

ANNUAL REPORT 2021



Fondation
taraocéan
explore and share



The Tara Ocean Foundation is the first recognized Public Interest Foundation dedicated to the Ocean in France.

It has two main missions: Exploring the Ocean to better understand it and sharing this scientific knowledge to create citizen and collective awareness.

Since 2003, it has been developing high-level ocean science, in collaboration with international research laboratories of excellence, to explore, understand and anticipate the upheavals linked to climatic and environmental risks as well as the impacts of various forms of pollution.

To make the ocean a common responsibility and to preserve it, the Tara Ocean Foundation also strives to make as many people as possible aware of ocean science and to educate younger generations.

To study and protect the ocean is to take care of the global system of our planet.

Scan me



Major expeditions



Some facts about the Tara Ocean Foundation

1 SPECIAL OBSERVER SEAT AT THE UN



30 EMPLOYEES ON LAND AND AT SEA



4 MILLIONS € ANNUAL BUDGET



12 SCIENTIFIC EXPEDITIONS

540 340 KM COVERED ON ALL OCEANS



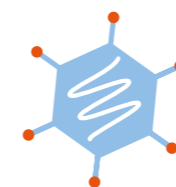
EXPLORE

+ than **300** scientific publications including **8** in the scientific journals *Nature, Science and Cell*



+ than **150 million** genes discovered from the marine world

100 000 microscopic marine species discovered



nearly **200 000** viruses characterized

SHARE

25 000 people informed each year



60 000 children visited *Tara* in France and around the world

100 000 children briefed in schools in 2021



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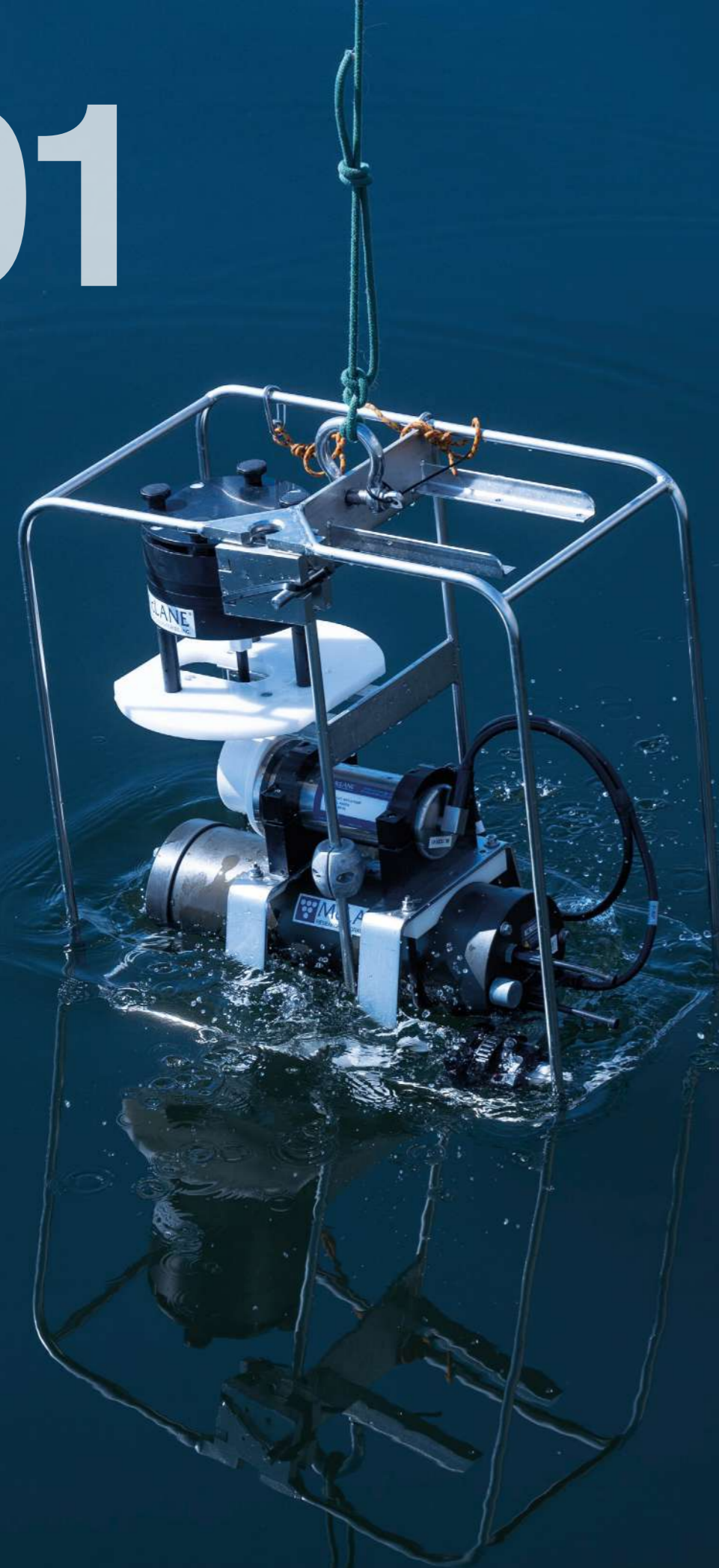
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Editorial



Romain Troublé · Managing director and Étienne Bourgois · Président

This pandemic, which will no doubt be remembered for our entire existence, has truly distorted time for the past two years. So much so that it is difficult to remember the timing of events, actions carried out or even simply how we lived.

For the Tara Ocean Foundation and its team, 2021 was a somewhat timeless year. The schooner and the crews on board covered more than 20,000 nautical miles in a year of uninterrupted expedition around Latin America and collected nearly 20,000 samples of ocean life. Confined, some sailors spent their first four months on board without having the simple right to disembark at stopovers during the confinements at the height of the Coronavirus crisis. The Foundation's team even had to invent and implement the concept of a virtual stopover in order to share life and research on board *Tara* with young people and the general public via videoconference...well done!

The foundations for future international scientific cooperation with Chile - this immense marine country - have been made. Several Chilean ministers joined us on board the schooner and our future cooperation was announced during the COP 26

for Climate in Glasgow. In the laboratories, the data from the Tara Oceans mission (2009-2013) continue to be talked about through the publication of thirteen scientific articles by the community of researchers involved under the direction of Dr. Chris Bowler, director of this consortium.

2021 is also the year of renewal... a new style of communication, new media tools, new women and men correspondents on board, a podcast, and the Foundation's new website, with its share of the usual, deep reflections concerning our messages, our actions, impacts and even our organization in certain areas of activity. It was also a year of full and intense, non-stop expedition, conducive to the analysis of the Foundation's annual carbon footprint on its scopes 1, 2 and 3. Results to be found in the next Annual Report (for 2022).

We could not end this editorial without celebrating the loyalty of all the donors, patrons and partners of the Foundation who have remained by our sides over the past two uncertain years.

Ready for 2022 and beyond!

02



The highlights of 2021

IUCN World Congress in Marseille

September 3-11, 2021

In September, alongside IAGF (Initiatives for the Future of the Great Rivers) and the CNR (Compagnie Nationale du Rhône), the Foundation intervened to present the Charter and draw up an inventory of the actions initiated. Tara announced the publication of a guide for municipalities and those who will receive the awareness kit. The conference ended with the signing of the Charter by the City of Marseille alongside Bérangère Abba, Secretary of State for Biodiversity.

The IUCN World Congress was also an opportunity to present the monumental installation of the Ocean exhibition, which exhibits the work of Mandy Barker, Christian Sardet and the Macro-nauts, as well as Jérémy Gobé.

29
digital
publications

85 777
people
informed



Biennal Photoclimat: the Tara Ocean Foundation presents «the Emotion of Discovery» September 18 to October 17, 2021

The Tara Ocean Foundation joined forces with Photoclimat, the social and environmental photography biennial in Paris. During this first edition, the biennial exhibited an original installation in the Parisian public space. By offering passersby total accessibility to exhibits, Photoclimat is rethinking access to contemporary art and its understanding. Within the Ocean space, the Tara Ocean Foundation made the invisible visible thanks to work carried out by several artists following residencies aboard the schooner.

Christian Sardet et les Macronautes (Noé Sardet and Sharif Mirshak) invite you to a poetic exploration of the amazing diversity and beauty of plankton.

Pete West-Bioquest Studios, using state-of-the art technology in the studio, brings out the natural colors of corals and reveals their true splendor for all to see. He doesn't capture the world seen by the naked eye but reveals the invisible to raise awareness among the general public about the perils that threaten the extraordinary biodiversity of coral.

The educational journey of the Tara Ocean Foundation: **Learning about the Ocean to better protect it.**

Thanks to the support of the Air France Foundation, an educational journey illustrated by Anaïs Chevret has reached out to the grand public with the message: "Studying and protecting the Ocean means taking care of the main system of our planet!" Every weekend during the biennial period, the Foundation team met with the public to discuss the exhibition.



23 digital publications | **86 752** people informed | **17** media spinoffs



From Chile to COP 26 in Glasgow

In April, *Tara* made a stopover in Valparaiso, Chile. This visit to the country corresponded to the sampling phase of the scientific program CEODOS Chile. During the stopover, the Minister of Science, Technology, Knowledge and Innovation, Mr. Andrés Couve, came aboard *Tara* for a visit in the company of the captain. He also participated in the high-level webinar on the links between Ocean and Climate organized during this stopover to allow an exchange between scientists and politicians.

In November, seven months later, COP 26 was held in Glasgow. During an event entitled «An ocean of solutions to face the climate and biodiversity crises» organized by the Ocean & Climate platform, Andrés Couve addressed this theme by presenting the work of the Foundation and CEODOS Chile as well as the associated messages: the importance of the functions supported by the marine microbiome. These messages were shared during the webinar in Valparaiso and at each of our stopovers, and are now relayed by political decision-makers at decisive international conferences.



Second year of the participatory science operation

“Plastique à la Loupe” (Plastic under the Magnifying Glass)

The year 2021 was marked by the large-scale deployment of the participatory science operation “Plastique à la Loupe”, (Plastic under the Magnifying Glass), an academic program in the service of education in science and sustainable development.

This operation offers middle school and high school students the opportunity to carry out research on microplastic pollution in collaboration with researchers. They first collect microplastic samples from the field, beach or shore before carrying out a pre-analysis in class. For their part, the researchers, with whom the classes are in contact throughout the year, carry out chemical analyses on these samples and communicate the final results to the classes. The scientific work carried out is frequently followed by the implementation by the students of concrete actions to locally reduce the plastic pollution observed. This educational operation thus constitutes a fertile ground for the development of eco-citizenship, critical thinking and the commitment of young people.

Strengthened by an excellent partnership forged between the Tara Ocean Foundation and the academies over the years, and because of the innovative side of this operation, 19,000 middle and high school students from 30 academies in mainland France or overseas have embarked on the scientific adventure of “Plastique à la Loupe”.



A new website

After a few months work, a brand new website saw the light of day in November 2021. Easier to use and more ergonomic, its mission is to better coordinate and present all of the actions carried out by the Foundation and to provide users with the best possible experience.

It is structured in three main parts :

- « **Explore** » presents the scientific missions, the fields of action and the schooner *Tara*.
- « **Share** » showcases the Foundation's outreach, artists, education and advocacy.
- « **Who are we** » presents the Foundation, its governance and its partners.



Un Hublot sur l'Océan, Tara's podcast

The adventure of the Tara Ocean Foundation can now be heard thanks to the podcast “A Window on the Ocean” - a series of 6 episodes aboard the schooner *Tara* over the first year of the expedition. This is a sonore journey between the world of coccolithophores, the writer Wilfried N'Sondé and the Amazon. An experience with your headphones for an inspiring immersion on the surface and 20,000 leagues under the sea.

Scan me
(only in French)



03

The current mission in 2021

Mission
Microbiomes

15
months of navigation

70
scientific stations

16 450
samples taken

15
stopovers

16
crew rotations

+ than 40
scientists welcomed on board

4
artists-in-residence
aboard the schooner

20
derogation requests related
to the COVID health crisis

1
shipyard stopover in Martinique
(June 18 to July 30)

1
stopover canceled in Cayenne
(French Guiana)

Eye-witness accounts from scientists and sailors



Douglas Couet
Biological engineer
On board in Chile

"The year 2021 was very rich in terms of scientific research with the Microbiome Mission. What struck me most is the diversity represented at all levels aboard *Tara*. First, the diversity of the ecosystems studied over the

wide range of temperatures offered by our beautiful planet: the rosette thus saw the glaciers of the Patagonian canals, turned in the eddies of the North Brazilian Current, saw nothing the Amazon, held its breath in the Oxygen Minimum Zone of Chile, spoke to penguins around the icebergs of Antarctica, and used an ice ax in the 4000m high underwater mountains off the coast of Brazil. This odyssey was worthy of Jules Verne, although the period of time was marked by Covid and the immobility imposed by the pandemic. Then, a diversity of techniques used for studying living things from every angle, with many new protocols to better understand planktonic organisms and the environments in which they live. More than 10,000 samples will be collected during the mission. Among them, we will study the tiny quantities of metals present in water - infinitesimally small, but absolutely necessary for marine life. A daring adventure was to implement the study of geotraces aboard the schooner, already filled with equipment

for scientific research. This new study required great effort from sailors and scientists on board and ashore, and the results are awaited by all. Finally, science on board is part of a human adventure, where the greatest diversity plays out: a dozen different nationalities and profiles among the sailors, journalists, artists, and scientists. Magic happens every time in achieving our common goals."



Nicolas Bin
Second captain
On board in the channels of Patagonia

"Certain destinations make you travel just by talking about them, and the Strait of Magellan is one of them. It's the gateway to a journey through time and the promise of savoring

lights that can only be found in Patagonia. The luxuriance of its primary forests mixed with the glacial atmosphere of the Andes Cordillera reminded us of the beauty and power of nature when it is not inhabited by humans. Through this setting, as majestic as it is hostile, *Tara* voyaged for a month to continue understanding the impact of this nature on the Ocean and offered the crew a unique moment in life. Thank you for such beauty. Que tu camino sea largo!"

The schooner's journey in 2021

Tara set sail from Lorient, her home port, on December 12, 2020 for a two-year mission to study the marine microbiome in the Pacific and South Atlantic. After a short technical stop to take on supplies and change crew members in Mindelo (Cape Verde) at the beginning of January 2021, *Tara* embarked on a 30-day transatlantic voyage to reach Patagonia and Punta Arenas, its Chilean epicenter on the edge of the Strait of Magellan. The stopover in Punta Arenas marked the start of the CEODOS scientific mission in partnership with many Chilean institutes and laboratories: from February to May 2021, the schooner sailed up the Chilean coast, stopping in various strategic ports for the organization of awareness-raising stopovers, digitized and dematerialized because of the Covid pandemic.

In June 2021, *Tara* rejoined the Atlantic Ocean via the Panama Canal, a legendary crossing punctuated by numerous locks. From June to August, the schooner was in Le Marin in Martinique for an awareness-raising stopover and renovation of the boat. Work was done in dry-dock, among other things to transform and adapt the scientific equipment on board.

At the beginning of September, *Tara* entered Brazilian territorial waters and made a short stop in Macapa, gate of the Amazon, for a crew rotation. Then followed a meeting with the Portuguese-speaking public in Belém, Salvador de Bahia, Rio de Janeiro and Itajaí, between September and November 2021. *Tara* traveled along the Brazilian coast, first sailing against the North Brazilian current, then benefitting from downwinds from Salvador de Bahia to Itajaí, a coastal town in the state of Santa Catarina. On November 19, *Tara* headed for Argentinian waters to find phytoplankton blooms. After a 6-day stopover in Buenos Aires (Queen of La Plata), the schooner headed south, crossed the Roaring 40s, criss-crossed the Beagle Channel, and finally stopped at Ushuaia, capital of Tierra del Fuego and last port of call before the Furious 50s, the Wedell Sea and the white continent.

Expedition challenged by pandemic

The operational organization of this mission's first year was paralyzed by the health situation linked to COVID-19 on many occasions and in different circumstances. Indeed, after weeks at sea, the crew was prohibited from disembarking during stopovers and was forced to remain confined on board. Sailors were cornered by immigration authorities, and scientific equipment was detained by customs. Undoubtedly, the health situation linked to COVID-19 has been a factor of hindrance and red tape, complicating all the procedures at all levels. This logistical complexity marked this year 2021, but the selflessness of the Foundation's teams and the support of local collaborators enabled the mission to continue.

