XPRIZE WATER SCARCITY

مبـــادرة محمد بن زايد للـــماء
THE MOHAMED BIN ZAYED WATER INITIATIVE

الماء

SEMIFINALIST TEAMS BOOK 2026

XPRIZE WATER SCARCITY

MAY 2026

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Investors and prospective partners are encouraged to connect directly with Semifinalist teams using the contact information listed on each profile page. For general inquiries or support facilitating introductions, please contact waterscarcity@xprize.org.

XPRIZE WATER SCARCITY

مبـــادرة محمد بن زايد للـــماء
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INTRODUCTION

XPRIZE WATER SCARCITY

MAY 2026

FOREWORD

Water scarcity stands among the most defining and urgent challenges of the 21st century. Although water covers more than 70% of Earth's surface, accessible freshwater remains scarce and unevenly distributed. Today, over four billion people experience severe water scarcity for at least one month each year, and pressures are expected to intensify as populations grow, economies expand, and climate impacts increase.

Seawater desalination has the potential to play a significant role in addressing global water scarcity, but limitations in reliability, cost, and sustainability continue to constrain large-scale deployment.

XPRIZE Water Scarcity is a five-year, $119M global competition designed to drive a step change in seawater desalination. The prize aims to accelerate the adoption of desalination as a reliable, affordable, and sustainable water source for communities worldwide.

By uniting scientific excellence, creative engineering, and bold vision, XPRIZE Water Scarcity seeks to redefine how humanity sources freshwater from the sea – transforming seawater desalination from an energy-intensive process into a sustainable solution for the planet's most water-stressed regions.

Through staged testing and validation, including operational demonstrations under real-world conditions, the competition is designed to advance new systems, methods, and materials and to de-risk promising approaches on pathways toward real-world deployment.

This publication provides a global snapshot of the Qualified Teams cohort, the innovations advancing to the Semifinals stage, and the partnership and funding needs teams have identified as they progress.

ABOUT XPRIZE

XPRIZE is the global leader in designing and operating incentive competitions to address humanity's most pressing challenges. By setting bold, measurable targets and opening the problem to innovators from around the world, XPRIZE creates the conditions for breakthrough solutions to emerge, be tested, and move closer to real-world adoption. Its model is built not around rewarding promising ideas alone, but around driving outcomes that can be demonstrated, validated, and ultimately scaled for lasting impact.

At XPRIZE, a breakthrough is not defined simply by a new idea or a moment of discovery. A breakthrough is the process of turning bold thinking into a solution that is dependable, affordable, and built to endure. It must prove itself not only in theory, but in practice – in its ability to perform under real conditions and create meaningful impact beyond the initial innovation. This emphasis on validated performance is central to the XPRIZE approach and reflects a broader commitment to transforming possibility into progress.

As a pioneer of the large-scale incentive prize model, XPRIZE has helped define how breakthrough innovation can be accelerated. XPRIZE designs its competitions with clear outcomes, rigorous evaluation, and the flexibility for diverse approaches to compete on the basis of results. In this way, XPRIZE does more than catalyze ideas: it builds pathways for solutions to be born, built, proven, and positioned to scale. When conventional approaches are too slow, too narrow, or too risk-averse, XPRIZE offers a model that combines audacity with discipline to accelerate global progress.

Within this broader framework, XPRIZE Water Scarcity applies that same philosophy to one of the defining challenges of this century: expanding access to sustainable, affordable water solutions for communities facing increasing water stress. The prize is intended not only to stimulate innovation, but to help surface and validate solutions capable of contributing to a more resilient water future.

COMPETITION PATHWAYS

Through two complementary technical tracks, XPRIZE Water Scarcity brings together innovators developing fully integrated desalination systems as well as those working on breakthrough saltwater separation approaches.

Track A - Desalination: System-Level Innovation

Teams will design and operate a full-scale desalination system capable of reliably and sustainably generating one million liters (1,000m³) of potable water per day from seawater over one year, at the lowest achievable cost to ensure global accessibility. Success will be demonstrated not only through performance but also through the solution's potential for global impact, assessed via its Total Addressable Market (TAM) and achievable lowest cost.

Within Track A, XPRIZE Water Scarcity includes Moonshot Awards to recognize exceptional performance in priority sustainability and system-level metrics. These awards highlight the competition's emphasis on solutions that are not only reliable, affordable, and scalable, but also environmentally responsible and resource efficient.

Moonshot Awards are evaluated during the Semifinals and Finals stages across four focus areas:

Marine-Friendly Intake Design: Minimizing ecological impact by reducing biomass entrainment and impingement at intake, with performance targets approaching near-zero marine life disruption and levels comparable to subsurface intake systems.

Resource Circularity and Brine Management: Maximizing seawater recovery while demonstrating economically viable strategies for brine reduction, reuse, or resource recovery, moving toward circular, low-discharge system configurations.

Energy Efficiency Step Change: Advancing desalination performance toward the theoretical thermodynamic limit of seawater separation, targeting ultra-low specific energy consumption under defined recovery conditions.

Minimal Physical System Footprint: Reducing land-use intensity through compact system architecture, modular design, or offshore deployment strategies that enable scalable desalination in space-constrained coastal environments.

Track B - Desalination: Novel Materials and Methods

Teams will develop and demonstrate novel materials and/or methods for saltwater separation that can sustainably and cost-effectively produce potable water from seawater. This track welcomes advanced pressure-driven membranes as well as emerging non-traditional materials and processes, such as next-generation selective materials or alternative separation mechanisms. Winning solutions will demonstrate energy efficiency, scalability, and operational lifetimes of 10 years or more, either as direct replacements for or as advancements beyond conventional seawater reverse osmosis (SWRO) membranes.

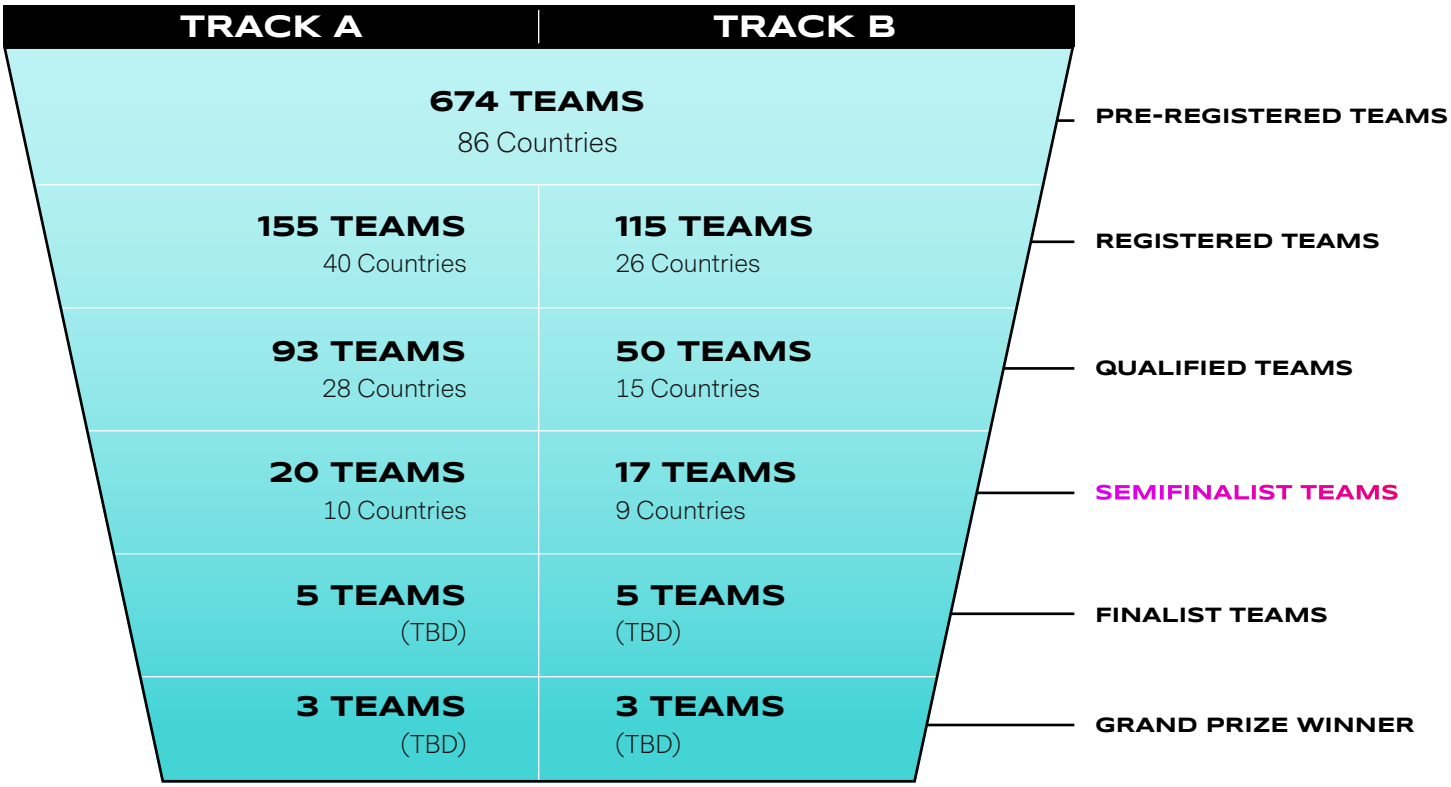
TEAM LANDSCAPE

Since launching in February 2024, XPRIZE Water Scarcity has mobilized innovators and organizations worldwide, with 674 pre-registrations from 86 countries. Teams span multiple sectors, including academic research labs, startups, corporates, non-profits, and independent innovators, bridging traditional boundaries between academia, industry, and civil society.

From this global field, 143 teams from 29 countries progressed to Qualified Team status, advancing from written proposals into operational testing. Through this qualifying phase, teams generated and submitted validated performance data aligned with the competition's core technical criteria. Based on these results, and subsequent review by the competition's independent Judging Panel, 37 teams were selected to advance to the Semifinal stage, including 20 in Track A and 17 in Track B.

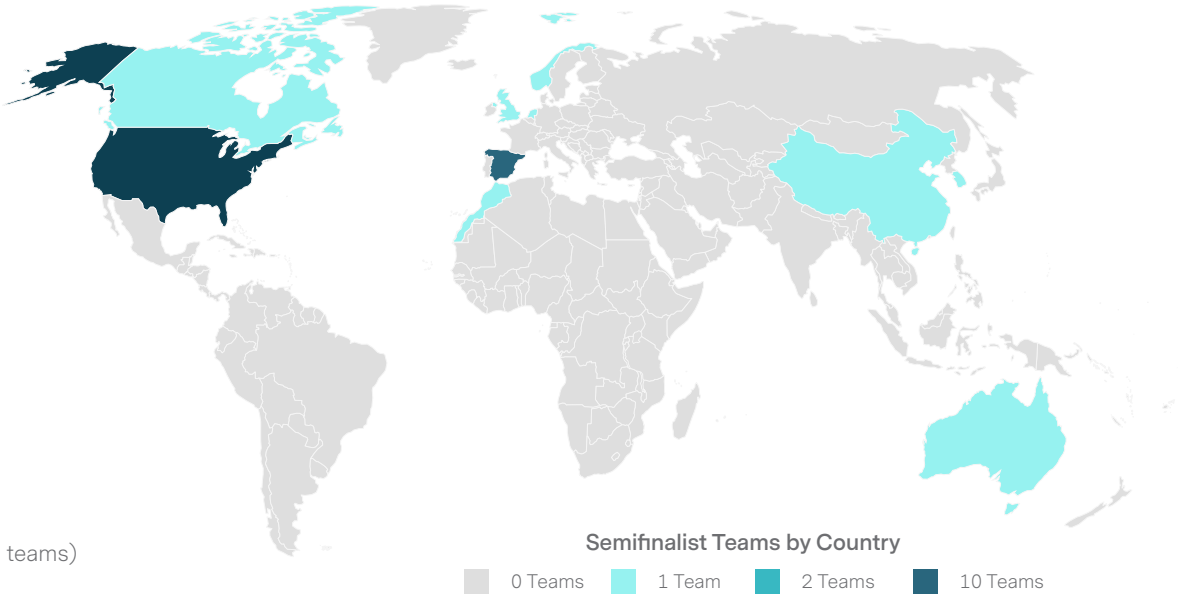
This transition from concept to operational demonstration marked a critical inflection point in the competition. Beyond confirming technical performance, this phase provided key insight into how these systems operate under real-world conditions, including their reliability, scalability, and readiness for deployment pathways.

This publication features all 143 Qualified Teams, with selected Semifinalist teams clearly marked throughout.



TEAM LANDSCAPE

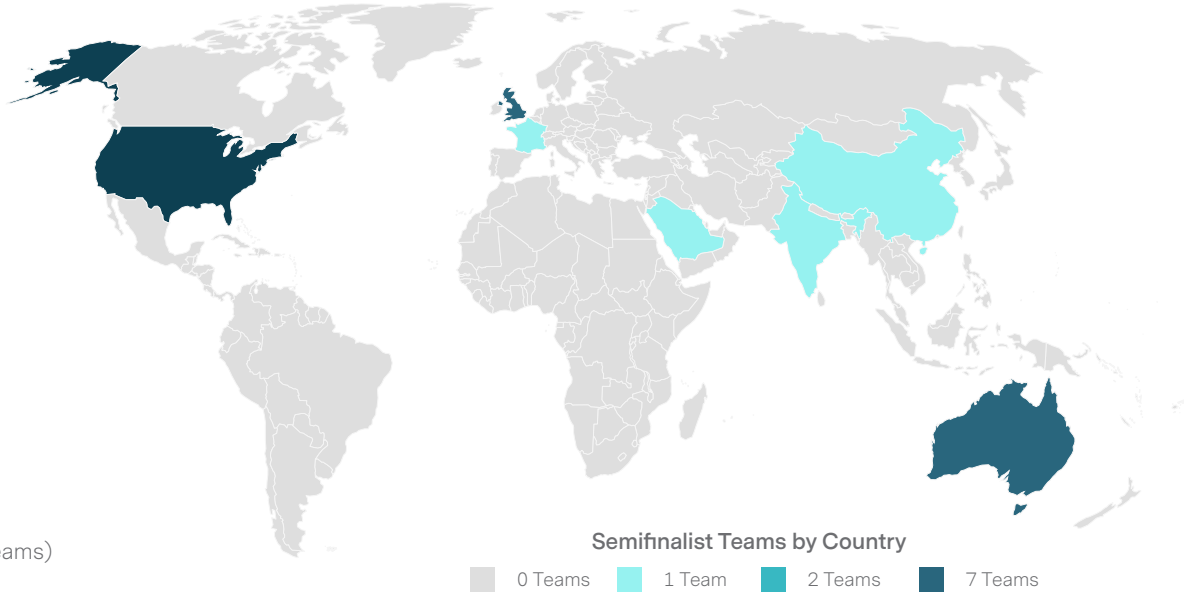
20 Semifinalist Track A Teams Map



10 Countries | 5 Continents

Africa: 1 Country (1 team)
Asia: 2 Countries (2 teams)
Europe: 4 Countries (5 teams)
North America: 2 Countries (11 teams)
Oceania: 1 Country (1 team)

17 Semifinalist Track B Teams Map



9 Countries | 4 Continents

Asia: 5 Countries (5 teams)
Europe: 2 Countries (3 teams)
North America: 1 Country (7 teams)
Oceania: 1 Country (2 teams)

ACKNOWLEDGEMENT

We gratefully acknowledge the visionary support of the Mohamed bin Zayed Water Initiative, whose sponsorship makes XPRIZE Water Scarcity possible.

We also extend our sincere thanks to the members of our Advisory Board for their guidance and insight, and to our independent Judging Panel for their expertise, time, and commitment to rigorous evaluation, along with our competition partners for their support.

Finally, we thank the global community of teams and innovators who have participated to date for their effort, ingenuity, and persistence throughout this stage of the competition.

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TEAM PROFILES

TRACK A - DESALINATION:
SYSTEM LEVEL INNOVATION

XPRIZE WATER SCARCITY

MAY 2026

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

This directory lists all Qualified Teams in Track A. The 20 teams advancing to the Semifinal stage are shown in bold with a dot.

