

ORION

UNDERWATER BOTANIC GARDEN



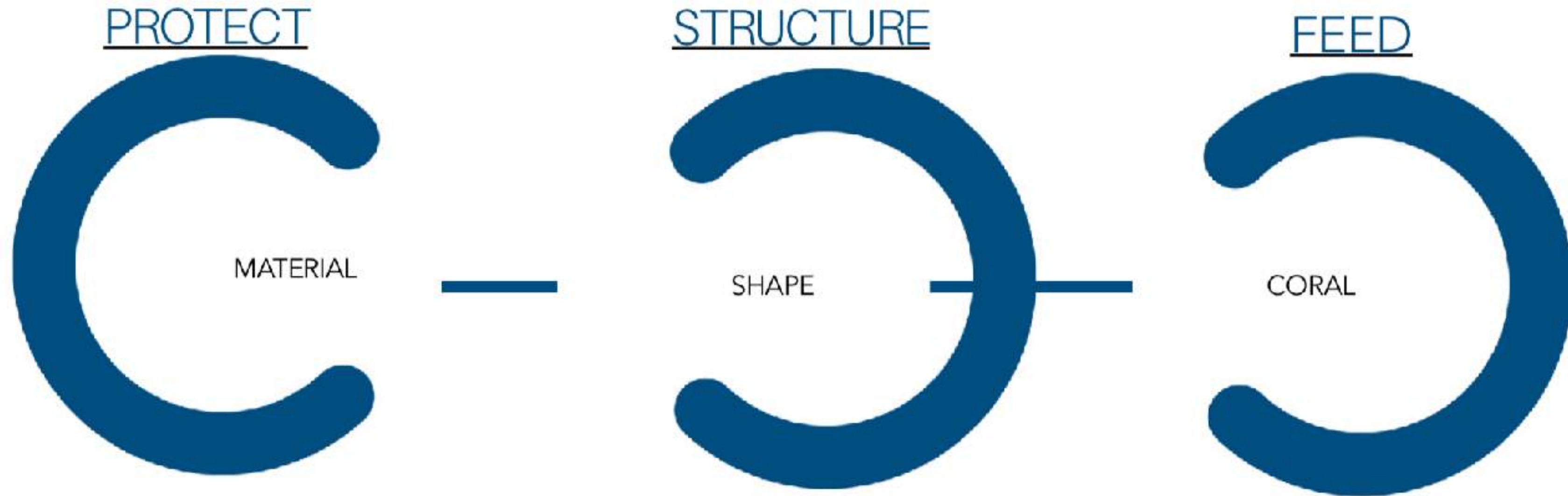
ORION is the first underwater botanic garden combining biology, art and the development of the local economy.

By fitting in the ocean structures produced thanks to the 3D printer, this project will allow the development of a new life unit, constituting the first scientific laboratory devoted to the marine fauna and flora development.

AIMS OF THE PROJECT

- Produce a sustainable living by recreating the barrier reef
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- Recreate an ecosystem to pursue marine life
-
- Developing local economy through the aquaculture.

HOW DOES IT WORK ?



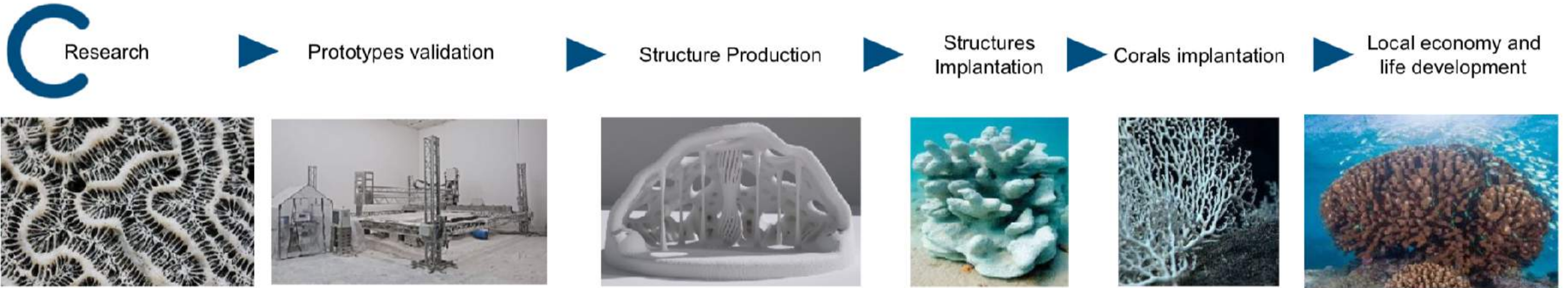
Research for materials able to coexist with the diversity and complexity of the underwater ecosystem

Production of original structure thanks to the 3D Shape printer innovative system

Corals implantation for the development of a new life unit



HOW DOES IT WORK ?





