



Desalination reinvented

“For years there were wars fought over oil; in a short time, there will be wars fought over water,”

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U.S. Vice President Kamala Harris

April 5th 2021



# Problem



47% of all people  
will live in areas of high  
water stress in 2030



20-30%  
water demand  
increase by 2050

**A world at risk**

# Opportunity



70% of global water  
withdrawal needed  
for agriculture



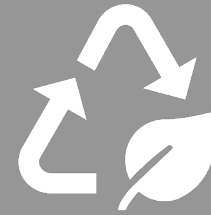
80% of wastewater  
is not treated or  
reused



30% increased energy usage  
can be caused by scale build-  
up from hard water



# Wastewater



## 80% untreated

Wastewater with high ionic contaminant is released into the environment.



## Damages ecosystems

Untreated wastewater damages sensitive ecosystems.



## Wasted wastewater

Treated wastewater can be utilized in agriculture irrigation.





# Groundwater in agriculture



## Evaporation

Irrigation cycles evaporates water – increasing salinity if not replenished by rain.



## High salinity

Damages crops, reduces yield and ruins conditions for sapling growth.



## Desalination advantages

Removing salt guarantees future use of groundwater and, if optimized, can improve irrigation.



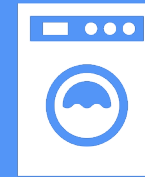


# Water softening



## Scaling damage

Hard water cause scale build-up that reduces flow and water pressure and may cause pipes to burst.



## Efficiency decrease

Scale can decrease appliances' lifespan by 30-50% and can increase energy bills by up to 30%.



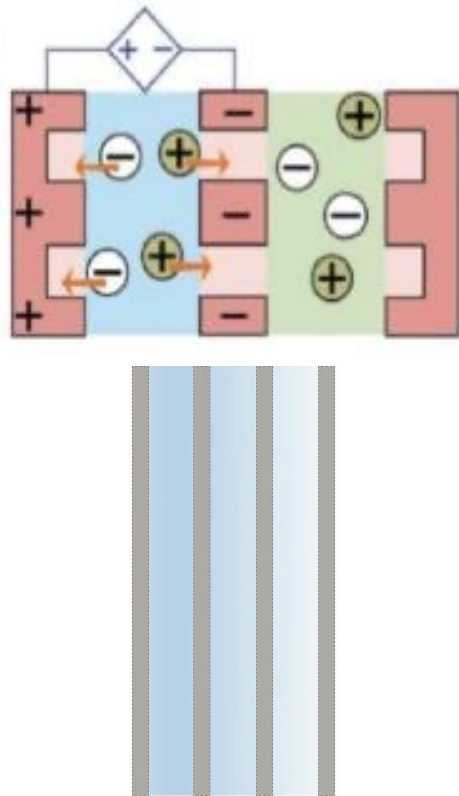
## Skin dryness

Hard water reacts with soap to form salts on the skin. Minerals, like calcium and magnesium, dry out skin by clogging the pores.



