בס"ד

Groundbreaking Technology Ensuring Cleaner and Safer Water For Millions

"CyWat" = Cyber - Water

Real-Time water (liquid) quality monitoring solution

The problem: Water supply systems are exposed to many ongoing contaminations threats and even deliberate attacks!

- Today as in the last 40 years, the water authorities around the world are sampling water manually, in order to detect contaminants.
- This is done only at sporadic and random points, since there is no viable and cost effective solution and hence no related regulation.
- Current monitoring systems are big, old-tech, with limited configuration capabilities, expensive to buy, install and maintain.
- **Deliberate cyber attacks on water infrastructure can happen imminently!**

The New York Times June 14, 2017

The Michigan attorney general's office announces that several state officials have been charged with involuntary manslaughter in connection with a Legionnaires' outbreak that killed 12 people during the Flint water crisis.

Report: Iran behind hack of Israeli Water Authority sites

According to Fox News, the Iranians used American servers to launch their attack on the Israeli infrastructure sites last month ; U.S. Department of Energy refused to comment on the report - Ynet.

New study claims 43 states expose millions to dangerous chemical in drinking water

MAY 7, 2019 / CBS NEWS

Uranium, Other Dangerous Chemicals Released Into Detroit River - December 10, 2019 CNN

A site known to be contaminated by uranium and other harmful contaminants has collapsed into a significant source water body and there could be major drinking water treatment implications.

*"Water infrastructures world wide are exposed to many **natural infections** and **terror attacks** and currently there isn't any effective technological solutions for this problem – until **CyWat** came along"…*

State of Israel
WATER AUTHORITY

Danny Lecker
HEAD OF THE WATER & CYBER SECURITY DEP.
THE WATER AUTORITY – STATE OF ISRAEL

THE SOLUTION

An innovative Real-Time IoT water monitoring platform in a widely spread configuration.

- The system consists of an **Online multi-parameter sensors -** cloud based software & sophisticated algorithms + ML tools.
- Our solution answers public and private water utilities, as well as industrial market needs, for **a smart water quality detection & water event management tools.**
- **The system is checking 5 parameters in full compliance with:**
  1. SM4500 for the chlorine check
  2. ISO 7027 for the Turbidity check
  3. Conductivity
  4. Temperature
  5. PH

  and also - Flow speed & Direction

Unique technology

- Early detection In real time !! of multiple contaminations and particles – type / size / flow / speed …
- Green – environmental friendly system with low consumption of reagents – 100 ml ampule for 6 months
- Novel proprietary sensor capabilities - LOC Chlorine residual microfluidic technology chip
- 2D optical sensor (for turbidity) but with 7000 new parameters of data for particles detection every 10 Min.
- A network of small-smart IoT sensors spread in hundreds of sampling points across the entire water grid
- 3 layers of data analysis - each collecting and sending water quality data in real-time
- Cloud based analysis – with unique ML tools and deep machine learning
- A holistic system with a comprehensive dashboard
- A real-time view of the entire water grid and alarm & management tools
- AND MUCH MORE….