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The Nature Conservancy





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model_L3

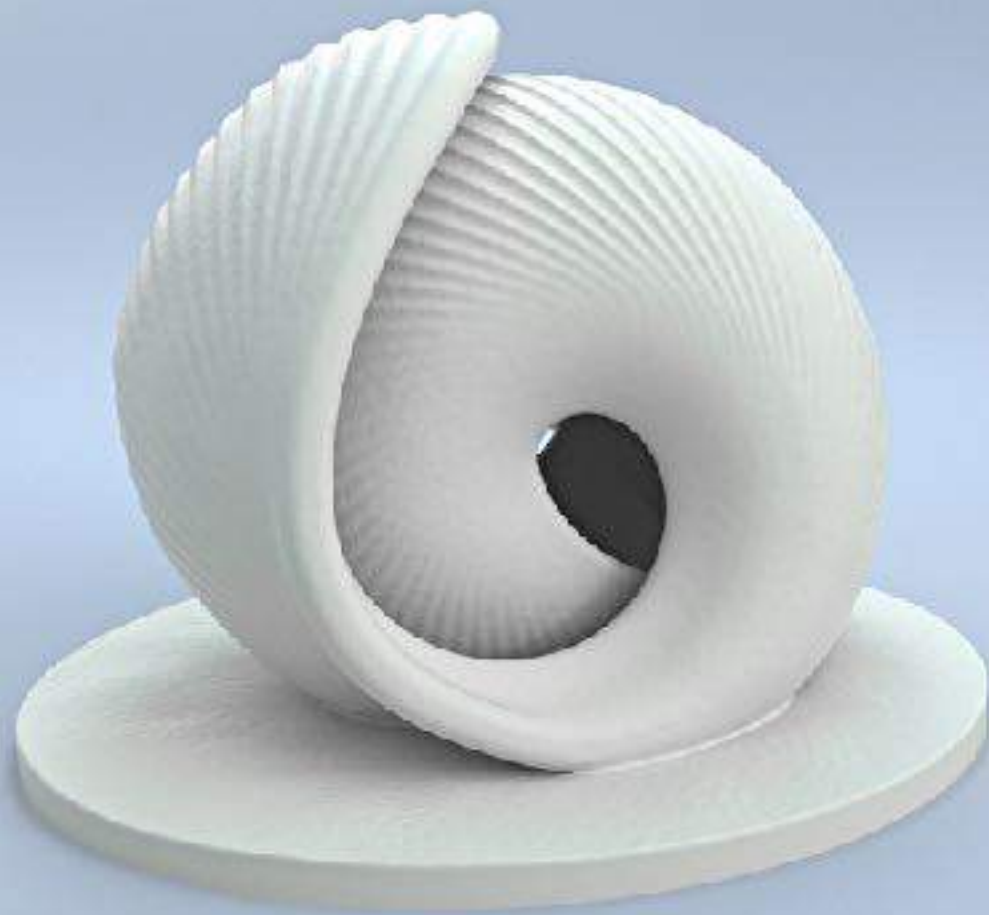
flower



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model_L4

cave



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model_L1

shell



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model_L2

wave





COST BREAKDOWN	COST
3D PRINTER RENTAL	150 000€
MATERIAL	180 000€
SET UP OF INSTALLATION	200 000€
WORKFORCE	90 000€
ARTIST ORDER + 3D	160 000€
TEAM ORGANISATION EXPENSE	190 000€
TOTAL (not including VAT)	970 000€

This budget is based on the following expenses, shortly explained here below:

- **3D PRINTER RENTAL**

Price offer received by Dshape and Monolite comprehensive of the full four instalments.

- **MATERIAL**

Layering material aggregates ranging from 0,2 up to 5 mm Printing liquids:

Option a) water and pozzolanic mortar

Option b) water and Calcium Oxide

Option c) Magnesium chlorine solution and Magnesium Oxyde

- **SET UP OF INSTALLATION**

Monolite 's personnel will install the printer, assisted by at least one of trusted technician from our staff who will be taught the use of the printer under the conditions established below.