● Advancing Semifinalist

● **Active Membranes**	activemembrane.com	United States	Page 14
Advantageous Systems (ADS)	advantageoussystems.com	United States	
AONBARR		Japan	
● **Aqua Membranes**	aquamembranes.com	United States	Page 15
● **Aquatech Global R&D Team**	aquatech.com/	United States	Page 16
● **Aquatrino**	aquatrino.com	United States	Page 17
Archimedes-Desal (TM)	aawfunding.com	United States	
ARMA RENEWABLES		Egypt	
Aromatec	aromatec.biz	Singapore	
AWUA Projects	linkedin.com/company/awuaproject	Colombia	
Badwater Alchemy	badwateralchemy.com	United States	
Bahr-Mizu Vanguards	tii.ae	United Arab Emirates	
● **B.E.S.T.**	inima.com	Spain	Page 18
● **Blue Brine: Project96**	bluebrine.com	United States	Page 19
● **Blue Carbon**	bluecarbon.cc	Australia	Page 20
Capture6	capture6.org	United States	
Cetos Water	cetoswater.com	United States	
CryoDesalination	cryodesalination.com	United States	
Cymete	cymete.com	Australia	
Decarwa		Singapore	
DELTADIO	deltadio.com	Belgium	
● **DESAL4ALL**	acciona.com/solutions/water	Spain	Page 21
DESALRO 2,0	itccanarias.org	Spain	
Desaltify	desaltify.com	Netherlands	
● **Desolenator**	desolenator.com	Netherlands	Page 22
Eclipse		Canada	
● **ECOPEACE CO., Ltd**	eco-peace.co.kr/en	South Korea	Page 23
Ecotech Research Center	ecotechrc.com	United States	
EGV Green Desalination	sgeglobal.net	Egypt	
EMETS	emets.ch	Switzerland	
Epiphany Water Solutions	epiphanyws.com	United States	
First Derivative LLC		United States	
● **FEDCO**	fedco-usa.com	United States	Page 24
● **Flocean**	flocean.green	Norway	Page 25
Global Water Technologies	gwtr.com	United States	
ECOSYSTEM VLG world - GOOD team	water.vlg.world	Switzerland	
● **Gradiant**	gradiant.com/about-us	United States	Page 26

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

● Advancing Semifinalist

greenLi	greenli.biz	Israel	
Greenway MAGIC	greenwayrevolution.com	Singapore	
● **H2 Purus**	h2purus.com	United Kingdom	Page 27
HKUST-Freeze Desalination		Hong Kong	
HYDRATICO	hydratico.com	Poland	
Hydro Wind Energy	hw.energy	United Arab Emirates	
HydroFrontiers	monash.edu/engineering/sclc-lab	Australia	
Hydron Desalination	hydrondesal.com	United States	
HYREWARD		Spain	
IKAN (Inovasi Kemandirian Air Nusantara)	aQuademy.org	Indonesia	
Ilion Water Technologies	linkedin.com/company/ilion-water-technologies	France	
InterPhase		China	
Katz Water Technologies	katzwatertx.com	United States	
KIRA	kira.eco	United States	
Team ESH		South Korea	
Team Watts & Water	medisun.energy	Singapore	
Mega Vessels Water	megavesselswater.com	United States	
MIDES	aqualia.com/web/aqualia-en/2024-sustainability-report	Spain	
Modulus Water	moduluswater.com	United States	
Neowall Organic Desalination and Water Storage	neowall.org	Benin	
New Water Labs	newwaterlabs.com	United States	
NoPo Nanoflux	noponano.com/xprize	India	
Nsuo Systems		Ghana	
Ocean Oasis	oceanoasis.co	Norway	Page 28
● **Ocean Reviver**	oceanreviver.com	United States	Page 29
● **OceanWell**	oceanwellwater.com	United States	Page 30
● **OCP-IWRI Water Pioneers**	um6p.ma/fr/institut-international-de-recherche-en-eau-iwri	Morocco	
Olokun Minerals	olokunminerals.com	United States	Page 31
● **Oneka Technologies**	onekawater.com	Canada	
OSMOSYS' SAMRO	osmosystech.com	United States	
PAL TECHNOLOGY	palgroup.com	United Arab Emirates	
Phoenix Biometrics	phoenixbiometrics.com	United States	
PlasmaPure	hbku.edu.qa/en/qeeri	Qatar	
PRD Tech, Inc.	nextgenseptic.com	United States	
Rainbox	rain-box.com	United Kingdom	Page 32
● **Renaissance Water**	renaissancewater.com	United States	
Sea Potential	seapotential.com	United Kingdom	
SeaWell Global	seawellwater.com	New Zealand	
SHE Aqua Tech	sheaqua.com	Hong Kong	
SolarDew	solardew.com	Netherlands	

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

● Advancing Semifinalist

SolarSpace	solarspace.io	United Arab Emirates
SOLDESAL	soldesal.com	Germany
Sunup Briner	hzsunup.com	China
Tahaleb - Bio Desalination	tahaleb.com	United Arab Emirates
TDD Hybrid	soret.tech	Australia
The Crystal	boreallight.com	Germany
ThermaPure	sixpenny.ca	Canada
TII-RSERC Water Tech		United Arab Emirates
TMD WATER4ALL	tmdlab.org	United States
TUM Green Tech Initiative	linktr.ee/tum_greentech	Germany
Waterfountain	waterfountain.no	Norway
WaterGreen	ener-chem.com/watergreen	United States
Waterwhelm	waterwhelm.com	United Kingdom
WFC		United States
Xyflow	xyflowinnovations.com	United States
● Z Lab	zlab.nju.edu.cn	China
Zero Waste Disposal desalination	magsplanet.com/xprize	Japan

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ACTIVE MEMBRANES

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

COMPANY OVERVIEW

TEAM / COMPANY NAME
Active Membranes

HQ LOCATION
Moorpark, CA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2022

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Convertible Note / SAFE, Non-dilutive Grant Funding

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Corporate or Strategic Partners, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Seed

activemembrane.com
arian@activemembrane.com

TEAM / COMPANY DESCRIPTION

For decades, membranes have been treated as passive consumables—static filters optimized through materials alone. Active Membranes takes a different path: we make membranes responsive.

Founded in 2022, Active Membranes has developed a patented electro-active reverse osmosis (RO) platform that applies low-voltage electrical signals to actively control fouling and scaling at the membrane surface. This transforms desalination from a fixed, chemically intensive process into a dynamic, controllable system.

The result is a more stable and efficient operation—reducing chemical use, minimizing cleaning events, optimizing energy consumption, and extending membrane life—driving up to 60% reductions in lifecycle cost and system footprint. Our mission is to make desalination a first choice—not a last resort—in solving global water scarcity.

TECHNOLOGY DESCRIPTION

Active Membranes converts conventional RO membranes into a **programmable platform**. Our spiral-wound membranes embed a conductive layer within a standard thin-film composite structure. When energized, the membrane actively controls charge interactions at its surface—mitigating fouling and scaling in real time without changes to plant hydraulics.

But the real shift is what this enables:

Because control is electrical, it becomes **digitally tunable**. Membranes can respond dynamically to changing feedwater conditions—adjusting operation in real time rather than reacting after performance declines.

This creates the foundation for **intelligent water systems**:

- Real-time optimization of performance and energy
- Adaptive response to fouling and scaling conditions
- Reduced reliance on chemicals and operator intervention
- Stable, predictable system behavior over time

Delivered in industry-standard modules, the platform is retrofit-ready and scalable across desalination and industrial water and reuse applications.

CORE INNOVATION

Active Membranes is not just a better membrane—it is a **control layer for separation**. By combining electro-active membranes with sensing, control systems, and data, we enable a future where:

- Membranes **self-adjust** to maintain optimal performance
- Systems **learn** from operating conditions across plants
- Operators move from reactive maintenance to **predictive control**

In this model, membranes evolve from consumables into intelligent infrastructure—continuously optimized, responsive, and increasingly autonomous.

LEADERSHIP TEAM

Active Membranes is led by a team that bridges deep membrane science with real-world execution. The team includes pioneers in electro-active membranes, polymer chemistry, and interfacial design, alongside operators with hands-on experience deploying systems across desalination, industrial water, and complex feed streams.

This is complemented by leadership with a track record in commercialization, pilot execution, strategic partnerships, IP strategy, and capital formation. Together, the team combines scientific depth with operational discipline—focused on turning membranes into adaptive, high-performance infrastructure.

AQUA MEMBRANES

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

COMPANY OVERVIEW

TEAM / COMPANY NAME
Aqua Membranes

HQ LOCATION
Albuquerque, NM, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2019

NUMBER OF EMPLOYEES
21 - 50

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 9: Commercially Operated. The actual technology has been successfully operated long-term over the full range of expected operational conditions

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Resource Circularity and Brine Management, Energy Efficiency Step Change, Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Growth Stage

REVENUE RANGE
$5M - $20M

CAPITAL RAISED TO DATE
$20M - $100M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Convertible Note / SAFE, Philanthropic / Prize Capital

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Series B or Later

aquamembranes.com
ellie.barker@aquamembranes.com

TEAM / COMPANY DESCRIPTION

Aqua Membranes Inc. manufactures and develops spiral-wound membrane elements using our groundbreaking Printed Spacer Technology®, replacing legacy feed spacer mesh. By directly printing the feed channel spacer onto the membrane surface, we significantly enhance membrane performance— delivering the most sustainable, efficient, and cost-effective solutions on the market. Our technology reduces fouling, saves energy, and increases output, optimizing both design and operation. Aqua Membranes envisions Printed Spacer Technology® as a cornerstone of a greener water future for our planet and its people.

TECHNOLOGY DESCRIPTION

Aqua Membranes enhances conventional reverse osmosis elements by applying its patented Printed Spacer Technology® to industry-standard flat-sheet membranes sourced from leading manufacturers. Using an additive manufacturing process, we print a precisely engineered spacer directly onto the membrane surface, improving flow dynamics and reducing fouling compared to traditional mesh designs. The technology delivers improved efficiency, reduced cleaning frequency, and lower energy and chemical consumption while remaining compatible with existing RO infrastructure. Aqua Membranes currently offers brackish water and low-energy elements in both 8040 and 4040 configurations, with seawater elements launching later this year. In addition to selling finished elements, we also license our technology to strategic partners.

CORE INNOVATION

At the center of Aqua Membranes' approach is Printed Spacer Technology®, a patented method that replaces conventional mesh spacers with printed features integrated directly onto the membrane surface. This innovation allows for highly optimized flow paths, reducing areas where fouling typically forms and improving overall system performance. Unlike traditional spacer designs, the printed architecture can be adapted for specific operating conditions, enabling performance customization across applications. This combination of manufacturability, design flexibility, and operational impact represents a meaningful advancement in membrane separation technology.

LEADERSHIP TEAM

Aqua Membranes is led by an experienced team with deep expertise in water technology, commercialization, and innovation. CEO Craig Beckman brings global leadership experience from GE Water and MIOX and a strong track record scaling water technology businesses. CTO Christopher "CJ" Kurth contributes over 25 years in RO membrane development, with extensive patent and commercialization experience. Founder Rodney Herrington leads innovation and core Printed Spacer Technology IP, while VP of Engineering Kevin Roderick oversees execution. VP of Sales Coley Ali and Director of Marketing Ellie Barker round out the leadership team with strong industry and climate technology experience.

AQUATECH GLOBAL R&D TEAM

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

COMPANY OVERVIEW

TEAM / COMPANY NAME
Aquatech

HQ LOCATION
Canonsburg, PA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
1981

NUMBER OF EMPLOYEES
Undisclosed

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 4: Basic technology components integrated and validated in a laboratory environment. System Simulation and Economic Analysis.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Marine-Friendly Intake Design, Resource Circularity and Brine Management, Energy Efficiency Step Change, Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Undisclosed

REVENUE RANGE
Undisclosed

CAPITAL RAISED TO DATE
Undisclosed

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Debt / Loan

TYPE OF INVESTORS SOUGHT
Government or Public Funders, Foundations or Impact Investors, Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
Undisclosed

CURRENT INVESTMENT STAGE
Corporate Unit

aquatech.com
bosquetn@aquatech.com

TEAM / COMPANY DESCRIPTION

Aquatech tackles the challenges of water scarcity and complexity by leveraging technology, expertise, and financing to deliver comprehensive solutions that reduce carbon and recycled water footprint. As a leading global provider of water and process technology solutions, we help major companies achieve their sustainability and operational goals by implementing innovative approaches for water reuse, desalination, minimal and zero liquid discharge, and critical minerals recovery.

TECHNOLOGY DESCRIPTION

We will use an intake system design that employs advanced techniques to prevent marine life entrainment and entrapment in the intake. We will use a micro bubble DAF and a conductive ceramic membrane to minimize chemical use in pre-treatment. We will use multiple RO and NF stages to maximize water recovery. CO_2 sequestration, renewable energy, and brine recovery will be used to improve sustainability. Digitization of the system will help monitor and optimize the system to reduce chemicals and energy consumption.

CORE INNOVATION

Aquatech Global R&D Team is made up of desalination engineers who envision a new integrated SWRO desalination solution with minimal chemical use in pre-treatment, low energy membrane design, high water recovery, digitization and real time monitoring, use of renewable energy, and innovative brine mining techniques.

LEADERSHIP TEAM

Our Global R&D team is headed by Ravi Chidambaran, the Chief Technology Officer and President of Aquatech, who has decades of experience in the desalination field. Under his leadership and with the expertise of our desalination experts, Aquatech won the Global Water Intelligence's Water Technology Company of the Year award in 2025 and Desalination Company of the Year distinction award in 2020.

AQUATRINO, INC.

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

COMPANY OVERVIEW

TEAM / COMPANY NAME
Aquatrino, Inc.

HQ LOCATION
Nashville, TN, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2023

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

ON-SHORE VS. OFF-SHORE
Both

MOONSHOTS
Resource Circularity and Brine Management, Energy Efficiency Step Change, Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$250,001 - $1M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Non-Dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic, Prize Capital, Strategic Partnership

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations, Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Seed

www.aquatrino.com
marc@aquatrino.com

TEAM / COMPANY DESCRIPTION

Aquatrino builds next-generation water treatment systems for desalination and PFAS destruction, powered by proprietary IP and differentiated process know-how. Our cofounders are world-leading experts across multiple treatment technologies, and our team brings hands-on experience manufacturing thousands of water treatment systems - turning new concepts into deployable, field-ready solutions. We are committed to expanding freshwater access through desalination, and to protecting water resources through PFAS destruction for industrial wastewater, landfill leachate, contaminated sites, and other challenging streams.

TECHNOLOGY DESCRIPTION

Aquatrino's OsmoPulse desalination system uses a novel process design that combines ultra-high pressure reverse osmosis (UHPRO) membranes with our pressure-swing operation. By integrating these advancements, OsmoPulse enables higher recovery and efficiency, outperforming traditional cross-flow, closed-circuit, and batch RO configurations. Whenever possible, our system will be operated with renewable energy sources or electricity generated using renewable fuels, including waste-to-energy. In such a process, waste heat can be used to increase energy efficiency, water production, and reduce system footprint.

Beyond desalination, Aquatrino is uniquely positioned for PFAS destruction. Leveraging a proprietary pretreatment process, we completely destroy all PFAS types - even in the most challenging streams. Because our process operates at ambient conditions, Aquatrino provides a permanent solution at significantly lower costs than competing technologies.

CORE INNOVATION

We created a desalination process with increased energy efficiency and water recovery by solving time dependent concentration polarization inherent to batch RO systems. Whereas closed-circuit and batch RO promise higher efficiency over traditional RO, these systems suffer because they operate in a way that raw water is constantly mixed with concentrated membrane feed water, eroding efficiency gains. Our innovative process circumvents this issue, ensuring uniform concentration of the membrane feed. Our system can also dynamically change between CCRO and batch RO modes to favor either water recovery or water production with increased efficiency over traditional RO.

LEADERSHIP TEAM

Aquatrino's leadership fuses deep technical expertise with proven startup success. The team is led by CEO Marc Slakmon (20+ years business leadership) and CTO Dr. Douglas Davenport (10+ years water treatment R&D). Chief Engineer Robert Zane brings significant experience developing water treatment systems at-scale, having deployed thousands of systems. The executive team also includes founders David Friedman and Bruce Graham, who together boast dozens of high-value exits. Scientifically, the company is guided by founders Dr. Jinyong Liu of University of California, Riverside and Dr. Shihong Lin of Rice University, experts at the forefront of PFAS destruction and energy-efficient desalination.

COMPANY OVERVIEW

TEAM / COMPANY NAME
B.E.S.T / GS INIMA

HQ LOCATION
Madrid, Spain

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
1991

NUMBER OF EMPLOYEES
500+

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Resource Circularity and Brine Management

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
No - Fully funded

TYPES OF CAPITAL SOUGHT
Internal Corporate Budget

TYPE OF INVESTORS SOUGHT
Internally Funded (No outside investors)

AMOUNT OF CAPITAL SOUGHT
Not Applicable

CURRENT INVESTMENT STAGE
Bootstrapped / Self-Funded

inima.com
bgutierr@inima.com

B.E.S.T

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

GS Inima Environment (GSI) is one of the world's largest water concession operators and stands out as a global leader in sustainable solutions. With over 60 years of experience, GSI specializes in the full water cycle (desalination, wastewater and distribution) and gives end-to-end project lifecycle management, from financing and engineering to supply, construction, operation, and maintenance.

GSI´s roots go back to the early 1970s with desalination projects into a global operator across 12 countries, which reinforces its leadership in the water treatment.