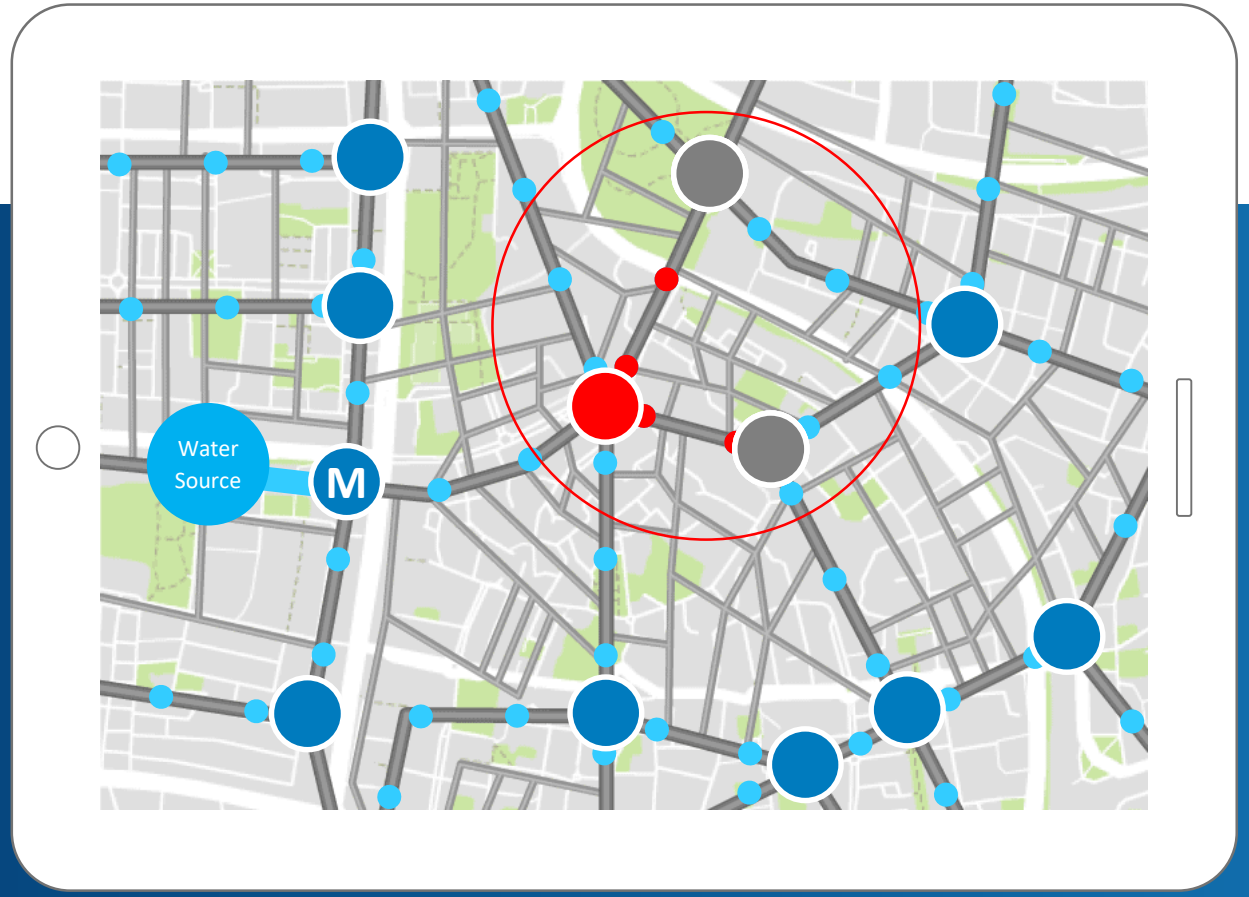
Proprietary multi-parameter sensor that is IoT based, compact, low-cost, battery operated and has zero drain discharge

Innovative sustainable measuring technologies with remote calibration and simple maintenance

With our sophisticated AI models, we can pinpoint both location and threat class, and allow immediate preventive actions

How It Works ?

If a contamination is identified, CyWat's technology can be used to pinpoint the pressure and flow velocity changes of the affected pipeline(s), allowing problem areas to be sealed off effectively by closing or opening specific valves to contain the infected area.