Monolite shall be responsible for the strict observance of the Act on Occupational Risk Prevention, in everything related to the regulations in force for the construction industry as well as for the compliance with legal and regulatory provisions on Health & Safety established by law at any moment.

Monolite 's personnel will train they technician on the job. Testing will consist in performing one full printing session of artificial reefs of various sizes and shapes.



WEBSITE
PROJECT 's ORION

Blockchain /Information/
Cryptocurrency

Team developer

Team Orion

Team Artiste

Team scientific

ORION'S
TOKEN



FINANCE STRUCTURES



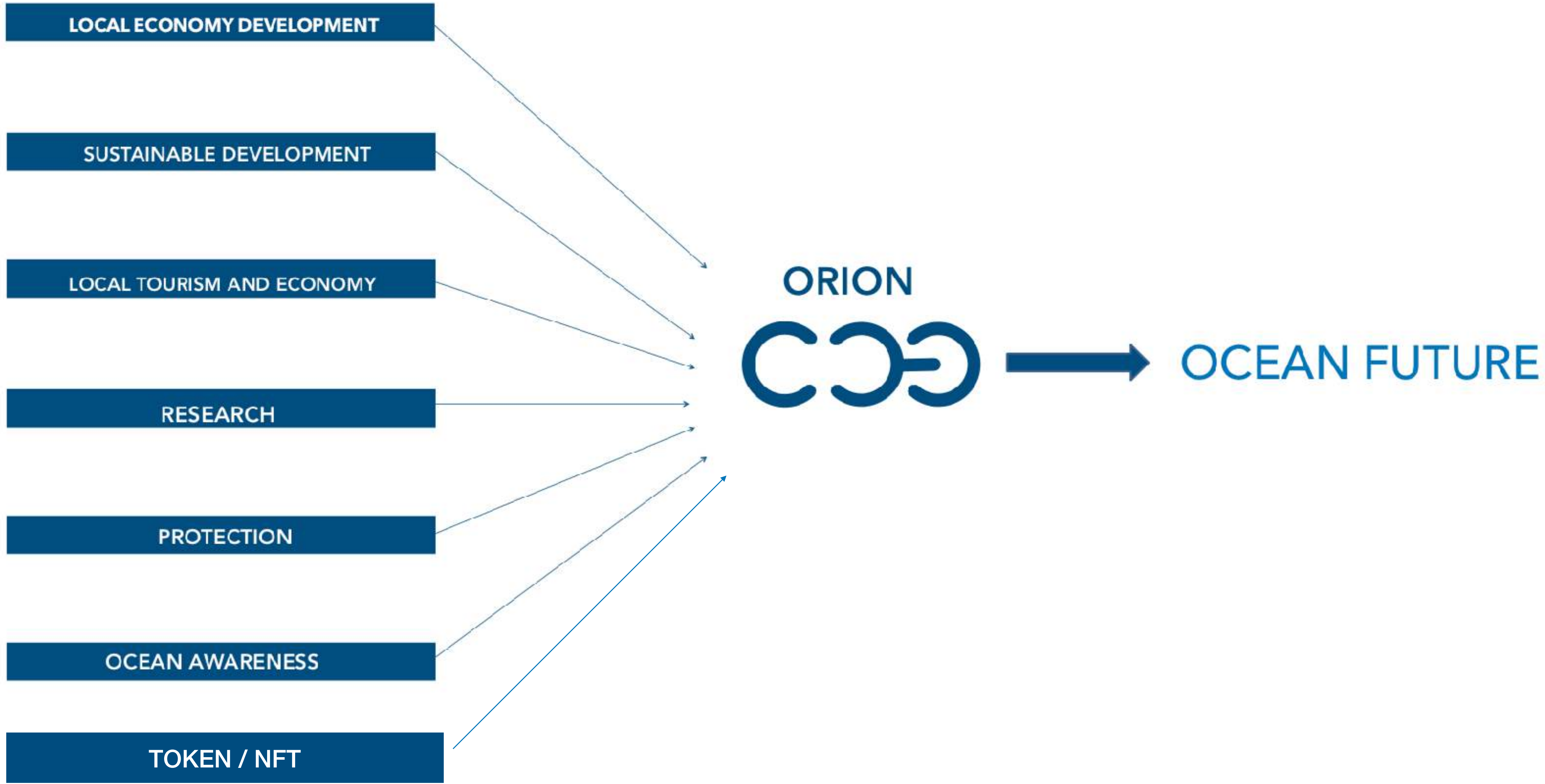
FINANCE CORALS

NFT



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Research

There is a positive link between topographic complexity and biodiversity. Thus, marine areas with high complex habitats hosts a greater species diversity.

