 3



Tropical forests are rapidly disappearing from our planet as a consequence of deforestation from logging, mining, oil drilling, agricultural expansion, and expansion of urbanized areas. Project Providence represents a breakthrough in the way biodiversity is monitored. Through a technology called Providence Nodes, this initiative continuously monitors natural habitats, allowing acoustic and visual identification of more species than any other.

This high-tech project is revolutionizing the way biodiversity is monitored by a distributed, wireless sensor network throughout the jungle with autonomous observatories of wildlife under the canopy of the Amazon forest.

PROJECT PROVIDENCE

The last phase of the project is planned for 2025 with the objective of monitoring the entire Amazon rainforest. 1,000 stations will study the impact of climate change and human activities on this unique habitat.

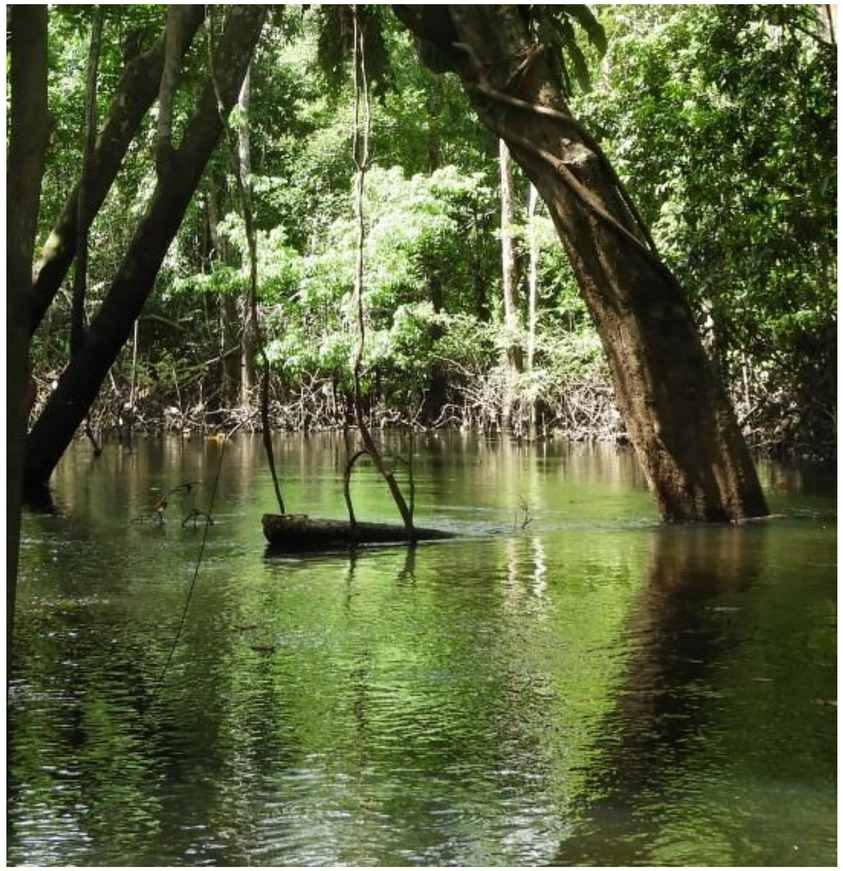
With the support of the Rolex Institute and the Gordon & Betty Moore Foundation, this project is led by The Sense of Silence, through the Laboratory of Applied Bioacoustics (Technical University of Catalonia, BarcelonaTech) and the Mamirauá Institute for Sustainable Development (Amazonas, Brazil).

2025

Date for the last phase of the project

1000

Providence Nodes monitoring biodiversity



PROJECT PROVIDENCE

Duration:
5 years

Budget:
15M €

Location:
Patagonia (Chile)

Status:
Phase 1 of 3

This project's objective is to protect great whales from the effects of human activities, using pioneering technology that remotely monitors the oceans.

Starting in the Chilean Patagonia, the initiative foresees the installation of the world's first network of intelligent buoys along the East Pacific Ocean coast. Through real-time detection of great whales' vocalizations, vessels will be warned of their presence so that they can reduce their speed, therefore the risk of collision.

THE BLUE BOAT INITIATIVE

Even though the conservation of these species is key in the mitigation strategy to address climate change, no global effort has been made to address their important ecological role. Great whales capture 33 tons of CO_2 during their lifetime, 1,500 times more than a tree, and contribute to producing 50% of the oxygen that the planet consumes.

This program seeks to be replicable at a regional level throughout the Pacific, to protect the whales along their migratory routes from the Arctic to the Antarctic.

The Blue BOAT Initiative is a project led by the Foundation MERI in conjunction with the Chilean Ministry of the Environment, scientifically coordinated by The Sense of Silence Foundation.

THE BLUE BOAT INITIATIVE

Duration:
5 years

Budget:
700K €

Location:
Africa

Status:
Phase 1 of 2

African great apes population is threatened and has become more fragmented due to deforestation, poaching, bushmeat trade and other illegal trade.

Through innovative and non-invasive technology, based on state-of-the-art artificial intelligence techniques and hardware development, The Sense of Silence continuously analyses soundscapes, automatically and in real-time, to detect potential threats to natural habitats and to propose mitigation solutions.

AFRICAN GREAT APES

This program aims at installing a network of acoustic observatories covering the entire areas of the 27 African sanctuaries, offering a unique solution to protect great apes by continuously monitoring their population, thus contributing to preserve the African biodiversity.

The Sense of Silence has joined forces with the Pan African Sanctuary Alliance (PASA) to preserve the natural habitats of these primates.
PASA is the largest association of wildlife sanctuaries in Africa, with 23 members in 13 countries, securing a future for Africa's apes.

