# PLASTIC Sodyssey





Aboard The First Vessel That Turns Plastic Waste Into Fuel

#### The Round-the-world Expedition To Protect The Ocean



# **SUMMARY**

I. PLASTIC POLLUTION	P.4-6	V. PROJECT PHASES	P.20-22
The Illusion of Cleaning Solutions are Ashore	P.5 P.6	Ulysse: Proof of Concept Timeline	P.21 P.22
II. PROJECT	P.7-13	VI. OUR PARTNERS	P.23-24
Vision Reduce Recycle	P.8 P.9 P.10	VII. MEDIA	P.25-27
Energy Recovery Vessel	P.11 P.12	Content Coverage 2018-2020	P.26 P.27
Expedition III. SCALING UP	P.13 <b>P.14-16</b>	VII. TESTIMONIALS	P.28
Social Entrepreneurship Use Cases	P.15 P.16	VII. CONTACTS	P.29
IV. TEAM	P.17-19		
Members Supporters	P.18 P.19		



# I. PLASTIC POLLUTION

# - PLASTIC



### **I. PLASTIC POLLUTION** THE ILLUSION OF CLEANING

### To fight against plastic pollution at sea, we must act ashore

Plastic Everywhere

Every minute, 20 tons of plastic end up in the Ocean, and every week we swallow an average of 5 grams of this plastic.<sup>(1)</sup>

Impossible Cleaning

When dumped into nature, plastic waste breaks down into fragments, which then become unrecoverable microparticles. <sup>(2)</sup>

lastic waste inputs from land into the ocean - Jenna Jambeck et al. Science 347, 768 (2015) (cf Anne

(2) A global inventory of small floating plastic debris -Erik van Sebille et al 2015 Environ. Res. Lett. 10 124006

#### Turning Off The Tap of Plastic Pollution

**90%** of marine pollution comes from coastal cities of **32 countries**. <sup>(1)</sup>





### **I. PLASTIC POLLUTION SOLUTIONS ARE ASHORE**

# Clean up the past, and build the future



# **RECYCLE &** RECOVER Cleaning up past mistakes Recycling 1 out of 2 plastic wastes in the 32 most polluting countries would avoid over 45% of the Ocean's pollution. (1)

(1) Plastic waste inputs from land into the ocean - Jenna Jambeck et al. Science 347, 768 (2015)



#### REDUCE

#### Building tomorrow's world

Reducing the production of waste to 1.7 kg per day and per inhabitant would avoid 26% of Ocean pollution.



#### ≍ II. PROJECT





# II. PROJECT | VISION

#### Small Scale, Large Impact

Locally designed solutions to generate global impact.





#### Sharing Knowledge

Spread everyone's innovations in open-source to benefit as many people as possible.

# II. PROJECT | REDUCE



#### Involve companies and industrials to reduce the use of plastic.

use of plastic.



Zero-waste kitchen, cabins, and bathrooms are used to test solutions easily replicable in hotels and restaurants.



#### **Promoting alternatives to plastic**

TUR SHIT OUUS



#### The vessel's fore part is dedicated to the testing and display of alternatives to the



The vessel's conference room presents a travelling and evolving exhibition of materials that can replace plastic at the industrial level.

-

#### **On-board plastic reduction showroom**

- PLASTIC SODYSSEY



BUILD

#### II. PROJECT



On-board recycling workshop

#### An Open-Source Approach

The machines' blueprints will be shared on a collaborative platform to be improved and used by as many people as possible.

#### Easy To Use, Patent-Free, And Human-Sized Tools.

For plastic waste to be recycled, several steps are necessary. Plastic Odyssey is developing a set of machines to perform each of these steps. Inspired by solutions that work in the field and improved with the technical expertise of our community, these machines are destined for in-land-based waste treatment centers.

Extruder for into new objects



Thanks to these machines, for example, the child's toy becomes a basin, the can becomes a roof tile, and the bottle becomes thermal insulation.

#### Design low-tech recycling machines to process waste







#### **II. PROJECT ENERGY RECOVERY**

#### A Full-Scale Demonstrator

To prove that waste holds value, the Plastic Odyssey ship is taking several recovery machines on board for testing and demonstration purposes.

directly on board.



#### The Journey Of Waste During Stopovers

#### Collect

collected plastic to demonstrate and sort plastic waste ashore before using it on the vessel. the operation and utility of each machine.



The first vessel that turns plastic into fuel

Among these machines, **on-board pyrolysis** will be used during stopovers to produce fuel consumable

Pyrolysis is a process that consists of heating plastic without oxygen to break down long polymer molecules (in solid form) into lighter ones (liquid and gas): With 1Kg of plastic, we can obtain up to 1L of fuel, diesel, and petrol.