<p>100</p> <p>plane tickets were taken by the Tara Ocean Foundation</p> <p>including</p> <p>30</p> <p>modified for COVID reasons <small>(positive tests, immigration which did not authorize disembarking, vaccination plan not validated, border closures...)</small></p>	<p>approximately 150</p> <p>PCR tests</p> <p>6</p> <p>crew members remained in mandatory quarantine in country of landing</p> <p>\$43 500</p> <p>Unforeseen COVID-related costs <small>(PCR tests, obligation to use launch boats...)</small></p>
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Mission Microbiomes



The scientific program

On December 12, 2020, five years after the adoption of the Paris Agreement, the schooner *Tara* set off from Lorient, her home port, to begin a major scientific expedition. Over nearly two years, the laboratory boat will travel 70,000 kilometers - in the South Atlantic (up to Antarctica) and along the South American and African coasts.

The Tara Ocean Foundation organizes missions around a scientific program established by a consortium. This program, designed by the Tara Ocean Foundation and scientific partners including the CNRS, the CEA and the EMBL, involves 42 research structures around the world for this mission.

The Microbiome Mission is studying the most fundamental ecosystem of the Ocean, its microbiome, and the future of this ecosystem at the dawn of current global changes. By definition, the ocean microbiome refers to all marine microorganisms - viruses, bacteria, microalgae, protists... - but also their interactions with the environment.

Aboard *Tara*, scientists are therefore collecting the marine microbiome for a major DNA sequencing and imaging effort while measuring a large number of environmental parameters: temperature, oxygen levels, the presence of nutrients, or plastic pollution for example. The colossal amount of data generated by this new mission will be archived and shared openly with the scientific community, contributing to global efforts to analyze and model marine ecosystems.

With nearly 200 scientists involved via the Tara-GOSEE research federation and the AtlantECO program funded by the European Union, the scientific team is interested, among other things, in the mechanisms and responses of the microbiome to major phenomena (fertilization of oceans by rivers or icebergs, microplastic pollution), and also in the increasing masses of water devoid of oxygen, such as off the coast of Chile.

Sharing Ocean Culture with as many people as possible

Making the Ocean a common theme is the primary objective of sharing knowledge throughout Tara's scientific missions. The schooner's stopovers are parentheses in the scientific adventure. For a few days scientists, sailors and artists live to the rhythm of encounters with the general public, schoolchildren and partners through educational workshops, exhibitions, conferences and screenings.

During these stopovers, the educational tools developed by the Tara Ocean Foundation are adapted and distributed in other languages with the help of local partners. During the Microbiome Mission, the public is invited to dive into two major themes: plastic pollution and the marine microbiome.

Plastic at sea, the solutions are on land

Together or separately, our tools invite people of all ages to think about solutions. Very quickly children and adults alike realize that cleaning the Ocean will not be possible. We must act upstream. The public's enthusiasm is immediate: interested, concerned and seeking solutions to stop the flow of waste to the Ocean.



The exhibition "Plastic at sea, the solutions are on land" is made up of 24 panels combining texts and infographics.



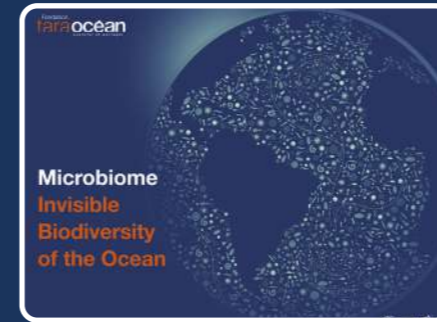
Tara Ocean magazine, Le Mag 1 - A report about plastic at sea, the solutions are on land. A 16-page magazine aimed at young audiences to investigate plastic pollution. With Tara and the scientists, the reader follows clues collected during the 2019 Microplastics Mission and discovers ways to fight against pollution.



An educational valise presents the complex problem of plastic waste, going back to the source of this pollution. The case contains 7 elements for carrying out awareness-raising activities based on reflection and hands-on activities.

Invisible microcosm of the Ocean, a mysterious biodiversity

Educational tools developed by the Tara Ocean Foundation invite people of all ages to immerse themselves in the mystery of invisible ocean life. Better understanding of this vital but fragile ecosystem is essential for its protection.



The 18-panel exhibition guides the visitor through the most extensive ecosystem on the planet, the central system of great ecological balances - the Ocean. Developed in collaboration with research scientists, this exhibit immerses the general public in marine biodiversity, emphasizing the importance of knowing the Ocean better in order to better protect it. It is essential to inform as many people as possible about the services provided by this fundamental ecosystem and to explain the major scientific challenge linked to powerful socio-economic issues.



The Tara Ocean magazine, Le Mag 2 offers a playful way to discover the microscopic life in the Ocean. An amusing « sesek & find » game immerses you in this invisible microcosm.



A workshop invites the public to observe microorganisms just after they have been collected. Thanks to the Curiosity microscope, children and adults discover in a new way the life that hides in the Ocean near their homes. Easy to handle, it allows for very easy observation by being connected to a tablet, computer or television. The Curiosity microscope is a tool developed in collaboration with the Plankton Planet consortium.

Virtual tour of the schooner

During this ten-minute video, Samuel Audrain, the captain of the schooner, welcomes the visitor. On the aft deck, the public then meets Douglas Couet, marine biologist, to learn about the scientific instruments. We are in the middle of a scientific sampling station: François Aurat, deck-officer, hauls up a Bongo net and Eric, a researcher, filters the water collected in the wet lab. The visitor leaves the deck to go inside the schooner. Nicolas Bin, second captain, is on watch in the wheelhouse. In the main cabin, sailor/cook Sophie Bin prepares an apple pie, while journalist Laurianne begins her assigned household chore. Milena, in the sorting lab, quantifies the plastic particles in a freshly collected sample and Josep, an oceanographic engineer, works in the Underway Lab. In the forward hold, sailor David Monmarché takes care of the watermaker, while mechanic Loïc Caudan, shows us around the engine room. And so the public can appreciate a typical day aboard the schooner.



The Microbiome Mission in Chile

Synopsis

Since 2015, the Tara Ocean Foundation has been working with scientific institutions in Chile, as part of the Oceanic Plankton, Climate and Development project. This project funded two post-doctoral students for work within the scientific consortium Tara Oceans. More broadly, institutional links were created with the Chilean government, which is very involved in promoting actions to preserve the Ocean, particularly within the framework of the Paris Agreement. During COP25, for example, the promotion of climate action around the Ocean was one of the important elements stressed by the Chilean presidency.

In this context, the Chilean government has supported the CEODOS Chile program, designed in collaboration between the Tara Ocean Foundation and Chilean scientific institutions. The project is also part of an initiative of the Chilean Ministry of Science, aimed at expanding and coordinating Chile's capabilities for observing the Ocean and the cryosphere. At the beginning of the "UN Ocean Decade (2021-2030)", the CEODOS Chile project and the presence of the *Tara* schooner in Chile thus represent a historic opportunity to promote greater monitoring and observations of marine biodiversity and of the plankton ecosystem, in order to analyze the impact of climate change.

The Chilean Pacific Ocean, with its 120,827 km² of territorial sea, is the scene of the effects of climate change: it has a great diversity of biomes and ecosystems, and could both emit greenhouse gases in certain areas and sequester them in others. Thus, the south of Chile may have a greater capacity to absorb gases, even though the north of the country acts as a source of permanent CO₂ emissions. Calculating the net carbon sink capacity, which is closely linked to marine biodiversity, represents one of the great challenges on the ground at global and national levels.

Students
+ de 3000
virtual tours

General public
+ de 150
visitors



PACIFIC OCEAN



The Microbiomes Mission in Chile

The first stage of the Microbiome mission took place in Chile between January and April 2021, in close collaboration with the Chilean consortium CEODOS Chile.

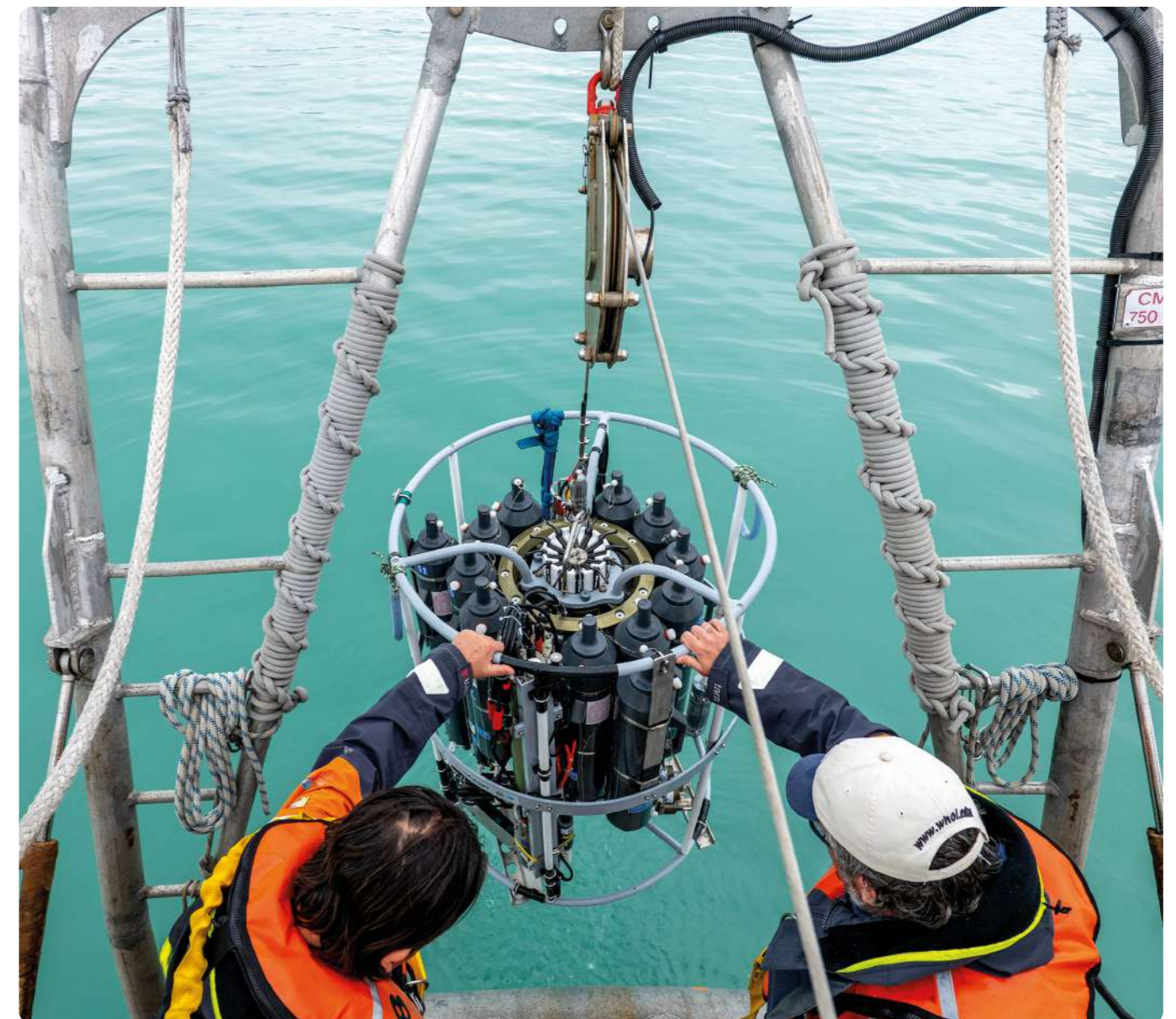
For more than 4 months, a complete sampling was carried out (4 stages, 36 sampling stations, more than 5,000 seawater samples collected down to 1,000 m depth) between Punta Arenas in the Magellan region and Iquique to the west of the Atacama Desert, in order to establish for the first time in its history, a complete diagnosis of the planktonic health of the Pacific Ocean along the Chilean coast. The 4,500 km from south to north of the Chilean territorial sea are considered a true natural laboratory for studying the effects of climate change.

The objective is to understand the current state of the marine microbiome in order to predict its future role with respect to climate change, to assess the intensity with which the carbon pump operates in this area, to acquire data on microplastics in salmon farming areas as well as in the Patagonian Fjords, and to explore the growing influence of large oxygen-depleted areas.

The CEODOS Project in detail (www.ceodoschile.cl)

Scientific methodology of the Microbiome/CEODOS Chile expedition

Tara's route criss-crossed the entire coast of Chile, with sampling stations, CTD (Conductivity, Temperatures and Depth) data acquisition points and continuous sampling in surface waters. To this end, a multidisciplinary team was assembled ashore in close association with a team of 14 people on board the schooner *Tara*, including 6 crew members, 5 scientists as well as journalists, artists and personnel from the SHOA (Chilean Navy Hydrographic and Oceanographic Service).



Advocacy and awareness actions

In the context of the Chilean presidency of COP25 and the UN Ocean decade (2021-2030), the CEODOS project instigated awareness-raising and advocacy actions on the importance of the ocean microbiome for the climate, and more broadly for the health of the planet.

During *Tara's* stopovers, links between communication actions for the general public and specific advocacy events on the Ocean and Climate Nexus, on Blue Carbon and on the protection of Antarctica were developed. On this first part, *Tara's* stopover in Valparaiso enabled a conference to be held in the presence of Chile's Minister of the Environment, Carolina Schmidt, also President of COP 25, despite the constraints imposed by COVID-19. This high-level conference focused on the need for knowledge on the Ocean and Climate nexus in relation to COP26 and the Paris Agreement. (Santiago, April 2021)

In Puerto Montt, the stopover welcomed aboard the schooner the Minister of Foreign Affairs of Chile, Mr. Andrés Allamand and the French Ambassador to Chile, Mr. Roland Duberland. Finally in Iquique, the last Chilean stopover at the beginning of May, *Tara* had the honor of welcoming aboard a third minister in office from Chile, the Minister of Research, Mr. Andrés Couve.

These meetings were also part of the bilateral cooperation agenda between France and Chile - which includes the Ocean, climate change and Antarctica as strong points. With the commitment of the French Embassy and the arrival of various Chilean ministers aboard *Tara*, the scope of the project has been strengthened and supported at the highest level by the authorities of both countries.



Sensitization

In the midst of a pandemic, an alternative to the usual visits had to be imagined. Virtual and interactive events were therefore organized in French and Spanish with the help of Chilean scientific partners. For one hour, schoolchildren, students, and the general public were able to watch an exclusive video tour of the schooner, connect with local scientists from their laboratories to explain the context of the CEODOS mission, and finally, have live exchanges with the crew as well as scientists on board *Tara*. A total of 25 videoconferences were organized, reaching more than 3,300 people.



Guest artist Author Wilfried N'Sondé

With an elegant, poetic and musical pen, the author Wilfried N'Sondé finds his inspiration in the unfathomable Ocean and its invisible inhabitants.

On board *Tara* for several weeks with the aim of immersing himself in the scientific mission and life on board, he found there a source of inspiration for the writing of his next novel published by Actes Sud. In partnership with the French Embassy in Chile, during his crossing but also on stopovers he offered several videoconferences to students on the theme «Literature and the Ocean».

