



RAINMAKER

Our purpose is to produce
drinking water for communities in need,
so that nobody goes thirsty

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MEMBRANE DISTILLATION (MD) TECHNOLOGY IN THE MINING INDUSTRY



BCCC
Brazil-Canada Chamber of Commerce
Chambre de Commerce Brésil-Canada

AT PDAC

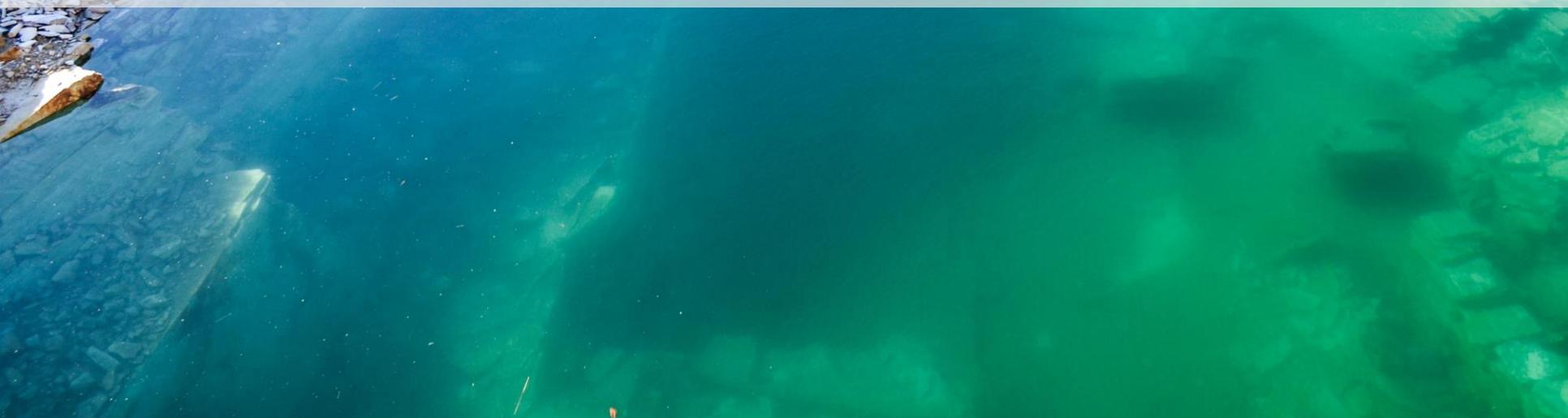


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History

- The Company began in 2008 as Dutch Rainmaker by inventor Piet Oosterling.
- It evolved through through 2014, with units of the first-generation technology deployed in Kuwait and Northern Holland.
- To date, over \$15 million has been invested in technology research, development and deployment.
- The second-generation units have improved energy efficiency by as much as 100%, significantly reducing the cost of each liter of water produced. The units are approximately 50% more energy efficient than those of our competitors.
- Rainmaker Worldwide Inc. was formed in Peterborough, Ontario, Canada in 2014 to consolidate all assets, intellectual property, and the executive management expertise of Dutch Rainmaker.
- July 2017, Rainmaker was taken Public through an RTO and trades on the OTC under the Symbol of **RAKR**.



Mission: To empower the growth and development of communities and businesses around the world through a revolutionary approach to clean water production.

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Water to Water

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DEMO UNIT
MEMBRANE DISTILLATION

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SALT WATER

*Rainmaker's mobile 1,000 litre
system is used to test and
demonstrate membrane
distillation technology
from anywhere in the world.*

Water-To-Water – WW

Features

- Stand-alone system
- Minimal local infrastructure is needed
- No external energy sources needed
- Pure localized water production at competitive prices
- Unique patented technology

Operating Principle

Water that is evaporated under low pressure by means of a heat pump condenses again and returns heat to the evaporator. This system makes it possible to purify large quantities of water with relatively little energy.

Expected yield per unit is 150,000 litres per day depending on design and location.

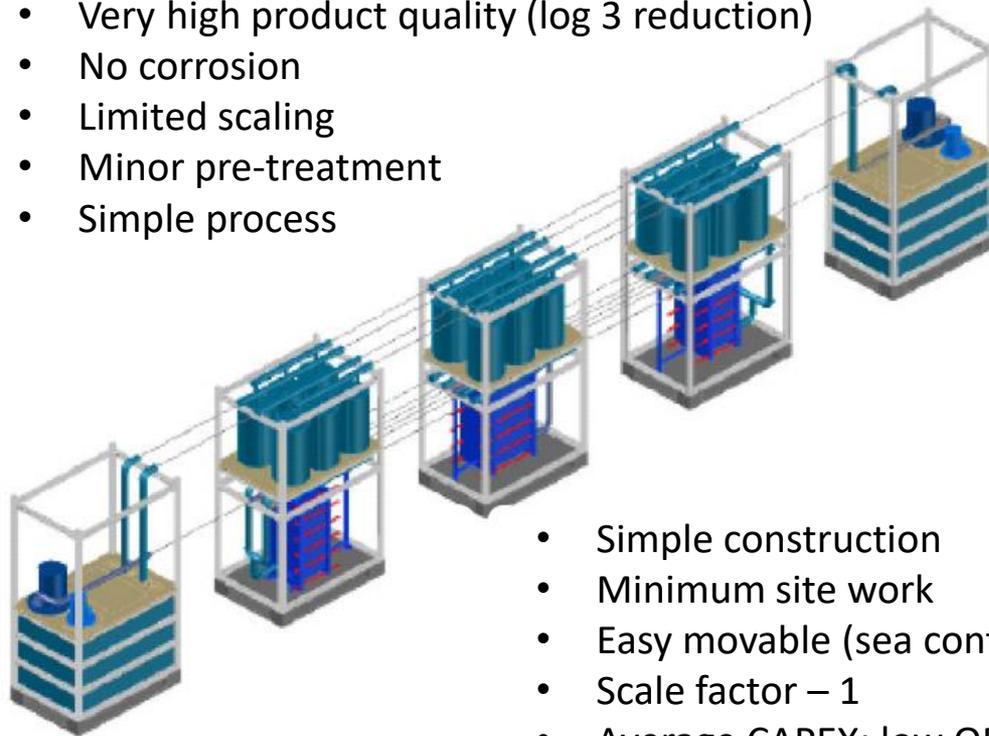
Membrane Distillation – *unique characteristics*