GSI is committed to innovation in water treatment, ensuring sustainable resource management at the forefront of global environmental development.

TECHNOLOGY DESCRIPTION

The Team presents B.E.S.T. (Blue Energy and Sustainable preTreatment) which combines for the first time two innovative processes: ROWSIP® and FOWE®. This solution creates a flexible, robust and sustainable system with an energy consumption reduction, mitigation of brine discharge impact and renewable energy production.

ROWSIP®, (Reverse Osmosis with Simple Intake and Pretreatment), is a desalination system with an innovative pretreatment process.

FOWE®, (Forward Osmosis With Energy recovery), is an innovative patented process that uses the phenomenon of forward osmosis through semipermeable membranes and takes advantage of the synergy between desalination and a second water source (freshwater or wastewater), combining both into a single treatment process within the integral water cycle, producing Blue Energy.

B.E.S.T. offers maximum flexibility as it can be tailored to fit local legislation and available resources. It can adapt working with both technologies together or separately.

CORE INNOVATION

In pretreatment, ROWSIP® provides a robust system, increases plant flexibility and adaptability to different conditions in terms of seawater quality during episodes of high organic load. Its configuration allows the water intake to be located closer to the plant, minimizing marine construction, and gives a reduction of energy consumption in the pretreatment process.

FOWE® transforms two discharges (brine and wastewater effluent) into two valuable resources. FOWE® brings the following advantages and innovations to the system: obtaining renewable energy (blue energy), reduction of power consumption in the overall system, increase drinking water production.

LEADERSHIP TEAM

Our leadership team features multidisciplinary experts with decades of experience in process engineering and project management. Led by PhD. Belén Gutiérrez (R&D Director), the team integrates specialized talent across key sectors: Luis Miguel García and Sara García head R&D for Desalination and Wastewater, while Francisco Bernaola serves as Engineering Director. Irene Gómez ensures regulatory compliance as Legal Lead for the Middle East. Supported by R&D technicians Javier Cañas, Jesús Giménez-Rico, Jaume Teixidó, and Fernando Huertas, our leadership guarantees technical excellence and rigorous innovation.

BLUE BRINE: PROJECT96

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

 Marine-Friendly Intake Design

 Resource Circularity and Brine Management

 Energy Efficiency Step Change

 Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

The Blue Brine Project 96 Team includes senior engineers and scientists with decades of applied experience in desalination and industrial water treatment. Our objective is to engineer a scalable, Zero Liquid Discharge (ZLD) technology platform that meets NSF standards and converts desalination brine into commercially viable products. The system is designed to achieve >96% water recovery, eliminate both surface and subsurface brine disposal, and reduce environmental impact. The solution delivers value by integrating high-efficiency recovery of water with brine valorization and thereby transforming waste streams into usable resources and enabling a new operational standard for desalination facilities.

TECHNOLOGY DESCRIPTION

Blue Brine was founded on the premise that brine discharge can be eliminated through brine valorization—the conversion of waste brine into valuable products—by integrating proven technologies in a novel configuration. Rather than inventing new equipment, we combine nanofiltration, reverse osmosis, and electrochemical systems to go beyond separation, using novel processes and thereby enabling molecular dissociation and reorganization of ions. This approach recovers high-purity water and converts dissolved salts into marketable industrial chemicals. The result is a Zero Liquid Discharge (ZLD) system that transforms an environmental liability into multiple revenue streams, supporting a commercially viable and sustainable business model rooted in sound engineering.

CORE INNOVATION

What makes the Blue Brine: Project 96 team and technology unique is the combination of a truly multidisciplinary and culturally diverse leadership group with a breakthrough approach to brine valorization. Our engineers and scientists—spanning chemical, mechanical, civil, and electrical disciplines—bring decades of global experience in desalination, electrochemistry, and water treatment. This deep and varied expertise enabled the development of a novel process that integrates proven membrane and electrochemical technologies in new ways to reorganize ions into marketable products and recover >96% of the water. It is the strength, collaboration, and vision of this diverse team that drives the innovation forward.

LEADERSHIP TEAM

Blue Brine: Project 96 is led by Martin Hauschild, a veteran of the water industry since 1987, with a portfolio of U.S., European, and Canadian patents in electrochemistry, membrane distillation, and desalination. The leadership team includes Matthew Anderson, Andrew Ellis, Roberto Betance, and Jose Toscano—senior engineers across chemical, mechanical, electrical, and civil disciplines. This multidisciplinary expertise is central to realizing Blue Brine's approach to Zero Liquid Discharge through brine valorization. By re-engineering conventional water treatment technologies into new process architectures, the team transforms brine from a waste stream into high-value products, redefining the economics and sustainability of desalination.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Blue Brine: Project96

HQ LOCATION
El Paso, TX, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2022

NUMBER OF EMPLOYEES
11 - 20

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Resource Circularity and Brine Management

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
>$100M

CAPITAL RAISED TO DATE
$20M - $100M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Strategic Partnership or Co-Development, Debt / Loan, Internal Corporate Budget

TYPE OF INVESTORS SOUGHT
Private Equity, Corporate or Strategic Partners, Government or Public Funders, Family Offices

AMOUNT OF CAPITAL SOUGHT
$20M - $100M

CURRENT INVESTMENT STAGE
Industry-Funded

bluebrine.com
matt@bluebrine.com

BLUE CARBON

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

 Marine-Friendly Intake Design

 Resource Circularity and Brine Management

 Energy Efficiency Step Change

 Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Blue Carbon delivers wave-powered, zero-fuel ocean infrastructure that enhances desalination efficiency and decouples water and food production from fuel and grid dependency. Our IP-protected oPod™ platforms replace diesel and electrically driven systems by converting ocean wave energy directly into water movement, compressed air, and data. This improves intake water quality, disperses brine to near-ambient conditions, and supports aquaculture and coastal operations with minimal environmental impact. With validated offshore performance and early commercial deployment, Blue Carbon provides scalable, distributed infrastructure that reduces national energy demand, strengthens water security, and builds resilient, climate-adapted coastal systems.

TECHNOLOGY DESCRIPTION

Blue Carbon's oPod™ platform is a suite of wave- and solar-powered autonomous ocean systems designed to enhance desalination performance while delivering zero-fuel, low-noise water movement, compressed air, and environmental intelligence. The platform comprises three product lines: oPod Aqua™ (water movement) uses wave-driven inertia to pump deep, cooler, oxygen-rich water, improving desalination intake, dispersing brine to near-ambient conditions, and supporting aquaculture and reef cooling. oPod Air™ (compressed air) converts wave motion into continuous airflow for oxygenation, bubble curtains, and noise mitigation—replacing diesel systems. 1 of 3 oPod Mini™ (data) is a solar-powered monitoring network providing realtime ocean intelligence for optimisation and compliance. All systems use proprietary, IP-protected hydrodynamics to convert wave energy directly into useful work, operating without fuel, grid power, or electronic control systems, enabling low-cost, scalable water infrastructure. Waves in. Work out.

CORE INNOVATION

Blue Carbon's core innovation is a system that maximises inertial forces from ocean waves to generate industrial-scale water and air movement without external energy input. This includes a novel wave-energy generator architecture and the world's first fuel-free, wave-driven air compressor. At its foundation is Blue Carbon's invention of mechanical fluid logic, where the working fluid itself acts as a controller, enabling self-optimising operation without sensors or electronic control systems. This eliminates energy conversion losses, delivering efficient, continuous flow with minimal environmental impact—including near-ambient brine dispersion—and highly competitive water production costs.

LEADERSHIP TEAM

Blue Carbon's leadership team brings together expertise in ocean engineering, climate science, AI, finance and commercialization to scale marine infrastructure solutions. Dr Ana Novak (CEO) leads technology vision and deployment. Eva Chiu (CFO) oversees finance, manufacturing and capital strategy. Felicity White drives strategy, growth and partnerships. Professor Ladislav Novak leads scientific innovation. Carol Erasmus leads marine engineering design. Dr Martin Mathew leads research and field validation. Dr Yanir Seroussi leads AI and data optimization. John Christian supports data systems and analytics. John Markos (Chairman) and Matthew Bungey provide governance and financial oversight.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Blue Carbon

HQ LOCATION
Brisbane, Australia

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2022

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 8: The actual technology has been successfully commissioned for its target commercial application, at full commercial scale.

ON-SHORE VS. OFF-SHORE
Off-Shore

MOONSHOTS
Resource Circularity and Brine Management

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Angel Investors/Family & Friends, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Series A

bluecarbon.cc
ana.novak@bluecarbon.cc

COMPANY OVERVIEW

TEAM / COMPANY NAME
DESAL4ALL

HQ LOCATION
Madrid, Spain

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2007

NUMBER OF EMPLOYEES
500+

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Energy Efficiency Step Change, Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Prefer not to say

REVENUE RANGE
Prefer not to say

CAPITAL RAISED TO DATE
Prefer not to say

ACTIVELY RAISING CAPITAL
Prefer not to say

TYPES OF CAPITAL SOUGHT
Prefer not to say

TYPE OF INVESTORS SOUGHT
Prefer not to say

AMOUNT OF CAPITAL SOUGHT
Prefer not to say

CURRENT INVESTMENT STAGE
Prefer not to say

acciona.com
anamaria.jimenez.banzo@acciona.com

DESAL4ALL

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

The team is composed by well known companies, featured by their innovative character, that complement each other and cover the whole value chain. As a result, experts in manufacturing key components of the desalination process will team up with experts in engineering, construction, commissioning and operation.

The team's background is highly diverse: chemical, mechanical, industrial, electronic, telecommunications and informatics engineers, biologists, chemists, mathematicians, etc.

TECHNOLOGY DESCRIPTION

DESAL4ALL represents a transformative approach to sustainable seawater desalination, integrating cutting-edge innovations to address the industry's most pressing environmental and operational challenges. The proposed technology takes advantage of the synergisms of: i) low energy, highly flexible pre-treatment; ii) leading edge reverse osmosis (RO) membranes, with extraordinary flux and high rejection; iii) innovative arrangement of the pressure vessels and membranes, leading to better flux distribution and diminished fouling occurrence; iv) new generation of pumps and energy recovery systems, presenting high efficiencies; v) assistance by artificial intelligence (AI), benefiting from advanced monitoring, minimising energy consumption and enhancing operational excellence.

DESAL4ALL solution join forces from ACCIONA, and 3 other partners, providing each one the ultimate innovations in their respective fields. The ultimate goal is to obtain a solution reliable, affordable and sustainable, which enables water access under different circumstances, to adapt to different realities in a water scarce world.

CORE INNOVATION

DESAL4ALL breakthrough is achieved by integrating and boosting the synergisms in key components within seawater reverse osmosis (SWRO) desalination. The core innovation in the pre-treatment relies on an integrated highly efficient flotation-filtration system, whereas the core innovation regarding the RO comprises innovative membranes with very high flux and salt rejection, an innovative arrangement of the pressure vessels and also high efficiency pumps and zero mixing energy recovery devices. The proposed full-scale system reduces the overall SEC and the RO racks footprint, a meaningful change in plant design and operation.

LEADERSHIP TEAM

Our involvement in the XPRIZE Water competition represents a strong opportunity to highlight Desal4All's leadership in transformative water solutions. The team is advancing a solution that reflects both our technical excellence and our commitment to sustainable water management. We will provide ongoing updates to the Leadership Team as we move forward.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Desolenator

HQ LOCATION
Maastricht, Netherlands

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2015

NUMBER OF EMPLOYEES
21 - 50

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Resource Circularity and Brine Management

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
$1M - $5M

CAPITAL RAISED TO DATE
$5M - $20M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Convertible Note / SAFE, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Angel Investors, Corporate or Strategic Partners, Family Offices, Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Series A

desolenator.com
alexei@desolenator.com
alp@desolenator.com

DESOLENATOR

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Desolenator is pioneering a novel approach to water purification and industrial cooling. Utilising waste heat and our bespoke solar panels that are 4X more efficient than traditional PV, Desolenator is a true nexus solution, a platform that can be applied across various industrial scenarios. Our vision is to provide hyper growth industries a transformative approach to securing their critical assets in a water stressed world. A team of 22 headquartered in the Netherlands, Desolenator has deployed systems in the UAE, has built partnerships across the world, has registered x4 patents and has a significant pipeline of projects currently in development

TECHNOLOGY DESCRIPTION

Desolenator's SP40 is a modular, circular industrial desalination and cooling platform that converts saline or industrial wastewater into ultrapure water (<1 ppm TDS) using low-grade waste heat (50–80°C) and patented solar PV-T integration . The system combines vacuum-assisted Multi-Effect Distillation (MED) with Mechanical Vapor Compression (MVC) to maximise thermal efficiency while minimising electrical demand. A single integrated thermal loop recovers and cascades latent heat, enabling high-yield production (up to 1,000 m^3/day per unit) with optional Zero Liquid Discharge (ZLD) for full brine-to-salt conversion and circularity .

Designed for industrial integration, SP40 operates 24/7 with >20-year asset life, low CO_2 intensity (<1 kg CO_2e/m^3), and flexible deployment (waste heat, solar thermal, or hybrid off-grid configurations) . Fully digitised with remote monitoring and predictive optimisation, the platform delivers resilient, chemical-free water production for water-scarce, energy-intensive environments.

CORE INNOVATION

Desolenator's core innovation is a modular thermal desalination platform enabling water- and energy-agnostic, circular, scalable, and decentralised operations. Backed by 4 international patents across the water-energy nexus, our IP portfolio spans: (1.) **Modular and hybridized MED for high yield in low-grade heat**; (2.) **dual energy harvesting through solar PV-thermal** (4x more efficient than conventional PV); (3.) **thermal storage for 24/7 operations utilising brine and product water**; (4.) **efficient liquid cooling for industries by utilising low-grade waste heat** (filed in February 2025, pending).

LEADERSHIP TEAM

Desolenator is led by a mission driven blend of industrial operators, tier-one commercial leaders, and deep water-energy technologists with over 100 years of combined sector experience .

CEO Adri Pols brings proven scale leadership from BOAL Group (€250M+ revenue) and senior roles at Shell, BCG, TAQA, and clean-tech scaleups. Founder & COO William Janssen contributes 25+ years delivering complex international infrastructure. CSO Dr. Jiajun Cen (Imperial PhD, Forbes 30u30) anchors advanced thermodynamic and process innovation.

Commercial growth is led by Martijn van Noordennen (ex-Salesforce, Shell) and co-founder Alexei Levene, a serial entrepreneur also with Fortune 500 experience. Engineering depth is reinforced by Amit Chauhan and Taibah Jaffery across water and power systems.

Strategic oversight comes from Chairman Paddy Padmanathan (former CEO, ACWA Power, $80bn AUM) and desalination pioneer Leon Awerbuch (28 patents) .

The team combines technical credibility, infrastructure delivery capability, and global commercial reach, positioned to scale from pilot to industrial platform.

COMPANY OVERVIEW

TEAM / COMPANY NAME
ECOPEACE CO., Ltd

HQ LOCATION
Gwangju, Republic of Korea

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2012

NUMBER OF EMPLOYEES
21 - 50

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment

ON-SHORE VS. OFF-SHORE
Off-Shore

MOONSHOTS
Marine-Friendly Intake Design

FINANCIAL INFORMATION

COMMERCIAL STAGE
Growth Stage

REVENUE RANGE
$1M - $5M

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Angel Investors/Family & Friends, Convertible Note / SAFE, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development, Debt / Loan

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices, Crowdfunding or Individual Investors, Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Series A

eco-peace.co.kr/en
eco-ciw@ecopeace.kr

ECOPEACE CO., LTD

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

ECOPEACE, founded in 2012, is a water-tech company developing sustainable, carbon-neutral solutions for water management. We provide AI- and autonomous navigation–based surface robotic systems that combine real-time water quality monitoring with the detection and removal of floating debris, algal blooms, and oil spills. Our digital twin platform integrates and analyzes water and operational data to enable data-driven decision-making. We are also developing a renewable energy–powered floating offshore desalination platform for mobile freshwater supply in water-scarce regions. ECOPEACE has validated its technology through overseas field demonstrations, including Dubai, and is pursuing global expansion.

TECHNOLOGY DESCRIPTION

ECOPEACE is developing an AI-optimized floating offshore desalination platform designed for energy independence and climate change adaptation. The system integrates autonomous marine monitoring, intelligent intake selection, advanced pretreatment, hybrid desalination, and renewable power generation into a single modular offshore infrastructure. Real-time seawater data enables dynamic intake optimization, reducing pretreatment load and improving membrane longevity. A multi-stage treatment architecture stabilizes water quality while lowering operational costs through reduced fouling and energy recovery. The platform operates on integrated floating solar, small wind, and energy storage systems, enabling renewable, self-sufficient power without reliance on external grids. Its modular floating configuration allows rapid deployment, mobility, and scalable capacity expansion, making it suitable for water-scarce coastal and island regions. By combining data-driven optimization, energy independence, and environmental adaptability, ECOPEACE provides a resilient alternative to conventional land-based desalination plants.