Communication

MEDIA COVERAGE	Chilean media	French media
Web	67	9
Print	11	4
Radio	3	2
TV	10	-
Total	91	15

SOCIAL MEDIA	Instagram	Facebook	Twitter
Number of social media posts	31	32	23
Average number of people reached per post	6 700	14 130	8 500



Documentary « La Ligue de la mer » realized by Matthieu Le Mau



Media partnership with Phosphore and We Demain

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(only in French)



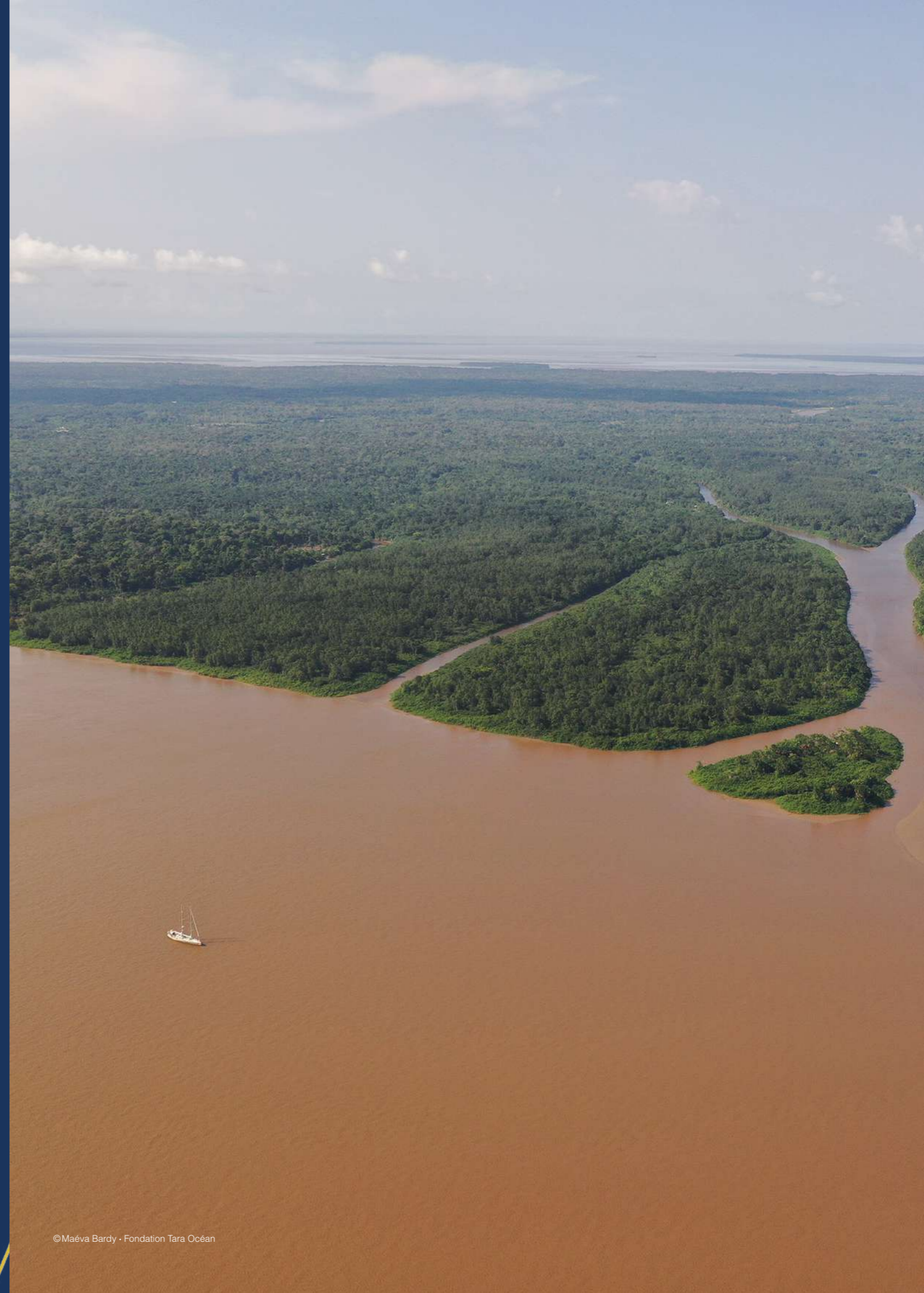
The Microbiome Mission in Brazil

After a first scientific trial period of four months in Chile and a technical stop of two months in Martinique to refine the scientific protocols, the schooner *Tara* set sail for the coast of Brazil, with the start of the AtlantECO scientific project. The schooner sampled important sites on the Brazilian coast between September and November 2021 and made 5 awareness-raising stops.

Students
+ than 1000
youth

General public
+ than 2000
visitors

International cooperation
10
scientific conference



Scientific program in Brazilian waters



The AtlantECO project, funded by the European Union through the H2020 program, has 36 partners and is part of the All Atlantic initiative, which has supported six major scientific projects to improve our knowledge of the South Atlantic, in collaboration with Brazil and South Africa. As part of this project, the analysis of the microbiome circulation off the Brazilian coast and the understanding of the impact of climate change and plastic pollution were the key themes of this visit to Brazil.

First stop : Amazon

The Brazilian coasts are characterized by the presence of strong ocean currents. These allow a wide diffusion of Amazon waters into the Atlantic which influences marine life. The first step of the mission was the study of the Amazon plume.

The Amazon is the largest river in the world. It pours a large amount of fresh water into the Atlantic (about 200 million liters per second on average). This flow of fresh water is at the origin of a very dynamic surface plume affecting the salinity and the temperature of the tropical Atlantic. It also dumps materials, sediments, nutrients and organic matter of land origin into the Ocean. These variations strongly influence the composition of the marine microbiome, the interactions between microorganisms and, ultimately, the global biogeochemical cycles.



The Amazon plume

From the mouth of the river up to 3,000 km offshore, the mixture of fresh and salt water forms the Amazon plume. It is due to an intense ocean current which starts from northern Brazil and moves northward along the Brazilian coast, deviating towards Africa just north of the Amazon River's mouth. This current and the huge whirlpools it generates transport the rivers' waters and spread them over a wide area, adding nutrients (and pollutants) to otherwise very clear, nutrient-poor waters.

Aboard *Tara*, scientists have studied these whirlpools, which can reach 300 km in size. Their goal is to understand how the latter transport these nutrient-rich waters to the islands of the Caribbean Sea. They also bring plankton from the South Atlantic to the region where the Gulf Stream originates (at the southern tip of Florida), creating a bridge between the two hemispheres.



Sargassum

The *Tara* crew also studied Sargassum - floating algae that normally live in the "Sargasso Sea" - a region of the North Atlantic Ocean bordered by 4 currents, including the Gulf Stream, forming an ocean gyre. The scientists characterized the species present (taxonomy) and described them (morphology).

Sargassum has experienced a major proliferation over the last decade, invading new regions located to the south and east of the Caribbean Sea to reach, in recent years, the African coasts, more than 4,000 km east of the mouth of the Amazon River. The accumulation of large quantities of decomposing algae on the coasts of the two continents has led to a strong alteration of ecosystems as well as losses for tourist activities. Although the exact causes of this dramatic ecological change are not yet clear, scientists suspect that soil alteration in Brazil, due to deforestation and increased use of fertilizers and the farming of cattle, enriched the Amazon plume with chemicals, particularly nitrogen, a key nutrient for Sargassum development.

The scientific team was able to study this area of the Amazon plume, as well as its microbial genetic diversity and functional capacities, using state-of-the-art molecular and microscopic techniques, while measuring a large number of environmental, physical and chemical parameters.

The study of the Amazon river

After studying the plume, *Tara* sailed to the Amazon. In the heart of the river, the team analyzed the presence of microplastics and nanoplastics. The Amazon, which drains 40% of the surface of South America, carries a lot of plastic and chemical

pollution. Samples were taken upstream and downstream of Belém and Salvador de Bahia in order to understand the impact that these cities can have on plastic pollution.

The study of submerged mountain and volcanic chains

There is an area rich in marine biodiversity (known as the Marine Biodiversity Hotspot) made up of underwater volcanic and mountain ranges between Salvador de Bahia and Rio de Janeiro. This submerged mountain range called Vitoria Trindade is located in the most nutrient-poor part of the Atlantic Ocean. It is thus a biodiversity hotspot, as it enriches the area with nutrients and is home to many coral reefs.

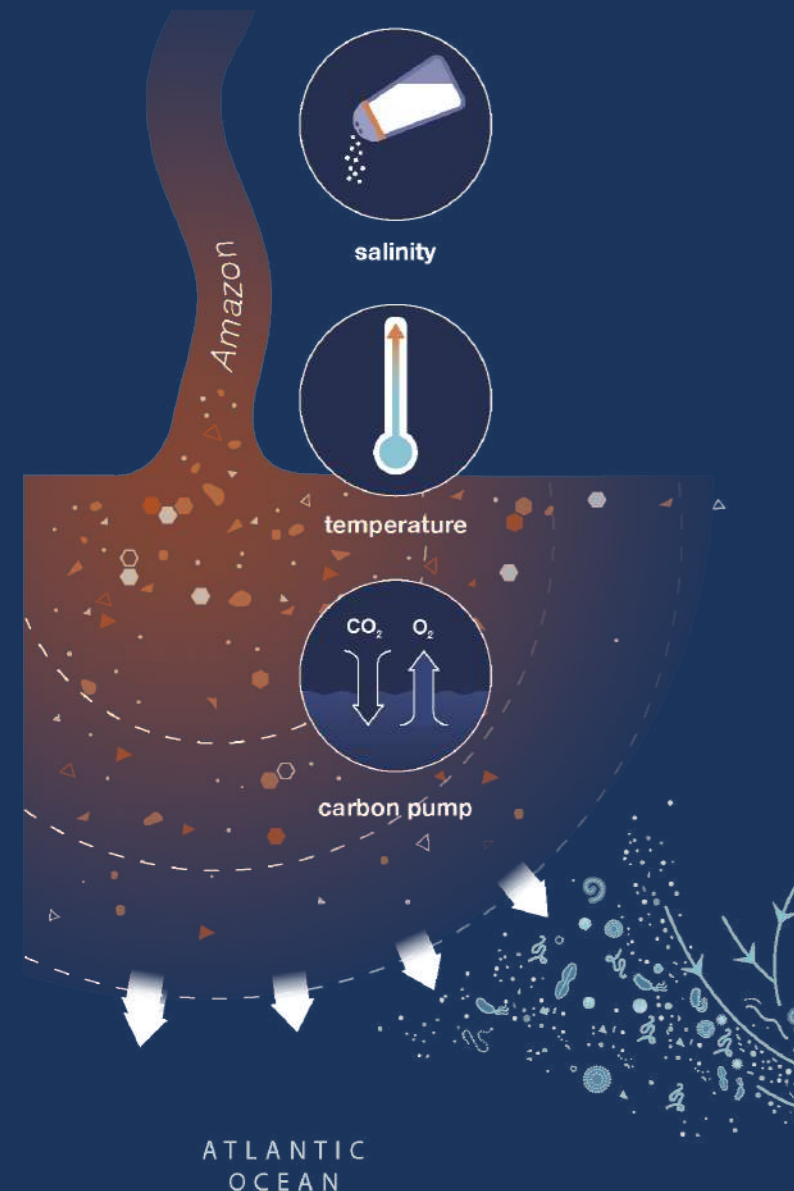


Sampling and studying this area in the future will allow scientists to:

1. **Understand the circulation of the marine microbiome** and its composition by observing and quantifying the species present.
2. **Carry out bioprospecting** (explore natural sources of micromolecules, macromolecules and biochemical and genetic information that can be developed into products with commercial value for agriculture, aquaculture, bioremediation, cosmetics and pharmaceutical industries, and nanotechnology) by collecting biological resources.

A peculiarity of the study of seamounts off the coast of Brazil comes from sampling. In order to carry out an exhaustive description of this zone, the scientists took day and night samples. Indeed, many planktonic species migrate from the depths to the surface at night to feed:

"Many of these small organisms migrate to the surface at night, which is the largest animal migration on Earth! So, our second objective was to collect biological samples during night sampling in order to better understand this daily variation." said Pedro Junger and Erica Becker, scientists aboard *Tara*.



Awareness-raising actions and cooperation in Brazil

The Francecolab Brasil program

The Francecolab program, which began in November 2020, aims to raise awareness among young Brazilians (schoolchildren aged 7 to 18 and young people aged 18 to 26) to their environmental responsibility and to accompany them in their commitment to becoming eco-citizens. The project also aims to contribute to developing a community of young activists and/or citizens committed to environmental protection and sustainable development.

The Tara Ocean Foundation, thanks to its interdisciplinary tools and in direct collaboration with the Brazilian partner universities of AtlantECO (the federal universities of São Carlos, Santa Catarina, Bahia and Rio Grande and the University of Sao Paulo), but also with the French Embassy, and the Alliances Françaises, made it possible to bring up the issues relating to the Ocean in face of plastic pollution for the 35 public and private schools in the Brazilian network that teach French; for 15 public and private schools in the Brazilian network; and for young people (18 to 26 years old) on individual application.

The highlight of this collaboration was *Tara's* stopover in Rio. The young audience was able to discover the scientific adventure of the Microbiome Mission in concrete terms during a visit

to the schooner, supplemented by workshops on plastic pollution and discovery of the invisible organisms of the ocean.

To complete this awareness campaign, the new edition of “Tara Océan, le Mag” was distributed; and 2 exhibitions “Invisible Micro-organisms of the Ocean: a Mysterious Biodiversity” and “Plastic at Sea: Solutions are on Land” offered the general public a chance to discover concrete issues related to the Ocean.

“We organized workshops for schools and the general public presenting the sailboat and the research expedition underway. It was very cool, because we had contact with researchers from other places. And research has everything to do with what we develop in the laboratory with zooplankton organisms. The public was very receptive and interested, especially the children, because they visualized a universe of organisms existing in a drop of water;” says Lucas Cardoso.

Undergraduate biological science student Lucas Cardoso was one of the volunteers. He benefits from a scientific initiation scholarship at the Laboratory of Crustacean Ecology, under the direction of Professor Jussara Lemos.



Invited activists Catarina Lorenzo and Anna Luísa Beserra,



Catarina Lorenzo, a climate activist and young ocean ambassador for the “UN Decade of Ocean Science”, came to talk about her commitment to the environment in Brazil.



Anna Luísa Beserra, CEO and founder of the start-up Sustainable Development & Water for All (SDW) presented the Aqualuz project, a technology that provides drinking water in rural areas of the Amazon region.

Communication

MEDIA COVERAGE	Brazilian media	French media
Web	103	20
Print	13	5
Radio	5	-
TV	26	1
Total	147	26

SOCIAL MEDIA	Instagram	Facebook	Twitter	LinkedIn
Number of social media posts	10	10	3	8
Average number of people reached per post	5 600	8 250	3 500	3 600

Scan me





The Microbiome mission in Argentina

Students

421
youth

General public

175
visitors

International cooperation

30
scientifics

Scientific program along the coast of Argentina : Gayoso expedition

The Gayoso expedition : studying the bloom of coccolithophores

Each year, the seasonal increase in light and nutrients in the water initiates massive blooms of coccolithophores across the world. These micro-algae produce oxygen and capture CO₂ by trapping it in limestone shells. One of the most important blooms takes place along the east coast of Argentina, between Buenos Aires and Ushuaia. This is what scientists studied during the Gayoso expedition.

Our research aims to advance understanding of this eco-physiological cycle through state-of-the-art techniques never deployed in these waters before, and so-called "drift" approaches to follow the bloom in its entirety. From day to day, the schooner tracked this phenomenon using satellite data provided by the team ashore.

The scientific team follows in the footsteps of the Argentinian scientist Ana Maria Gayoso —the first to observe a strong presence in this region of *Emiliana huxleyi*, the algae we're studying. This is a calcifying microalgae with a strong biogeochemical impact. Its annual bloom in the month of December around the edges of the Argentine Sea represents one of the greatest events of this type on a global scale.

The scientific vessel of the Argentine Naval Prefecture, the *Bernardo Houssay*, did the second half of this Gayoso expedition. By making the inverse trip a few days before *Tara's* passage, it was able to study the first phases of the bloom. The two boats were in Buenos Aires together to present their research.

Initially absent during the conception of the mission, this step is not present on the early maps. The Gayoso expedition is in fact the culmination of a dialogue between the international scientific consortium of the Tara Ocean Foundation and Argentinian researchers in physical and biological oceanography with experience in the study area. The latter thus took the opportunity of the schooner's passage in the region, and piloted the respective legs sailed by the *Bernardo Houssay* and *Tara*.

The Gayoso expedition will lead to major scientific advances:

- Generate a metagenomic catalog of the microbiome of the Argentine Sea, which constitutes key information for the understanding of natural resources ;
- Complement the current efforts of Argentinian researchers to understand the diversity and ecology of marine plankton ;
- Integrate the use of state-of-the-art and standardized technologies for the study of the ocean microbiome ;
- Train Argentinian human resources in obtaining and analyzing molecular data in marine ecosystems ;
- Strengthen a sustainable vision of the Argentine sea.

Finally, it should be noted that the international consortium of the Tara Ocean Foundation devotes great efforts to the dissemination of knowledge in the ports-of-call, thus increasing our social impact and visibility. In this sense, *Tara's* visit to Argentina represents an opportunity to join forces and lay the groundwork for similar initiatives with local institutions in the future.



The Tara Ocean Foundation organized strong moments of discussion about the need for action to conserve the Ocean and its services, but also also to evoke the place of women in a scientific environment still predominantly male. During a conference entitled «In the Wake of Ana Maria Gayoso: How Women Navigate Science», Tara's chief scientist in Argentinian waters, Flora Vincent, as well as the 3 scientists aboard the *Bernardo Houssay*, Paula Huber, Valeria Guinder and Celeste Lopez, presented the work of Ana Maria Gayoso, for whom this Franco-Argentinian collaboration is named. She was the Argentinian scientist at the end of the 20th century who first discovered the algae *Emiliana Huxleyi* that we are currently studying here. Until now her research has been barely acknowledged. This event, in the presence of her daughter, was therefore an opportunity to pay tribute to the pioneering work of Ana Maria Gayoso, to present the continuity provided by our eponymous mission, and to discuss the experiences of each participant concerning the place of women in science.



Communication

MEDIA COVERAGE	Nombre d'articles
Web	10
Print	2
Total	12

SOCIAL MEDIA	Instagram	Facebook	LinkedIn
Number of social media posts	10	8	5
Average number of people reached per post	5 800	6 300	6 300

Advocacy and cooperative actions in Argentina

Beyond raising awareness among the general public, this stopover above all was the culmination of cooperation that has existed for several years now between the Foundation and Argentina. Following the schooner's visit during the Tara Oceans expedition in 2014, this return to Buenos Aires was punctuated by strong moments to recall and extend this collaboration.

