



RIVER CLEANING

An energy-free, floating barrier to clean rivers and prevent plastic from reaching oceans



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Business overview



What?

Our mission is to **reduce and prevent** pollution with a **long-term** solution that works almost **everywhere**.



Why?

Plastic and oil pollution are endangering natural resources and ecosystems. They are directly linked with revenue losses and remediation costs.



How?

We have developed a modular barrier that collects waste autonomously within every type of flowing water, with almost no energy consumption.



Company

Italy-based SME with 15 years background in 3D design, molding and prototyping. Relevant expertise in mechanical engineering, sales, marketing and international market entry strategy.

Problem

Broader framework:

- **400 mln tons** of plastic per year, **2,5x** increase by 2050 (**more plastic than fish in the ocean**)
- **80%** waste is mismanaged = extremely likely to be **dispersed** in the environment
- **80%** of marine pollution is carried by **1500+ rivers**



Sector pains:

Economic

Costs for the global economy: **370 billion \$/year** (tourism, fisheries & aquaculture, health, plastic value chain, remediation)

Environmental

Loss of biodiversity, contaminated waters, micro & nanoplastic, endangered ecosystems

Social

Loss of accessibility to public places, loss of accessibility to clean water, unlivable areas, poverty exacerbation

Solution

Functioning principle:

- The River Cleaning barriers stop waste **in transit**, within rivers, **before it reaches the oceans**.
- This gear chain-like barrier is positioned diagonally and **each module spins** according to the **water current**.
- The spinning motion **funnels the litter** located on the surface and in the 35 cm below towards a **collection cage**.

Use case:

- ☐ In **rivers** near highly populated areas/**river mouths**
- ☐ In **channels** crossing cities
- ☐ Before **powerplants**
- To do **cost-effective** cleanups
- To **collect** raw **materials** that can be **recycled/reused**



Market and Opportunity

“Prevent harm” track

→ **River Cleanups**: **12 bln** \$, estimated CAGR 8% (by 2025)

→ **Blue Economy**: **2,5 trn** \$, estimated CAGR 13% (by 2030)

“Rebuild value” track

→ **Decarbonisation/plastic credits**: **748 mln** \$, estimated 2,5 bln \$ in 2025

→ **CRM business**: expected **20.000+** tons/year



Why does it work as a business?

- Favorable institutional framework and policies (+825% in budgeted cleanup initiatives in 2019-20)
- High scalability of technological solutions
- Net, measurable, immediate impact
- Synergies, circular business models, local job creation

Competition

Technology Comparative Chart

EXAMINED VARIABLES	RIVER CLEANING	INTERCEPTORS (TOC)	BLUE BARRIERS (SEADS)	BUBBLE BARRIERS (MAELSTROM)	PLASTIC FISCHER
Range of applications	★ ★ ★	★ ★	★ ★	★ ★	★ ★
Long-term 24/7 operations	★ ★ ★	★	★ ★ ★	★ ★	★ ★ ★
O&M needs	★ ★ ★	★ ★	★ ★	★ ★	★
Waste collection automation	★ ★ ★	★ ★ ★	★ ★	★ ★	★
Remote control and monitoring	★ ★ ★	★ ★ ★	★	★ ★ ★	★ ★ ★
Passage of vessels	★ ★ ★	★ ★	★ ★	★ ★ ★	★
Energy requirements	★ ★ ★	★ ★	★ ★ ★	★	★ ★ ★
Cost of production	★ ★	★ ★	★ ★ ★	★	★ ★ ★
Brand strenght	★ ★	★ ★ ★	★	★ ★	★ ★



Technology/Product

2019

First patent granted

2020

First prototypes

2021

First pilot project

2022

MVP RC Plastic v4.22

2023

RC Plastic completed

2024

RC Oil pilot



RC Plastic

TRL 6

Next: positioning sensor array to ease the passage of vessels



RC Plastic v4.22

TRL 7

Next: object recognition and remote control



RC Plastic Oil

TRL 2

Next: lab scale prototypes

Value proposition

Unique Selling Proposition

- Removal of **90%** of litter
- **Fast** installation
- Operates **without** personnel **24/7**
- Can **allow boats** through
- Any brand or logo can be **displayed**
- **No energy** needed
- Performances remain **consistent** under different conditions