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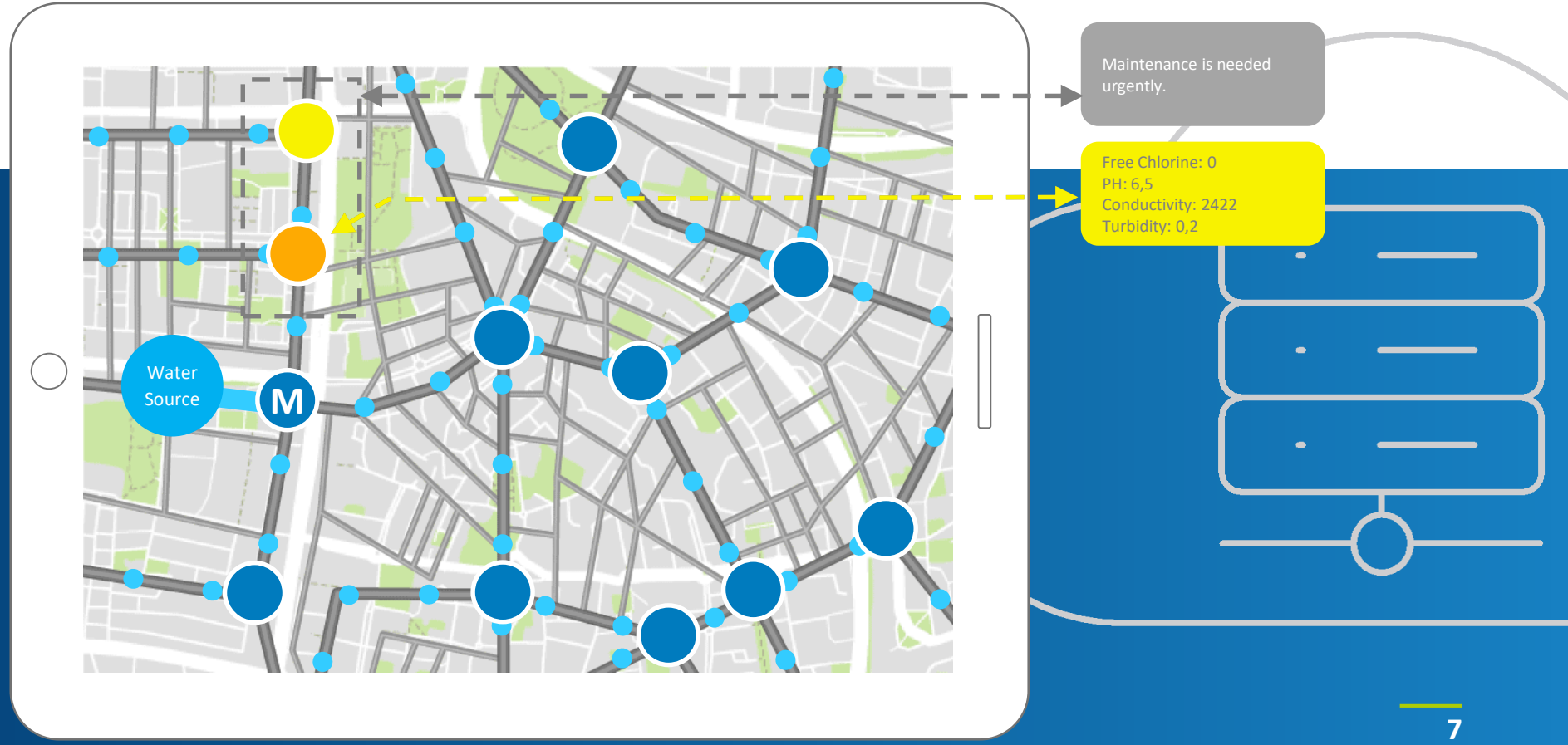
Identifying pipe deterioration

If the sensors are installed on the same pipeline and they show an increasing negative results between the checks, it means that infections are slowly increasing because of pipe deterioration **and alert that maintenance must be performed.**

We also believe that we can predict / forecast pipe leaks before they happen, by monitoring the increase of pipe particles..



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Competitive landscape

Feature	Competitors	CyWat
Complete holistic system solution service	Partial solutions	A full water quality management service: monitoring, data analysis, alarms Sensors + Software
Sensors	Big, expensive, require electricity and sewerage connections (see below)	Compact (the size of a shoe box) low-cost ($1800), battery operated, zero drain discharge
Maintenance	Frequent, expensive, on site	Infrequent, affordable, remote software updates and calibration
Reliability and Accuracy	Devices are not reliable over time in changing water quality conditions, can't specify the type and location of a pollution event, provide ranges	Sensors fit all water types, can classify the type and location of a pollution event, provide accurate data
Grid monitoring	Only single point detection	Covers the entire supply network

Water quality control stations
Cost: $100 - 200K
Size: Big room

Current water Analyzers
Cost: €10-25K
Size: 85X40X20cm, 16 kg

CyWat is the only company that offers:
Precise, real time water secure service For the entire water network, In a very cost effective reliable solution.