For an afternoon, the Alliance Française de Belgrano hosted a scientific seminar between researchers from the Microbiome Mission and locals. Researchers on board were thus able to present to Argentinian scientists the innovative approach that the Foundation and our partners apply to the study of the Ocean, beginning with the Tara Oceans expedition. In addition, the presentation of the protocols carried out on board during the Microbiome Mission demonstrated the type of elements that will be added to public databases.

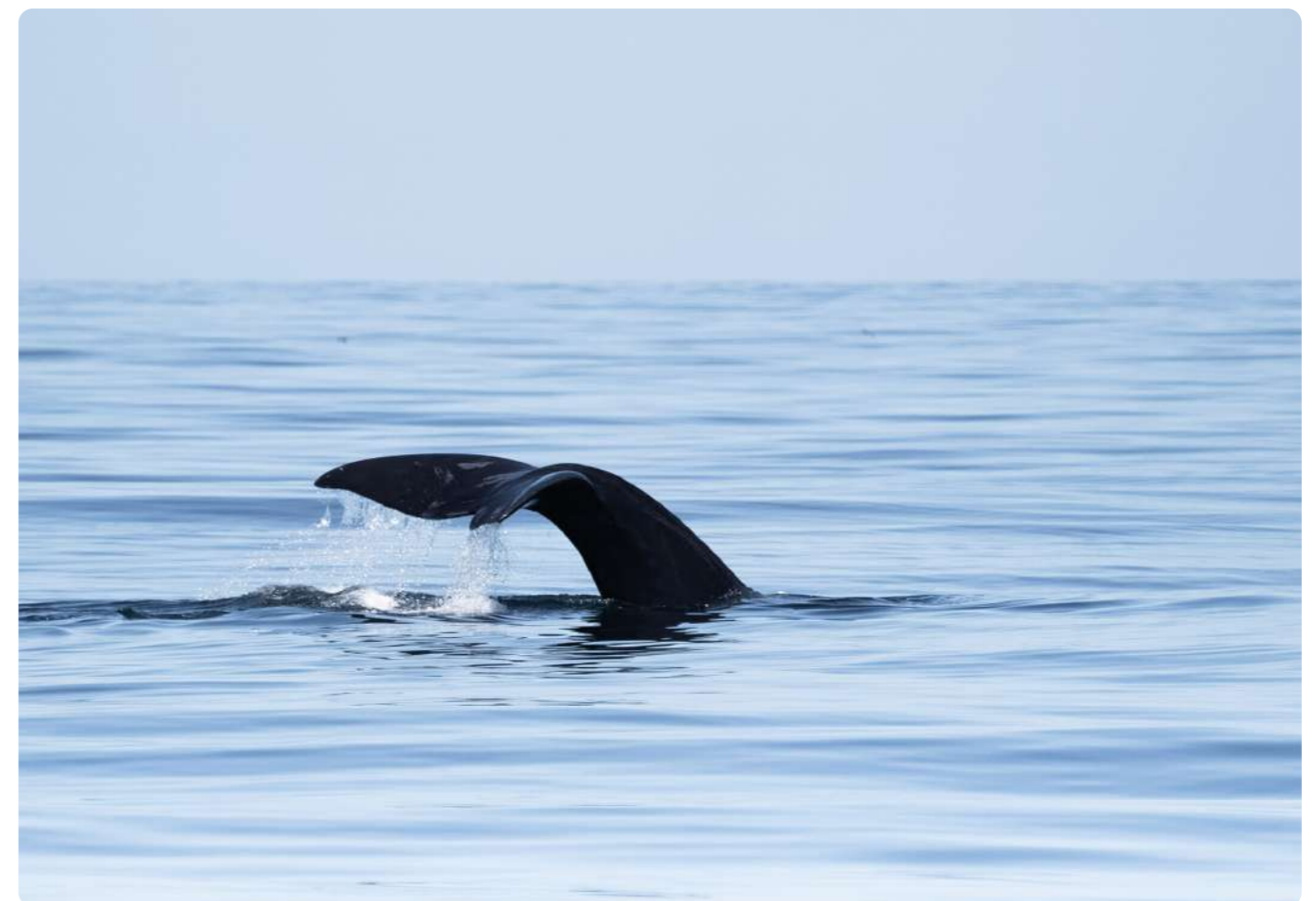
Finally, this Franco-Argentinian collaboration was honored at a reception organized at the French Embassy. Ms. Claudia Scherrer-Effosse, French Ambassador to Argentina, Samuel Audrain,

captain of *Tara*, and Flora Vincent, chief scientist for this part of Tara's voyage, spoke of the already strong bond between Tara and Argentina, built in particular during the first project in partnership with the French Facility for Global Environment (FFEM). Juan José Pierella, an Argentinian post-doc now working at the ENS alongside Chris Bowler in the Tara scientific consortium as part of this FFEM project, was present in Buenos Aires to share his experience in his country of origin.

Earlier in the day, the Ambassador was able to visit the schooner in the presence of Nicolas Bin, second captain for the upcoming Argentinian leg. Representatives of the Argentine Naval Prefecture, the International Oceanographic Commission and the Ministry of Research were also present. This stopover made it possible to ensure continuity in Tara's relations with our Argentinian interlocutors. From now on, cooperation is affirmed in the co-construction of this Argentinian part of the Microbiome Mission, to be followed by several years of collaboration for the analysis of samples and publication of discoveries made.



Scan me



04

Tara Foundation's various scientific programs

Presentation of the consortiums

A scientific consortium is an agreement formed between several laboratories, French or international, in order to organize cooperation between them for the implementation of a common one-off project, here a Tara mission. "Consortium agreements" (in French, "consortium contracts") are conventions aimed at governing the relationship between the members of the consortium, and at establishing common rules adopted and followed by all. In particular, they aim to state that the results produced during a Tara mission are the common property of all members of the mission consortium.

The name «consortium» in French law is free: i.e. it is not governed by any legislative or regulatory text, the consortium has no legal status. The consortium contract only serves to frame and formalize the collaboration between the members concerned. Each party to the consortium contract remains legally independent.

Tara Arctic Consortium

The Tara Ocean Foundation with its scientific director, Jean-Claude Gascard, member of the Laboratory of Oceanography and Climate: Experiments and Digital Approaches (LOCEAN) has joined forces with the DAMOCLES consortium. This scientific program is made up of **48 institutions in 11 European countries, the United States and the Russian Federation.**

Laboratories involved:

Oceanography and Climate Laboratory: Experiments and Numerical Approaches (LOCEAN) - DAMOCLES Project Office

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Tara Océan Consortium

Laboratories involved (14):

- European Molecular Biology Laboratory (EMBL)
- The National Center for Scientific Research (CNRS)
- Pierre and Marie Curie University - (PARIS 6) (UPMC)
- The Ecole Normale Supérieure (ENS)
- The Atomic Energy and Alternative Energies Commission (CEA)
- Vlaams Institute for Biotechnology (VIB)
- Arizona Board of Regents on behalf of the University of Arizona
- University of Bremen (UniHB)
- National Museum of Natural History (MNHN)
- Università Degli Studi di Milano, Bicocca (UNIMIB)
- Instituto de Ciencias del Marítimo, CSIC (ICM-CSIC)
- Bigelow Laboratory (Bigelow)
- University College Dublin (UCD)
- Station Zoologica di Naples (SZN)

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Chaffron, S., Delage, E., Budinich, M., Vintache, D., Henry, N., Nef, C., Ardyna, M., Zayed, A.A., Junger, P.C., Galand, P.E., Lovejoy, C., Murray, A.E., Sarmiento, H.; Tara Oceans coordinators, Acinas, S.G., Babin, M., Ludicone, D., Jaillon, O., Karsenti, E., Wincker, P., Karp-Boss, L., Sullivan, M.B., Bowler, C., de Vargas, C., Eveillard, D., *Sci Adv* 7(35):eabg1921: 2021.
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Efam: an expanded, metaproteome-supported HMM profile database of viral protein families.

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<https://doi.org/10.1093/bioinformatics/btab451>

Global distribution patterns of marine nitrogen-fixers by imaging and molecular methods.

Pierella Karlusich, J.J., Pelletier, E., Lombard, F., Carsique, M., Dvorak, E., Colin, S., Picheral, M., Cornejo-Castillo, F.M., Acinas, S.G., Pepperkok, R., Karsenti, E., de Vargas, C., Wincker, P.,

Bowler, C., Foster, R.A., Nat Commun 12(1):4160: 2021.
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Carbon Dioxide Concentration Mechanisms in Natural Populations of Marine Diatoms: Insights From Tara Oceans.

Pierella Karlusich, Frontiers in Plant Science: 2021.
<https://doi.org/10.3389/fpls.2021.657821>

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<https://doi.org/10.1016/j.isci.2020.102002>

Consortium news

The consortium contract, which excluded the Tara Ocean Foundation (FTO), has expired. The consortium decided not to renew it and to operate on an ad hoc bilateral system of "Memorandum of Understanding" (MoU). An MoU was signed on January 1, 2021 between EMBL and FTO, with tacit renewal after 5 years.

Tara Pacific consortium

Laboratories involved (23):

- The National Center for Scientific Research (CNRS)
- European Molecular Biology Laboratory (EMBL)
- Pierre and Marie Curie University - (PARIS 6) (UPMC)
- The Ecole Normale Supérieure (ENS)
- The Atomic Energy and Alternative Energies Commission (CEA)
- University of Bremen (UniHB)
- University College Dublin (UCD)
- Paris Sciences and Letters University (PSL University)
- National Museum of Natural History (MNHN)
- University of Maine (UoM)
- Weizmann Institute of Science (WIZ)
- The National Institute of Health and Medical Research (INSERM)
- The University of the Côte d'Azur (UCA)
- The Scientific Center of Monaco (CSM)
- King Abdullah University of Science and Technology (KAUST)
- The Practical School of Advanced Studies (EPHE)
- The University of Perpignan Via Domitia (UPVD)
- Oregon State University (OSU)
- The Cawthron Institute (Cawthron)
- Tsukuba University (Tsuku)
- James Cook University (JCU)
- The University of Toulon (UTLN)
- ETH Zürich - Eidgenössische Technische Hochschule Zürich (ETH).

Consortium news

The consortium meets once a month remotely, and once a year face-to-face, and the Tara Ocean Foundation always ensures a presence there. Many papers are currently being written, with the aim of being submitted and published in 2022/2023.

Tara Microplastique consortium

Laboratories involved (17):

- The National Center for Scientific Research (CNRS)
- The French Research Institute for the Exploitation of the Sea (IFREMER)
- The Atomic Energy and Alternative Energies Commission (CEA)
- Sorbonne University
- University of South Brittany (UBS)
- The University of Western Brittany (UBO)
- The University of Bordeaux
- The Practical School of Advanced Studies (EPHE)
- The University of Perpignan Via Domitia (UPVD)
- Clermont Auvergne University (UCA)
- Paul Sabatier University - Toulouse III (UT3) (UPS)
- The University of Paris Est-Créteil (UPEC)
- Start-up Immunize | The Plastic@Sea Start-up
- The Center for Documentation, Research and Experimentation on Accidental Water Pollution (CEDRE)
- European Molecular Biology Laboratory (EMBL)

Consortium news

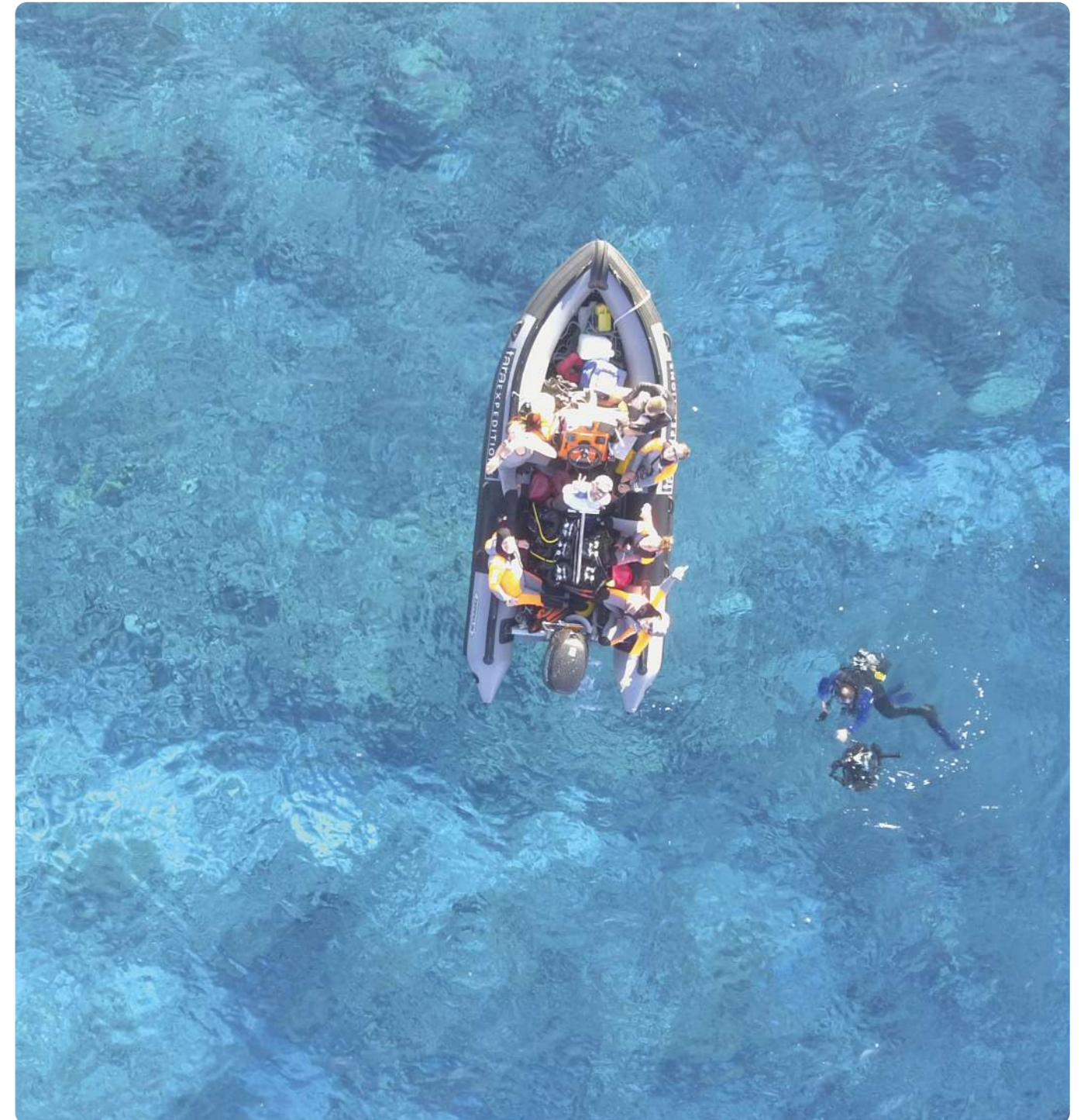
The consortium met in November 2021, in order to initiate the post-mission stages of research. Since then, a White Paper is currently being written and should be completed by summer 2022.

Tara Méditerranée consortium

Laboratories involved (21):

- The National Center for Scientific Research (CNRS)
- Istituto delle Scienze Marine (CNR – ISMAR)
- University of Malta (UM)
- Mediterranean Institute of Oceanology - Aix Marseille
- University (MIO - AMU)
- Bundesanstalt für Materialforschung und -prüfung (BAM)
- University of South Brittany (UBS)
- The University of Perpignan Via Domitia (UPVD)
- Instituto Espanol de Oceanografia (IEO)
- University of Siena (UNISI)
- The French Research Institute for the Exploitation of the Sea (IFREMER)

- University of Corsica Pascal Paoli (UCPP)
- The University of Toulon (UTLN)
- Stazione zoologica Anton Dohrn Napoli (SZN)
- Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)
- University of Cadiz (UCA)
- University of Maine (UoM)
- The Ecole Normale Supérieure (ENS)
- University of Michigan (U-M)
- IUT of Le Mans | University of Angers (UA)
- Oceanography and Climate Laboratory : Experiments and Numerical Approaches (LOCEAN)



05



Share to bring about change

Sharing Ocean Culture

The forest is recognized by everyone as essential to life on Earth. This should be the same for the Ocean! Every person has an image of the Ocean formed by personal experience, and a common culture nourished by imagination and strong emotions stemming from stories, legends and myths recounted in books, films and even in songs!