# Avsalt solution

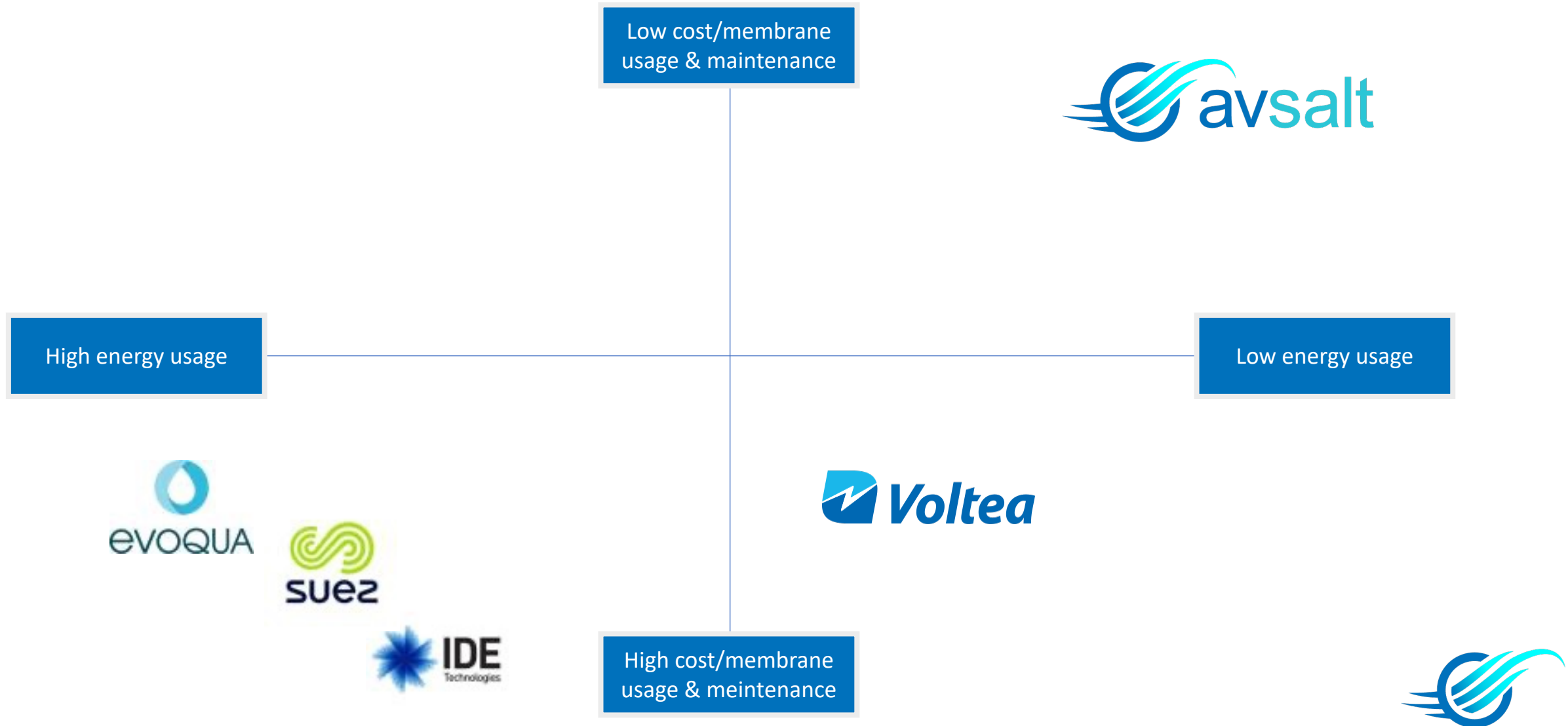
## Patented Advanced Capacitive Deionization



- ✓ Continuous flow system
- ✓ No expensive membranes
- ✓ Low energy consumption
- ✓ Cheap production cost
- ✓ Scalable volume



# Competitive landscape





# Target markets until 2024

Markets	CAGR (%)	Market sizes			
		2021 USD Billions	2022 USD Billions	2023 USD Billions	2024 USD Billions
Industrial Waste Water	9%	12.8	14	15.2	16.6
Agriculture Irrigation	4,5%	2.1	2.2	2.3	2.4
Water Softening	6,2%	4.4	4.7	5.0	5.3
<b>TOTAL</b>		<b>19.2</b>	<b>20.9</b>	<b>22.5</b>	<b>24.3</b>

**2024: Active on markets sizes in total of USD 24.3 billion**



# Time to market and development needed

Markets	Time to market	Development needed
Water Softening	Q3 2023	Calcium removal tuning & volumes
Agricultural Irrigation	Q4 2023	Salt removal tuning & volumes
Industrial Wastewater	Q1 2024	Reject concentration levels, chemical specific removal & volumes



# Patents

**US20210078877A1**

Deionization device (complete method)  
Granted (2038)