CyWat vs. Competitors

Features	ABB	HACH	Sca::n	Seko	Swan	CyWat
Vast Grid deployment – for better accuracy with unique sensors	✗	✗	✗	✗	✗	✓
Cloud management - utilities	✓	✗	✗	✗	✗	✓
Cloud real time analysis - consistency and reliability of data over time	✗	✗	✗	✗	✗	✓
System Size	Big	Big	Big	Big	Big	SMALL - IoT
Unit Price in USD	10K+	10K+	25K	10K+	10K+	2.5k
Maintenance price in USD/Month	200-400	400	500+			65-85
Maintenance frequency	every 2 weeks	every 2 weeks				ONCE IN 6 months
On Site contaminant detection	✗	✗	✗	✗	✗	✓
system power source	AC	AC	AC	AC	AC	Small Battery
Sewage drain * / Use of reagents	Yes	Yes	Yes	Yes	Yes	No - ZLD
Water use for checks / day		750 - 1000L				0.5L PER 6 MONTH

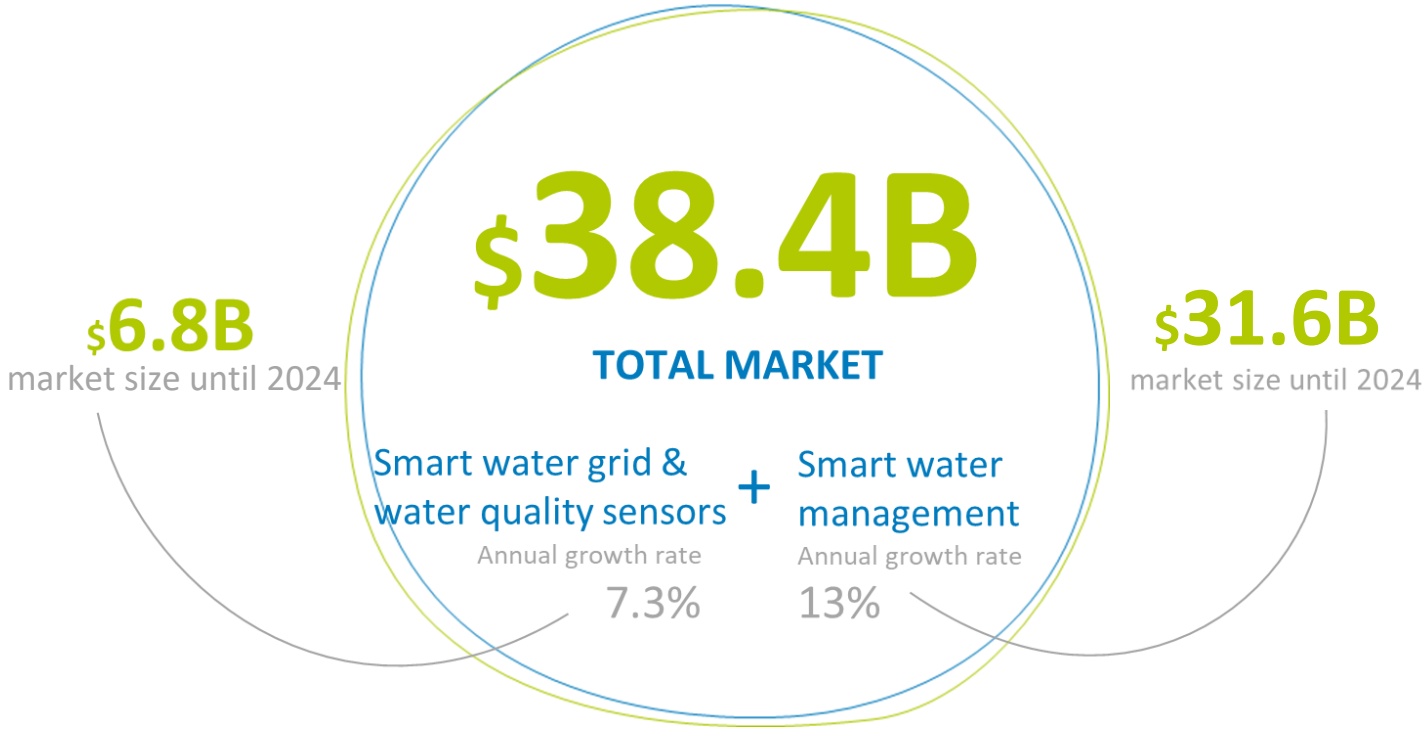
Annual Market Size - B2G / B2B

Main market:

Water authorities – direct B2G
Water authority – VIA integrators
Water utility companies

Other markets:

Industrial markets – B2B
Food and beverage plants
Hospitals
Remote location army bases
Pharmaceutical industry
High-rise buildings
Management water utility companies
The swimming pools market



Robecosam, 2015 – *Water: the market of the future*

https://www.alliedmarketresearch.com/water-quality-monitoring-systems-market
https://www.zionmarketresearch.com/news/smart-water-management-system-market
http://www.micromarketmonitor.com/market/europe-smart-water-management-4495172837.html

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Recurring revenues
A high income generating model

CyWat will generate revenues from selling water secure service package to water corporations, municipalities and factories worldwide.

