

Removing The Limitations of Batteries

# Next Generation Battery Technology

Digitalising and automating the use of batteries

#### An idea was born

Increase battery quality while simultaneously decreasing battery costs.

## Founded in 2003

In Norway by Dag Valand & Dr.
Ove Aanensen & Headquartered
in the USA.

## 18+ years of R&D

Expanding our portfolio of groundbreaking technologies further than ever expected.



## General Problems

Batteries, Battery
Powered Energy Storage
Systems, and Backup
Systems

01 lif

Batteries lack sufficient lifespan, uptime and storage capacity.

04

No automated battery operations / No adaptability.

Reliability and efficiency issues, ageing faster.

05

High and increasing battery costs.

03

No real-time insight into true battery and operating conditions.

3

# Upgrading, Monitoring, Automating

We address these challenges by



#### **Upgrading:**

- **DOUBLES** lifespan of battery.
- TRIPLES capacity over the lifespan.





#### **Monitoring:**

Real-Time Battery and Site Monitoring systems.

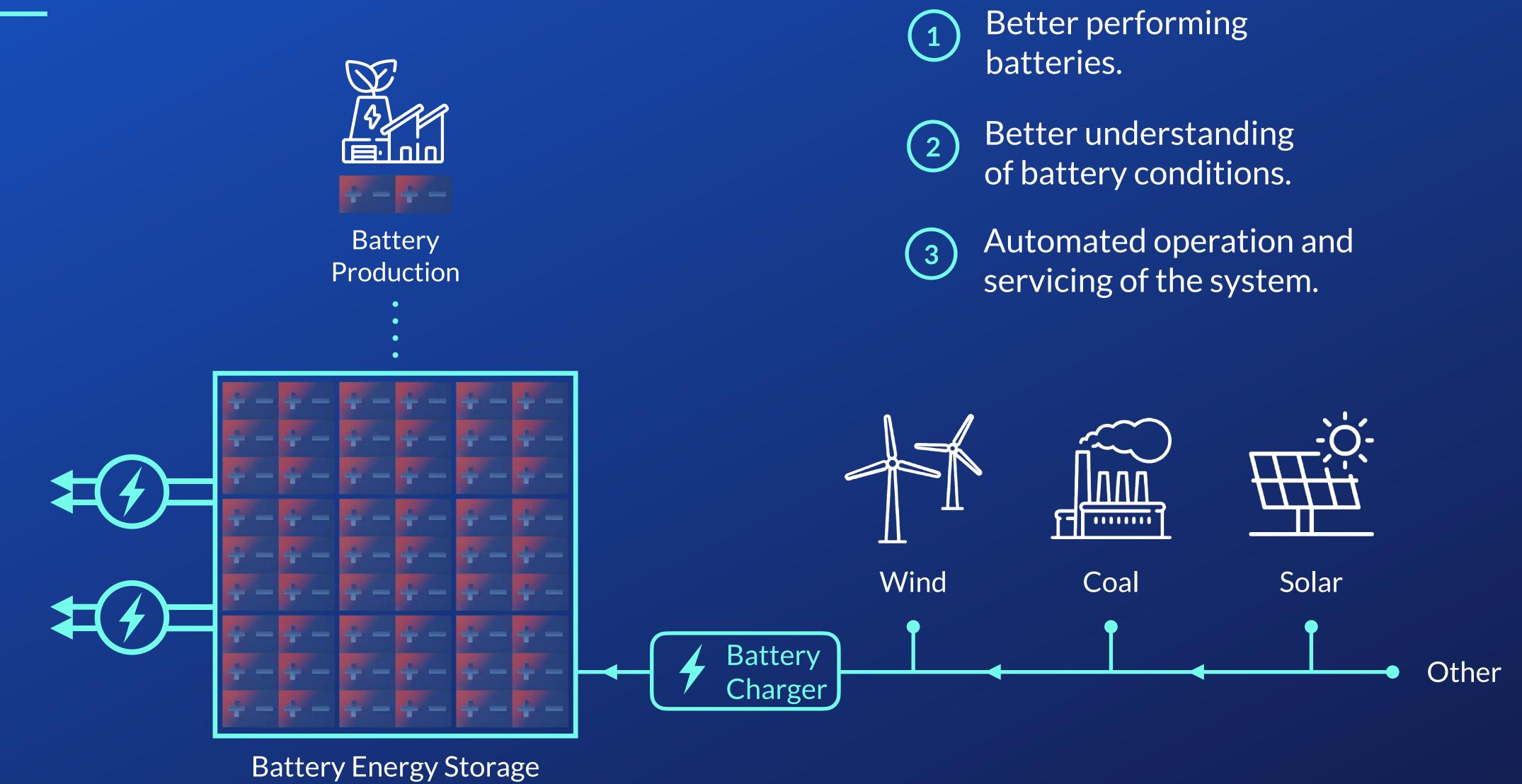


#### **Automating:**

- Automate the critical functions for our customers.
- Eliminates nearly 80% of unscheduled maintenance and site visits.

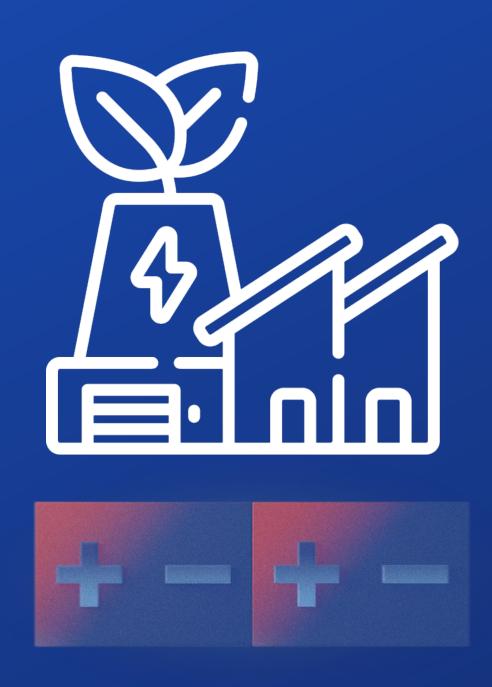
## Solutions

That Battery Energy Storage Systems Need:





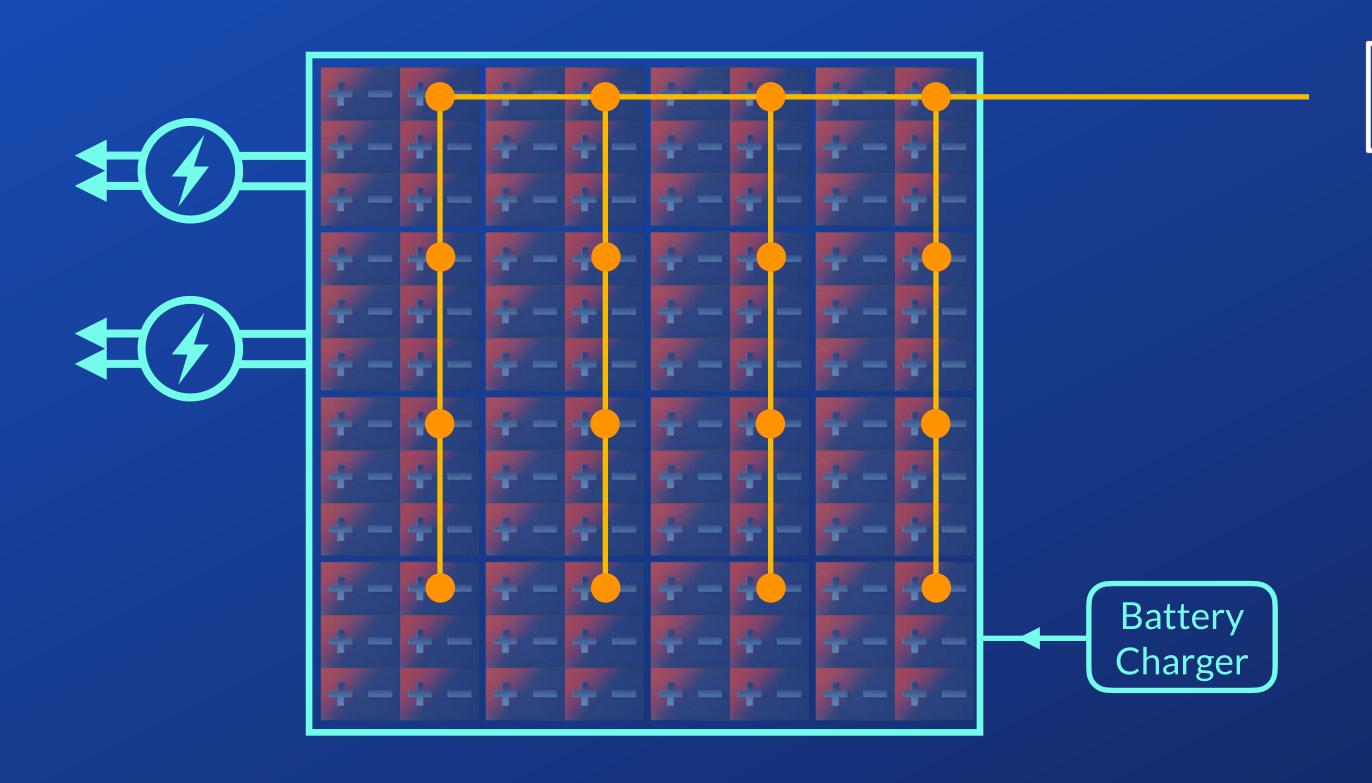
# Producing Better Batteries, Cheaper



- +15-30% energy savings
   during production (formation)
- Up to 50% shorter production time
- +17-35% more capacity
- +40% longer battery life