In order to determine the necessary components for the ideal development of an ecosystem, preliminary research will be conducted on marine habitats and species colonisation. Results will allow the identification of the organic material to be used for structure construction





A new artificial reefs generation thanks to the D-Shape 3D printer technology

ORION has been developed in partnership with the Italian society D-Shape, pioneer in the artificial reef production from organic component and printed in 3D. D-Shape looks like a giant robot able to print any kind of large building. It is composed of a print head supported by four aluminium pylons between which the drawn object will be shaped from its base upwards. Construction is made by a layer deposit as well as an organic binder producing the intended volume.

Like antennas, each structure will protect life and nourish its own ecosystem.



3D Shape printer in process of producing an artificial reef

C Corail Implantation

Once structures settled will be add corals from the Red sea and resistant to the warmest water in the world. Thanks to their specific genetic heritage, they keep the memory of their environment and adapt better to the global warming. Like an exoskeleton, the coral will feed on high-calcium material to develop. A new ecosystem is on the way.



Artificial reef immersed after coral implantation

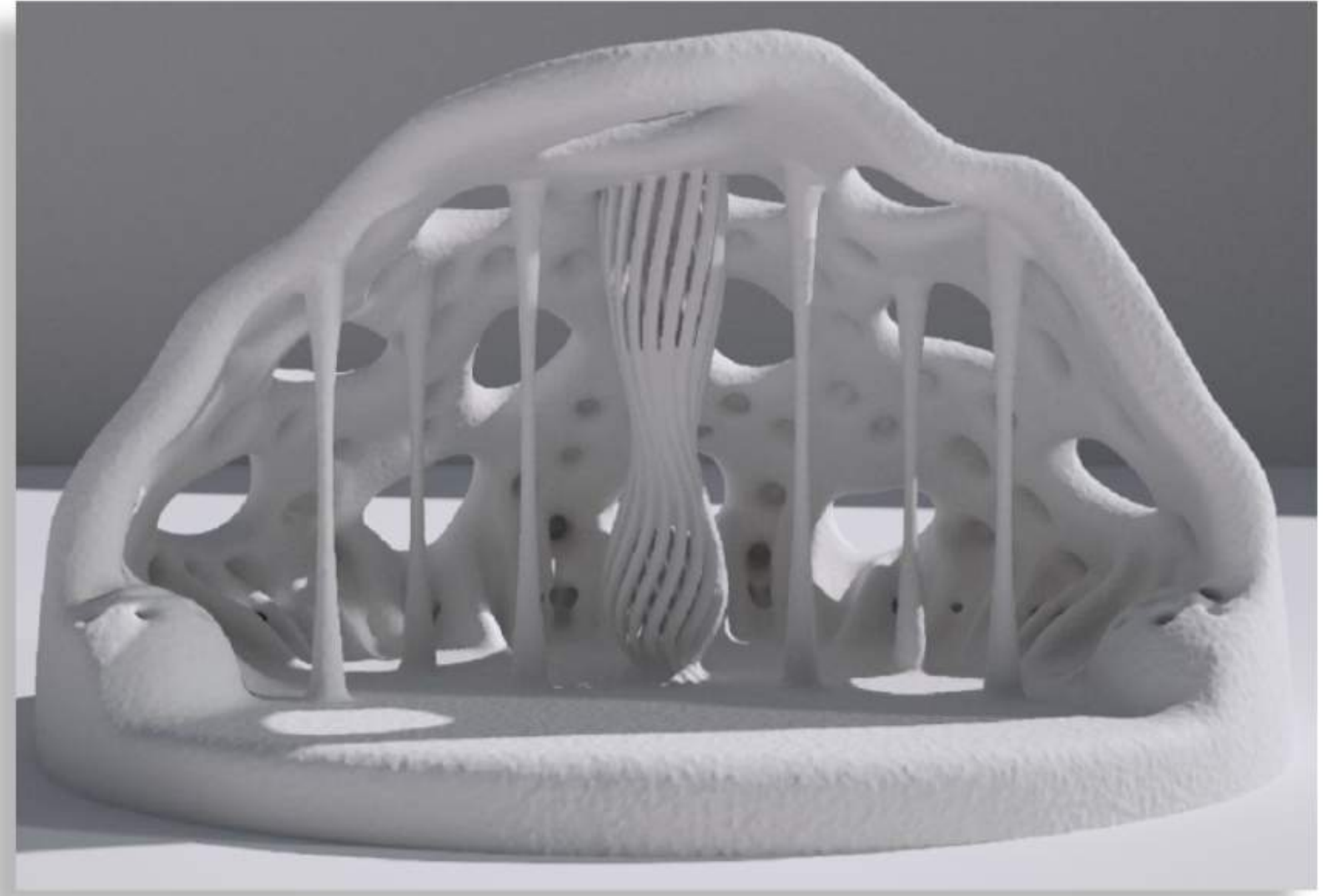




Modular structures created by artists in the service of the marine ecosystem

Structures can take a hundred of different shapes and quantities. Each one of them will be created by an artist, regardless of its specialization in 3D, who will adapt to the specifications of biologists and oceanographers.

This modular creation principle will highlight the distinct identities of the artists but also recreate the marine habitat complexities.



Local economy development

Use resources from the new ecosystem

ORION will also enable to recreate a local economy thanks to the the new-created ecosystem resources. This includes the delimitation of a buffer area devoted to fishing and surrounding the botanic garden. More broadly, it will allow the aquaculture development, such as oyster culture and algaculture.



ORION TEAM



FOUNDER

ALEXANDRE JAMIN

Alexandre Jamin discovers the underwater world from childhood and by the same token the aspect of the light and the contrast of colors under the depths. After studying photography and computer science, he shot his first films as an underwater cameraman combining his two passions.

He began his career as a cinematographer and continued as an underwater cameraman, then collaborated on numerous films and projects around the world. In 2016 he directed his first underwater film *Cyu* which won several international awards.