#### Recycle

#### Produce Fuel

with non-recyclable plastic with the onboard pyrolysis, for storage and use onboard.















Length: 128 feet Width: 31 feet Gross tonnage: 464 UMS Engines: 736 kW

### A unique tool to experiment and promote solutions in the field

#### Technical characteristics of the vessel

Crew: 7 Technical and scientific personnel: 7 Media team: 3 Guests: 2



#### II. PROJECT | EXPEDITION

#### **Stopovers' Objectives**



**Gather** engineers, investors, entrepreneurs, and decision-makers



#### **Course Of The Expedition**

#### Two types of stopovers

Long (?) Duration: 3 weeks Actions: press conferences, official visits, demonstration workshops, field studies, collaboration with local waste management ecosystems...

Short (•) Duration: 3 to 7 days Actions: press conference, waste collection on an island or in an isolated town to fill up the vessel with plastic and reach the next stopover.



### Over 30 main stopovers across 3 continents

**Experiment** and develop technologies





# - PLASTIC Sodyssey

#### PLASTIC SODYSSEY



### III. SCALING UP SOCIAL ENTREPRENEURSHIP

### Developing local entrepreneurship of recycling and reduction to generate jobs

In the long term, projects can be deployed and supported on the field. This stage follows the stopovers, thanks to the data and contacts gathered during the expedition.

This phase of development will require complementary financing to that of the expedition and will be carried out in a different time frame than the expedition itself.

Expedition



Plastic Odyssey's ambition is to promote the development of small recycling and reduction companies in developing countries (where the problem of waste is constantly growing), to train entrepreneurs, generate local employment, and stimulate the autonomy of emerging cities.

Scale up

**Find** successful existing models and document them.

**Encourage the development** of profitable recycling microfactories.





**Support entrepreneurs** towards independence and professionalization

# III. SCALING UP USE CASES

### Initiatives do exist, and they deserve to be supported, promoted, and shared $\, \mathbb{P}$



ALGRAMO - Chile Offers a retail network for bulk products through stores and vending machines, which reduces costs for both the consumer and the retailer.

How one Chilean startup is bringing an end to single-use plastics - The Guardian - 04/07/2018



CONCEPTOS PLÁSTICOS - Colombia Transforms plastic waste into building materials to improve waste management and provide accessible and sustainable housing for lowincome communities.

(fr) En Côte d'Ivoire, des écoles en plastique recyclé - Le Monde Afrique 09/09/2019





#### NETPLAST- Ghana

Recycles plastic bags into paving stones that serve to build roads and bricks for houses. Paving stones are more resistant than pavings made out of concrete and are sold 30% less than conventional ones.

(fr) Ghana : entre addiction au plastique et innovations dans le recyclage - Le Monde 04/08/2020



SCARAB TECH - South Africa Builds and operates small pyrolysis units to treat waste and provide off-grid electricity.

The Dung Beetle Project Converts Waste Plastic to Useful Energy - allianceearth.org



# ≍ IV. TEAM

# - PLASTIC







#### Simon BERNARD - CEO

Trained as a Merchant Navy officer, Simon was the driving force behind the idea of the project of which he is now president. Speaker at major conferences, he is the project's spokesperson. Simon performed a TEDx on Plastic Odyssey in 2019.

### Alexandre DECHELOTTE - CCO

Trained as a Merchant Navy officer, Alexandre cofounded Plastic Odyssey and now leads the project's Communications. He is the privileged contact for the project's partners, with whom he works to undertake concrete actions to lead the project forward.



Joël PAIN Managing Director



Tom BÉBIEN Recycling Manager





### **Bob VRIGNAUD -** CTO

Engineer experienced in processes but also in social entrepreneurship, Bob co-founded the Plastic Odyssey project and now manages its R&D. He is the privileged contact for the project's technical partners that he brings together to share knowledge and expertise and to find solutions to the plastic pollution problem.





Chloé LEGRAND Community Manager

Charlotte BOYER CHAMMARD Stopover Manager



18

# IV. TEAM **SUPPORTERS**

Support Committee



**Brune POIRSON** 

Former French Secretary of State, Vice-President of the United Nations Environmental Assembly

**Guillaume BRIANT** Associate Lawyer Stephenson Harwood AARPI



Marc VAN PETEGHEM Naval architect, Founder of VPLP, co-founder of Watever

### Ambassadors



**Guillaume NERY** French Freediver





**Didier LE BRET** French Diplomat, Former Ambassador Partner at ESL & Network



Patricia RICARD President of the Oceanographic Institut Paul Ricard



**Roland JOURDAIN** Sailor, co-founder of the Explore Endowment Fund



Alice DAVID Actress



Cyrielle HARIEL French Journalist





19



# - PLASTIC



F

 $\square$ 

#### SPLASTIC SODYSSEY

0

· He

ANC

BUILD THE FUTUR

LOCCITANE

.