# Getting Real-Time Battery Status



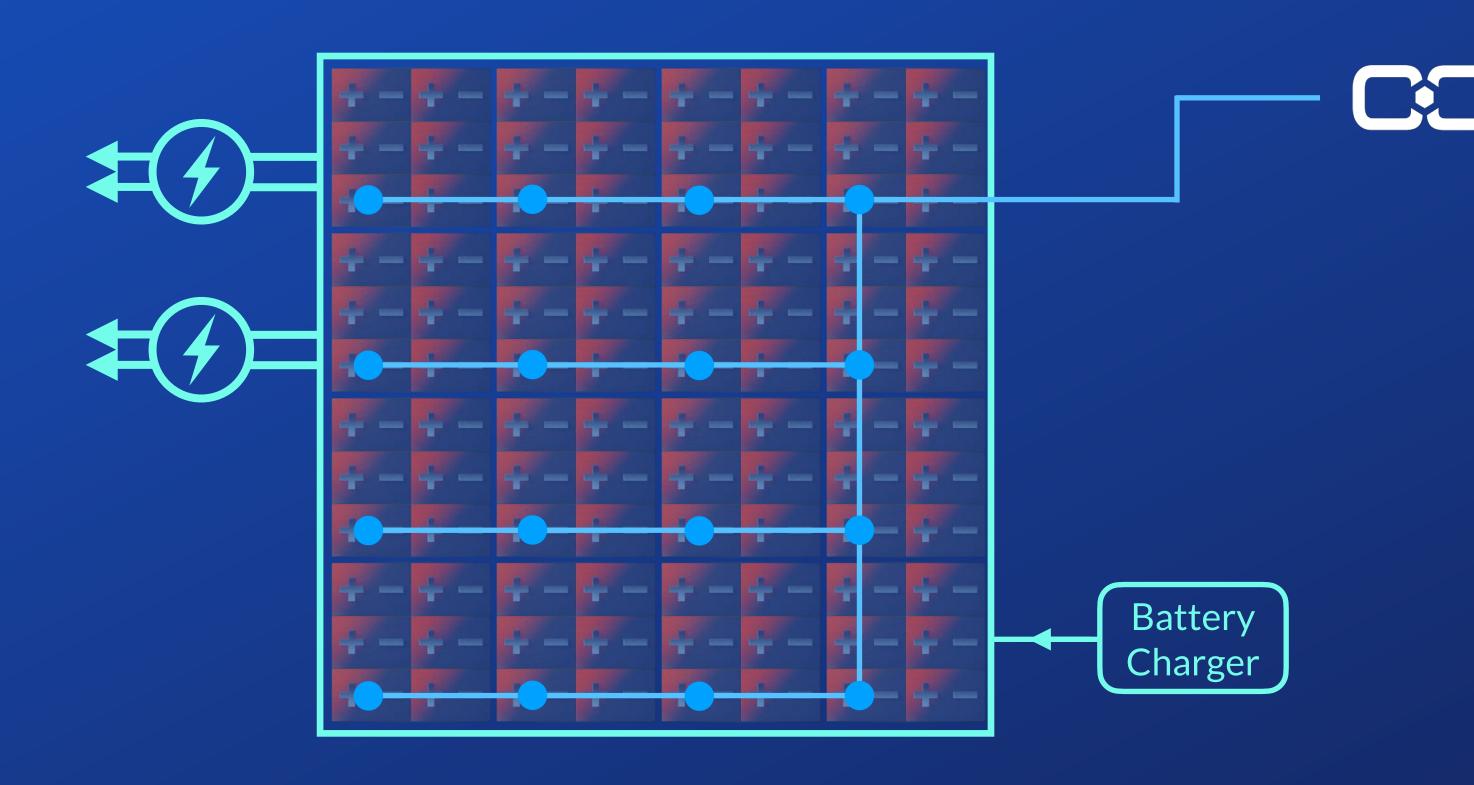


## State of Health device

 New and accurate information of battery conditions at any time of battery operation



# Streamlining Batteries

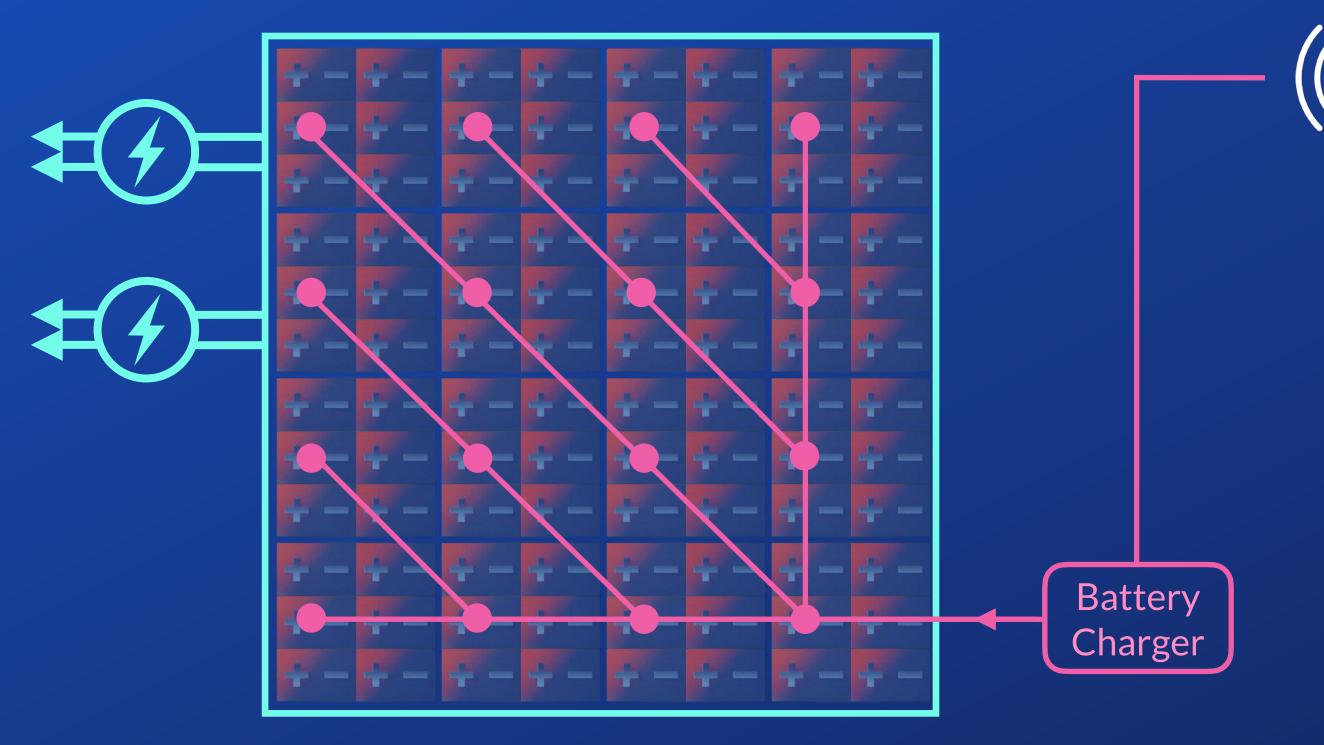


## **Crystal Control Technology®**

- Doubles (+200%) Battery Life
- Triples (+300%) usable energy
- Up to 50% reduction in charging time
- Improved battery operations in cold and warm temperatures