1. One-time cost:

$2500 per monitoring unit – MPS (Serves about 1,000 people).

Clients will be given the option to spread the costs over a period of 5-10 years.

2. Monthly Fees:

$65-$85 per monitoring unit - according to the contract period (5 or 10 years).

Per 100 monitoring units

that cover supply area of 100,000 People

Price for Client	10 year contract	5 year contract	Price includes: Installation fees. Network mapping design fees. Software upgrades.
One-time Payment (100 UNITS)	$250,000	$250,000	
Monthly Service Fees (100 UNITS)	$6,500	$8500	

Sales projection – Strong ROI

ROADMAP TO SUCCESS

STAGE 1

ISRAEL
Field trials and sales in Israel

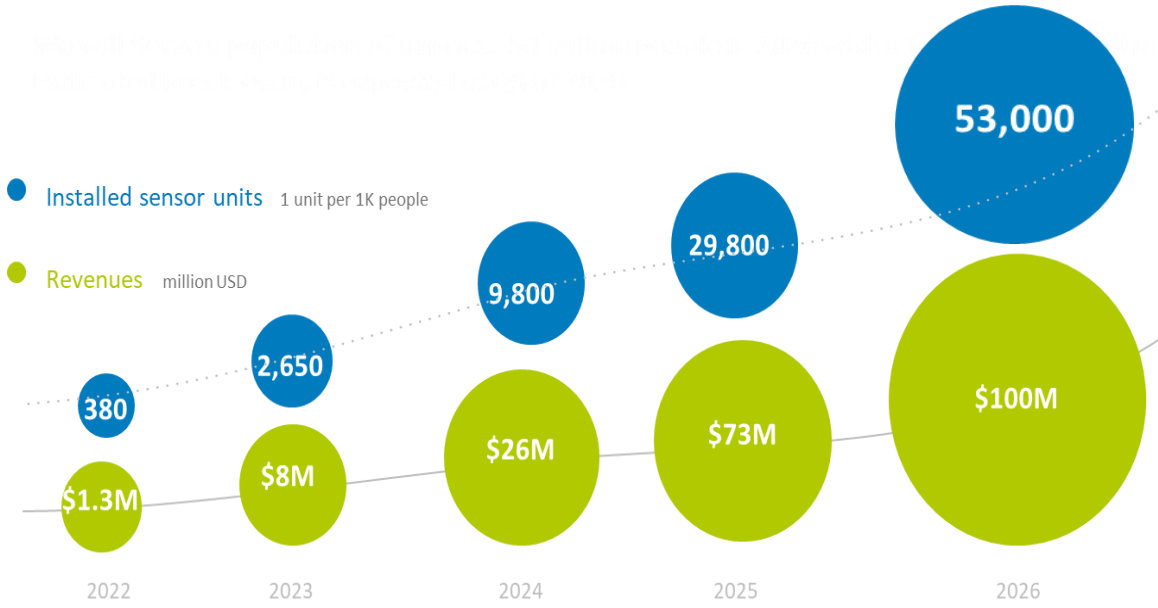
STAGE 2

EUROPE, US
- Promote a new standard for network monitoring
- Work with distributors Initiate sales in Europe and US