But beyond an emotional bond, there is a vital link between us and the Ocean that is less well known. The Ocean and humankind are connected and defined by each other. Nearly half of the world's population lives within 100 km of the coast. The other half lives mostly near lakes, rivers or swamps which all lead to the Ocean. Every person on the planet influences the health and nature of the Ocean. The Ocean is an essential player in the equilibrium of planet Earth. With the climate system rapidly changing and the Ocean invaded by microplastic pollution, it's increasingly urgent that the Tara Foundation provide information and encourage young citizens to take a new look at the Ocean environment and engage in protecting it from pollution. The Foundation aims to offer everyone a new perspective on the Ocean. Based on scientists' and artists' work accomplished during the schooner's missions, new learning tools and encounters are being offered to the public in order to explore the Ocean from a new angle, and understand why it is the key to life on Earth.

Create content for raising awareness

Beyond an innovative reflection on the best way to raise awareness, our know-how is based on the achievements of research and sharing the scientific approach in real time. From boats to laboratories, the Tara Ocean Foundation works hand in hand with scientists who share their knowledge to build quality tools for the general public.

By encouraging and highlighting exchanges with the scientific community, Tara creates levers to bring science closer to young citizens. Our awareness-raising tools are based on the expertise of scientists participating for many years in Tara's missions concerning plastic pollution. These researchers are at the heart of current research within their respective laboratories.

Creating content means first and foremost understanding the issues around a scientific subject, the certainties but also the uncertainties of researchers. For this, the process of writing and creation is rigorously controlled through collaboration with scientists. Afterwards, we apply careful design to the various tools, offering an aesthetic, educational, and non-anxiety provoking graphic approach to the theme.

Total number of participants in 2021 : + 20 970

20 volunteers

2 362 people participated in workshops

2 055 people attended conferences

260 people attended screenings/discussions

8 460 connections during online conferences

670 company employees participated in workshops

1 beach cleaning day in Hong Kong

Join networks of scientific culture

With more than 30 stopovers in major European cities during previous expeditions and our participation in many events, we have forged a direct link with local communities and organizations involved in scientific culture. The Tara Ocean Foundation is developing a real ecosystem for spreading knowledge to all audiences. Brittany Scientific Culture Center Anchored since its creation in Brittany, the Tara Ocean Foundation joined the Bretagne Culture Scientifique cluster in 2018, a network of complementary groups proposing a diversified offer in terms of scientific culture.

The AMCSTI network

The Foundation joined the French network of professional mediators in Scientific, Technical and Industrial Culture (AMCSTI). We also took part in the AMCSTI congress held in Lyon, December 6-8, offering an exchange, "Ocean Culture and Citizens: an Essential Dialogue" in which around 30 professionals participated.

My Island of Science

The Foundation is also part of the «Mon Ile de science» network, a service launched by the Region Ile-de-France to bring together all offerings of scientific culture on its territory. This digital service, dedicated to scientific culture in Île-de-France, was created in 2021. Companies, associations, laboratories, universities, cultural spaces and museums wishing to share scientific knowledge have access to the list of participants in the region. After the schooner's 4 stopovers in Paris, the Foundation developed a lasting relationship with the Île-de-France region and decided to join this new network.

The influence of national and international awareness-raising actions

By relying on local infrastructures recognized for sharing knowledge (in France and other countries), the Tara Ocean Foundation can reach a maximum of audiences by creating a dialogue between the actors of proximity and young people on essential subjects such as the place of the Ocean in the Earth system, or the impact of plastic pollution. On the strength of previous expeditions, contacts created during stopovers and scientific expertise acquired over the years, many awareness-raising actions have taken place in France and abroad

- round tables, conferences, workshops on plastic issues or discovering plankton, film screenings, exhibitions, educational projects, magazines, books, live videos with the schooner or with scientists - all these are available to spread Ocean culture to as many people as possible.

France

Cité des Sciences, Paris (March 27, 2021)

In the framework of the Cité des aventuriers, Myriam Thomas (head of Tara's Ocean literacy), Sophie Simonin and Tobias Carter (founders of the association Unu Mondo), Heïdi Sevestre (Climate Sentinels) took part in the round table: «**Explorations for education and popularisation of science and popularisation of science**».

Espace des Sciences, Rennes (September 28, 2021)

Conference for the general public «**Marine microbiome: the invisible people of the ocean**» Special evening in duplex with the schooner *Tara* which was sailing along the coast of Brazil. At the Espace des Sciences in Rennes and in rebroadcast with the public at the Maison de la mer in Morlaix. With Martin Hertau, Helena Carvalho, Douglas Couet, Éric Karsenti.

9370 views

Available in replay : https://youtu.be/qwv_XYGEJJc

Fête de la Science 2021, France (October 9/10 and October 16/17, 2021)

As part of the 30th anniversary of the Fête de la Science and during two consecutive weekends, the Foundation was present to support the theme of this national french event which this year was : «**The emotion of discovery**». Volunteers were mobilised, accompanied by scientists or artists to intervene in Morlaix (Manufacture des Tabacs), Lorient (Cité de la voile), Lanterneau and Paris (Cité des sciences, Sorbonne University), (Goodplanet Foundation).

It is difficult to assess the number of visitors to the stands but the sites were well attended:

Lorient Cité de la voile: 1200 visitors

Cité des Sciences: 30,000 visitors

Sorbonne: 4500 visitors



International

Città della Scienza - Futuro Remoto, Napolie (November 26, 2021)

In collaboration with the Anton Dornh Zoological Station, the French Embassy and the French Institute, a video conference with Romain Troublé and the crew was organised for Italian classes.

We love the sea, Hong kong (June 2021)

The agnès b. company has always been committed to sustainable development. Convinced that ocean conservation is a shared responsibility, agnès b. Hong Kong has joined forces with the Tara Ocean Foundation and Ocean 3C to organise: "Clean the beach Day". The exhibition «Plastic at sea, the solutions are in land» at the agnès b. Hong Kong boutique, as well as artistic performances were also proposed.

12
volunteers

550 children
came with their classes

1 180 visitors
for the workshops

4 conferences
of young researchers

4 hybrid-format conferences
with a video speaker with the Curiosity microscope
and a face-to-face speaker at the Sorbonne University

1 round table
"Artists, maritime sentinels?"
at the "Cité de la Voile" in Lorient

1 screening-meeting
with a scientist

Scan me



Publications

Tara Ocean, Le Mag 2

In 2021, the second edition of the Foundation's newspaper aimed at young people was officially released on June 8 for Ocean Day. With a print run of 200,000 copies, this new publication was distributed during the summer to the network of Clubs Mickey throughout France (90,000 copies), and sent to the 80,000 subscribers of le Journal de Mickey. 30,000 copies were also distributed during mission stopovers, during the Fête de la Science and other events in France, and to various associations. After the first issue about plastic, this second one explores the marine microbiome. Accessible to people of all ages, it's a playful, fun and scientific dive into the invisible population of the Ocean. This microscopic marine world is a key element of life on Earth, providing enormous services to our planet but also to human beings.

Dissemination: 200 000 copies



Exhibition

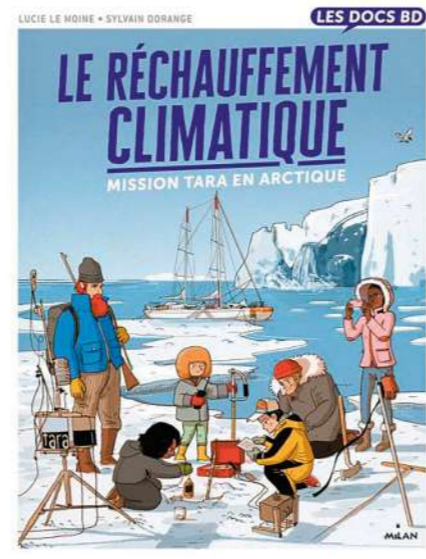
The invisible world of the Ocean, a mysterious biodiversity

Immerse yourself among the infinitely small organisms of the Ocean. Discover (or re-discover) the schooner *Tara's* expeditions, from her début, to recent findings about plankton and the microbiome. Entertaining presentations and infographics explain marine micro-organisms and their essential role in maintaining the Earth's equilibrium. To create this exhibition, we worked hand in hand with Tara scientists, on board and in their laboratories, to share our knowledge on this complex subject.

"Global warming, Tara's Mission in the Arctic" a graphic novel

The Tara Ocean Foundation, in collaboration with les Editions Milan, screenwriter Lucie Le Moine and illustrator Sylvain Dorange created this 56-page album aimed at young people. Published in June 2021, a major ecological issue is treated here with realism, artfulness and optimism.

Edition: 5 000 copies



Traveling exhibition "The New Explorers" of the Brittany region

Marine odysseys of the 21st century: exploring the Ocean via scientific, technological and human adventures. Through photos, videos, objects, and even a genuine underwater exploration capsule, discover these fabulous expeditions supported by the Brittany Region. An entire exhibition container is dedicated to the Tara Ocean Foundation.



Art & Science



Ocean art

Explore and share! Each one of the schooner's missions offers an onboard dialogue between artists, scientists and sailors. Since our beginnings, the Tara Ocean Foundation has not only conveyed important scientific knowledge through expeditions, but has also offered opportunities for artists-in-residence. Building on this tradition, in January the Tara Ocean Foundation launched a call for artists-in-residence for the Microbiome Mission. Six artists were finally selected from the 300 applications received. The first three artists completed their residencies in 2021:



Leslie Moquin
August 16 to September 8
from Fort de France to Macapa



Manon Lanjouère
October 12 to November 9
from Salvador de Bahia to Rio de Janeiro



Antoine Bertin
November 28 to December 30
from Buenos Aires to Ushuaïa

Residencies aboard the schooner are an opportunity to cultivate a different perspective, create new experiences and pursue collaborations with artists. Initiated thanks to the commitment of agnès b. and Etienne Bourgois, with continuing support from La Fab, more than 50 artists' residencies have taken place aboard the schooner since 2003.

The selection committee, chaired by agnès b., consisted of:

- Étienne Bourgois (Executive director of agnès b., and president of the Tara Ocean Foundation),
- Béatrice Grenier (Head of artistic development at the Cartier Foundation for Contemporary Art),
- Jean de Loisy (President of the Palais de Tokyo and producer of the program "Art is Matter" on France Culture),
- Marion Hislen (delegate for photography at the Ministry of Culture),
- Aurélie Clémentine Ruiz (Head of permanent & temporary exhibitions at the Musée de l'Homme),
- Lauranne Germond (Director & co-founder of COAL Art & Ecology),
- Nicolas Floc'h (French artist),
- André Magnin (Curator of the Contemporary African Art Collection),
- Lucille Reyboz & Yusuke Nakanishi (Co-founders and directors of the Kyotographie Festival),
- Élodie Cazes (Director of the Galerie du Jour agnès b.),
- Vincent Marcihacy (Associate director of The Eyes)

Other artists-in-residence
Wilfried N'Sondé, April 11 - April 21,
from Concepcion to Valparaiso
Edson Macalini, November 19 - November 28,
from Itajaí to Buenos Aires

Cultures of the Future, Centre Pompidou, Paris
November 2-3, 2021

The Centre Pompidou, the Haus der Kulturen der Welt (Berlin) and the Centro de Cultura Contemporània de Barcelona, co-designed the "Cultures of the Future" initiative, which aims to develop reflection on societal commitment in the artistic sector and promote remarkable initiatives with those who prepare the cultural world of tomorrow.

On this occasion, scientist Flora Vincent presented "Contributions of artists to scientific research: beyond contributing to raising awareness on topics". Artist Nicolas Floc'h shared with the students his point of view on the "Dialogue between Art & Science through artists' residencies aboard Tara".

World Oceans Week at the Explorers Club, New York
Sunday, June 6, 2021

The Tara Foundation was present during Oceans Week at the Explorers Club preceding World Oceans Day at the UN. On the theme: "Life and Livelihoods", artist Mara Haseltine presented some of her work, followed by a screening about the microbiome.

1,000 people followed on Zoom



Putting the Ocean on the school curriculum

The Tara Ocean Foundation's educational platform develops tools for teaching science and sustainable development in schools

Throughout France and in French high schools abroad, we encourage education in science and sustainable development by training and supporting teachers using innovative educational material. The sources of inspiration and tools offered to teachers are free, multiple and multifaceted: experiments to be carried out in class, educational files, scientific documentaries on Tara's key themes (biodiversity, climate, plastic pollution), live videoconferences with researchers, and above all, educational operations which can be a real common thread throughout the year.

The Tara Ocean Foundation's educational platform encourages multi-disciplinarity (absent from most textbooks) and stimulates education in complexity, while offering solid content for disciplinary teaching. Using the resources of the Tara Ocean Foundation in the classroom, teachers can contextualize science and environmental issues. They develop a stimulating pedagogy for young people, inspired by the scientific and human adventure on board and in our partner research laboratories.

Resources of the Tara Foundation are co-designed with l'Education Nationale in order to be consistent with official programs. They feed the work of teachers in primary schools (cycle 3) to the end of high school. Our entire educational project has been supported for 15 years by l'Inspection générale and extended by close work with regional pedagogical inspectors and EDD academic coordinators, in almost all academies at present. The relevance of our operations and resources is based on this singular long-term collaboration: upstream advice, validation of

concepts, co-production, distribution to mobilize teachers on the educational offer, and evaluation. An advisory committee for the education division provides expert support and includes inspectors, qualified people, l'ADEME, La Fondation Main à la Pâte, etc.

The 1st semester of 2021 was marked by continuity of the health crisis and autumn 2020 confinement. Fortunately, the 2nd semester of 2021, including the start of the school year, came under the sign of a salutary return to « normal ». Le doublement de l'impact de la Fondation par rapport à l'an passé s'explique par plusieurs facteurs :

- Renewed confidence of partners and especially of steering teams in the academies which relay educational operations and co-accompany groups of teachers;
- Wider opening of quotas for operations based on registrations (deployment of "Plastic under the Magnifying Glass", "Graines de reporters scientifiques"...);
- Strengthening human resources (2 full-time recruits) to maintain quality support in the face of major quantitative development;
- Return of French high schools abroad (AEFE) in great force, and a strengthened partnership after the 2-year halt caused by the covid pandemic;
- And finally, no doubt, the dissemination of educational resources (word of mouth, communication from the Ministry), and the growing reputation of the Tara Ocean Foundation.

+ than 100 000 students worked using the Foundation's resources in 2021



Educational operations

The participatory science operation on microplastics "Plastique à la Loupe" is undoubtedly the most remarkable in terms of development. The concept is as follows: our aim is to create an unprecedented database on macro-waste and micro-plastics found on the beaches and shores of mainland France and overseas. Classes must therefore follow a specific protocol, delivered by the researchers with whom they interact throughout the year by videoconference. In the field, after contextualization using a report on macro-waste, students collect the meso- and microplastics at the surface. They record information about quantity and morphology in a database before sending the samples to the laboratories for analysis of their chemical composition. The results reach them 2 months later. Initiated in 2020, the participatory science operation on micro-plastics, "Plastique à la Loupe" (Plastic under the Magnifying Glass) was widely deployed beginning in the 2021 school year in 30 academies, including French overseas departments and territories. We met with great success! Nearly 19,000 middle and high school students from 409 establishments applied the scientific protocol, supervised by multidisciplinary teams of more than 1,100 teachers. Scientific rigor as well as working in cooperation with researchers represent real, concrete educational interest and a very powerful lever for teachers. This allows them to extend their project through educational activities around plastic pollution, moving from knowledge to involvement in lessons, but also with eco-delegates or within establishment projects. The data collected by the young people will feed scientific research and contribute to decision-making at the European level, within the framework of the Marine Strategy Framework Directive and others. Le Cèdre and the CNRS laboratory in Banyuls-sur-Mer are the scientific partners of the project.

+ than 89 000 students (in France and around the world) in educational operations

With the "dans le Sillage de Tara," (In Tara's Wake) operation, more than 9,000 students followed the Microbiome Mission. Classes exchanged throughout the year with crew members aboard the schooner as well as scientists and the team on land, in the form of questions/answers and live meetings. Portraits of crew members (sailors, scientists, artists, journalists) were provided to students who could thus discover the diversity of jobs and career paths. In addition, a monthly logbook allowed them to follow high points experienced by the crew month by month, on both a scientific and human level, while discovering the schooner's stopover locations.

Other programs such as "Graines de reporters scientifiques" (seeds of scientific reporters) and "Echos d'escale" (echos of Stopover), in place for several years now, continue each year to raise the awareness of thousands of young people about the challenges of the Ocean.