# Increasing Charge Efficiency

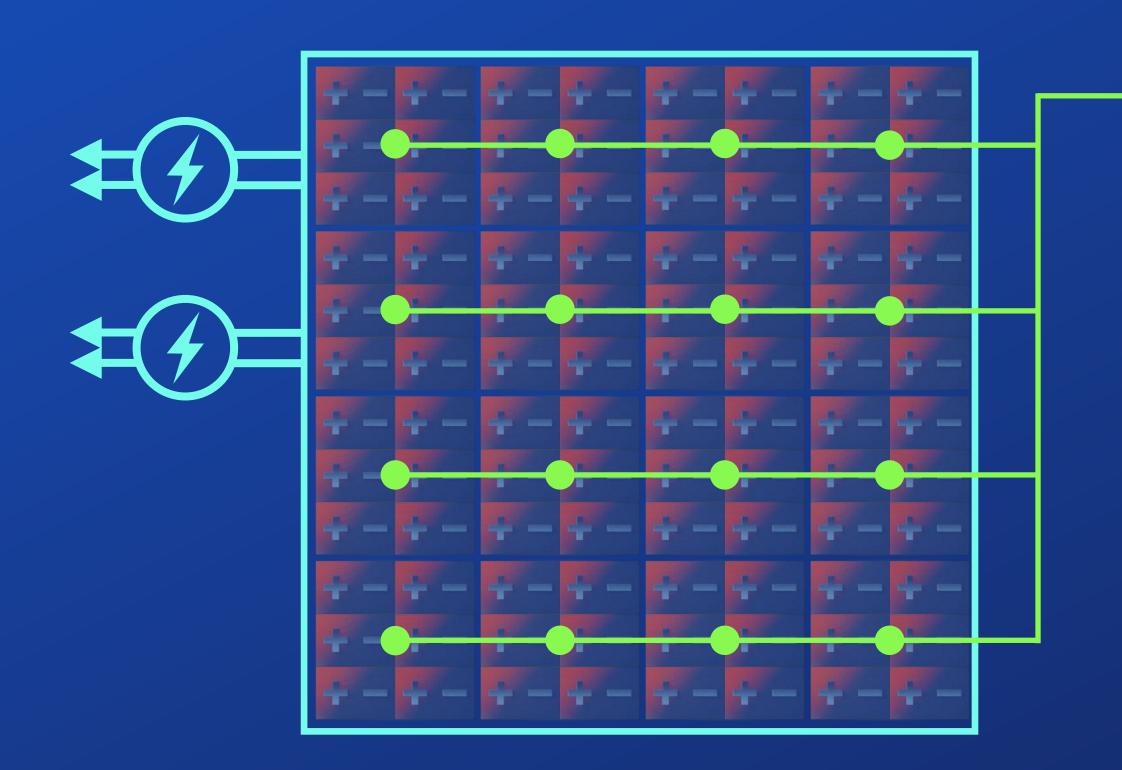


# (4)) New Charge Method

- Ensures the right charge is given at all times
- Doubles (+200%) battery life



## Restore «Dead» Batteries





## Recovery System

- Recover lost capacity
- Doubles battery life to several times
- Batteries keep their original capacity



# Automate Operations





Automate the operations and servicing of batteries and systems

## Result

We now have a unique and solid ground in the Battery Energy Storage Space:

Outperforming existing storage systems.

Achieving the lowest cost per kilowatt hour.

A fully automated and green solution.

Batteries live as long as the storage system itself.

# Sustainable Results

Technology Highlights

75% Less Maintenance Visits

50% Less Battery Replacement





67% Reduction in CO<sub>2</sub> Emissions

50% Less Generator Fuel Cost





30% Less Energy Consumption



**Predictive Maintenance** 

# Sustainable Results Aligned with the United Nations

7 AFFORDABLE AND CLEAN ENERGY



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



B DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



13 CLIMATE ACTION



PARTNERSHIPS FOR THE GOALS



## Market Potential



**Battery Energy Storage Systems (BESS)** 

27.2% CAGR (2020 - 2027)
Becoming one of the hottest markets

"US energy storage market could grow to as much as \$426 billion over the next decade" "Energy storage capacity in developed countries is expected to grow forty times from 2GW to 80GW" "At the center of our green energy drive are solar and wind power, both of which are expected to contribute nearly half of the global power mix by 2050"

"Energy storage capacity in the US is expected to grow 12 times by 2024"