STAGE 3

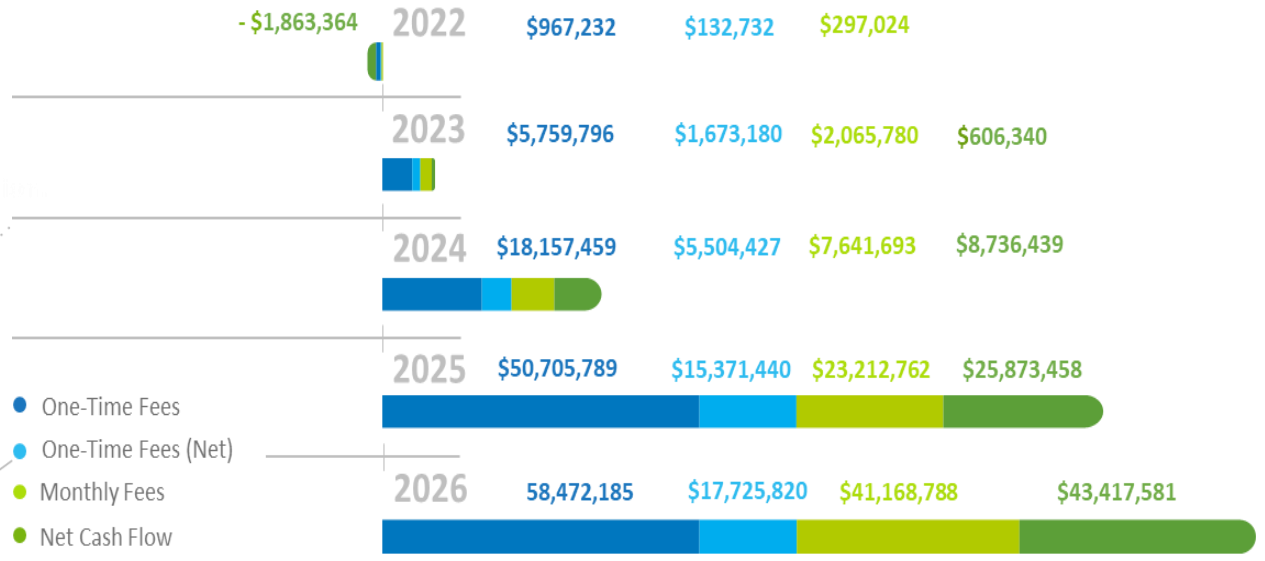
ROW
Generate sales through distributors, professional exhibitions, and B2G channels

2021-2022 | 2022-2024 | 2025-...



Market Penetration forecast

	Total Urban Population	Market Share 2022	Market Share 2023	Market Share 2024	Market Share 2025	Market Share 2026
Israel	7,360,000	3%	7%	14%	25%	39%
U.S.	271,713,282		0,03%	0,4%	2,4%	5,70%
Europe	557,000,000	0,03%	0,4%	1,4%	3,9%	6,20%



We will Serve a population of approx.. 53 million people in 2026 with a Turn-over of $100 million. Estimated break-even, is expected at Q3 of 2023

A TEAM OF INNOVATORS & EXPERTS

WITH STRONG WORLDWIDE HI-LEVEL CONTACTS

Thor Halperin

Founder & CEO

- A commercial Lawyer with 18 years of experience in corporate laws, management and marketing experience.
- water tech accelerator CEO lead a team of 20 people
- A former senior International BizDev advisor to Flextronics international - bringing over €40M in manufacturing contracts form the Hi-Tech industry.

Shay Ehud

VP software

- 20 years of experience in computer engineering
- software programing, cloud & data base architecture, sophisticated algorithms, big data mining

David Fleishman

Founder & CTO

- Entrepreneur in various fields with 12 years of finance and development experience
- CFO in 2 companies, CEO in water security companies with over a million revenue

Prof. Dror Fixler

Leading Optical Advisor

- Director of the Bar-Ilan institute of nanotechnology and advanced materials.
- Professor of Electrical engineering and Nano photonics.
- A member of the Nano Photonics Center at the Institute of Nanotechnology and Advanced Materials - the Faculty of Engineering.
- In 2015, Fixler received European Science Foundation's Plasmon-Bionanosense Award
- In 2017, Fixler received the President's International Fellowship Initiative Award of the Chinese Academy of Sciences (CAS)

Dr. Avital Dror-Ehre

VP R&D

- PhD in water technologies
- 20 years of experience in R&D and operation of water facilities
- leading a team of 10 people
- CTO/CEO in 3 start-up companies Senior governmental services

Dr. Karin Vered

Research lab manager

- MSc in Clinical biochemistry – Faculty of Medicine, Tel Aviv University
- PhD in Clinical microbiology & immunology Faculty of Medicine, Tel Aviv University
- 12 years of experience in molecular biology, advanced lab techniques, bacteria identification.