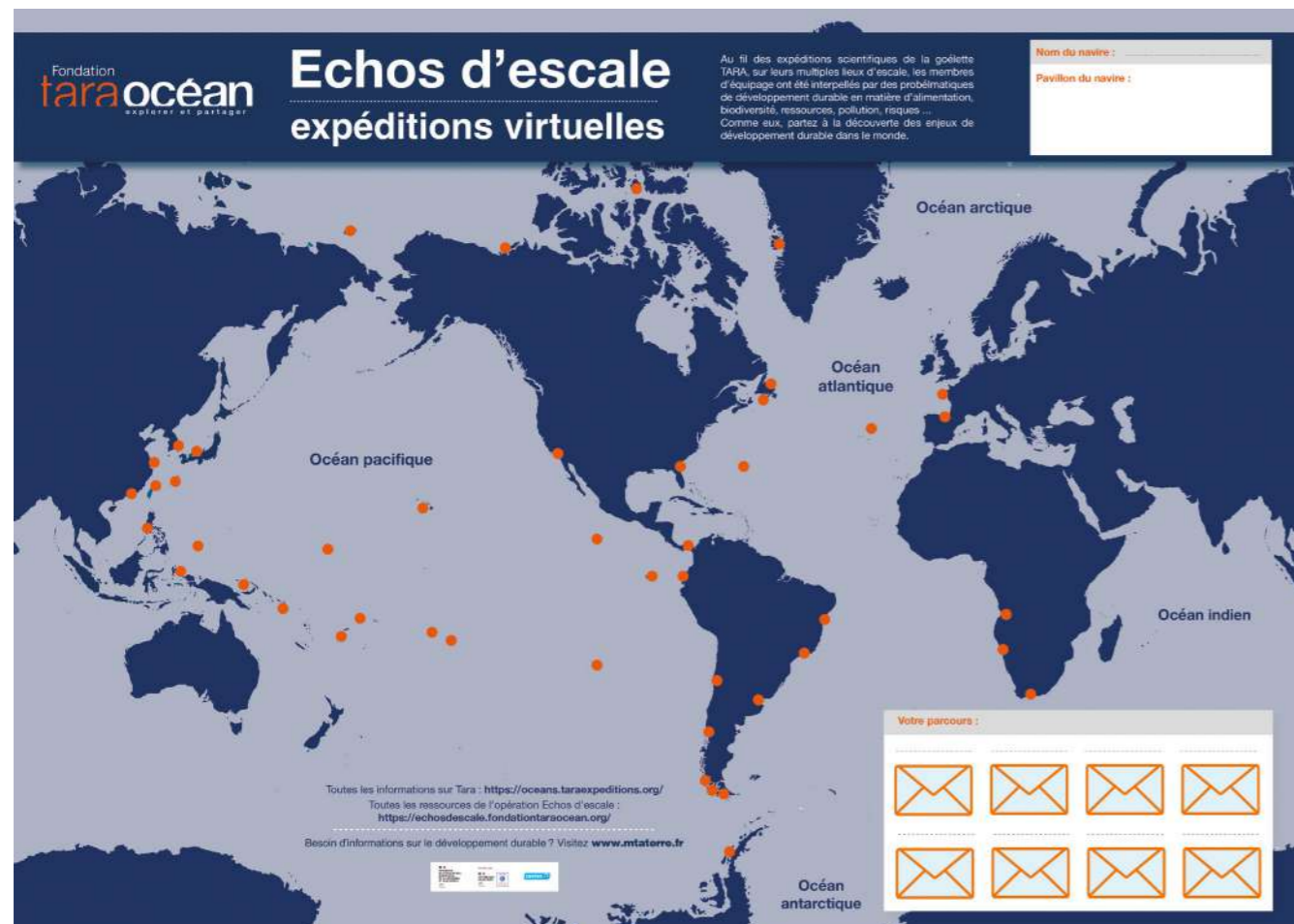
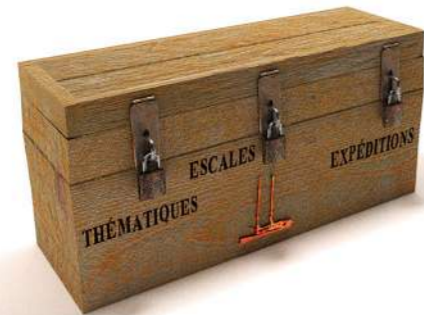
The "Graines de reporters scientifiques" operation, designed in partnership with CLEMI (Centre de Liaison de l'Enseignement et des Médias d'Information) is enjoying growing success, particularly within the network of French high schools abroad (AEFE). The program aims to develop the critical spirit of young people by offering them the opportunity to investigate the major issues related to humankind's impact on the Ocean: melting of the Arctic, acidification of the ocean, climate machine, migration of marine resources, plastic pollution, etc. Retracing their laboratory experiences, their interviews with experts or their documentary research, middle and high school students produce videos that also use computer graphics, animation or illustration, testifying to true digital creativity. Each video, with scientifically validated content, then becomes a true resource, accessible online to everyone on the "Les Dessous de l'Océan" website.

Focused on sustainable and multi-disciplinary development, the “Echos d’escale – virtual expeditions” operation was deployed in classes involving 58,000 students in 2021. Intended mainly for cycle 3 and cycle 4 classes (with more and more high school level resources), the operation offers students the opportunity to embark on a virtual expedition aboard their own ship to discover— through the schooner *Tara*’s stopovers— local sustainable development issues echoing more global ecocitizen issues. Students are encouraged to compose a virtual expedition route by choosing from among *Tara*’s ports of call around the world since 2010, to which are added LIVE the stopovers of the current Microbiome Mission (50 to date).

With the operation «Coulisses de Laboratoires» (behind the scenes in laboratories), cycle 3 and 4 students plunge into the History of Science via scientific instruments. Recently, we encouraged the interest of History and Geography teachers by creating educational

files about certain mythical expeditions - the most recent of these on Darwin and his expedition aboard the *Beagle*.

Intended for students at the end of cycle 4 and especially high school students, the “Du Bateau au Labo” (From Boat to Lab) operation offers a contextualized approach to science in action. Students discover current environmental issues by becoming actors in the experimental approach based on real data, and by discovering various research professions. They have access to real scientific data collected aboard the boat, while anchored within programs of l’Education nationale. In this context, genetic data on plankton from the *Tara* Ocean expedition (2008-2012) was used as an example in science textbooks at the Terminale level. Considering this enthusiasm, we will pay particular attention to this operation, offering new data kits at the start of the next school year.



Live meetings with researchers

The strength of our educational platform also comes from direct contact with the world of researchers. In November, the *Tara* Ocean Foundation launched the 4th annual cycle of online and live meetings with researchers who are passionate about their profession! New this year: the introduction of two major new themes: the water cycle and oxygen-deprived marine areas. 14 researchers from international laboratories intervened by video- conference to raise awareness among students aged 7 to 18 about 12 ocean issues, and to answer their questions live. They were thus able, for an hour, to travel to the North Pole and South Pole to understand the impact of climate change on the pack ice and the ice caps ; go back in time to discover the climates of the past; cross the Pacific, the Atlantic and the Indian Ocean to discover extreme climatic events and their role in population movements; question the impact of plastic on the environment, and many other subjects. In addition to the educational content of the conferences, they give students a chance to discover different professions related to the Ocean. These meetings with researchers on ocean issues have therefore achieved their objective: to raise questions among students on crucial environmental issues and introduce them to the world of research! Thanks to these live exchanges, the teachers thus provide the knowledge expected in the official programs, while giving a taste for science and raising awareness of the profession of researcher.

15 600
students

36 meetings
with researchers

723
classes

24
countries

Teacher training and workshops

Face-to-face and via videoconference are strong points because they ensure the diffusion of new approaches. Through workshops, the skills targeted in teachers are :the practice of project approach, development of critical thinking, scientific investigation, all of which find a stimulating pedagogical embodiment in the operations of the *Tara* Ocean Foundation.

+ than 100, 000 new teachers take part in training each year

Advocacy: the Tara Ocean Foundation is involved in national debates and international negotiations

The advocacy work carried out by the Foundation is essential to ensure that the science produced on board and in partner laboratories finds continuity in society, helps guide policy-makers and thus converts into concrete and appropriate actions. The Foundation continuously fosters relations between research and policy around 3 issues: plastic pollution, climate and biodiversity.

Plastic pollution: solutions are on land! The Tara Ocean Foundation proposes an amendment to the French Climate and Resilience Act (loi Climat et Résilience)

The volume of plastics placed on the market is constantly increasing, and there is no collection system guaranteeing 100% waste recovery. In addition, since properties of polymers don't make qualitative recycling possible beyond a few cycles, it is urgent to reduce the amount of plastic consumed. This means reducing single-use plastics by promoting repair, reuse, bulk products, and disposing of the most polluting plastics.

Styrene plastics (polystyrene, expanded polystyrene, etc.) are among the most problematic for 2 reasons:

- Their toxicity: these non-biodegradable petroleum-based plastics have the ability to release during deterioration phases an organic carcinogen compound and endocrine disruptor, called styrene, from which they are manufactured. The presence of free styrene on polymers leads to an unequivocal conclusion about the health and environmental risks posed by these plastics.
- Their low recyclability potential: mechanical recycling of styrene plastics is a failure and most of the pilot projects launched 10

years ago in France have been abandoned. As for the hypothesis of chemical recycling, it provides no solution to the problem of styrene's toxicity to health and environment. Quite the contrary!

Although these plastics represent only 16% of common uses, they account for more than a third of the samples found at sea. Their replacement, even by other less harmful plastics, is an environmental benefit.

Thus, the Foundation informed and accompanied deputies advocating a legislative approach to propose an amendment, within the framework of the Climate and Resilience Law, prohibiting the use of styrene in food packaging. This amendment was passed by the National Assembly. By engaging in dialog with industrialists and proposing to legislators the ban on styrene plastics, we have raised this issue in the public debate and are proud to see more and more players decide not to use these materials anymore. This amendment states:

“In order to encourage relevant stakeholders to favor bulk products to single-use plastic packaging, as of 2025, packaging [...] made in whole or in part of styrene polymers or copolymers shall be prohibited.”



The charter “Mon territoire s’engage : rivières et fleuves sans plastique, Océan protégé” (My territory is committed: rivers without plastic, Ocean protected)

The Foundation produces and publishes a guide of good practice intended for municipalities.

In 2021, the Tara Ocean Foundation, Initiatives for the Future of Great Rivers (IFGR) and the Compagnie Nationale du Rhône (CNR) worked together to draft this charter, initiated in March 2020. Also committed were: the Ministry of Ecological Transition and Territorial Cohesion, ADEME, Voies navigables de France (VNF, Navigable waterways of France) and associations of elected representatives: Association des maires de France (AMF) and Association des petites villes de France (APVF).

In 2021, 40 new signatories joined the Charter, bringing their total to 170 at the end of the year. To animate this community, an initial inventory of the actions taken was carried out among the first municipalities to join the initiative. More than 100 actions have thus been recorded.

To disseminate our charter and bring in new municipalities, several events and communication actions were organized:

- **Participation** in the plenary meeting of small cities of France members of the APVF and the Congress of Mayors of France (November 2021) ;
- **Organization** of a conference at the IUCN World Conservation Congress in Marseille in the presence of the Secretary of State for Biodiversity, Bérangère Abba. This conference was concluded with the signing of the Charter by the city of Marseille (September 2021) ;
- **Creation** of a new visual identity and redesign of the fleuve-sans-plastique.fr website.

The Foundation helped equip the municipalities and intermunicipalities signatories to the Charter by producing and publishing a guide of good practice to tackle plastic pollution. This guide responds to multiple needs expressed by communities.

To clarify a legislative framework sometimes difficult to understand, it takes up the obligations the latest legal documents enforce on local authorities, in particular laws designed to combat waste and promote circular economy (lois anti-gaspillage pour une économie circulaire, AGEC), and the Climate and Resilience Law.

Since municipalities and intermunicipalities have an extended field of expertise, the guide lists provisions that are legally possible to make to combat plastic pollution in an efficient manner. To promote the initiatives implemented by our signatories, our provisions are illustrated with examples of Charter members and enriched with a bibliography.

Finally, for territory stakeholders outside the legal competences of municipalities and intermunicipalities, the guide proposes a series of actions and levers designed to mobilize them in this commitment.

Enriched by the experience of our partners within the Charter, this guide was published in November 2021 on the occasion of the European Week for Waste Reduction, for which it was labeled. It is available on the websites of the Tara Ocean Foundation and Fleuve Sans Plastique (River without plastic) for all local authorities willing to engage on the theme.

COP26: the Tara Ocean Foundation addresses the issues related to Ocean in a high-level dialog

In November, the COP26 was of paramount importance to ensure that the Ocean is more strongly integrated into the climate agenda. For the Foundation, the Ocean is our first ally in the fight against climate change and must be acknowledged as such. At a high-level event co-organized by the Ocean & Climate Platform (Plateforme Océan et Climat, POC) and the French Office for Biodiversity (Office français de la biodiversité, OFB), Romain Troublé, general director of the Tara Ocean Foundation, spoke about Ocean-based solutions to climate and biodiversity crisis. Andrés Couve, Chilean Minister of Science, highlighted the innovative approach of the Foundation and the collaboration between Chilean scientists and the Foundation's partners during the ongoing Tara Microbiome mission.

Before the COP26, the Foundation also participated in 2 initiatives that received strong support:

- **The Ocean for Climate Declaration**, supported by more than 100 civil society organizations. This declaration was launched by the Climate Change High-Level Champions, ambassadors chosen by the United Nations and the Ocean & Climate Platform. Its goal is for governments and non-state actors to accelerate the deployment of Ocean-based climate solutions.
- **The 3rd Because the Ocean Declaration** signed by some 20 countries commits to reducing shipping emissions, developing marine renewable energies and providing greater financial support for scientific research on the Ocean, among other things.



The High Seas: The Tara Ocean Foundation engaged with French MPs for a future ambitious international treaty

The negotiations on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ), also known as the high seas, will resume in March 2022. Since the beginning of the COVID-19 pandemic, the negotiating process has been severely slowed down. Nevertheless, the Foundation remains highly mobilized because the stakes are urgent and immense: The high seas remain a lawless area, even though they account for two-thirds of the Ocean. An international binding treaty should provide a framework for economic and scientific activities; ensure the sharing of benefits derived from the exploitation of marine genetic resources, and create instruments for the protection of marine biodiversity, including marine protected areas (MPAs).

The Foundation's more than 10-year commitment with the UN on the high seas, as well as to French MPs bore fruit at the end of November with a unanimous and cross-party vote by MPs in the National Assembly to call for a strong and urgent diplomatic mobilization in favor of the conservation and sustainable use of the high seas.

The FFEM Ocean Plankton, Climate & Development Project

The Tara Ocean Foundation publishes a recommendation paper on the link between plankton knowledge and sustainable fisheries management

The project, supported by the French Facility for Global Environment (Fonds français pour l'environnement mondial, FFEM), aims at structuring a research and advocacy program in the field of ocean ecosystems to strengthen the capacities of Southern countries to respond to their development and Ocean governance issues. The ecological and climate crisis we are experiencing today requires a scientific collaborative effort on a planetary scale and without borders. Therefore, having local scientific expertise for these countries is crucial to help policy makers make the best possible decisions for climate, biodiversity and the high seas. The project activities consist of:

- **Conducting scientific studies** to understand the marine microbiome;
- **Integrating and training** 6 young researchers in partner laboratories;
- **Organizing science-policy** workshops at international conferences;

- **Raising** awareness on the importance of plankton ecosystems;
- **Disseminating** recommendations papers based on the latest scientific results.

The Foundation published a document in September to explain the ongoing scientific research based on the Tara Oceans data (2009-2013) conducted by Baye Cheikh Mbaye, a Senegalese postdoctoral fellow working on this project.

He adapts current predictive models of fish stocks that include only fish to turn them into ecosystem models, linking phytoplankton and zooplankton abundances to fish communities, thus increasing the models' reliability. The aim is to demonstrate that scientific advances made in understanding plankton ecosystems can improve ocean governance and fisheries management.

This document has been disseminated to experts and insiders in governance environments, such as the Food and Agriculture Organization of the United Nations (FAO), the Abidjan Convention adopted in the framework of the Regional Seas program, and the West African Subregional Fisheries Commission (Commission sous-régionale des pêches, CSRP).

Two Tara projects approved in the framework of the UN Decade of Ocean Science for Sustainable Development (2021-2030)

Among 86 projects from around the world, 2 proposed by the Foundation were approved by the Intergovernmental Oceanographic Commission of UNESCO (IOC) as contributing projects to the UN Decade of Ocean Science for Sustainable Development. Both the Tara Microbiome mission and Tara Polar Station were recognized for their efforts to build knowledge, support research and create interfaces between science, policy and society to find solutions to the climate and environmental crisis. The Foundation is very proud of this recognition and to join a community of international actors and projects focused on the same global objective and effort: to better understand and protect the Ocean ecosystem.