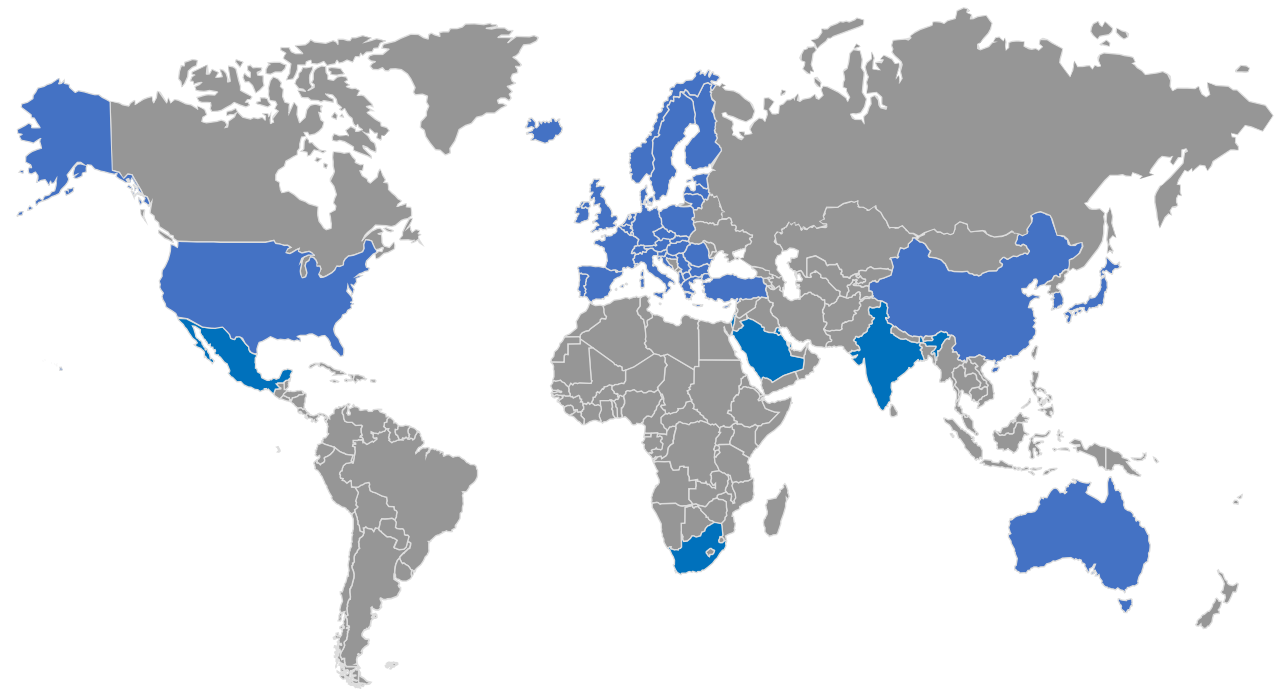
Australia, China, Europe, Hong Kong, India, Isreal, Japan, South Korea, Kuwait, Mexico, Qatar, Saudi Arabia, South Africa, USA



**P5933EP00**

Electrode (specific)  
Pending

Australia, China, Europe, Hong Kong, India, Isreal, Japan, South Korea, Kuwait, Mexico, Qatar, Saudi Arabia, South Africa, USA



(US20210078877A1) Deionization device and method for at least partially deionizing a feed liquid in which an electrolyte is dissolved, and apparatuses using such devices

# Team and founders

Johan Säfholm, CEO, M.Sc. Engineering physics

Nicolaas Boon, CSO, PhD

Jonas Arildsson, senior mechanical engineer

Paula Merino, test- and evaluation engineer

Thomas Andén, materials and coatings engineer

Robin Persson, software development

Jessica Paulsson, business development



**Mohamad  
Takwa**  
PhD in Biotech,  
Board member  
& Co-founder



**Nicolaas Boon**  
PhD in Physics,  
CSO & Founder





# Milestones

## Done

2019-2020

Raised 400kEUR in total, prototyping two generations of modules, second patent.

2021

Waste water field test done with collaboration partner, a Swedish company with MEUR turnover within recycling.

Raised 1MEUR.

2022

Hired CEO and engineering team.

Softening field tests done with good results.

Manufacturing 0-series of module (TRL 5).

Several field tests in planning.

## Upcoming

Q4 2022 Integration with control system

Q1 2023 Securing sourcing and manufacturing

Q2 2023 Product certified (ready for market)

Q3 2023 Product launch in EU

Q1 2024 Certification for US



# The offer

Avsalt is planning an investment round of 3,5MEUR to accelerate the product industrialisation and start sales activities.

The monthly burn rate today is ~62kEUR and with the expansion that follows the investment, it will increase to 130kEUR with the priorities on the right.

## Accelerations

- Head of sales
- Contract manufacturing partner to accelerate industrialisation and certification (CE & UL)
- Securing supply chain and materials for manufacturing
- Engineering team increase by two





Thank you!

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