CORE INNOVATION

ECO-BOT: autonomous offshore robot collecting water-quality data (salinity, temperature, DO), locating optimal intake sources, and carrying a purification filter for rapid response to floating pollutants

ECO-TWIN: machine-learning AI performing 3D analysis of ECO-BOT data to pinpoint intake sites and optimize membrane operation

ECO-FILTER: continuous pretreatment removing organics and microbes to reduce fouling and system load

Hybrid process: UF+SWRO+CDI to stabilize product water and improve efficiency

ECO-STATION: floating solar, small wind, and ESS for renewable power

Modular floating units: rapid deployment, mobility, and scalable capacity for water-scarce coastal communities

LEADERSHIP TEAM

ECOPEACE's leadership team combines deep technical expertise with proven execution in water and marine environments. Our team includes specialists in environmental engineering, robotics, control systems, electrical engineering, and structural design, supported by advanced academic credentials and hands-on deployment experience. We have successfully developed, tested, and operated autonomous surface systems in overseas field demonstrations, translating innovation into real-world performance. By integrating AI, renewable energy, and desalination technologies, the leadership drives scalable, commercially viable offshore solutions. With a balance of engineering depth and strategic vision, the team is positioned to accelerate global expansion in sustainable water infrastructure markets.

COMPANY OVERVIEW

TEAM / COMPANY NAME
FEDCO

HQ LOCATION
Monroe, Michigan, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
1997

NUMBER OF EMPLOYEES
101 - 500

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 9: Commercially Operated. The actual technology has been successfully operated long-term over the full range of expected operational conditions.

ON-SHORE VS. OFF-SHORE
Both

MOONSHOTS
Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Mature

REVENUE RANGE
$50M - $100M

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Non-dilutive Grant Funding, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Corporate or Strategic Partners, Internally Funded (No outside investors)

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Corporate Unit

www.fedco-usa.com
hdell@fedco-usa.com

FEDCO

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

FEDCO is a global leader in the design and manufacture of high-pressure pumps and energy recovery devices (ERDs) for brackish, seawater and brine mining RO applications with over 15,000 installations globally, from containerized installations to the world's largest desalination plants. Our Industry 4.0 manufacturing operation and commitment to green energy is displayed from our manufacturing facilities through every product FEDCO offers.

FEDCO pioneered high recovery brine-stage BiTurbo™ SWRO. Commercial application is achieving sustained growth through its low CAPEX, OPEX and reduction in environmental impact. FEDCO has a deep and diverse IP portfolio for pumps, ERDs and membrane system design.

TECHNOLOGY DESCRIPTION

The FEDCO BiTurbo™ SWRO system leverages membrane science to raise SWRO recovery while mitigating membrane biofouling and extending membrane life. By optimization of concentration polarization (CP) and cross-flow velocity, the BiTurbo™ reduces over- and under-fluxing of membranes that typically accelerates mineral scaling and organic growth.

The system's true strength lies in its unparalleled versatility. It is engineered to excel across a wide range of feedwater conditions—from brackish sources to high-salinity seawater—making it an adaptable solution for diverse global environments. This flexibility, coupled with our efficient Hydraulic Pressure Booster (HPB), allows for seamless integration into both new builds and existing plant retrofits.

By maximizing brine energy recovery, the BiTurbo™ increases recovery rates and reduces required feed flow by up to 25% with specific energy consumption rivaling isobaric chambers. The result is a significantly smaller carbon footprint, reduced operational expenditures, and a robust, future-proof desalination infrastructure.

CORE INNOVATION

The core innovation of BiTurbo™ technology is hydraulic balancing of the desalination process. Unlike traditional systems that suffer from uneven membrane loading, the BiTurbo™ utilizes an interstage Hydraulic Pressure Booster (HPB) to re-pressurize brine between stages. This creates improved Net Driving Pressure (NDP) distribution, ensuring every membrane operates at near-optimal flux rates and cross-flow velocity. The system minimizes Concentration Polarization (CP) thus greatly reducing biofouling on the lead elements. Its true versatility shines in its ability to adapt to varying salinities and temperatures, providing a high-recovery, low-carbon solution for both new installations and retrofits.

LEADERSHIP TEAM

The FEDCO leadership team, headed by Founder and President Eli Oklejas—an expert in pump and membrane systems—is supported by executives Lisa Fennel (finance and HR), Greg Thomas (operations and testing), Kevin Newcomer (engineering), and a skilled engineering team. Their integrated approach ensures effective collaboration, driving the development of reliable desalination solutions.

The company's international reach is guided by VPs Casey Bly and Terri Cruz, who lead business development across the Middle East, Asia, and the Americas. FEDCO recently opened a manufacturing operating in Dubai, UAE, and with sales offices located in key regions around the globe.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Flocean

HQ LOCATION
Oslo, Norway

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2024

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

ON-SHORE VS. OFF-SHORE
Off-Shore

MOONSHOTS
Marine-Friendly Intake Design

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$20M - $100M

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Venture Capital, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$20M - $100M

CURRENT INVESTMENT STAGE
Series B or Later

www.flocean.green
office@flocean.green

FLOCEAN

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

 Marine-Friendly Intake Design

 Resource Circularity and Brine Management

 Energy Efficiency Step Change

 Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Flocean is a next-gen desalination utility delivering affordable drinking water-as-a-service. By operating at depth, we cut energy use ~40–50% versus conventional SWRO, reduce pre-treatment and coastal footprint, and avoid chemicals and toxic brine discharge. Plants are protected from storms and harmful algal blooms and can be standardized across global coastlines. The team blends Norwegian subsea heritage—90+ subsea pumping systems delivered, including seal-less designs—with infrastructure finance and execution discipline, enabling bankable, modular projects with partners such as Xylem and Siemens Energy, backed by impact investors Burnt Island Ventures, Katapult Ocean, and Rypples.

TECHNOLOGY DESCRIPTION

Flocean has developed a seawater reverse osmosis (SWRO) system installed on the seabed. By relocating RO to ~400–600 m depth, the ocean's hydrostatic pressure provides most of the driving force, allowing the system to "pull" freshwater through standard RO membranes with substantially less high pressure pumping. Deep water intake delivers clean, stable, cold feedwater, reducing pretreatment complexity and enabling chemical free operation. Clean concentrate is discharged at depth, where biological productivity is low, and mixed back toward ambient salinity to minimize marine impact. Capacity scales through standardized, modular subsea pods deployed in clusters, limiting onshore civil works and coastal land use. The technology has been qualified through several steps, including Flocean Zero—a 500 m deep water intake and subsea pump coupled to an onshore SWRO testing facility—progressing the system toward commercial demonstration (Flocean One) and full scale deployments.

CORE INNOVATION

Flocean's core innovation is relocating seawater reverse osmosis to the deep ocean, where the natural hydrostatic pressure and consistently high-quality deep water fundamentally simplify desalination. By operating RO at 400–600 m depth, most of the pressure required for desalination is already present, significantly reducing active pumping energy and surface infrastructure. Clean, cold, and biologically stable deep-water intake minimizes fouling and enables chemical-free operation with simplified pretreatment. The system is built as standardized, modular subsea units that scale by replication rather than size, allowing flexible capacity deployment with minimal coastal footprint. Low-recovery operation and deep-water discharge further reduce environmental impact, resulting in a robust, energy-efficient, and environmentally responsible desalination architecture.

LEADERSHIP TEAM

Flocean's leadership team is set for execution at scale. Founder & CEO Alexander Fuglesang leads strategy and marketing. CFO Birgitte Hjertum brings capital discipline from leading project finance at Höegh LNG. VP Projects Nils Heieren has delivered systems for 2,000 m water depth and develops bankable projects. VP Technology Christian Abelsson brings 15+ years in subsea pumps and owns product vision. VP Digital Erlend Mjaavatten, MSc Cybernetics, leads automation and remote operations. Environmental Manager Kendall Miller leads environmental compliance and impact. Senior Advisor David Pinchin built the world's first subsea water-treatment plant with Seabox and advises on technology.

GRADIANT

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

 Marine-Friendly Intake Design

 Resource Circularity and Brine Management

 Energy Efficiency Step Change

 Minimal Physical System Footprint

COMPANY OVERVIEW

TEAM / COMPANY NAME
Gradiant

HQ LOCATION
Boston, MA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2013

NUMBER OF EMPLOYEES
500+

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Energy Efficiency Step Change

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
>$100M

CAPITAL RAISED TO DATE
$100M+

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Venture Capital, Government Contracts or Public Funding

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Family Offices

AMOUNT OF CAPITAL SOUGHT
$100M+

CURRENT INVESTMENT STAGE
Series B or Later

www.gradiant.com
jsho@gradiant.com

TEAM / COMPANY DESCRIPTION

Gradiant is a U.S.-based water and wastewater technology company founded in 2013 as an MIT spinout. It designs and delivers advanced treatment solutions for industrial clients in sectors such as semiconductors, pharmaceuticals, food and beverage, mining, and energy. Gradiant's offerings span water reuse, ultrapure water, desalination, and zero liquid discharge, combining proprietary processes with system integration and operations support. The company operates globally, with engineering and service teams across North America, Europe, the Middle East, and Asia. It positions itself as helping customers reduce water risk, lower environmental impact, and meet sustainability and regulatory goals.

TECHNOLOGY DESCRIPTION

The objective of this innovation is to produce desalinated water using novel and energy efficient advanced technologies. The pretreatment system consists of inline coagulation and ceramic ultrafiltration (UF). To reduce the impacts to the environment, our proprietary in-house formulated green phosphate-free anti-scalant is dosed into the system to prevent scaling on the reverse osmosis (RO) membranes. The core technology of this innovation is the multistep semi-batch reverse osmosis (MSBRO) system. Multistep SBRO provides improvements not only on the energy consumption as compared to the conventional RO, but it also reduces the system complexity by eliminating the use of bladder or secondary pressure exchanger (as compared to the batch RO) and energy recovery devices (ERD). It makes use of valving, fluidic pathways and piping volume for the operations and this permits thermodynamically efficient operation to produce the desalinated water. The system is equipped with Gradiant's proprietary SmartOps platform which enables fully autonomous and self-optimizing operations with minimal human interventions. The cloud-based dashboards allow operators to control or operate remotely and provide 24/7 reliability.

CORE INNOVATION

Conventional seawater RO loses energy mainly because it must apply pressure above seawater's osmotic pressure to drive water through the membrane and sustain flux. To reduce this excess pressure, pressure-variant alternatives such as batch RO and semi-batch RO have been developed. Batch operation is typically the most energy-efficient, producing a smaller-volume, higher-salinity reject stream as desalination progresses. However, recycling this reducing reject volume requires complex system (e.g., pistons, variable-volume tanks, bladders) to accommodate volume changes. Semi-batch systems can instead add fresh feed continuously to replace lost permeate volume, but this mixes concentrated reject with lower-salinity feed, generating entropy and reducing energy efficiency by moving away from ideal thermodynamic operation. Gradiant proposes a multistep semi-batch RO (MSBRO) concept, featuring controlled semi-batch pressurization with multistage brine management. Using dynamic pressure cycles, staged brine extraction, and optimized hydraulics, it aims to operate closer to the thermodynamic minimum energy, lowering energy demand and improving recovery without increasing membrane stress.

LEADERSHIP TEAM

Gradiant's leadership team combines technology, operations, and commercial expertise to scale industrial water solutions globally. It includes an executive responsible for overall strategy and growth, supported by a leader focused on day-to-day operations and delivery. The team also includes senior executives overseeing finance, corporate development, legal and compliance, human resources, marketing, global operations, and worldwide sales. Technical leadership spans product and process innovation as well as engineering execution to translate proprietary treatment technologies into deployable systems. Together, this group guides market expansion across key industrial sectors, manages partnerships and acquisitions, ensures governance and risk management, and builds the organizational capabilities needed to deliver complex projects and long-term service contracts at international scale.

COMPANY OVERVIEW

TEAM / COMPANY NAME
H2 Purus

HQ LOCATION
London, UK

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2023

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Energy Efficiency Step Change

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Prefer not to say

CAPITAL RAISED TO DATE
$250,001 - $1M

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Venture Capital, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Corporate Unit

h2purus.com
oliver@h2purus.com

H2 PURUS

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

H2 Purus is a technology based comercial entity which was specifically founded to help roll out and manage the commercial aspects of a number of highly developed technologies.

TECHNOLOGY DESCRIPTION

Water Desalination, Solar, Hydrogen and Carbon monitoring system (low orbit) to monitor and capture carbon footprints.

CORE INNOVATION

Sustainability is at the core of all our technologies which are designed with a focus on reducing environmental impact and promoting resource efficiency.

LEADERSHIP TEAM

Our science team combines a high level of specialization with multidisciplinary expertise across advanced fields of engineering, physics, mathematics and biology.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Ocean Reviver Inc

HQ LOCATION
Irvine, CA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2025

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 4: Basic technology components integrated and validated in a laboratory environment. System Simulation and Economic Analysis.

ON-SHORE VS. OFF-SHORE
Both

MOONSHOTS
Energy Efficiency Step Change

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Angel Investors/Family & Friends, Convertible Note / SAFE, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development, Debt / Loan, Internal Corporate Budget

TYPE OF INVESTORS SOUGHT
Angel Investors, Government or Public Funders, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Grant Funded

oceanreviver.com
amir@oceanreviver.com

OCEAN REVIVER INC

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Ocean Reviver Inc. is a U.S.-based water technology company developing membrane-free electrochemical desalination systems for sustainable, distributed freshwater production. Led by Dr. Amir Vahid, the team combines expertise in electrochemistry, environmental engineering, materials science, and systems integration. Affiliations include University of California, Irvine, Harvard University collaborators, and Sustain SoCal. The company operates from Irvine, California, where prototype development and testing are conducted. Ocean Reviver focuses on scalable, modular desalination solutions designed for energy efficiency, high recovery, and minimal environmental impact, targeting water-scarce coastal and off-grid communities.

TECHNOLOGY DESCRIPTION

The Quantum Electrochemical Desalination (QED) system is a membrane-free, low-pressure seawater desalination technology that removes dissolved ions using controlled electric fields within a flow-through electrochemical reactor. Instead of high-pressure reverse osmosis membranes, QED employs structured ceramic and metal-oxide electrodes to generate a volumetric ion-depletion zone, separating freshwater from concentrated brine. The system operates near ambient pressure, eliminating high-pressure pumps and reducing mechanical complexity.

The prototype produces approximately 1,000 L/day with ~70% water recovery and ~2.4–2.5 kWh/m³ specific energy consumption under conservative operation. Pulsed electric-field control improves current efficiency and mitigates scaling. The modular “ORCUBE” architecture enables linear scalability by replicating identical units in parallel. The system uses durable, non-polymeric materials, minimizes chemical pretreatment, and is compatible with renewable energy integration for off-grid operation.

CORE INNOVATION

QED’s core innovation is membrane-free electrochemical desalination using a controlled ion-depletion zone within a 3D flow-through reactor. By replacing high-pressure membrane separation with low-voltage ion transport, the system avoids osmotic pressure penalties, polymeric membrane fouling, and complex pretreatment. Pulsed waveform control enhances efficiency and stability while maintaining high recovery (~70%). The modular ORCUBE design enables containerized, distributed deployment with linear scaling. The approach also enables brine valorization pathways, transforming concentrate streams into potential mineral resources. This integrated architecture delivers energy-efficient desalination with reduced infrastructure, chemical usage, and environmental impact.

LEADERSHIP TEAM

The leadership team is led by Dr. Amir Vahid, Founder and CEO, with expertise in electrochemical systems, quantum-assisted modeling, and desalination innovation. The team includes specialists in environmental engineering, materials science, electrochemistry, and system integration, with academic affiliations at leading research institutions. Industry and operations support personnel oversee prototype development, testing, and deployment logistics. This multidisciplinary leadership integrates scientific research, engineering execution, and commercialization strategy to advance scalable membrane-free desalination technologies from pilot demonstration to community-scale implementation.

COMPANY OVERVIEW

TEAM / COMPANY NAME
OceanWell

HQ LOCATION
Menlo Park, CA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2019

NUMBER OF EMPLOYEES
11 - 20

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

ON-SHORE VS. OFF-SHORE
Off-Shore

MOONSHOTS
Marine-Friendly Intake Design

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$20M - $100M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Government Contracts or Public Funding, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
$20M - $100M

CURRENT INVESTMENT STAGE
Series A

oceanwellwater.com/xprize
jonathan@oceanwellwater.com

OCEANWELL

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

OceanWell is pioneering subsea water farms–modular deep-sea desalination systems that use up to 40% less energy than conventional plants. Each pod produces 4,000m³ of fresh water per day and can be combined into scalable "water farms" exceeding 400,000m³ per day to supply cities and industry at scale. By relocating desalination offshore, OceanWell eliminates large coastal plants, reduces permitting constraints, and minimizes environmental impact. Its systems are designed to work with marine ecosystems, recycling up to 80–90% of seawater, avoiding concentrated brine discharge, requiring no chemical pre-treatment, and safely returning marine life to their habitat. OceanWell is advancing its first commercial deployments in California and France.