- Simplicity and lower costs – installation, operation, waste stream disposal
- No vacuums required
- Heat is supplied via a heat pump and the cooling of the distillate is done by the same heat pump cycle thereby enhancing efficiency and reducing wastewater treatment costs
- High reliability – the modular system means that operations can continue even if one or more membrane units needs to be replaced
- It is possible to go to very high concentration levels of brine depending on customization and process requirements

Distillation Plant



- Highest possible separation degree
- Very high product quality (log 3 reduction)
- No corrosion
- Limited scaling
- Minor pre-treatment
- Simple process



- Simple construction
- Minimum site work
- Easy movable (sea containers)
- Scale factor – 1
- Average CAPEX; low OPEX

Membrane Distillation versus Reverse Osmosis

Membrane Distillation has clear economic and environmental advantages over Reverse Osmosis:

MD	RO
<ul style="list-style-type: none">• Can handle high salt (chemical) concentrations• Not sensitive for membrane fouling• Needs relative high membrane surface (low flux)• Much more energy efficient and does not require redundancy to allow for regular cleaning – clear operating and capital expense advantages• Requires intermittent labour resources for regular maintenance• Low pressure process extends life cycle MD machines with only periodic replacements of parts• High concentration of brine reduces ultimate disposal costs and can produce valuable by-products	<ul style="list-style-type: none">• High concentrated feed water• Needs precise pre-treatment, back flush and sometimes chemical cleaning (eg. Antifouling)• Has higher flux• Needs high pressure electrical driven pumps and very elaborate pre-treatment – increasing costs significantly compared to MD• Often need to have redundant systems increasing operating and capital expenditures• The nature of the process reduces the life time value of RO technology with constant and costly maintenance and replacement systems• Much heavier labour requirements drives costs higher and diverts resources from core functions

MD – Water treatment in Mining

- MD manages high concentrations of chemicals in the feed water
- MD produces highly concentrated brine making the brine treatment and harvesting of certain chemicals easier and more cost effective
- MD technology is robust and easy to manage
- In certain circumstances the process can be driven by waste heat
- Rainmaker uses modular design in its products making operation and maintenance easy and low cost



Military / Disaster Application

A purpose-built solution to military specifications.

Rainmaker's core Water-to-Water technology has been combined with Bredenoord's state-of-the-art military-grade generators in a purpose-built containerized solution.

Each unit can provide up to 25 m³ (25,000 liters) of pure drinking water and 35 kW of electricity.



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Air to Water

*Rainmaker Air to Water technology
currently deployed in Kuwait*

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Conclusions

- Rainmaker water production and purification systems create significant economic and environmental benefits for companies across all sectors and communities
- MD technology is ideally positioned to significantly improve the efficiency of waste water treatment
- MD Water treatment can generate projects to enhance environmental sustainability across the mining sector consistent with stated mission and vision statements
- CSR programs are ideal for implementing community based water program

Management Team

Collectively, Rainmaker's management team has a history of bringing new technologies to more than 125 million customers across 10 countries, led over 100,000 employees, and sold companies for up to \$12 billion.



Piet Oosterling, Inventor & Chief Innovation Officer

- Extensive innovation experience, holding over 430 patents, across many sectors including agri-food, chemical and water
- Vast experience in start-ups and launching IPOs
- Corporate governance of public and private corporations
- Focused on wind turbine, agri-automation and mechanical inventions
- Chairman of the Board for Prolion B.V.



Michael O'Connor, CEO

- Co-founder of WIND Mobile (Canada) 2008
- A founding executive of Orascom Telecom, 1999-2008, Cairo, Egypt – IPO 2000. Market Cap growth \$200 million to \$12 billion – IPO more than 12 subsidiaries
- Director of the Centre for Economic and Financial Analysis at SAIC, M&A consultancy supporting multiple transactions

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Joost Oosterling, Managing Director, Europe

- Management and financial executive
- Broad international business development expertise
- Extensive public company experience CMA, CMF and IMA designations
- Amsterdam Stock Exchange executive



Paul Heney, Vice President MENA/Asia

- Extensive M&A, transaction and corporate development experience in Canada and international
- Corporate governance of public and private corporations
- Senior lawyer (30 years)
- Merchant banker

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Michael Skinner, CSO

- Canadian management consultant and entrepreneur
- CEO and founder of Operitel, acquired by OpenText
- Government relations and international business development expertise
- Mergers and Acquisitions



Michael Dohaney, CFO

- CPA, CMA, BSc, MBA, MA (Econ)
- VP / CFO Manulife Financial (Barbados), CFO BMO Financial Group (Barbados)
- In-depth international experience in accounting, taxation, treasury and asset/liability management
- Manufacturing experience with GE and Outboard Marine Corp



THANK YOU!

Michael O'Connor, CEO
moconnor@rainmakerww.com