Eager to share more his love for the underwater world and the arts, he has been committed since 2018 to a universal and artistic ecological epic through his project of an underwater botanic garden "ORION".

ORION will be the first underwater botanic garden connecting science, art and nature. Giving a new life to the marine ecosystem, it will perpetuate life and recreate the symbiosis between man and nature.

Alexandre Jamin/ Team Orion



SCIENTIST

PROF. AVIGDOR ABELSON

A marine ecologist, Prof. Abelson's primary focus is advancing marine environmental issues through research, conservation, planification and consultancy for governmental and non-governmental organisations all over the world.

His main goal is to stop the alarming degradation of marine ecosystems and promote its benefits toward humans. He is also working on solutions for a sustainable exploitation of the sea as a food supply and alternative livelihoods for fishers and all the players of the maritime economy.

"We truly believe that the ORION project has the amazing potential of creating artificial reefs, offsetting the ecosystem services and nourishing the food supply through other fishing spots."

One of the key factors in successfully halting reef degradation lies in creating alternative livelihoods for local parties, but also changing the overall attitude of the community through education and public awareness."

Prof. Avigdor Abelson.



ORION TEAM



BIOLOGIST

THOMAS PAVY

Thomas is an expert in the coastal environment management. From 2015 to 2017, he was in charge of the environmental development operations of Pangatalan Sustainable Island in Philippines, created in 2012 by the Sulubaaï foundation.

In 2018, Thomas decided to found Seastem with the aim to provide others institutions with his experiences and knowledge through programs on sustainability development in coastal areas.



INGENIEER

ENRICO DINI

Enrico Dini, an Italian engineer, created the D-Shape printer in 2005 by modifying the machines of the shoes factory where he worked, using a robotic arm to print in 3D with resin and sand. Dini's actions following this event may have shaped the future of 3D printing.



BIOLOGIST

ELISABETH RIERA

Elisabeth holds a PhD in artificial reefs, result of four years of research first in Master then at the Doctoral School (co-directed (co-directed by Professor Patrice Francour, ECOSEAS-University Côte d'Azur laboratory and Doctor Cédric Hubas, UMR BOREA-National Museum of Natural History).

Her research works, directly linked to the reefs produced with a 3D printer immersed in the Larvotto Marine Protected Area, highlighted the intrinsic characteristics to be taken into account for any artificial reef immersion project and the related methods.

ORION TEAM



BIOLOGIST
MATHIEU ORIOT



UNITED NATION HUMAN
RIGHT RESEARCHER
CHARLENE BUISSON



BUSINESS
CONSULTANT
JADE BOUCHEMIT