CLARIN



### V. PROJECT PHASES ULYSSE: PROOF OF CONCEPT

#### 2018 - Proof of Concept: the prototype of Plastic Odyssey

Built in Concarneau by our team, in the Explore workshops, Ulysse, the prototype vessel, was inaugurated by Brune POIRSON and Roland JOURDAIN. Ulysse is the first ship in the world to carry a pyrolysis machine that produces its own fuel. A tour of France was carried out to participate in the biggest nautical and innovative events, then the ship closed the season on the rooftop of the Galeries Lafayette in Paris. The first stage of a worldwide adventure with international media coverage.

#### Construction and Inauguration by Brune POIRSON



Sea trials in Concarneau









#### **Press Conference** on the rooftop of the Galeries Lafayette, Paris.



21

# V. PROJECT PHASES | TIMELINE





#### Expedition





22

#### ~ **VI. OUR PARTNERS**

Simon BERNARD alongside Reinold and Adrien GEIGER (L'Occitane en Provence - partenaire principal)

# - PLASTIC



#### Plastic Odyssey can have a colossal impact. Their idea made us dream

Adrien Geiger on BFM Business TV Group Sustainability Officer of L'Occitane en Provence - main partner

> PLASTIC SODISSEY







# Main Partner S L'OCCITANE EN PROVENCE

# Social Partners

**ENOWE** 

BIODERMA

An Expedition Under The High Patronage Of The



MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE ET SOLIDAIRE









## VII. MEDIA





#### Web series

Object	Expedition diary for an immersion in the daily life of the team
Broadcasting	YouTube channel, Pure Player Web, media partners

#### Writings

Purpose	Academic articles bringing together learning and Plastic Odyssey methodology Expedition diary recorded by the founders relating the adventure (partners exclusivity) Comic book recounting the stakes of plastic pollution and Plastic Odyssey's raison d'être.
Broadcasting	Website, Medium, Social networks, print publication



#### **Events**

Purpose Broadcasting Conferences and workshops, official visits

Live broadcasting of the expedition's highlights on social networks

#### **Documentary series and TV reports**

Subject	Coverage of Plastic Odyssey's stopovers and shore actions
Broadcasting	Prime time national TV channel and international distribution
Producers	Bonne Pioche, TF1, France TV

tion

26

### VII. MEDIA COVERAGE 2018-2020











# VIII. TESTIMONIALS



**Brune POIRSON** Secretary of State for Ecology and Vice-President of the United Nations Environment Program



Nicolas GOMART Director and Vice-President of the MATMUT Group



Marie LE ROY Marketing Director Europe of L'Occitane

# $\mathbf{\dot{s}}^{\mathsf{PLASTIC}}_{\mathbf{SODYSSEY}}$

#### Brune Poirson 🤣 @brunepoirson · 17 mai

C & Heureuse de retrouver les membres de @PlasticOdyssey au #VivaTech !

Leur projet ? Une expédition à bord d'un navire laboratoire du #recyclage des déchets marins, de leur valorisation et de la réduction de la *#pollutionplastique*. Une équipe de pionniers ! 💭

Nicolas Gomart 🥺 @NicolasGomart · 15 mai Contribuer à lutter contre le #7eContinent grâce à une #innovation pragmatique et frugale. Une belle ambition que la @Matmut, partenaire de @PlasticOdyssey, soutient avec enthousiasme <u>#PollutionPlastique</u>@VivaTech

Marie Le Roy @missmarieleroy · 15 mai  $\sim$ Very inspiring project and partnership between @LOccitane\_FR and @PlasticOdyssey, a committed #startup fighting against plastic waste 👍 🚈 🗲 @simn\_bernard #proudofmycompany





























### ► VII. CONTACT

#### INFORMATIONS

expedition@plasticodyssey.org

#### PRESS DEPARTMENT

Alexandre DECHELOTTE - CCO +33 6 77 73 56 37 press@plasticodyssey.org

(in) Plastic Odyssey



Ū

@plasticodyssey

@PlasticOdyssey

@plasticodyssey

## PLASTIC Sodyssey



# PLASTIC ODYSSEY

www.plasticodyssey.org