TECHNOLOGY DESCRIPTION

OceanWell relocates desalination from the shoreline to the deep ocean (~400 meters), where natural hydrostatic pressure replaces a large portion of the energy required for reverse osmosis. This significantly reduces surface pumping requirements and lowers energy consumption by approximately 40% compared to conventional coastal plants.

Each subsea pod is anchored to the seafloor and connected to shore via pipeline and power umbilical. Pods aggregate into modular water farms scalable from a few million gallons per day to utility-scale production. Operating at depth avoids shoreline constraints and enables natural dispersion of residual salinity in the deep ocean water, reducing localized environmental impact. The system recycles the majority of seawater input and requires no chemical pre-treatment.The system is undergoing a multi-stage testing program and is advancing toward commercial-scale water farm installations.

CORE INNOVATION

OceanWell's core innovation is using the ocean itself as the pressure vessel for desalination along with its proprietary LifeSafeTM intake design. By placing reverse osmosis systems at depth, the surrounding water column provides the operating pressure that conventional plants must generate mechanically. This physics-based approach reduces energy use while fundamentally improving the environmental profile of desalination–minimizing marine life disruption, reducing brine concentration, and eliminating large onshore infrastructure. The breakthrough is not a new membrane–it's a new system architecture. OceanWell shifts desalination from centralized, land-based plants to distributed, modular subsea systems that scale through replication. This transforms the ocean into a scalable platform for producing abundant, reliable, and environmentally responsible freshwater.

LEADERSHIP TEAM

OceanWell's XPRIZE Water Scarcity team is led by Jonathan Haswell, a 3x founder and Chief Operating Officer, who drives strategy and global execution alongside Charles McGarraugh and Jamie Spotswood. The company was founded by Robert Bergstrom, a desalination industry veteran and founder of Seven Seas Water. Together with Dr. Michael Porter, OceanWell's Chief Technology Officer, Bergstrom led the development of the company's core subsea desalination platform, including its modular 4,000m3 per day pod , subsea reverse osmosis system, and LifeSafe™ intake. LifeSafe™ is a proprietary circulation and filtration system designed to protect marine ecosystems during water intake. Dr. Porter has since productized and engineered the system for scalable deployment, supported by experts spanning subsea engineering, marine operations, sustainability, water, and international market development.

COMPANY OVERVIEW

TEAM / COMPANY NAME
OCP-IWRI Water Pioneers

HQ LOCATION
Ben Guerir, Morocco

ORGANIZATION TYPE
Other

YEAR FOUNDED
2024

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 9: Commercially Operated. The actual technology has been successfully operated long-term over the full range of expected operational conditions.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Mature

REVENUE RANGE
Prefer not to say

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
Prefer not to say

TYPES OF CAPITAL SOUGHT
Prefer not to say

TYPE OF INVESTORS SOUGHT
Prefer not to say

AMOUNT OF CAPITAL SOUGHT
Prefer not to say

CURRENT INVESTMENT STAGE
Prefer not to say

linkedin.com/company/ocpgreenwater
abdessamad.belgada@um6p.ma

OCP-IWRI WATER PIONEERS

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Team OCP-IWRI Water Pioneers brings together researchers and industry experts to develop a robust, sustainable seawater desalination solution using ceramic membrane filtration (CMF) as an advanced pretreatment to reduce fouling, energy demand, and operating costs in SWRO.

TECHNOLOGY DESCRIPTION

Our team introduced a groundbreaking ceramic membrane filtration (CMF) system as the pretreatment stage of the seawater reverse osmosis (SWRO) process. This represents a significant departure from conventional polymeric UF or granular media filtration, directly addressing long-standing challenges related to fouling control, operational robustness, and environmental sustainability. The system integrates ceramic ultrafiltration membranes with in-line coagulation (ILC), enhancing the removal of turbidity, suspended solids, and colloidal matter, key drivers of RO membrane fouling and hydraulic resistance.

CORE INNOVATION

Sustainability is a core design principle of the OCP–IWRI Water Pioneers' innovation, which integrates ceramic membrane filtration (CMF) as an advanced pretreatment step for seawater reverse osmosis (SWRO). The system is designed to enhance operational performance while minimizing environmental impact and supporting long-term decarbonization of large-scale potable water production.

A key sustainability advancement is the replacement of conventional polymeric ultrafiltration with CMF. Ceramic membranes offer exceptional durability, with an expected service life of up to 20 years, approximately three times longer than polymeric alternatives, significantly reducing membrane replacement frequency, operational downtime, material consumption, and waste generation over the system lifecycle.

LEADERSHIP TEAM

Our leadership team brings together industrial execution and scientific excellence from OCP Green Water and International Water Research Institute (IWRI-UM6P). Strategic direction is provided by Hicham Fenniri, with industrial leadership from Ahmed Znibar. Operational and business alignment is ensured by Lamia Housni and Otmane Abousselham. Project coordination is led by Abdessamad Belgada, with key contributions from Youssef-Amine Boussouga and Lamia Boukari. Together, the team ensures scientific rigor, operational scalability, and effective project delivery.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Oneka Technologies

HQ LOCATION
Sherbrooke, Quebec, Canada

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2015

NUMBER OF EMPLOYEES
21 - 50

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
Off-Shore

MOONSHOTS
Marine-Friendly Intake Design, Minimal Physical System Footprint, Energy Efficiency Step Change, Resource Circularity and Brine Management

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
$1M - $5M

CAPITAL RAISED TO DATE
$20M - $100M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development, Debt/Loan

TYPE OF INVESTORS SOUGHT
Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Series B or Later

onekawater.com
dragan.tutic@onekawater.com

ONEKA TECHNOLOGIES

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

- Marine-Friendly Intake Design
- Resource Circularity and Brine Management
- Energy Efficiency Step Change
- Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Our mission is to make the oceans a sustainable and affordable source of freshwater. We are a Canadian cleantech company delivering innovative desalination solutions. Our multidisciplinary team combines engineering, permitting, business development, manufacturing and field operations expertise. With contracts signed in Chile and California, we operate as a full-service water provider, managing financing, design, engineering, project delivery, permitting, and community engagement. We work closely with regulatory authorities and local partners to ensure safe and responsible implementation. Our clients include coastal communities, municipalities, and industrial operators, all seeking reliable, low-carbon, and resilient water supply solutions tailored to their needs.

TECHNOLOGY DESCRIPTION

Our technology is a modular seawater desalination solution designed to provide sustainable freshwater to coastal communities and industries. The system harnesses wave energy as its sole power source, eliminating the need for external electricity and enabling carbon-free operation. Installed offshore, it requires no land use for desalination infrastructure, reducing environmental and visual impacts. The system safely intakes seawater while protecting marine life and discharges a low-salinity brine that is rapidly diluted in the water column. Fully decentralized and grid-independent, the technology enables water production in remote or infrastructure-constrained areas. Its scalable architecture allows additional modules to be deployed based on growing water demand, making it adaptable to both municipal and industrial needs. With daily production capacities tailored to site requirements, the system offers a flexible and resilient alternative to conventional desalination plants. The technology is protected by patents, ensuring a strong and defensible innovation platform.

CORE INNOVATION

Oneka Technologies' core innovation is a wave-powered desalination system that generates freshwater using the ocean's oscillating motion without fossil fuels, electricity or chemicals. Key to its uniqueness is a patented hydraulic process that "smooths" the wave action into a stable water flow for reverse osmosis as well as its integration to facilitate offshore operations. The modular system has demonstrated its capability to produce over 50,000 L/day with an Iceberg-class unit and withstand waves up to 5.9 m Hs in real life.

LEADERSHIP TEAM

The Oneka leadership combines technical innovation, entrepreneurial drive, and operational excellence. Dragan Tutic, CEO & Founder, is a mechanical engineer and entrepreneur whose passion for problem-solving and sustainability started young, leading multiple early projects & companies. While he started in the EV space, making electrical motorcycles, he moved to the water space to also build solutions to climate change adaptation on top of mitigation. This spirit inspired Oneka's mission to turn seawater and waves into freshwater. The management team combines expertise in ocean-based engineering including a decade of field-operating units, desalination, manufacturing, operational, permitting, sales & marketing expertise.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Renaissance Water

HQ LOCATION
Boston, MA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2022

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Resource Circularity and Brine Management, Energy Efficiency Step Change, Minimal Physical System Footprint

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$250,001 - $1M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital

TYPE OF INVESTORS SOUGHT
Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Seed

renaissancewater.com
quantum@harmonydesalting.com

RENAISSANCE WATER

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

Marine-Friendly Intake Design | Resource Circularity and Brine Management | Energy Efficiency Step Change | Minimal Physical System Footprint

TEAM / COMPANY DESCRIPTION

Renaissance Water is a consortium team combining deep process expertise with practical engineering and best-in-class components. We are pushing the limits of process efficiency and performance with Harmony Desalting's batch desalting process. Our advanced desalting technology addresses the two biggest challenges with water desalination: too much energy and too much brine.

Please see our website for an up-to-date list of team partners.

TECHNOLOGY DESCRIPTION

Our core technology is a batch reverse osmosis (RO) process. Batch RO offers the best possible energy-efficiency coupled with reduced membrane fouling. This technology will decrease the cost of full-scale seawater desalination and enable the mass proliferation of off-grid, decentralized desalters.

Treating water in batches unlocks variable salinity and pressure operation. By tracking the osmotic pressure over time, our batch technology achieves ultimate energy efficiency with no need for energy recovery. Batch RO is inherently fouling-resistant and can operate at higher water recovery rates with less reliance on chemical cleaning. The batch process uses standard desalination equipment and is readily scalable.

CORE INNOVATION

Batch RO works in a "closed volume" instead of the "open system" used in conventional RO. This is the same principle behind the hydroforming manufacturing process. Pressure is generated by a positive displacement pump and regulated by the flow through the RO membrane. Since water is incompressible, there is minimal energy lost from depressurizing the batch: no energy recovery device is needed.

Our dynamic RO process uses standard desalination equipment: pumps, membranes, pressure vessels, and valves. The batch process pairs well with innovations such as 3D-printed spacers, anti-fouling membranes, and center-port vessels.

LEADERSHIP TEAM

Renaissance Water combines decades of desalination expertise with a commitment to advancing the state-of-the-art.

Team lead: Quantum Wei is Founder & CEO of Harmony Desalting. An MIT-trained mechanical engineer, he has been developing the batch RO process since 2017.

Technical Lead: Prof. Christine Kleffner is Co-founder & CTO of Harmony Desalting. Among varied contributions to the field, she tested Dow's first Ultra High-Pressure RO membrane.

Harmony Desalting has distinguished itself with a grand-prize demonstration in the Bureau of Reclamation's More Water Less Concentrate Challenge and winning an Impact Medal in the inaugural Global Prize in Desalination.

Z LAB

TRACK A - DESALINATION: SYSTEM LEVEL INNOVATION

MOONSHOT FOCUS AREAS:

 Marine-Friendly Intake Design

 Resource Circularity and Brine Management

 Energy Efficiency Step Change

 Minimal Physical System Footprint

COMPANY OVERVIEW

TEAM / COMPANY NAME
Z Lab

HQ LOCATION
Nanjing, China

ORGANIZATION TYPE
University Team

YEAR FOUNDED
2013

NUMBER OF EMPLOYEES
11 - 20

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

ON-SHORE VS. OFF-SHORE
On-Shore

MOONSHOTS
Resource Circularity and Brine Management

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
Prefer not to say

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital, Angel Investors/ Family & Friends, Convertible Note / SAFE, Non-dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Grant Funded

zlab.nju.edu.cn
weichao.xu@smail.nju.edu.cn

TEAM / COMPANY DESCRIPTION

Z Lab was founded in 2013 at Nanjing University by Prof. Zhu Jia. The center conducts fundamental and applied research on light-thermal regulation, focusing on interfacial solar evaporation, radiative cooling, and spectral control. Its team includes 1 national leading talent, 6 national young talents, 3 faculty, 6 researchers/postdocs, 46 PhD students, and 38 master's students. The center has published over 180 papers in prestigious journals such as Nature, Science, NSR, PNAS, and Advanced Materials. Its achievements have won first-class provincial/ministerial awards and been featured by China Central TV, Science, and Nature.

TECHNOLOGY DESCRIPTION

Z Lab has developed a solar-powered interfacial photothermal distillation system for sustainable seawater desalination. The core technology utilizes broadband solar-absorbing photothermal materials integrated into a plate-type double-sided solar still, achieving >75% freshwater recovery with ultra-low electricity consumption (0.14 kWhe/t). Operating at ~70°C, the system inherently prevents scaling and provides thermal disinfection, eliminating chemical additives. An integrated brine evaporative crystallization system, combining vertically oriented cylindrical evaporators (≥6× evaporation enhancement) and self-cleaning evaporators, achieves zero liquid discharge using only solar, wind, and ambient energy (0.82 kWhe/t), recovering solid salt as industrial revenue. The modular, panel-like design enables flexible installation on rooftops or unhardened earth, minimizing land footprint. Main structures (metal, glass) are recyclable with up to 20-year lifespan, while photothermal materials are biodegradable. During winter testing, the system consistently produced 1 m^3/day drinking water with full brine crystallization, demonstrating low-carbon, chemical-free, and circular economy advantages.

CORE INNOVATION

Our core innovations include: (1) Broadband photothermal materials with ≥99% solarabsorption across 200 nm to 10 μm, utilizing porous nanoparticle structures for multipleinternal reflections and enhanced solar-thermal conversion. (2) Plate-type double-sidedsolar still enabling double-sided distillation, achieving >75% single-stage freshwater recoveryat 0.14 kWh/t electricity consumption through light-intensity-controlled water supply. (3) Brine evaporative crystallization system integrating vertically oriented cylindrical evaporators(≥6× evaporation enhancement) and self-cleaning evaporators powered solely by solar, wind,and ambient energy, achieving zero liquid discharge at 0.82 kWh/t while recovering solid saltas industrial revenue.

LEADERSHIP TEAM

Prof. Zhu Jia is a faculty member and the founding dean of the School of Sustainable Energy and Resources at Nanjing University. Elected Fellow of MRS, Optica, and RSC, he is a Highly Cited Researcher with over 160 publications in journals including Nature and Science (>30,000 citations). His research focuses on nanomaterials and nanophotonics for sustainability, specifically interfacial solar evaporation, radiative cooling, and photo-thermal catalysis. A recipient of the Xplorer Prize and MIT Technology Review Innovators Under 35, he holds a Ph.D. in electrical engineering from Stanford and completed postdoctoral training at UC Berkeley.

XPRIZE WATER SCARCITY | مبـــادرة محمد بن زايد للـــماء THE MOHAMED BIN ZAYED WATER INITIATIVE الماء

TEAM PROFILES

TRACK B - DESALINATION:
NOVEL MATERIALS AND METHODS

XPRIZE WATER SCARCITY

MAY 2026

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

This directory lists all Qualified Teams in Track B. The 17 teams advancing to the Semifinal stage are shown in bold with a dot.