For 20 years, PASA has been racing against time to save endangered primate species. Over the past 20 years, our alliance has saved the lives of thousands of animals, but sanctuaries in Africa are currently facing difficult times during lockdown measures caused by the global coronavirus pandemic.

27

African Sanctuaries

13

Countries

540

Nodes

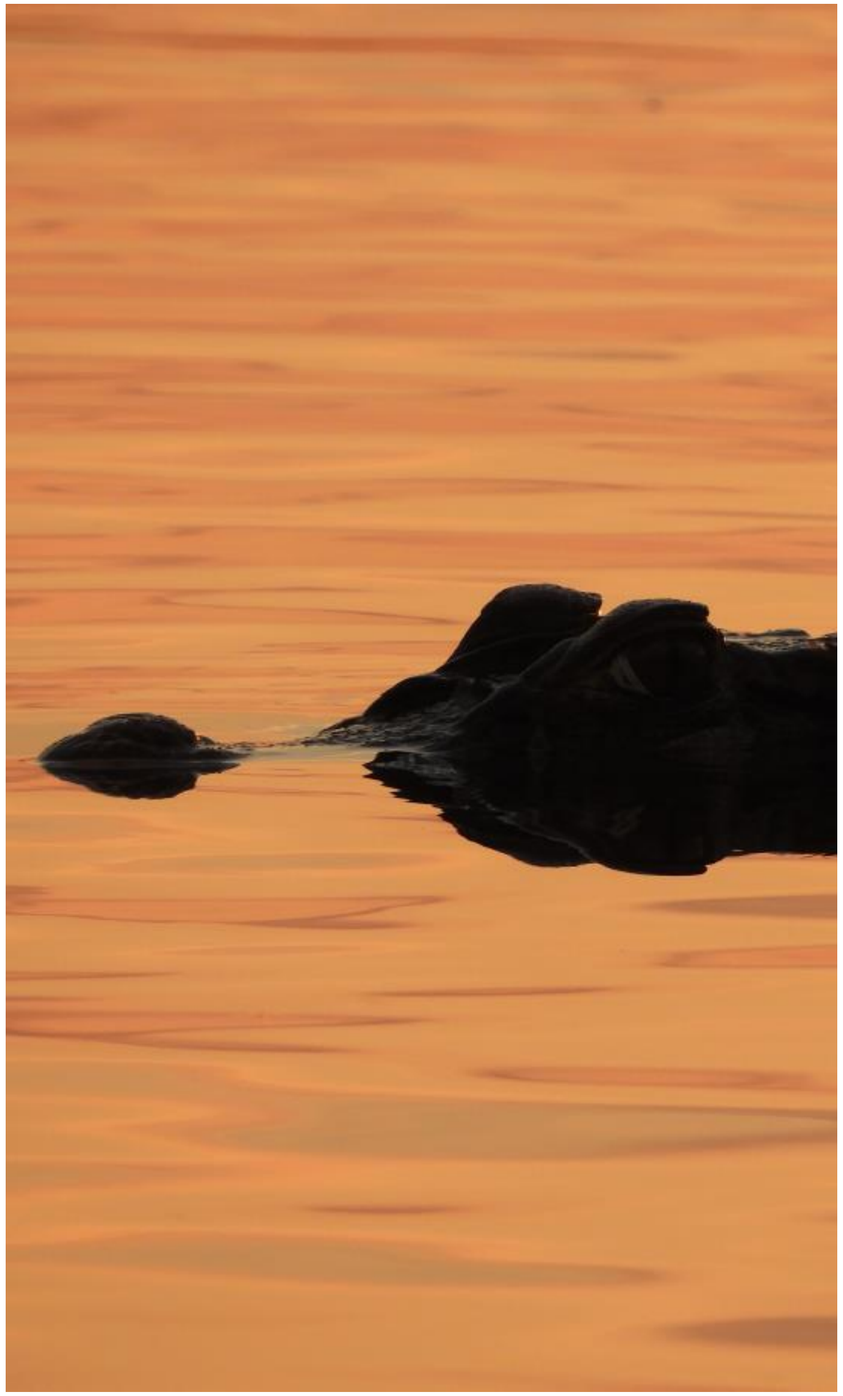
AFRICAN GREAT APES

Duration:
4years

Budget:
1,5M €

Location:
Worldwide tropical rainforest

Status:
Phase 1 of 3



The mission of the XPrize Foundation is to achieve "radical breakthroughs for the benefit of humanity" through incentivized competition. The RAINFOREST XPRIZE is a five-year, $10 Million prize competition to improve our understanding of the rainforest ecosystem.

It will reward novel technologies that rapidly and comprehensively study rainforest biodiversity and use that data to provide new insights that advance the health and conservation of rainforests around the world.

XPRIZE

Well-being of the rainforest

Because of its long-term commitment to monitor rainforests, particularly in the Amazon, bringing the latest development in bioacoustics technology to serve biodiversity, The Sense of Silence Foundation has decided to register for the XPrize competition.

The team, composed by scientists from the Technical University of Catalonia, BarcelonaTech and the Mamirauá Institute for Sustainable Development (IDSM, Amazonas, Brazil) will have a limited period to explore a rainforest area and produce a rainforest biodiversity assessment together with a vision that integrates multiple data sources to document the health status of the rainforest.

Further than this competition per se, The Sense of Silence foresees through the development of this technology at the UPC, the sustainable use and well being of the rainforest, building on new advances in science, technology, and innovation towards sustainable bioeconomy.

XPRIZE

THE SENSE OF SILENCE