Advisors

Ofer Levy

35 years of experience in software development projects

Efri Eckerling

35 years of experience in technology development

Prof. Sarit Kraus

Head of AI & ML field - computer science faculty, Bar-Ilan University
Kraus was awarded the IJCAI Computers and Thought Award, ACM SIGART Agents Research award, ACM Athena Lecturer, the EMET prize and was twice the winner of the IFAAMAS influential paper award.

Zvika Zivlin

Senior Financial Advisor to the Board.

- MSc in Economics, Industrial relations The London School of Economics (LSE) MBA with distinction.
- BA in Economics and Management, magna cum laude, Tel Aviv university.
- Non-Executive Director 888 Holdings Plc Member of the Audit, Nominations & Compliance committees.
- Strategic Partner to Alias Tech (JB Capital of Javier Botin and Jose Miguel Garcia).
- Founder and Managing Partner of Tulip Capital Partners, Wells Fargo's Israeli partner firm.

Safe Water for All

A sustainable novel water IoT management platform with many functional, financial & social benefits

A feasible & scalable technology that can be implemented to many more potential applications

An experienced team with expertise in management, technology and marketing that can get things done

Strong interest among potential customers and governmental authorities

A very high income generating model.

Collaborations

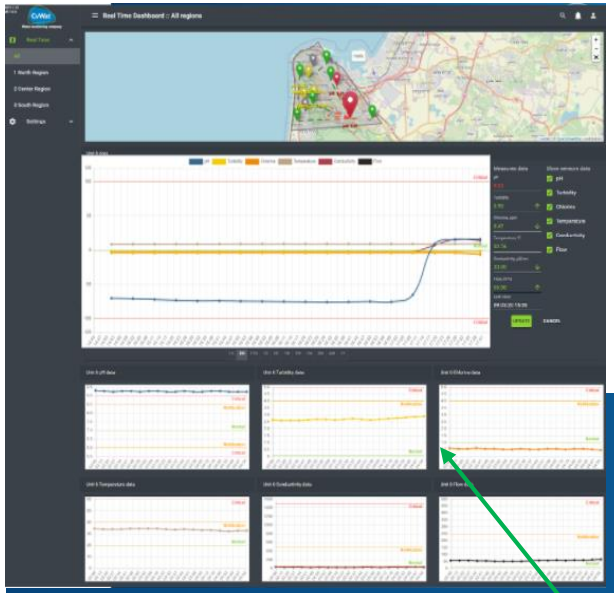
SOREQ NUCLEAR RESEARCH CENTER

Israel Center for Advanced Photonics
המרכז הישראלי לפוטוניקה מתקדמת

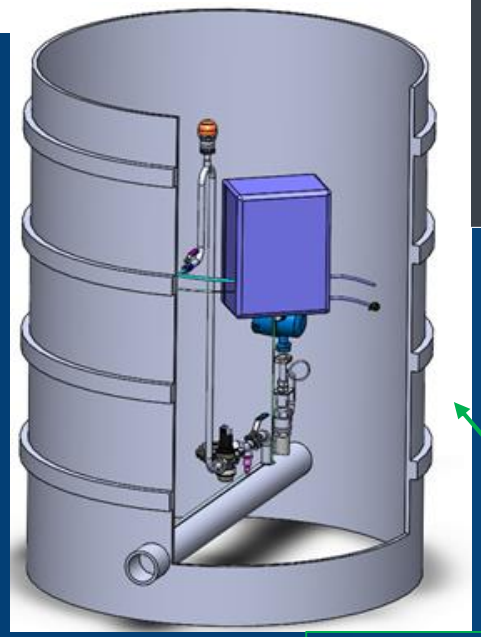
Bar-Ilan University

State of Israel
WATER AUTHORITY

What we need & Goals



Real-time water quality view
Alarm – specify the type and location



CyWat's Multi-parameter sensor in manholes or above ground installation options

Looking for $2M

- To complete the development (software & hardware) of the system, achieving:
- First industrial prototype by June 2021
- Commercial industrial product, by Feb. 2022
- Commercial Municipal product, August 2022