● Advancing Semifinalist

● **Active Membranes**	activemembrane.com	United States	Page 37
Aqua Membranes	aquamembranes.com	United States	
AWUA Projects	awuaprojects.com	Colombia	
● **BioHtoO**	npm.kaust.edu.sa	Saudi Arabia	Page 38
Cetos Water	cetoswater.com	United States	
Challenge team	linkedin.com/in/dr-aisha-albalawi-979937b1?trk=contact-info	Saudi Arabia	
ChilCorp - Water	chilcorp-water.com	United States	
CNR Korea (Seohae Petroleum)	seohaepetro.com	South Korea	
CryoDesalination	cryodesalination.com	United States	
Cymete	cymete.com	Australia	
Desaltify	desaltify.com	Netherlands	
EZPack Water Ltd.	ezpackwater.com	Israel	
FFBL (Freshwater from brine laboratory)	bbrc.postech.ac.kr	South Korea	
FLINT@UIUC	kcsmith.mechse.illinois.edu	United States	
FOCUS	smart.postech.ac.kr	South Korea	
FontuX		China	
GelFlux	yugroup.me.utexas.edu	United States	
● **Graphene Enhanced Reverse Osmosis (NematiQ)**	nematiq.com	Australia	Page 39
H2nanO Energy Recycling Diffusion Distillation	h2nano.ca	Canada	
● **Hollowgraf Ltd**	hollowgraf.com	United Kingdom	Page 40
HydroFrontiers	monash.edu/engineering/sclc-lab	Australia	
● **Hydron Desalination**	hydrondesal.com	United States	Page 41
Ilion Water Technologies	linkedin.com/company/ilion-water-technologies	France	
● **InterPhase**		China	Page 42
IonicH2O	ionich2o.com	United States	
I-Optia	i-optia.com	Colombia	
JalDesal LLC	jaldesal.com	United States	
● **LayerPure Technologies LLC**	layerpure.com	United States	Page 43
● **NALA Membranes**	nalamembranes.com	United States	Page 44
NEXT Membranes	nextmembranes.us	United States	
● **Nanoflux / NoPo Nanotechnologies**	noponano.com/xprize	India	Page 45
Ocean Reviver	oceanreviver.com	United States	
OceanToOasis		India	
● **OsmoPure Technologies**	osmopuretechnologies.com	United States	Page 46
● **PlasmaPure**	hbku.edu.qa/en/qeeri	Qatar	Page 47
● **Pure Blue Tech Inc.**	purebluetech.com	United States	Page 48
Team Powder Desalination	capturoenvirotech.com	Canada	

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

● Advancing Semifinalist

Quantum Water		United States	
● Renaissance Water	renaissancewater.com	United States	Page 49
● SGMEM ACE	ntu.edu.sg/newri	Singapore	Page 50
Sidon Water	sidonwater.com	United Kingdom	
Team Hilal@WRC-NYU Abu Dhabi	nyuad.nyu.edu/en/research/faculty-labs-and-projects/water-research-center.html	United Arab Emirates	
● The Water Bridge	ecu.edu.au/schools/engineering/staff/profiles/senior-lecturers/dr-masoumeh-zargar	Australia	Page 51
TJ Membranes		China	
TMD WATER4ALL	tmdlab.org	United States	
UW nano		United States	
Vandstrom Inc.	vandstrom.com	United States	
● Water Innovation Alliance	manchester.ac.uk	United Kingdom	Page 52
● WATERLAND		France	Page 53
WaterPuris	waterpuris.com	Canada	
WaterQuest		United States	
Water Volt		United Arab Emirates	

ACTIVE MEMBRANES

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Active Membranes

HQ LOCATION
Moorpark, CA, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2022

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
>$100M

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Venture Capital, Corporate or Strategic Partners, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Seed

www.activemembrane.com
arian@activemembrane.com

TEAM / COMPANY DESCRIPTION

Active Membranes develops electro-active reverse osmosis membranes that transform passive filtration into a smart, controllable separation process. By applying low-voltage electrical signals, our system actively manages fouling and scaling, enabling higher recovery, lower chemical use, longer membrane life, and more stable performance. Delivered as standard spiral-wound modules with a plug-and-play control unit, our solution integrates seamlessly into existing and new plants. Active unlocks step-change efficiency, reduces lifecycle cost and footprint, and expands the economic viability of desalination and water reuse across industrial, brackish, and seawater applications.

TECHNOLOGY DESCRIPTION

Active Membranes integrates a conductive layer within a standard thin-film composite reverse osmosis membrane, enabling application of tunable low-voltage electrical waveforms during operation. These signals dynamically influence charge interactions at the membrane surface, disrupting fouling and scaling mechanisms as they form rather than reacting after performance loss. The result is a programmable separation process where waveform, frequency, and bias can be adjusted in real time to optimize flux, rejection, and energy use for specific feedwaters and operating conditions.

The technology is delivered as industry-standard spiral-wound modules paired with an external control unit (“Active Box”) and monitoring interface, making it retrofit-ready for existing systems. This approach maintains compatibility with current infrastructure while converting membranes from passive components into an actively managed, responsive system that improves efficiency, stability, and operating flexibility.

CORE INNOVATION

Active Membranes’ core innovation is embedding a conductive layer within a standard reverse osmosis membrane and applying tunable low-voltage electrical waveforms to actively control surface chemistry. This transforms membranes from passive filters into responsive systems that disrupt fouling and scaling in real time. By adjusting waveform, frequency, and bias, performance becomes programmable—optimizing flux, rejection, and energy use for specific conditions. Delivered in standard spiral-wound formats with a plug-and-play controller, the technology integrates seamlessly into existing plants while unlocking higher recovery, reduced chemical dependence, longer membrane life, and more stable, efficient operation.

LEADERSHIP TEAM

Active Membranes is led by a highly accomplished team with deep expertise across membrane science, desalination, and large-scale water systems. Founder and CEO Arian Edalat brings extensive experience spanning plant operations, product development, and commercialization of advanced water technologies. The team is supported by globally recognized leaders in membrane research and seasoned industry operators who have deployed and scaled complex infrastructure worldwide. Collectively, they combine scientific depth with execution track record, supported by a strong network of partners and advisors, positioning Active Membranes to lead the next generation of high-performance water treatment solutions.

BIOHTOO

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
BioHtoO

HQ LOCATION
KAUST (Thuwal), Saudi Arabia

ORGANIZATION TYPE
Not-Yet-Incorporated Team

YEAR FOUNDED
2023

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Grant-Funded (e.g.,foundation, academic, or prize funding)

npm.kaust.edu.sa/
maria.divincenzo@kaust.edu.sa

TEAM / COMPANY DESCRIPTION

BioHtoO is a multidisciplinary team of researchers from the NPM Group (Suzana Nunes Lab) at KAUST, working in collaboration with Prof. Alberto Tiraferri at Politecnico di Torino. The team develops next-generation membrane technologies for desalination and water reuse, combining expertise in polymer science, membrane engineering, and water treatment. In partnership with an experienced membrane technology group in China, we are advancing the translation of our laboratory-scale materials toward scalable membrane fabrication. BioHtoO aims to bring breakthrough membrane materials from research innovation to real-world deployment through industrial partnerships and commercialization.

TECHNOLOGY DESCRIPTION

BioHtoO is developing advanced thin-film nanocomposite membranes incorporating artificial water channels to enhance the efficiency of desalination and water reuse processes. These supramolecular transport pathways enable faster water transport while maintaining excellent rejection of salts and small contaminants, including challenging micropollutants. By integrating the artificial channels within conventional polyamide membrane architectures, the technology improves permeability without sacrificing selectivity. The membranes also exhibit improved anti-fouling and anti-scaling properties, which are critical for stable long-term operation in desalination systems. Importantly, the materials are compatible with existing roll-to-roll membrane manufacturing processes used in the membrane industry. The technology has demonstrated promising laboratory performance and is advancing toward scalable fabrication and pilot validation with industrial partners to support more efficient and sustainable water purification systems.

CORE INNOVATION

BioHtoO develops next-generation thin-film nanocomposite membranes incorporating artificial water channels that enable faster and more selective water transport. By integrating supramolecular transport pathways within conventional polyamide membrane architectures, the technology enhances permeability while maintaining excellent rejection of salts and small contaminants. The membranes also exhibit improved anti-fouling and anti-scaling properties, which are critical for stable long-term operation in desalination systems. Importantly, the materials are compatible with existing roll-to-roll membrane manufacturing processes, enabling scalable industrial production and facilitating the translation of advanced membrane materials into practical water treatment applications.

LEADERSHIP TEAM

BioHtoO is led by Dr. Maria Di Vincenzo (KAUST), whose research focuses on advanced membrane materials for desalination and water reuse. The team includes Prof. Suzana Nunes, an internationally recognized expert in polymer membranes and director of the NPM Group at KAUST, and Prof. Alberto Tiraferri (Politecnico di Torino), a leading researcher in membrane processes and water treatment. The team also collaborates with membrane technology expert Dr. Xiang Li in China, supporting the translation of laboratory innovations toward scalable membrane fabrication. Together, the team combines expertise in materials science, membrane engineering, and water treatment technologies.

GRAPHENE ENHANCED REVERSE OSMOSIS (NEMATIQ)

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Graphene Enhanced Reverse Osmosis (NematiQ)

HQ LOCATION
Melbourne, Australia

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2016

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 4: Basic technology components integrated and validated in a laboratory environment. System Simulation and Economic Analysis.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Prefer Not to Say

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Venture Capital, Corporate or Strategic Partners, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Bootstrapped / Self-Funded

nematiq.com
wmclean@cleanteqwater.com

TEAM / COMPANY DESCRIPTION

NematiQ and Clean TeQ Water are Australian companies specialising in advanced membrane technology and water treatment systems. NematiQ manufactures Graphene Enhanced Membranes at commercial scale using a proprietary roll-to-roll coating platform, with products validated by major water utilities and certified for drinking water in Australia. Clean TeQ Water designs, pilots, and delivers water treatment systems globally. The team partners with Monash University, where the underlying graphene oxide shear-alignment coating science was developed. Together, the team combines materials science research, proven nanoscale manufacturing capability, and commercial water treatment experience to advance next-generation desalination membranes.

TECHNOLOGY DESCRIPTION

Graphene Enhanced Reverse Osmosis (GE-RO) applies a nanoscale graphene oxide (GO) coating to conventional polyamide thin-film composite SWRO membrane substrates. The GO layer is produced as high-purity, monolayer-rich flakes and converted into an ink for shear-aligned coating, forming a dense, uniform film with controlled nanochannel structure in the 10 to 50 nm thickness range. This coating increases surface hydrophilicity and smoothness, reducing organic fouling and biofouling, extending intervals between chemical cleans, and stabilising flux over time, while maintaining benchmark salt rejection. GE-RO is designed as a drop-in replacement compatible with standard 4040 and 8040 pressure vessels, operating pressures (55 to 83 bar), and existing pre-treatment and CIP regimes. The technology builds on NematiQ's proven roll-to-roll manufacturing platform, which already produces Graphene Enhanced Ultrafiltration modules at commercial scale, providing a direct scale-up pathway from lab validation to full-size module production.

CORE INNOVATION

The core innovation is a shear-aligned graphene oxide surface coating applied to commercial SWRO membranes. During coating, GO sheets self-assemble into aligned layers under shear force, creating a continuous, defect-minimised film with controlled nanochannel architecture. This ultrathin layer (10 to 50 nm) transforms the membrane surface properties without altering the underlying polyamide separation layer or requiring changes to plant infrastructure. The result is improved fouling resistance and flux stability delivered through a surface modification that is fully compatible with existing desalination hardware and scalable via NematiQ's established roll-to-roll coating and spiral-wound module assembly processes.

LEADERSHIP TEAM

Will McLean (Commercial Manager) leads the XPRIZE entry, bringing experience in water technology commercialisation and market development. Adam Fischmann (Technical Manager) oversees product development and testing across NematiQ's Graphene Membrane portfolio. Peter Voigt (CEO) provides strategic leadership with extensive experience in water treatment technology companies. The team is supported by Monash University researchers: Professor Mainak Majumder, who pioneered the shear-aligned GO coating method; Dr Sally El Mergawi, Research Fellow contributing membrane characterisation and optimisation expertise; and Muhammed Afnas Vilayatteri, PhD Candidate conducting hands-on development and testing of the GE-RO membrane.

HOLLOWGRAF LTD

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Hollowgraf Ltd

HQ LOCATION
Manchester, UK

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2025

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 4: Basic technology components integrated and validated in a laboratory environment. System Simulation and Economic Analysis.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
<$50,000

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Philanthropic, Prize Capital

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Crowdfunding or Individual Investors, Development Banks or Global Agencies, Internally Funded

AMOUNT OF CAPITAL SOUGHT
$100,000 - $500,000

CURRENT INVESTMENT STAGE
Pre-Seed

www.hollowgraf.com
info@hollowgraf.com

TEAM / COMPANY DESCRIPTION

Hollowgraf Ltd offers game changing solutions for Sustainable and circular desalination. With our innovative membranes and processes transforms seawater into clean water and valuable products—without applied hydraulic pressure, draw solution and without generating brine. Hollowgraf establishes a new global benchmark where desalination becomes a high-value driver of economic and environmental impact.

TECHNOLOGY DESCRIPTION

Hollowgraf presents a step-change technology in desalination by combining membrane innovation with industrial flue-gas utilisation, leading to an innovative desalination process that recover multiple high value resources from sea water along with recovering >50% potable quality water from sea water at ambient pressure conditions.

CORE INNOVATION

A patent-pending industrial filtration process activated by waste flue gas for treating alkaline pre-treated seawater, selectively eliminating anionic species to convert the feed into a bicarbonate-based solution, using charged hollow-fibre membranes with graphene-based or 2D polymer composite active layers fabricated on commercial ultrafiltration hollow-fibre supports.

A low-cost downstream process is employed to treat the permeate bicarbonate solution, enabling recovery of high-purity CO_2 and production of liquid fertiliser compounds through resin regeneration along with producing potable quality water with 50% recovery.

LEADERSHIP TEAM

Hollowgraf's leadership team combines scientific excellence, innovation leadership, and scale-up expertise. Co-founders Dr. Premlal Pillai, Prof. Rahul Raveendran Nair, and Dr. Feng Yan are the inventors of Hollowgraf's core graphene membrane technology, ensuring deep technical continuity. The team has achieved significant early stage traction by winning prestigious innovation awards such as Global Prize for innovation in Water 2025 and innovation Prize from Khalifa Innovation Centre. Prof. Nair has attracted over £15M in research funding and built strong industrial partnerships. Dr. Yan leads engineering scale-up of large-area graphene hollow-fibre membranes. Collaborations with the University of Manchester, National Graphene Institute, and Saudi Water Authority support commercial translation from lab to market.

HYDRON DESALINATION

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Hydron Desalination

HQ LOCATION
Allentown, United States

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2025

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 5: Basic technology components integrated and validated in a relevant environment. System Simulation and Economic Analysis Refinement.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$250,001 - $1M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Private Equity, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Pre-Seed

www.hydrondesal.com
sachin@hydrondesal.com

TEAM / COMPANY DESCRIPTION

Hydron Desal Inc. is developing Hydron H2X™, a membrane-free desalination platform that extracts freshwater from hypersaline brines using directional solvent extraction and low-grade heat. The technology enables cost-effective treatment of produced water, industrial brines, and high-salinity groundwater where conventional desalination fails. Hydron's systems operate at near-ambient pressure without membranes or high-pressure equipment, enabling scalable and modular deployment. The company recently demonstrated its technology at the Brackish Groundwater National Desalination Research Facility (BGNDRF) in New Mexico and is advancing toward commercial pilot deployments with industry partners.

TECHNOLOGY DESCRIPTION

Hydron H2X™ is a membrane-free desalination technology based on liquid–liquid extraction (LLE) that enables freshwater recovery from hypersaline brines using low-grade thermal energy. In the process, a proprietary solvent selectively extracts water from highly saline feed streams while rejecting dissolved salts and contaminants. The solvent and water naturally separate into two liquid phases, allowing efficient transfer of water without membranes or high-pressure equipment.

When the solvent-water mixture is gently heated, the absorbed water is released as purified freshwater and the solvent is recycled in a closed loop. Because the process relies on heat rather than pressure, the system operates at near-ambient pressure and can treat extremely high salinity streams that are uneconomical for conventional desalination.

Hydron's modular systems can integrate with waste heat or renewable thermal energy, enabling scalable, low-cost treatment of produced water, industrial brines, and other challenging water sources.

CORE INNOVATION

Hydron's core innovation is a membrane-free desalination process based on liquid–liquid extraction (LLE) that enables freshwater recovery from extremely saline water sources. A proprietary solvent selectively extracts water from brines while rejecting salts and contaminants. The absorbed water is then released using low-grade heat, and the solvent is recycled in a closed loop. Because the process relies on thermal energy rather than pressure, it eliminates membranes, high-pressure pumps, and many fouling challenges common in conventional desalination. This approach enables cost-effective treatment of hypersaline waters, including produced water and industrial brines, where existing desalination technologies are inefficient or impractical.

LEADERSHIP TEAM

Hydron is led by an experienced technical and commercialization team with deep expertise in chemical engineering, process development, and industrial scale-up. CEO and co-founder Sachin Nair is a chemical engineer with nearly two decades of experience in research, process engineering, and large-scale project execution across the chemical and industrial sectors. Over his career he has built more than 20 pilot systems and supported over $200 million in capital projects globally. The leadership team combines expertise in separations science, process engineering, and technology commercialization, focused on scaling Hydron's membrane-free desalination platform from pilot systems to large-scale industrial deployments.

COMPANY OVERVIEW

TEAM / COMPANY NAME
InterPhase

HQ LOCATION
Beijing, China

ORGANIZATION TYPE
University Team

YEAR FOUNDED
2023

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 5: Basic technology components integrated and validated in a relevant environment. System Simulation and Economic Analysis Refinement.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$50,000 - $250,000

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Venture Capital

AMOUNT OF CAPITAL SOUGHT
$100,000 - $500,000

CURRENT INVESTMENT STAGE
Seed

wushuang@tsmartwater.com.cn

INTERPHASE

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

TEAM / COMPANY DESCRIPTION

We are an interdisciplinary team with deep expertise spanning physical chemistry, interfacial processes, materials science, engineering, and commercialization, aimed at delivering sustainable and affordable solutions to address the global water crisis. At our core lies InterPhase, a next-generation seawater desalination and resource recovery platform. This technology harnesses our innovative 3D Interfacial Evaporation & Condensation Process with in-situ selective salt separation. Our mission is to translate this breakthrough innovation into commercially viable, large-scale systems that redefine sustainable water infrastructure.