Willingness To Pay

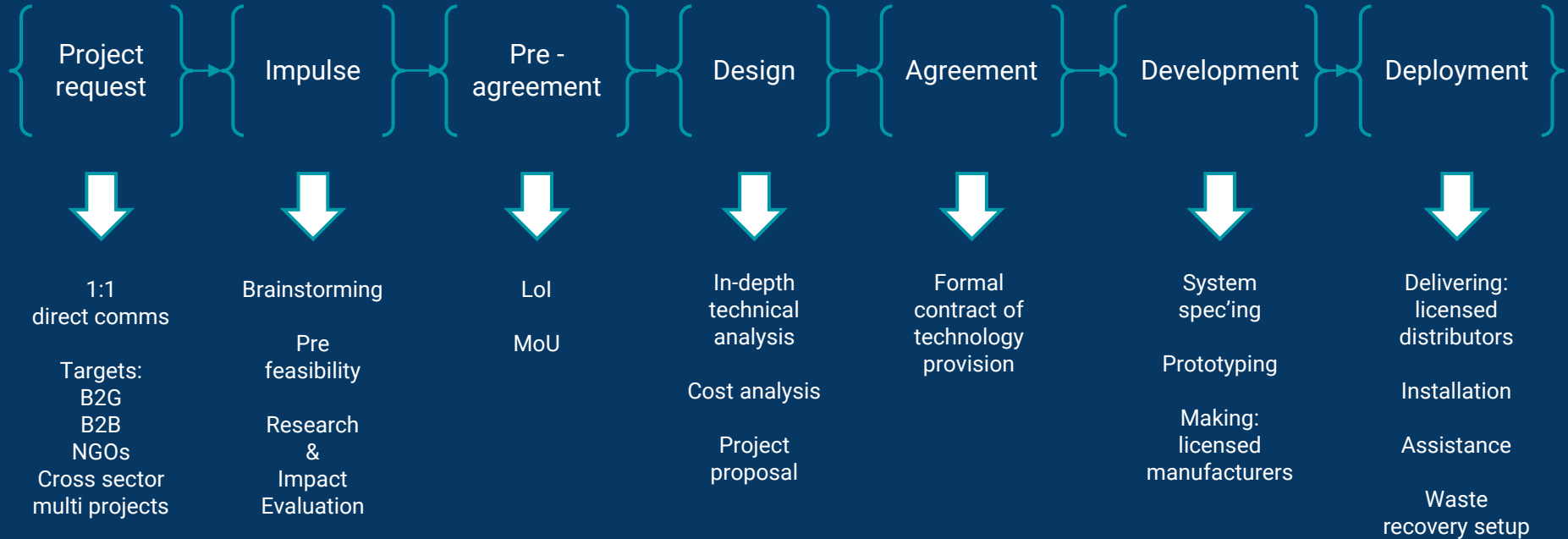
- **Efficient, eco-friendly** cleanup operations
- **Lower risk** of **floods** due to clogging
- Cost effective **rehabilitation** of riverine areas
- Plastic litter **traceability** and access to **data**
- Access to **recycling** stock
- Cleaner rivers benefit **cities** and **communities**
- **Reduction** of remediation **costs** for governments and municipalities

Broader Impact



Business model

Mold's workflow



Financials and Market roll-out

	2022	2023	2024	2025	2026	2027	2028	2029
Revenue -k €	50	200	500	864	2160	6480	12960	18360
COGS -k €	-25	-118	-226	-624	-1074	-2682	-5040	-6915
Gross profit -k €	25	82	274	240	1086	3798	7920	11445
OPEX -k €	-695	-1487	-2005	-2505	-1576	-1664	-1717	-1625
EBIT -k €	-720	-1455	-1781	-2315	-540	2083	6152	9769

Target areas

Italy

+Europe

+Asia

+Africa and LATAM

Customer segmentation

40% Municipal and prefectural govts. / 55% Private companies for marketing and compensation purposes / 5% NGOs

Team



Vanni Covolo
CEO, CTO &
Co-Founder



Patrizia Mottola
Admin & Sales
Manager



Nicola Rubini
PM & BDO



Ludovica Pozza
Marketing Officer



Marcello Bianco
Digital Media
Manager



Denise Bertollo
Communication
Officer



Nicole Faggion
Content Creator



Solanyi Gutierrez
Marketing
Specialist



Janaina Da Silva
PR Specialist

Milestones

Traction



- ★ 2 running systems
- ★ 2 signed contracts
- ★ 8 LoIs & MoUs
- ★ 4 PCT patents
- ★ 1 HE project
- ★ 2 University partnerships
- ★ € 500k early stage funding

Achievements and awards



Venice
Sustainability
Innovation
Accelerator



Financial needs



- € 450k for R&D
- € 650k for manufacturing
- € 850k market entry
- € 450k for marketing & exploitation

International events

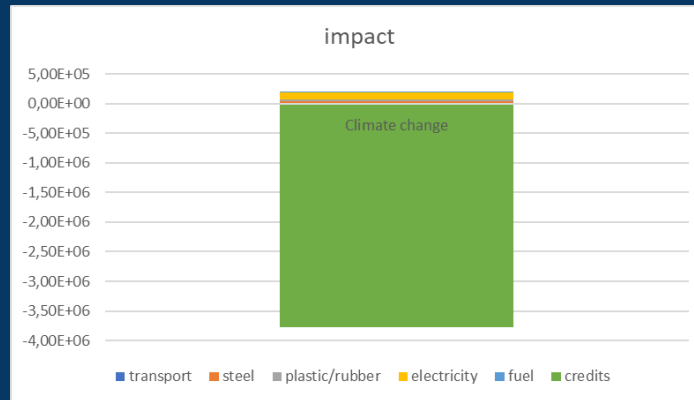
- ★ Ecomondo Expo, **Rimini**
- ★ EU SMEs Delegation in Vietnam, **Ho Chi Mihn City**
- ★ “Removal of Marine Litter and Circular Economy” International Conference, **Venice**
- ★ “Breaking The Surface: Ocean monitoring and protection technologies” International Conference, **Croatia**

Sustainability

bERP Matrix*

Phase	GHG Impact Rating
Raw materials	+
Manufacturing	++
Distribution	0/+
Use	++
End of life	+

LCA Modeling**



mERP*

At market volume:

Total energy savings:
11.231.600 kWh/year

Total GHG Reduction:
7649 Mt CO2e/year

* Compared to TOC's Interceptors as a baseline technology.

** Results related to the Jakarta waterways case study. Outputs may vary according to the location.

...And that's all Folks!

Thank you for your attention!

📍 Via Asiago, 77 36022 Cassola (VI) Italy

✉ info@rivercleaning.com

☎ (+39) 0424 881323

🌐 www.rivercleaning.com

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