The Foundation shares the goals of this Decade to ensure that this production of knowledge and a resilient and healthy ocean are accessible to all, even the least developed countries.



The Tara Ocean Foundation in Japan



The Tara-Jambio Microplastic Mission

With its partner JAMBIO (Japanese Association for Marine Biology, <http://jambio.jp>), bringing together more than 20 marine stations distributed along the Japanese coasts, with the support of agnès b. and Veolia, the Tara Ocean Foundation and its Tokyo branch - the organization Tara Ocean Japan, led by Yumiko Patouillet - pursued in 2021 their mission of studying the microplastic pollution of Japan's coastal waters according to a protocol almost similar to that of the Tara Microplastics mission carried out in 2019 in 9 major European rivers. This expedition is carried out under the supervision of Sylvain Agostini, assistant professor at Tsukuba University (Japan). The mission has 2 objectives: 1) scientific, to assess the plastic pollution along Japanese coasts, both on the surface and in seafloor sediments, and 2) educational, to increase awareness of plastic pollution and other threats to the Ocean. Outreach is undertaken with the participation of local populations, the educational community, artists and participatory media.

The first sampling campaign was conducted in 2020 off Shimoda, a city at the southern tip of the Izu Peninsula, and in collaboration with the marine stations of 6 Japanese state universities: Okayama, Hiroshima, Shimane, Kyushu, Nagoya and Tsukuba. It continued during the summer of 2021, in cooperation with the universities of Tohoku and Hokkaido. The Tara-Jambio team then collected samples off Onagawa (Miyagi Prefecture), Asamushi (Aomori Prefecture) and Akkeshi (Hokkaido). With more than 200 samples collected so far to assess microplastic concentrations, the Tara-Jambio mission represents the largest study ever conducted along the Japanese coastline on microplastic pollution, both in coastal waters and sediments.

Preliminary observations and results showed that microplastics are ubiquitous. The processed samples all contained microplastics and, among other things, various particles, polymers, polystyrene fragments and secondary microplastics (measuring less than 5 mm in diameter), as well as other components used for fishing and in oyster farming. The Tara-Jambio Microplastics mission is still underway in Japan.



Artistic collaborations around the Tara-Jambio Microplastics Mission

Faithful to the philosophy of the Tara Ocean Foundation, which has combined art and science and hosted artists in residence aboard the schooner since its inception, Tara Ocean Japan invited 7 artists (painters, sculptors, musicians and photographers) in 2020 to join several events and the sampling campaigns of the Tara-Jambio Microplastics mission. In 2021, this action was continued. Four artists and 3 students from Tokyo University of the Arts (also known as Geidai), selected and led by professor, creator and artistic director Katsuhiko Hibino, a long-standing friend of the Tara Ocean Foundation, participated in the campaign carried out in Shimoda. Note that in 2022, 2 art exhibitions are planned in parallel with the Tara-Jambio samplings, on the island of Awashima, in Mitoyo (Kagawa Prefecture) and in Himeji (Hyogo Prefecture).

Coproduction of the Japanese dubbin of the documentary "Plastic Madness"

Tara Ocean Japan also co-produced the Japanese dubbing of the American documentary film "Microplastic Madness," directed by Atsuko Quirk. The documentary tells the story of 56 fifth-year students from a school in Red Hook, Brooklyn (NYC, USA) who live on the front line of the climate crisis and whose actions on plastic pollution turn into leadership actions and a succession of victories. 578 Japanese children participated in the auditions and 45 were selected.

Nearly 700 spectators attended the first screening of the film at Uplink movie theaters (based in Tokyo and Kyoto). In parallel, an exhibition was produced and presented between the end of December 2020 and January 2021 in Tokyo and Kyoto, which welcomed approximately 7,000 visitors.

83

international and Japanese press coverage



06

Thanks to you

The Tara Ocean Foundation is an independent organization, operating thanks to the support of its partners and donors. In 2021, the Foundation received the support of loyal partners and donors, such as the agnès b endowment fund, L'Oréal Recherche, the Prince Albert II of Monaco Foundation and the EDF Group Foundation.

We were also joined by new partners, such as Arkea, private foundations, and implemented new product-sharing operations with Biotherm, La Raoul and Monoprix.

In 2024, the Tara Ocean Foundation will return to the North Pole for an extraordinary scientific epic. To prepare for this project, the Foundation benefits from the support of partners: Capgemini Engineering, the Prince Albert II of Monaco Foundation, Monaco Explorations, Dr. Frederick Paulsen and BNP Paribas Global Markets.

3 questions to Thierry Vandevelde

Executive officer of Veolia

Why did you choose to support the Tara Ocean Foundation, and in what context?

Veolia is a long-standing partner of Tara. We share the acute awareness that the Ocean is a vital element for designing and implementing ecological transformation. At a very early stage, we had confidence in the Tara teams' ability to innovate in research, as well as in advocacy. For more than 10 years, we have been advancing together and we were right!

How do you share this partnership with your various stakeholders and why are they interested in this topic?

One of Tara's great successes is to combine a very high scientific requirement with a real know-how in terms of awareness raising among both the general public and public authorities including, in particular, the Ocean & Climate Platform. All our stakeholders are therefore, in one way or another, convinced of the benefits of expeditions such as those carried out by the Tara Ocean Foundation. Wherever Tara calls, Veolia's local teams take over the subject.



A high point with Tara?

I remember a bygone era when Tara was just a project on a piece of paper. With Romain Troublé, executive director of what was not yet the Tara Ocean Foundation, we had presented the project to the Cosmos Club in Washington, DC, in front of an audience somewhat taken aback by these 2 Frenchies passionate about marine biology. Our interlocutors certainly never imagined what the Tara Ocean Foundation has become!



Fondation **taraocéan**
explore and share

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Appeal to public generosity

Each donation matters and all financial contributions received from our donors, large and small, help finance the Tara Ocean Foundation's missions. In 2021, we continued our calls for public generosity. In particular, we carried out a digital fundraising appeal at the end of the year to support the Foundation's actions. After a 2-year postponement, a gala evening organized in early December 2021 finally allowed us to bring together our donors, companies and individuals, for a friendly and convivial moment of exchange.

We would like to express our warmest thanks to all our donors and partners who supported us in 2021.

To support the Tara Ocean Foundation

www.donation.fondationtaraocean.org



07

Our governance

The Foundation's goals

The Tara Ocean Foundation aims at funding, alone or in partnership, French scientific research on the impact of global warming and worldwide changes (pollution, demography, human activities in general, etc.) on ecosystems; raising public awareness on environmental issues, and disseminating the related scientific data and results for educational purposes.

The Tara Foundation's means of action :

- Organizing scientific expeditions, in particular on board the schooner *Tara*
- Co-producing documentary films and organizing cultural and educational events dedicated to the expeditions organized by the Foundation and their results and/or the issues raised by these expeditions
- Organizing exhibitions, conferences, events, TV and network broadcasts, as well as the publication, reproduction and edition in any form and by any processes, present or future, on the expeditions organized by the Foundation, related results and/or issues raised by these expeditions
- Organizing educational programs
- Providing scholarships and financial aid to researchers or research teams working on the impact of global warming and global-scale changes on ecosystems, and more generally, supporting any action contributing to the development of the Foundation's goals

Administration & operation

The Tara Ocean Foundation is administered by a board of directors of 9 members, consisting of 3 colleges :

- **3 members of the College of Founders**, 2 life members : Agnès Troublé, known as agnès b., and Etienne Bourgois, the "Agnès Troublé known as agnès b." endowment fund represented by a person mandated by the legal entity.
- **4 members of the College of Qualified Personalities**, composed of persons chosen for their expertise in the Foundation's areas of activity. They are co-opted by other members of the board of directors.
- **2 members representing the College of the Foundation's Friends**, designated by "Les amis de Tara" association. The status of board member of the association is incompatible with that of the Foundation's Board of Directors, in any college other than that of "Les amis de Tara."
- **A government commissioner**, appointed by the Ministry of Interior, attends meetings in an advisory capacity and ensures compliance with the statutes and public interest status of the Tara Ocean Foundation's activities.

Composition of the board of directors

College of Founding Members

Étienne Bourgois, CEO of agnès b., President of the Tara Ocean Foundation

Agnès Troublé known as agnès b., Designer/Business executive

Nathalie Kistler, Secretary general at agnès b, mandated by the “Agnès Troublé, dite agnès b.” endowment fund, treasurer of the Tara Ocean Foundation

College of Qualified Personalities

Éric Karsenti, Emeritus Research Director at the CNRS and associate research director at EMBL

Gérard Bonhoure, Honorary Inspector General of National Education

Françoise Gaill, CNRS Research Director

Antoine Ricardou, Architect DPLG/Graphic Designer

General director of the Tara Ocean Foundation

Romain Troublé as executive director of the Tara Ocean Foundation, manages the Foundation services and ensures its operation. Under delegation of the president, he has the powers required to carry out his mission.

By right, he attends the board of directors and board meetings in an advisory capacity. The board of directors settles matters concerning the Foundation through its deliberations.

In particular :

- It decides on the Foundation's agenda ;
- It adopts the annual report, presented by the board, concerning the Foundation's moral and financial situation ;
- It votes, upon the proposal of the board, the budget and its changes, as well as provisions for hiring ;
- It discusses and approves the accounts for the year ended, presented by the treasurer with supporting documentation ;
- It adopts, upon the proposal of the board, the Foundation's rules of procedure ;
- It accepts and assigns donations and legacies and allows, beside everyday management, acquisitions and disposals of real estate and movable assets, markets, leases and rental agreements, mortgages and loans, securities and guarantees granted on behalf of the Foundation ;
- It appoints one or several auditors chosen in the list referred to in article L.822-1 of the French Commercial Code ;
- It establishes the conditions of recruitment and staff remuneration ;
- It is informed by the president of any project of convention engaging the Foundation and deliberates on agreements falling within the scope of article L. 612-5 of the French Commercial Code; in this case, it issues a decision without the presence of the person concerned.

The Tara Ocean Foundation is supported by 2 committees: a scientific committee and an advisory committee on education.

Scientific committee

Chris Bowler, CNRS Research Director and Director of the Environmental & Evolutionary Genomics division (Biology Institute, École normale supérieure - IBENS, CNRS/ENS) since 2010

Éric Karsenti, Emeritus Research Director at the CNRS and associate research director at EMBL

Françoise Gaill, CNRS Research Director

Gaby Gorsky, Director of the Oceanological Observatory of Villefrance-sur-Mer/UPMC-CNRS

Patrick Wincker, works at the CEA and is Director of the Genoscope - National Sequencing Center

Colomban de Vargas, CNRS Research Director and EPEP Team Leader at the Roscoff Biological Station

Serge Planes, CNRS Research Director at the Centre de Recherche Insulaire et Observatoire de l'Environnement (CRIOBE - CNRS/EPHE/UPVD)

Advisory committee - Education division

Gérard Bonhoure, Honorary Inspector General of the Ministry of National Education

Florence Clément, ADEME

Sabine Lavorel, Institut Français de l'Éducation

Françoise Ribola, Academy of Versailles



Financial report

Accounting rules and methods

The annual accounts of our entity for this financial year have been drawn up in accordance with the provisions of the French Commercial Code, the specific applicable provisions of regulation ANC 2018-06 and, in the absence of other specific provisions, those of regulation ANC 2014-03 relating to the general accounting plan.

Intangible and tangible assets

Tangible assets are valued at their acquisition or production cost, including all costs necessary to make these assets operational, after deducting trade and cash discounts and rebates. Depreciation is calculated using the straight-line or declining balance basis, depending on the expected useful life of the assets:

- **Website: 3 years** on a straight-line basis
- **Audiovisual co-productions: 3 years** on a straight-line basis
- **Floating equipment: 3-10 years** on a straight-line basis
- **Floating scientific equipment: 3-5 years** on a straight-line basis
- **Installations, arrangements: 10 years** on a straight-line basis
- **Transport equipment: 3 years** on a straight-line basis
- **Office and IT equipment: 3 years** on a straight-line basis
- **Video, photo equipment: 3 years** on a straight-line basis
- **Furniture: 3-7 years** on a straight-line basis

For information, following an expert report, the schooner *Tara* was amortized over 100 years, and the rigging over 30 years. Following the devolution of fixed assets of *Tara*'s endowment fund to the Tara Ocean Foundation, intangible and tangible assets were depreciated over their remaining useful life.

Financial assets and investment securities

The gross value is composed of the assets' acquisition cost, excluding incidental expenses. When inventory value is lower than gross value, depreciation is recorded of the amount of the difference.

Inventories

Inventories are valued using the "first in, first out" method. Gross value of goods and supplies includes the purchase price and incidental expenses. Manufactured products are valued at their production cost, including consumption, direct and indirect production expenses, and depreciation of assets contributing to the production. The cost of sub-activity is excluded from the stock value. Interest is always excluded from stock valuation. Where appropriate, inventories are depreciated to reflect their net realizable value at the reporting date.

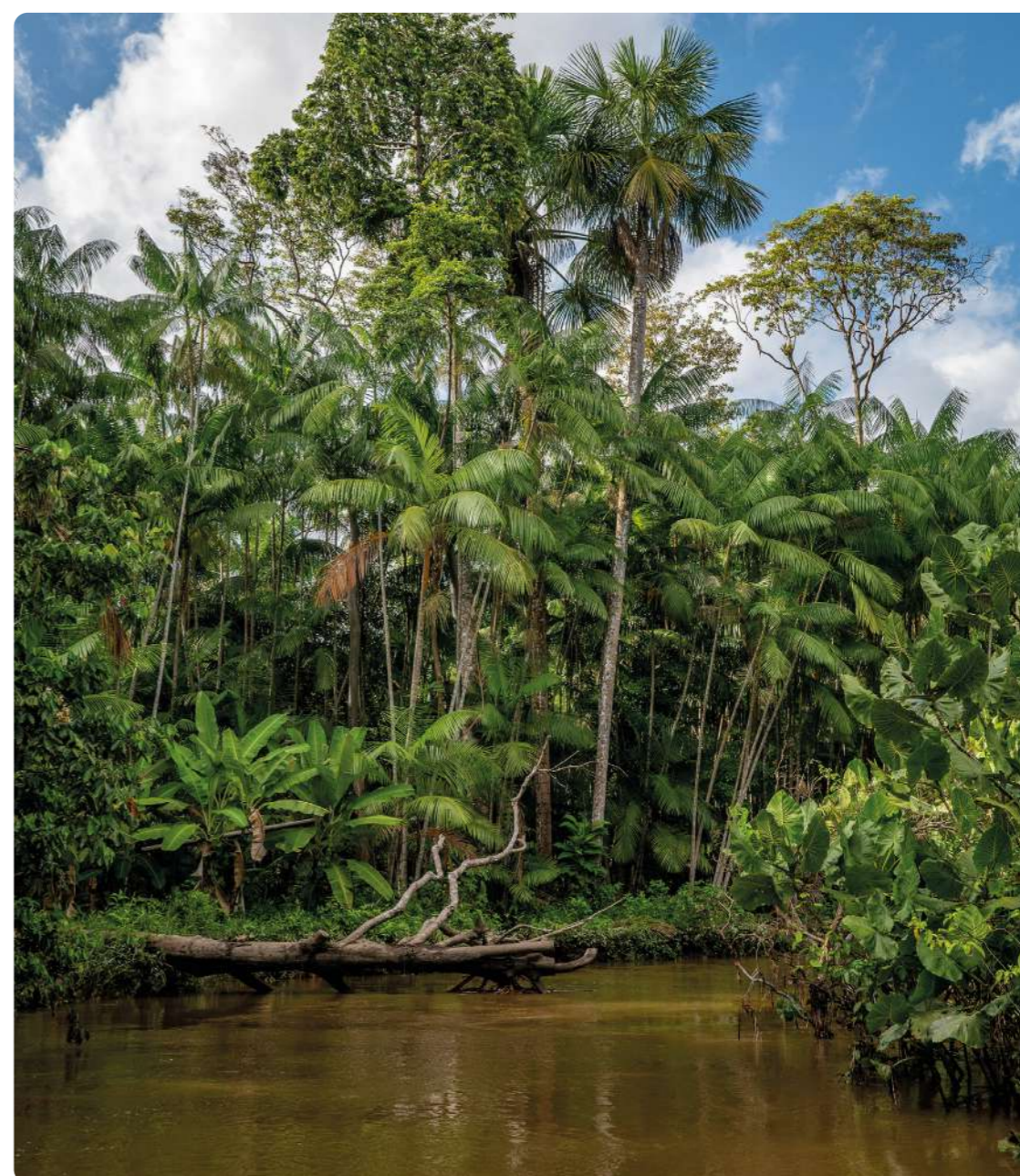
Receivables and payables

Receivables and payables are measured at their nominal value. Depreciation is recorded when the inventory value is lower than the book value.