TECHNOLOGY DESCRIPTION

Our full-system solution integrates four synergistic innovations to revolutionize seawater desalination:

- 3D interfacial evaporation technology harnesses ultra-compact evaporation area and accelerates phase change and mass transfer, reducing brine volume by >90%, cutting energy consumption by >85%.
- Energy-efficient condensation technology forms a “closed heat loop” by recycling latent heat, increasing condensation efficiency by >70%.
- Optimized RO membranes with precise control achieve 50 m/min production speed, and 50% lower manufacturing cost.
- Multi-gradient spatial separation technology enables nearly 100% of resource recovery without extra chemical consumption.

The system is modular, solar/wind-compatible, and delivers sustainable, zero-discharge desalination at ultra-low energy cost.

CORE INNOVATION

Our core technology employs a proprietary 3D Interfacial Evaporation Process achieving:

- Ultra-high evaporation-surface-area ratio (>100× conventional systems)
- Phase-change acceleration through optimized heat/mass transfer
- Closed-loop latent heat recycles for energy-efficient condensation
- In-situ selective salt recovery via fractional crystallization

LEADERSHIP TEAM

Dr. Xi Chen (Associate Professor @ Tsinghua University; ex-Princeton University independent PI): Leading scientist in desalination sector, >50+ publications/patents, >$2M+ grants from the foundation of InterPhase team. Leads core technology development.

Dr. Chuang Liu (Research Associate @ Tsinghua): Heads material and process R&D.
Ms. Shuang Wu (ex-Senior Engineering, Kurita Water): System integration and engineering construction expert.

Dr. Senchen Huang (Tsinghua alumni, Serial Entrepreneur): >$14M+ venture experience. Commercialization strategist.

LAYERPURE TECHNOLOGIES LLC

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
LayerPure Technologies LLC

HQ LOCATION
Rockville, Maryland, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2025

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 5: Basic technology components integrated and validated in a relevant environment. System Simulation and Economic Analysis Refinement.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$50,000 - $250,000

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Private Equity

AMOUNT OF CAPITAL SOUGHT
$500,001 - $1M

CURRENT INVESTMENT STAGE
Pre-Seed

layerpure.com
samarpan.debmajumder@layerpure.com

TEAM / COMPANY DESCRIPTION

LayerPure Technologies LLC is developing next-generation reverse osmosis (RO) membranes based on a proprietary rinse-free molecular layer-by-layer (mLbL) fabrication process. Originating from research at The George Washington University and the National Institute of Standards and Technology (NIST), the company focuses on engineering ultrathin, highly cross-linked polyamide membranes with precise control over structure and surface chemistry. LayerPure is working in collaboration with academic partners at GWU and NJIT to advance membrane performance, validation, and scale-up, with a focus on desalination, water reuse, and high-purity water applications.

TECHNOLOGY DESCRIPTION

The technology is based on a rinse-free molecular layer-by-layer (mLbL) fabrication process for polyamide reverse osmosis membranes. Unlike conventional interfacial polymerization, which is diffusion-limited and produces rough, heterogeneous films, this approach uses stoichiometrically controlled monomer delivery to form ultrathin (~20 nm), highly cross-linked, and ultrasmooth (RMS <2 nm) polyamide layers without intermediate rinsing. This enables precise control over membrane thickness, surface chemistry, and crosslinking density while significantly reducing fabrication time and solvent use. The resulting membranes achieve >99.6% salt rejection, >90% boron rejection at neutral pH, and exhibit strong resistance to organic fouling and silica scaling with near-complete flux recovery after simple water rinsing. The process is inherently compatible with roll-to-roll manufacturing, enabling scalable production of high-performance RO membranes.

CORE INNOVATION

The core innovation lies in eliminating intermediate rinse steps in molecular layer-by-layer membrane fabrication through stoichiometric monomer control. This enables the formation of ultrathin, highly uniform, and defect-free polyamide layers with unprecedented control over structure and surface chemistry. Unlike conventional membranes, which rely on diffusion-limited processes, this approach produces ultrasmooth, highly charged surfaces that intrinsically resist fouling and scaling. The ability to simultaneously achieve ultra-high salt rejection, high boron removal at neutral pH, and reversible fouling behavior represents a fundamental shift in RO membrane design.

LEADERSHIP TEAM

The team is led by Samarpan Deb Majumder, a PhD researcher specializing in membrane science and surface chemistry, with research experience at The George Washington University and the National Institute of Standards and Technology (NIST). The work is guided by Dr. Christopher M. Stafford, a leading expert in polymer science at NIST and a pioneer in molecular layer-by-layer membrane fabrication, along with academic collaborators including an Associate Professor from The George Washington University and faculty at The New Jersey Institute of Technology. The team combines expertise in polymer science, desalination, and materials engineering with translational experience through the NSF I-Corps program, enabling the development of scientifically rigorous and scalable membrane technologies.

NALA MEMBRANES

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
NALA Membranes

HQ LOCATION
Raleigh, North Carolina, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2018

NUMBER OF EMPLOYEES
11 - 20

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$5M - $20M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Private Equity, Corporate or Strategic Partners, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Series A

nalamembranes.com
sjmecham@nalamembranes.com

TEAM / COMPANY DESCRIPTION

NALA Membranes was founded by Drs. Judy Riffle (CTO) and Sue Mecham (CEO) to develop and commercialize chlorine tolerant reverse osmosis membranes from patented sulfonated polysulfones. Early funding from a NSF SBIR grant established POC and pre-seed funding from impact VCs was used to develop a scalable manufacturing process. Inclusion of industry professional and AMTA Hall of Fame Inductee, Randy Truby, brought targeted experience to the team. Recent additions to the team include Dr. Mike Dixon, ex-NanoH2O and serial entrepreneur, as a sales, fundraising, and commercialization consultant. Most recently, Ron Creatore, an attorney and experienced CFO, joined the C-suite.

TECHNOLOGY DESCRIPTION

NALA's sulfonated polysulfone thin film composite membranes are 1000X more stable to chlorine bleach than any other membrane. They are smoother and operate at the widest pH range compared to all other membranes. These highly differentiating features add functionality, reduce fouling and scaling, and reduce operating costs. Chlorine bleach is widely used in water treatment operations but must be restricted from conventional reverse osmosis membranes. NALA membranes allows application of residual chlorine bleach to eliminate biofouling that drives 25% of operating costs. Development of sustainable wastewater reuse is required to solve water scarcity and NALA's membranes are the most durable and cleanable membranes, making them the best choice for wastewater reuse. NALA's membranes reduce the use of high energy evaporators by filtering concentrated high intensity industrial wastewater that conventional membranes cannot. NALA's new membranes are a the next must-have tool for treating water more efficiently and treating challenging waters effectively.

CORE INNOVATION

Patented sulfonated-polysulfones and their use as desalination membranes was developed by NALA co-founders. The thin film composite membrane construction is consistent with conventional polyamide membranes except the barrier layer is NALA's chlorine stable sulfonated-polysulfone instead of a polyamide. NALA developed a rapid robust proprietary roll-to-roll manufacturing platform that is the key to enabling this new membrane technology. The method produces chlorine stable membranes with a smooth surface that reduces fouling and scaling and rejects salt effectively across a broad pH range of 2-12. NALA's high performance polymers are thermally and chemically resistant and mechanically tough, providing robust chlorine stable membranes.

LEADERSHIP TEAM

Sue Mecham, Ph.D., CEO co-founder-Polymer chemist, 11 yrs industry (prod. dev., manufacturing, enterprise sales, Dir. operations, 11 yrs academia, 6 yrs current startup

Judy Riffle, Ph.D., CTO co-founder-Polymer chemist, 5 yrs industry (VP R&D @ startup, Union Carbide R&D), 30 yrs Virginia Tech Professor (Emerita)

Randy Truby, Exec. VP Sales- 50+ yrs membrane industry, former CEO/COO/VPSales Fluid Systems/Toray/Hydranautics/NanoH2O

Ron Creatore, CFO-entrepreneur serial founder, attorney

NANOFLUX / NOPO NANOTECHNOLOGIES

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Nanoflux / NoPo Nanotechnologies India Private Limited

HQ LOCATION
Bangalore, India

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2011

NUMBER OF EMPLOYEES
21 - 50

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 5: Basic technology components integrated and validated in a relevant environment. System Simulation and Economic Analysis Refinement.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Seed

noponano.com
gadhadar@noponano.com

TEAM / COMPANY DESCRIPTION

NoPo Nanotechnologies is a deep-tech materials science company specializing in the production of high-purity single-walled carbon nanotubes (SWCNTs). While our vision extends to making humanity a space-faring species, our current focus is on solving critical challenges on Earth. We are leveraging our advanced materials to create revolutionary water transportation and filtration membranes. Our technology enables the development of membranes that offer significantly superior flux and rejection rates, addressing the urgent global need for clean and accessible water. NoPo is poised to disrupt the water purification industry with its innovative and scalable solutions.

TECHNOLOGY DESCRIPTION

NoPo's technology centers on our proprietary method for producing single-walled carbon nanotubes (SWCNTs) and integrating them into advanced applications. For water purification, we utilize these SWCNTs to create membranes with unparalleled performance. The unique properties of our nanotubes allow for the construction of membranes that function as highly efficient water channels.

Our current membranes already demonstrate a 2x improvement in flux and rejection rates compared to existing industry standards. This is achieved by leveraging the atomically smooth and narrow structure of SWCNTs, which allows water molecules to pass through with minimal resistance while effectively blocking contaminants. Our technology is not only proven but also scalable, with a clear roadmap to achieve a 100x improvement, promising a future where high-efficiency water purification is both accessible and affordable.

CORE INNOVATION

Our core innovation is the creation of water transportation membranes using chirality selected single-walled carbon nanotubes (SWCNTs) that dramatically enhance purification efficiency. By embedding our high-purity SWCNTs into a polymer matrix, we have engineered a material that overcomes the limitations of conventional membranes. This innovation allows for a significant increase in water flux without compromising salt and contaminant rejection. We have successfully translated the theoretical potential of carbon nanotubes into a practical, scalable solution that is already outperforming current market standards, with the potential for exponential improvements in performance.

LEADERSHIP TEAM

NoPo is led by a team of visionary scientists and seasoned entrepreneurs dedicated to solving global challenges through materials innovation. Co-founder and CEO, Gadhadar Reddy, drives our mission to apply our technology to high-impact areas, with a key focus on water purification. He is supported by co-founders Anto Godwin (COO) and Arunima Patel (CBO), who bring deep engineering and business expertise. Our technical team, including CTO Dr. Robert Kelley Bradley, possesses world-leading knowledge in carbon nanotube production, enabling us to pioneer transformative applications like our next-generation water filtration membranes.

OSMOPURE TECHNOLOGIES

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
OsmoPure Technologies

HQ LOCATION
Boulder, CO, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2024

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 5: Basic technology components integrated and validated in a relevant environment. System Simulation and Economic Analysis Refinement.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$1M - $5M

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Convertible Note / SAFE

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors

AMOUNT OF CAPITAL SOUGHT
$500,001 - $1M

CURRENT INVESTMENT STAGE
Pre-Seed

osmopuretechnologies.com
kian.lopez@osmopuretechnologies.com

TEAM / COMPANY DESCRIPTION

OsmoPure's vision is a future where clean water is abundant, reliable, and sustainable. We are on a mission to make advanced water treatment more accessible by replacing energy intensive and chemically demanding methods with a simpler and more efficient approach. Nature purifies most of the world's fresh water through evaporation and condensation. Our membranes use the same principle, but in a compact, scalable form called pressure-driven distillation. By applying pressure to move water vapor across an air layer, we achieve efficient and reliable separation with less energy use, fewer chemicals, and lower cost than today's advanced water treatment technologies.

TECHNOLOGY DESCRIPTION

OsmoPure's technology utilizes pressure-driven distillation (PD) to produce distillation-quality water without relying on thermal energy. The PD membrane works by applying pressure across an air gap in the membrane, driving water vapor from the contaminated side to the clean side, where it condenses as purified water. Because transport occurs in the gas phase, nonvolatile contaminants including salts, pathogens, and organics (e.g., boric acid, urea) are completely rejected. Moreover, PD's hydrophobic membrane materials provide improved chemical robustness, allowing it to operate under harsh operating conditions such as with chemical oxidants like chlorine and ozone without a decrease in performance or membrane integrity.

CORE INNOVATION

OsmoPure's PD membrane targets specific limitations of reverse osmosis (RO) and thermal distillation, nominally the former's poor selectively for small, neutral contaminants (e.g., boron) and poor chemical robustness and the latter's poor energy efficiency. By increasing selectivity and chemical robustness, OsmoPure's membrane reduces both pre- and post-treatment steps while improving water quality and material durability. Likewise, by using pressure as the driving force for distilling water, OsmoPure's membrane leverages the high selectivity of the distillation process without the need for thermal gradients. In doing so, we offer an energy-efficient alternative technology for desalination, water reuse, and industrial water treatment applications.

LEADERSHIP TEAM

Kian Lopez (CEO) leads commercialization, partnerships, and scale-up, translating OsmoPure's pressure-driven distillation technology into pilot systems for desalination and water reuse. Nadia Jorgenson (CTO) directs technology development and system integration, specializing in advanced water treatment technologies with a Ph.D. in environmental engineering from the University of Colorado Boulder. Tony Straub (CSO) provides scientific leadership, guiding membrane innovation and interfacial transport research to advance commercialization efforts.

COMPANY OVERVIEW

TEAM / COMPANY NAME
PlasmaPure

HQ LOCATION
Education City, Doha, Qatar

ORGANIZATION TYPE
University Team

YEAR FOUNDED
2011

NUMBER OF EMPLOYEES
51 - 100

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 4: Basic technology components integrated and validated in a laboratory environment. System Simulation and Economic Analysis.

FINANCIAL INFORMATION

COMMERCIAL STAGE
R&D

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
No - Fully Funded

TYPES OF CAPITAL SOUGHT
Not Applicable

TYPE OF INVESTORS SOUGHT
Not Applicable

AMOUNT OF CAPITAL SOUGHT
Not Applicable

CURRENT INVESTMENT STAGE
Not Applicable

hbku.edu.qa/en/qeeri
kmahmoud@hbku.edu.qa

PLASMAPURE

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

TEAM / COMPANY DESCRIPTION

PlasmaPure is an interdisciplinary desalination and membrane development team based at the Qatar Environment and Energy Research Institute (QEERI), Hamad Bin Khalifa University. The team is advancing an integrated, deployment-ready approach that reduces desalination energy demand and converts reject brine into high-value industrial resources, supporting pathways toward zero-liquid-discharge outcomes. In addition, the Team introduced an innovative bio-inspired hierarchical RO membrane with enhanced flux and antifouling properties. PlasmaPure is aligned with real operational needs through close collaboration with key industrial and national stakeholders.

TECHNOLOGY DESCRIPTION

PlasmaPure introduces an innovative bio-inspired reverse osmosis (RO) membrane with enhanced water flux for seawater desalination. The membrane follows a conventional thin-film composite architecture with a polyamide active layer formed by interfacial polymerization on a polysulfone support cast by non-solvent induced phase separation process on a nonwoven polyester fabric. However, the key pioneering feature of the proposed RO membrane lies in a patented composition of PA layer with improved fouling resistance formed on an innovative bio-inspired micro-structured surface featuring engineered riblets. These micro-scale riblets disrupt boundary-layer flow and generate localized shear gradients near the membrane surface, inhibiting biofouling and mineral scaling. Salt rejection of the bio-inspired membrane follows the conventional solution–diffusion and sieving mechanisms typical of RO membranes, whereas the increased membrane flux arises from riblet-induced hydrodynamic enhancement as well as increased hydrophilicity and surface charge of the modified PA layer.

CORE INNOVATION

The unique innovation of the proposed RO membrane comprises two key pioneering features:

- An innovative bio-inspired micro-structured RO membrane surface featuring engineered riblets (QEERI patent filing is under process)
- A patented composition of a PA layer of RO membrane with improved fouling resistance

LEADERSHIP TEAM

PlasmaPure is led by Prof. Khaled A. Mahmoud. The leadership includes Dr. Viktor Kochkodan and Dr. Yehia Manawi (Membrane experts), Dr. Ahmed Abotaleb and Dr. Tayeb Bentria (computational modeling), Dr. Brahim Aissa and Dr. Rashad A. Al-Gaashani (Material development), Dr. Tareq Al-Ansari (Sustainability expert), supported by engineering leads Eng. Jasir Jawad and Eng. Abdulaziz Hussien.

PURE BLUE TECH INC.

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Pure Blue Tech Inc.

HQ LOCATION
Bellingham, Washington, USA

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2013

NUMBER OF EMPLOYEES
11 - 20

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Early Commercial

REVENUE RANGE
Prefer Not to Say

CAPITAL RAISED TO DATE
Prefer Not to Say

ACTIVELY RAISING CAPITAL
Yes - Actively Raising Now

TYPES OF CAPITAL SOUGHT
Venture Capital, Convertible Note/SAFE, Non-Dilutive Grant Funding, Government Contracts or Public Funding, Philanthropic / Prize Capital, Strategic Partnership or Co-Development, Debt Loan

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Crowdfunding or Individual Investors

AMOUNT OF CAPITAL SOUGHT
$5M - $20M

CURRENT INVESTMENT STAGE
Series A

purebluetech.com
admin@purebluetech.com

TEAM / COMPANY DESCRIPTION

Pure Blue Tech is an advanced water technology company accelerating the transition to low-cost, high-performance desalination. We design and manufacture intelligent membrane elements that integrate ultrasonic fouling control to reduce energy use, chemical consumption, membrane replacement frequency, and operational downtime. Our validated Ultrasonic Reverse Osmosis (USRO™) technology has been independently field-tested by the U.S. Bureau of Reclamation in a 65-day pilot and is planned for commercial-scale deployment.

TECHNOLOGY DESCRIPTION

Intelligent Reverse Osmosis (iRO™) is a next-generation membrane element platform that actively mitigates fouling, scaling, and energy loss in seawater desalination systems. Each element integrates advanced proprietary ultrasound to reduce pretreatment requirements, chemical cleanings, concentrate volume, and pressure drop. iRO™ elements are direct replacements for standard spiral elements, compatible with existing 8” and 4” pressure vessels. Independently validated in a 3rd party U.S. Bureau of Reclamation pilot, PBT’s ultrasonic elements deliver measurable cost savings and performance gains.

CORE INNOVATION

PBT’s iRO™ elements and methods leverage breakthrough proprietary technologies anchored by Ultrasonic Reverse Osmosis (USRO™) and intelligent process optimization. This combination is poised to reshape the economics and resilience of seawater desalination. iRO™ elements are universally compatible with standard 8-inch and 4-inch spiral wound RO pressure vessel housings and require no infrastructure modification. PBT is the only company in the world to seamlessly integrate this technology within a spiral-wound element.

LEADERSHIP TEAM

The Pure Blue Tech leadership team brings together proven expertise in membrane science, RO systems, and clean-tech commercialization. CEO Ryan Vogel has founded multiple water technology ventures and assisted half a dozen water technology startups from prototype to pilot to revenue. Chief Engineer Jeff Frank has over 35 years of experience developing and commercializing acoustic technologies and products in marine environments. Randy Truby, CCO, has held leadership / c-suite roles at Toray, Hydrauantics, Fluid Systems, NanoH2O, and IDA. Randy leads PBT’s global commercial sales, marketing, and field services including all desalination.

RENAISSANCE WATER

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Renaissance Water

HQ LOCATION
Boston, MA

ORGANIZATION TYPE
Other

YEAR FOUNDED
2022

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 7: System Prototype Validated in Operational Environment. A high-fidelity prototype has been built and tested in an operational environment.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$250,001 - $1M

ACTIVELY RAISING CAPITAL
Yes - Actively Raising Now

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Angel Investors, Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Seed

www.renaissancewater.com
quantum@harmonydesalting.com

TEAM / COMPANY DESCRIPTION

Renaissance Water is a consortium team combining deep process expertise with practical engineering and best-in-class components. We are pushing the limits of process efficiency and performance with Harmony Desalting's batch desalting process. Our advanced desalting technology addresses the two biggest challenges with water desalination: too much energy and too much brine. Please see our website for an up-to-date list of team partners.

TECHNOLOGY DESCRIPTION

Our core technology is a batch reverse osmosis (RO) process. Batch RO offers the best possible energy-efficiency coupled with reduced membrane fouling. This technology will decrease the cost of full-scale seawater desalination and enable the mass proliferation of off-grid, decentralized desalters.

Treating water in batches unlocks variable salinity and pressure operation. By tracking the osmotic pressure over time, our batch technology achieves ultimate energy efficiency with no need for energy recovery. Batch RO is inherently fouling-resistant and can operate at higher water recovery rates with less reliance on chemical cleaning. The batch process uses standard desalination equipment and is readily scalable.

CORE INNOVATION

High recovery SWRO would reduce the CAPEX, OPEX, and commissioning time of large-scale SWRO plants.

We strive to establish a novel, sustainable process concept for energy-efficient seawater desalination with increased water output through three key approaches:

1) increasing membrane operating pressures to 120 bar and beyond

2) implementing Harmony's energy-efficient batch desalting process

3) SUPREME: tailored membrane elements through an applied, scalable approach

By revamping element construction, we will enable membrane desalination to reach higher brine salinities and water recovery rates.

LEADERSHIP TEAM

Renaissance Water combines decades of desalination expertise with a commitment to advancing the state-of-the-art.Team lead: Quantum Wei is Founder & CEO of Harmony Desalting. An MIT-trained mechanical engineer, he has been developing the batch RO process since 2017.

Technical Lead: Prof. Christine Kleffner is Co-founder & CTO of Harmony Desalting. Among varied contributions to the field, she tested Dow's first Ultra High-Pressure RO membrane. Harmony Desalting has distinguished itself with a grand-prize demonstration in the Bureau of Reclamation's More Water Less Concentrate Challenge and winning an Impact Medal in the inaugural Global Prize in Desalination.

SGMEM ACE

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
SGMEM ACE

HQ LOCATION
Singapore

ORGANIZATION TYPE
University Team

YEAR FOUNDED
2008

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 6: Prototype Validated in Relevant Environment. Component integration is similar to the final application in most respects.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
No - Fully Funded

TYPES OF CAPITAL SOUGHT
Venture Capital

TYPE OF INVESTORS SOUGHT
Venture Capital, Government or Public Funders

AMOUNT OF CAPITAL SOUGHT
Not Applicable

CURRENT INVESTMENT STAGE
Not Applicable

ntu.edu.sg/newri
Ynwang@ntu.edu.sg

TEAM / COMPANY DESCRIPTION

Globally ranked among the top research and technology organisations in the environment and water domain, the NEWRI ecosystem strives to take its lab-scale innovations to innovative engineered solutions for the water and environmental markets.

TECHNOLOGY DESCRIPTION

Biomolecule-based seawater reverse osmosis (SWRO) membranes are engineered with biomolecules to achieve superior desalination performance. By integrating biomolecules into the membrane structure, these next-generation membranes enable precise molecular-level tuning of selectivity, water flux, and fouling resistance. This approach allows enhanced water permeability and improved energy efficiency compared to conventional SWRO membranes. This technology represents a sustainable and innovative solution to address global water scarcity, offering scalable potential for seawater desalination and industrial water treatment.

CORE INNOVATION

The core innovation lies in the integration of biomolecules into the membrane active layer, enabling molecular-level tuning of transport properties that is not achievable with conventional polymeric membranes. By harnessing the dynamic surface properties of biomolecules, this approach transforms the interfacial polymerization (IP) process to produce high-performance seawater reverse osmosis (SWRO) membranes.

LEADERSHIP TEAM

Dr. Rong Wang is a Full Professor and President's Chair in Civil and Environmental Engineering at Nanyang Technological University (NTU), Singapore. She also serves as the Executive Director of the Nanyang Environment and Water Research Institute (NEWRI). Dr. Wang is the founding President of the Membrane Society in Singapore (MEMSIS) and a Fellow of the Academy of Engineering Singapore (SAEng), where she has served as Secretary since 2024.

THE WATER BRIDGE

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
The Water Bridge

HQ LOCATION
Perth, Western Australia

ORGANIZATION TYPE
University Team

YEAR FOUNDED
2023

NUMBER OF EMPLOYEES
6 - 10

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 3: Analytical and experimental critical function and/or characteristic proof-of-concept validated. Performance Model and Initial Cost Assessment.

FINANCIAL INFORMATION

COMMERCIAL STAGE
R&D

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
Prefer Not to Say

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Non-dilutive grant funding; government-supported pilot validation programmes; and Philanthropic / Prize Capital

TYPE OF INVESTORS SOUGHT
Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
$500,001 - $1M

CURRENT INVESTMENT STAGE
Grant-Funded

www.ecu.edu.au/schools/engineering/staff/profiles/senior-lecturers/dr-masoumeh-zargar

m.zargar@ecu.edu.au

TEAM / COMPANY DESCRIPTION

The Water Bridge is a research team based at Edith Cowan University (ECU) in Western Australia developing next-generation desalination membranes and membrane materials for efficient seawater treatment. The team brings together expertise in membrane science, advanced materials and environmental engineering through collaboration between ECU, The University of Western Australia and Istanbul Technical University. As a Qualified Team in Track B of the XPRIZE Water Scarcity competition, The Water Bridge is advancing desalination membranes and functional material platforms designed to improve durability, reduce energy demand and support reliable potable water production under real-world operating conditions.

TECHNOLOGY DESCRIPTION

The Water Bridge is developing advanced desalination membrane materials engineered to improve salt rejection, reduce fouling and enhance chemical stability under challenging seawater conditions. The approach focuses on tailoring membrane interfaces using functional material strategies that extend operational lifetime while lowering energy demand compared with conventional systems. Designed for integration with existing RO infrastructure and scalable membrane fabrication pathways, the technology aims to support reliable, cost-effective and more sustainable potable water production for water-scarce regions.

CORE INNOVATION

The core innovation lies in engineering functional membrane interfaces that improve separation performance while increasing resistance to fouling and chemical degradation in seawater desalination systems. This materials-driven strategy enables more durable and energy-efficient operation compared with conventional membrane platforms and supports scalable deployment pathways for next-generation desalination technologies operating under variable real-world feedwater conditions.

LEADERSHIP TEAM

The Water Bridge is led by Dr Masoumeh Zargar at Edith Cowan University. The team includes Prof. Stefan Iglauer, A/Prof. Alireza Keshavarz, Dr Javad Farahbakhsh, Prof. Vahid Vatanpour, Prof. Michael Johns, A/Prof. Einar Fridjonsson, Mr Roham Ghanbari and Ms Mohadeseh Najafi Arani. Together, the team brings expertise across membrane science, advanced materials, desalination systems, environmental engineering, process engineering and experimental validation.

WATER INNOVATION ALLIANCE

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

COMPANY OVERVIEW

TEAM / COMPANY NAME
Water Innovation Alliance

HQ LOCATION
Manchester, UK

ORGANIZATION TYPE
University Team

YEAR FOUNDED
2024

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 3: Analytical and experimental critical function and/or characteristic proof-of-concept validated. Performance Model and Initial Cost Assessment.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
Not Applicable

CAPITAL RAISED TO DATE
None

ACTIVELY RAISING CAPITAL
Not raising now, but planning to within 6 months

TYPES OF CAPITAL SOUGHT
Strategic Partnership or Co-Development

TYPE OF INVESTORS SOUGHT
Venture Capital, Government or Public Funders, Development Banks or Global Agencies (e.g., World Bank)

AMOUNT OF CAPITAL SOUGHT
$100,000 - $500,000

CURRENT INVESTMENT STAGE
Not Applicable

Aabutaleb2@swcc.gov.sa

TEAM / COMPANY DESCRIPTION

The Water Innovation Alliance is a specialized research and development collective focused on revolutionizing seawater desalination through the lens of the circular economy. Based in the UK, we bridge the gap between advanced materials science and industrial utility operations. Our mission is to transform membrane waste into high-value assets, drastically reducing the environmental footprint and operational costs of water production. By integrating cutting-edge nanotechnology with established desalination infrastructure, we empower utilities to achieve sustainable water security while meeting ambitious national targets for carbon neutrality and industrial efficiency.

TECHNOLOGY DESCRIPTION

Our technology focuses on the reclamation and upcycling of end-of-life (EoL) desalination membranes using advanced graphene-based coatings. Typically, membranes are discarded after performance degradation, creating significant industrial waste. Our process involves a precision surface treatment that applies a specialized graphene layer to these aged membranes. This coating restores the structural integrity of the polyamide layer, enhances fouling resistance, and recovers high levels of salt rejection and water flux.

Specifically designed for seawater desalination, this technology allows utilities to bypass the high cost of total membrane replacement. By extending the operational lifecycle of existing assets, we provide a sustainable alternative that maintains rigorous water quality standards. The integration of this technology into current desalination plants offers a seamless transition toward a “zero-waste” membrane management model, ensuring long-term resilience and significantly lower energy consumption per cubic meter of water produced.

CORE INNOVATION

The core innovation lies in the precision chemical bonding of graphene onto degraded membrane surfaces to create a “second-life” desalination asset. Unlike traditional methods that treat membranes as consumables, our graphene-coating technique repairs surface defects and enhances selectivity at the molecular level. This innovation shifts the desalination paradigm from a linear “use-and-dispose” model to a circular “waste-to-asset” system. It achieves a 25–30% reduction in CAPEX and significantly lowers the carbon footprint by eliminating the manufacturing and logistics overhead of new membranes.

LEADERSHIP TEAM

The Water Innovation Alliance is led by Abdulrahman Abutaleb, a Process Innovation Director with extensive expertise in desalination technologies and industrial R&D. Our leadership team comprises senior researchers, materials scientists specializing in 2D nanomaterials, and technical experts in membrane forensic analysis. Supported by a dedicated technical team, including Database Technicians and process engineers, our leadership bridges the gap between theoretical research and large-scale industrial application. Together, we bring decades of experience in managing high-stakes water scarcity projects and implementing integrated desalination solutions within the Saudi Arabian utility sector.

COMPANY OVERVIEW

TEAM / COMPANY NAME
Waterland

HQ LOCATION
Montpellier, France

ORGANIZATION TYPE
For-Profit Private Company

YEAR FOUNDED
2026

NUMBER OF EMPLOYEES
1 - 5

TECHNOLOGY INFORMATION

TECHNOLOGY READINESS LEVEL (TRL)
TRL 5: Basic technology components integrated and validated in a relevant environment. System Simulation and Economic Analysis Refinement.

FINANCIAL INFORMATION

COMMERCIAL STAGE
Pre-Commercial Pilot

REVENUE RANGE
<$1M

CAPITAL RAISED TO DATE
$50,000 - $250,000

ACTIVELY RAISING CAPITAL
Yes - Actively raising now

TYPES OF CAPITAL SOUGHT
VC, Convertible, Non-dillutive, Prize capital, and strategic partnerships

TYPE OF INVESTORS SOUGHT
Venture Capital, Corporate or Strategic Partners, Government or Public Funders, Foundations or Impact Investors, Family Offices

AMOUNT OF CAPITAL SOUGHT
$1M - $5M

CURRENT INVESTMENT STAGE
Bootstrapped / Self-Funded

piet.ceuppens@BXVentures.com

WATERLAND

TRACK B - DESALINATION: NOVEL MATERIALS AND METHODS

TEAM / COMPANY DESCRIPTION

Managing Director of OsmotiQ - Experienced entrepreneur in clean tech with multiple years in strategy and innovation consulting with a dual background in biochemical engineering and business management.

TECHNOLOGY DESCRIPTION

The proposed OsmotiQ solution involves the deployment of advanced biomimetic membranes that feature artificial water channels, leveraging patented technology to significantly enhance permeability while ensuring high selectivity for NaCl rejection. This innovative approach enables to reduce the overall energy consumption of the desalination plant by 40-50%, push the recovery rate out of the sea water to 60-70% (meaning 2/3 of the sea water is turned into fresh water; hence less brine is produced), reduced capital and pre-treatment costs, translated in the overall reduction of the operational costs by 40% compared to traditional seawater reverse osmosis processes.

CORE INNOVATION

Artificial Water Channels implemented in the polysulfone layer of the membrane.

LEADERSHIP TEAM

Sanaa Daakour - CTO - Co-inventor of the technology; PhD in Nanotechnology - leads tech development and scale up.

Piet Ceuppens - Managing director - Investment Manager @BXVentures - Experienced Entrepreneur in charge of business operations.

Serge Colle - Sr. Co-Pilot - Partner @BXVentures - Ex EY Global Energy and Resource lead - Lead network connections to ensure commercial interest.

OsmotiQ is supported by the Belgian Venture Studio BXVentures - a climate tech venture studio and venture builder, providing business support both in strategic advisory and hands on day-to-day operations.

NOTES

XPRIZE WATER SCARCITY | مبـــادرة محمد بن زايد للـــماء THE MOHAMED BIN ZAYED WATER INITIATIVE للماء

CONTACT XPRIZE WATER SCARCITY AT WATERSCARCITY@XPRIZE.ORG

Join the movement xprize.org/water

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