Balance sheet

ASSETS	Financial year on 12/31/2021			Financial year on 12/31/2021
	Gross amount	Depreciation	Net amount	Net amount
Fixed assets				
Intangible fixed assets				
Set-up costs				
Research and development costs				
Temporary donations of usufruct	0		0	225 704
Concessions, patent, licenses, trademarks, processes, software, rights and similar values	283 428	161 254	122 174	31 299
Other intangible assets				
Intangible assets in progress				
TOTAL	283 428	161 254	122 174	257 003
Tangible fixed assets				
Lands				
Buildings				
Industrial facilities, machinery and equipment	3 262 929	814 485	2 448 444	2 547 508
Other tangible assets				
Encumbered assets				
Tangible assets in progress				
Assets received in the form of legacies or donations held for sale				
TOTAL	3 262 929	814 485	2 484 444	2 547 508
Financial assets				
Interests				
Receivables from equity interests				
Other securities				
Loans				
Other financial assets	24 500		24 500	
TOTAL	24 500	0	24 500	24 500
TOTAL (I)	3 570 857	975 738	2 595 119	2 829 010
Current assets				
Inventories in progress				
Raw materials, supplies				
Goods				
Inventories and outstanding amounts	114 074		114 074	78 376
TOTAL	144 074	0	144 074	78 376
Receivables				
Advances and prepayments on orders				
Trade account receivables and related accounts	16 834		16 834	25 488
Receivables in the form of legacies or donations				
Other receivables	1 349 912		1 349 912	1 176 628
• Trade creditors				
• Staff				
• Social organizations				
• State, turnover taxes				
• Others				
TOTAL	1 366 746	0	1 366 746	1 202 116
Miscellaneous				
Marketable securities	1 125 000		1 125 000	1 000 000
Cash instruments				
Availabilities	491 643		491 643	1 195 627
Prepaid expenses	39 923		39 923	24 436
TOTAL (II)	3 137 387	0	3 137 387	3 500 554

ASSETS	Financial year on 12/31/2021			Financial year on 12/31/2021
	Gross amount	Depreciation	Net amount	Net amount
Loan issuance expenses (III)				
Bond redemption premiums (IV)				
Active conversion differences (V)				
TOTAL (I+II)	6 708 245	975 738	5 732 506	6 329 564
Commitments				
Net legacies to be fulfilled				
Accepted by the competent statutory bodies				
Authorized by the supervisory body				



LIABILITIES	Financial year	Previous financial year
Equity		
Without repossession rights		
Statutory equity	1 750 000	1 750 000
Complementary equity	241 246	241 246
Associative funds without repossession rights (legacies, donations, investment grants, renewable assets)		
With repossession rights		
Other association funds		
Equity with repossession rights		
Statutory equity		
Complementary equity Contributions		
Legacies and donations		
Income under control of third party financiers		
Revaluation surplus		
Reserves		
Statutory or contractual reserves		
Reserves for entity's project		
Reserves		
Others		
Carry forward	738 897	483 709
Surplus or deficit for the financial year	248 843	255 188
NET FINANCIAL POSITION	2 978 986	2 730 143
Other funds		
Consumable equity		
Investment grants	389 269	450 014
Owners' rights (commodate)		
TOTAL (I)	3 368 255	3 180 157
Dedicated funds carried forward		
Carry forward related to legacies or donations		225 704
Dedicated funds	358 632	991 429
Dedicated funds from other resources		
TOTAL DEDICATED FUNDS CARRIEDFORWARD (II)	358 632	1 217 133
Carry forward related to legacies or donations		
Dedicated funds		
Dedicated funds from other resources		
TOTAL PROVISIONS (III)	0	0
Loans and debts from credit institutions (2)		
Accounts payable and related accounts	170 540	137 736
Debts on legacies or donations		
Tax and social debts	294 703	201 563
Payables on fixed assets and related accounts		
Other payables		
Cash instruments		
Deferred revenue	1 540 375	1 592 975
TOTAL (IV)	2 005 618	1 932 274
CONVERSION GAINS OR LOSSES (V)		
TOTAL LIABILITIES (I+II+III+IV+V)	5 732 506	6 329 564

SIGNIFICANT EVENTS OF THE FINANCIAL YEAR

The impact of COVID-19 resulted in an extra cost related to port and stopover fees in the order of €80,000.

Balance sheet analysis

Assets

The Foundation has total net assets of €5,732,506. Key lines are as follows:

- **Intangible assets**, €122,174 net, including the new website for €98,978 and the Tara brand
- **Tangible assets** for a net amount of €2,448,444, including the schooner Tara, annual maintenance and repair work of the vessel and scientific equipment for an amount of €2,391,982.
- **Other financial assets**, a deposit of €24,500 was paid for the premises located rue de Prague.
- **Inventory**, for a net amount of €114,074, corresponding to the schooner's spare parts, fuel and stock of products intended for sale.
- **Other receivables** for an amount of €1,349,912 mainly represent the funds balance to be paid in the coming years by our partners and are the subject of an agreement.
- **Other investment securities**, €1,125,000 revolving term deposits at a rate of 0,10%.
- **Available funds**, €491,643, including bank account balances at Neuflyze OBC and cash.

Liabilities

- **Equity without repossession rights**, €1,991,246, including the donation of the schooner Tara' for €1,750,000 and devolution of the Tara Fund for an amount of €241,256.
- **Carry forward**, 738,897€, including the 2020 income appropriation validated by the board of directors on June 23, 2021.
- **Profit/loss for the financial year** is a surplus of 248,843€.
- **Investment grants**, €389,269, correspond to the share of fixed assets purchased from 2016 to 2021 for scientists in the framework of investment agreements signed with the local authorities, minus all accumulated depreciation representing €333,831.
- **Dedicated funds** of €358,632 include the amounts to be allocated to projects carried by the Tara Ocean Foundation within the framework of its corporate purpose. These include: the FFEM project for €81,662, the European Atlanteco project for €267,919 and the Tara Polar Station (TPS) project for €9,051.
- **Account payables and other liabilities** amount to €170,540.
- **Tax and social debts** amount to €294,703.
- **Deferred income**, €1,540,375, corresponds mainly to the funding receivable from multi-annual agreements.



Balance sheet

	Financial year	Previous financial year
Equity		
Contributions		
Sales of goods and services		
Sales of goods <i>including sales of in-kind donations</i>	17 397	82 538
Sales of services <i>including sponsorships</i>	214 841	187 533
Sales of goods Production sold Services	166 917	160 000
Net operating revenue		
Income from third party financiers		
Operating grants		
Public contributions and operating grants	152 500	676 272
Payments from founders or uses of consumable endowment		
Resources related to public generosity		
Manual donations	311 710	209 783
Sponsorships	1 053 729	1 151 351
Legacies, donations and life insurances		
Financial contributions	1 512 487	1 604 183
Write-back of depreciation, amortization, provisions and cost transfers	199 820	22 099
Use of dedicated funds	632 797	171 414
Carry forward of unused resources from previous financial years		
Other revenues	8 037	5 241
TOTAL OPERATING REVENUES (I)	4 103 318	4 110 415
Operating expenses		
Purchase of goods	8 417	29 387
Inventory change	4 006	-29 101
Purchases of raw materials and other supplies	115 329	
Changes in stocks of raw materials and other supplies	-33 181	
Other purchases and external expenses	2 011 207	1 659 073
Purchases of non-inventory items		
External services		
Other external services		
Financial contributions		
Taxes, duties and other levies	131 867	92 589
Salaries and wages	1 306 784	984 660
Social costs	359 222	298 886
Depreciation and impairment charges	239 005	258 135
Depreciation charges on fixed assets		
Allocation to provisions		
Depreciation of current assets		
Grants paid by the organization		851 219
Dedicated funds carried forward		
Other charges	9 923	19 759
TOTAL OPERATING EXPENSES (II)	4 152 579	4 164 607
OPERATING INCOME (I+II)	-49 262	-54 192

	Exercice	Exercice précédent
Financial products		
Financial income from shareholdings	226 180	226 237
Financial products from other investment securities and fixed asset receivables		
Other interest receivables and similar income		
Reversals of provisions, cost transfers		
Positive exchange differences		
Net income from sales of investment securities	411	72
TOTAL FINANCIAL REVENUE (III)	226 591	226 309
Financial expenses		
Depreciation and provision charges		
Interest payable and similar charges		238
Negative exchange differences	1 230	167
Net charges on sales of marketable securities		
TOTAL FINANCIAL EXPENSES (IV)	1230	406
CURRENT PRE-TAX INCOME (I+II+III+IV)	176 099	171 711
Extraordinary income		
Extraordinary income on management transactions		
Extraordinary income from capital transactions	120 745	97 027
Reversals of provisions, depreciation and cost transfers		
TOTAL EXTRAORDINARY INCOME (V)	120 745	97 027
Extraordinary expenses		
Exceptional operating expenses	67	921
Exceptional expenses from capital transactions		
Depreciation, amortization and provision charges	11 023	
TOTAL EXTRAORDINARY EXPENSES (VI)	11 090	921
EXTRAORDINARY OUTCOME (V+VI)	109 655	96 105
Employee profit sharing (VII)		
Tax on company benefits (VIII)	36 910	12 628
Corporate tax (VI)		
TOTAL REVENUES (I+III+V)	4 450 653	4 433 750
TOTAL EXPENSES (II+IV+VI)	4 201 810	4 178 562
SURPLUS OR DEFICIT	248 843	255 188
Revenues		
Volunteering	22 831	19 979
Benefits in kind	389 716	379 599
In-kind donations	5 699	87 751
Expenses		
Assistance in kind	22 831	19 797
Provision of goods and services	5 699	87 751
Benefits in kind	389 716	379 599
Volunteer staff		

Detailed analysis of profit and loss account

Operating revenues

- Sales of goods, €17,397, are exclusively related to online sales this year.
- Sales of services, €214,841, correspond mainly to Biotherm sponsorship for €214,841 excluding tax and an exchange partnership with Suzuki.
- Operating grants (€152,500) include:
 - Lorient Agglomeration's grant
 - The OFB grant
 - The MTE grant
 - The ADEME grant
 - Other grants.

Resources related to public generosity

- Manual donations amount to €311,710.
- Sponsorship donations amount to €1,053,729.
- Financial contributions amount to €1,512,487.
- Uses of dedicated funds, €632,797, correspond to expenses made in 2021 in the framework of the following projects: FFEM (€58,548), Atlanteco (€215,469) and TPS (€358,780).

Operating expenses

Part of the operating expenses, such as supplies, fuel, port fees, stopover costs, trips, missions, Thalys phone, etc. are directly related to the schooner. In total, these expenses account for €608,488.

The other main operating expenses are listed below.

- Fees for €881,584 include the fees related to the studies required for the ongoing development of the Tara Polar Station project (€298 983); the development of the Plankton Planet participatory science project (€65,200), and the recurring and long-standing service providers of the Foundation (€335,983).
- Personnel expenses amount to €1,767,408 including €101,402 of payroll tax.

Financial products

Financial products amount to €226,591 and are mainly linked to dividends received for the temporary donation of usufruct to the Foundation.

Extraordinary income

Exceptional income, €120,745, corresponds to the share of investment grants necessary to cover depreciation charges related to equipment acquisitions.

In 2021, the profit of the Foundation's taxed sector, amounts to €156,846 and triggers a corporate tax of €36,910.



Annual statement of resources collected from the public

USES OF FUNDS BY DESTINATION	Financial year N	Financial year N-1
Uses of funds of the financial year		
1. Social missions		
<i>Carried out in France</i> Actions carried out by the organization	1 230 895	1 248 601
<i>Carried out overseas</i> Actions carried out by the organization Payment to other organizations		
2. Fundraising expenses		
Fees for appealing to public generosity Costs of seeking other resources	157 114	120 358
3. Operating expenses		
TOTAL USES OF FUNDS	1 388 009	1 368 959
Depreciation and amortization charges Financial year's dedicated funds carried forward		
FINANCIAL YEAR'S SURPLUS REVENUE FROM PUBLIC GENEROSITY	203 134	217 879
TOTAL	1 591 143	1 586 838
VOLUNTARY CONTRIBUTIONS IN KIND		
Uses of funds of the financial year		
1. Voluntary contributions to social missions		
<i>Carried out in France</i> <i>Carried out overseas</i>	365 396	487 329
2. Contributions volontaires à la recherche de fonds		
3. Voluntary contributions to functioning	52 850	
TOTAL	418 246	487 329

RESOURCES BY ORIGIN	Financial year N	Financial year N-1
Resources of the financial year		
1. Resources related to public generosity		
Contribution without counterpart		
Donations, legacies and sponsorships		
• Manual donations	311 710	209 783
• Legacies, donations and life insurance		
• Sponsorships	1 053 729	1 151 351
Other resources resulting from public generosity	225 704	225 704
TOTAL RESOURCES	1 591 143	1 586 838
Reversal of provisions and depreciation		
Use of dedicated funds from previous financial years		
TOTAL	1 591 143	1 586 838
RESOURCES RELATED TO PUBLIC GENEROSITY CARRIED FORWARD AT THE BEGINNING OF THE FINANCIAL YEAR	421 013	203 134
Surplus or deficiency from public generosity		
Net investments or disinvestments related to public generosity	203 134	217 879
RESOURCES RELATED TO PUBLIC GENEROSITY CARRIED FORWARD AT THE END OF THE FINANCIAL YEAR	624 146	421 013
RESOURCES BY ORIGIN		
Resources of the financial year		
1. Voluntary contributions related to public generosity		
Volunteering	22 831	19 979
Benefits in kind	389 716	379 599
In-kind donations	5 699	87 751
TOTAL	418 246	487 329
DEDICATED FUNDS RELATED TO PUBLIC GENEROSITY		
DEDICATED FUNDS RELATED TO PUBLIC GENEROSITY AT THE BEGINNING OF THE FINANCIAL YEAR	0	
Use		
Carry forward		
DEDICATED FUNDS RELATED TO PUBLIC GENEROSITY AT THE BEGINNING OF THE FINANCIAL YEAR	0	

Analysis of the statement of activities

With the exception of material specifying carried forward non-dedicated, unused resources related to public generosity, the information contained in the annual statement of activities of resources collected from the general public in accordance with Act no. 91-772 of August 7, 1991 corresponds strictly to the information relating to public generosity listed in the profit and loss account by origin and destination.

Carried forward resources related to public generosity, excluding dedicated funds, specify the corresponding amounts at the beginning and at the end of the financial year. The amount of carried forward resources related to public generosity, excluding dedicated funds, at the beginning of the financial year is equal to the balance of available equity collected from the general public, minus net carrying amount of fixed assets or fractions of fixed assets funded from these resources over previous financial years.

Carried forward resources related to public generosity excluding dedicated funds at the end of the financial year take into account the surplus or deficit related to public generosity for the year and the net investments and disinvestments financed by public generosity for the year, which are specified.

The section "Net investments and disinvestments related to public generosity" is deducted from the carried forward resources related to public generosity and includes:

- the amount of fixed assets or shares of gross fixed assets acquired during the financial year using resources collected from public generosity ;
- minus depreciation charges on fixed assets or shares of fixed assets acquired through resources collected from public generosity and recorded during the financial year ;
- minus the sale price of fixed assets or shares of fixed assets acquired through resources collected from public generosity.

Resources by origin include the only resources related to public generosity, composed of:

- contributions without counterpart ;
- manual donations including income received from sales of donations in kind, as well as legacies, donations, life insurances and donations made within the framework of the sponsorship scheme ;

• other resources related to public generosity, including the shares received from other organizations and income generated by assets derived from appeals to public generosity in addition to the profit/loss on disposal of assets, except those derived from legacies or donations before the date of acceptance of the legacies by the authorized body, or before the commencement date whichever is later, or before the date of signature of the authentic act of donation.

To this total of resources for the year must be added the share of reversals of provisions and depreciation related to public generosity, and the use of dedicated funds from prior financial years.

The principles that underpin cost assignments are :

- Unallocated resources related to public generosity are assigned as a priority to cover social missions, after deducting operating expenses representing 10% ;
- In the event that a remaining amount exists, it is allocated to fund fixed assets allocated to social missions, then operating costs and lastly, fundraising expenses.

The new balance of resources collected from the general public and unused at the beginning of the 2021 financial year was calculated by applying the same rules as those mentioned above. The result is an opening balance of €421,013 on January 1, 2021.

In 2021, resources related to public generosity amounting to €1,591,143 funded the Foundation's social missions (€1,230,895) and operating costs (€157,114).

The excess financing of €203,134 was added to the balance of previous financial years to reach a total carry forward of €.