## Market Size



#### Current Total Addressable Market

## \$ 1.83 Trillion USD

- Currently addressed
- Future markets

#### **Applications**

\$ 1.3 T	Telecommunications
----------	--------------------

- \$ 164 B Internet of Things
- \$ 138 B Cyber Security
- \$43B Automotive
- \$ 11 B Utility Communications
- \$ 6 B Battery Energy Storage
- \$5B Data Centers
- \$4B Uninterrupted Power Supply

#### **Battery Chemistries**

Global Lead Acid Battery Market

- \$57B 2019
- \$61B 2026
- 5.8% CAGR (2020 2026)

Global Lithium-Ion Battery Market

- \$44 B 2020
- \$ 94 B 2025
- 16.4% CAGR (2020 2025)



## **Business Model**

Subscription-Based Revenue Model Focusing on **Savings** 

From Day 1
Our solutions will generate monetary savings for the customer

Subscription Price based on calculated savings potential

Recurring Monthly Revenue

from long term contracts



# What Are Some of the Savings?

Subscription-Based Revenue Model

From Day 1

Our solutions will generate monetary savings for the customer

50%

of ALL battery costs

50%

of generator fuel costs

Up to 100%

of all cooling costs

**Up to 50%** 

on planned maintenance visits

**Up to 75%** 

on unplanned maintenance visits

21.5%

of electricity costs

Energy Storage System on Telecom Sites with diesel generators & cooling (AC)

# Customers

































# Savings Example: 12,000 Sites

Entire Network with one potential customer within Telecommunications sector

	Today's Situation w/o WaveTech Technology	NEW Scenario with WaveTech Technology		
Avg. battery life span	3 years —	- 6 years		
Total avg. annual cost per site	\$5,275	<b>\$3,550</b>		

### Total Avg. Annual Savings

\$1,725

Per site

\$20.7M

Total

\$ 124.2M

6 Year contract period



# Savings Example: 460 Sites

Focus Area with one potential customer within Telecommunications sector with diesel generator & cooling (AC) — (Off Grid Battery Site)

	Today's Situation w/o WaveTech Technology	NEW Scenario with WaveTech Technology
Avg. battery life span	3 years –	- 6 years
Total avg. annual cost per site	\$35,490 -	<b>\$5,957</b>

#### Total Avg. Annual Savings

\$29,533

Per site

\$13.6M

Total

\$81.5M

6 Year contract period

## Discounted Revenue Potential

**Current Customer Pipeline** 

Country	Due Diligence	Application Evaluation	Solution Proposal & Approval	Pilot / Field Validation	Benchmarking & Approval	Total Potential Discounted Contract Value Current Products	Total Potential Discounted Contract Value (incl. Software R&D but excluding new Products)
Pakistan						\$ 13,260,513	\$ 33,151,283
Malaysia						\$ 36,599,053	\$ 137,909,473
Turkey						\$ 35,007,789	\$ 116,692,631
Ghana						\$ 859,282	\$ 2,148,205
Fiji						\$ 3,683,480	\$ 38,676,535
Morocoo						\$ 58,124,246	\$ 353,614,034
Global						\$ 61,391,325	\$ 613,913,254
USA						\$ 1,534,783	\$ 9,028,136
USA						\$ 11,203,917	\$ 44,815,668
UK						\$ 38,952,796	\$ 52,508,001
USA						\$ 1,311,319	\$ 3,278,297
USA						\$ 24,556,530	\$ 24,556,530
USA						\$ 61,391,325	\$ 153,478,313
					Total	\$ 347,876,358	\$ 1,583,770,359

## Competitive Advantages

What makes us unique



#### **Upgrade Existing Systems**

Scalable technologies that can be retrofitted on to existing Energy Storage Systems



### **Globally Protected IP**

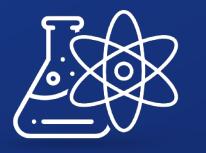
Patent family approved in 87 countries

— covers all existing battery chemistries



#### Disruptive R&D Pipeline

Truly increases battery performance, and effects battery production, use, maintenance and recovery



#### **Deep Scientific Expertise**

In-house expertise on material science, engineering, production and software

## Our Team





Dag Arild Valand
Chief Executive Officer
& Founder



Aasmund Erlandsen
Chief Operating Officer



**Silas Poel**Chief Financial Officer

# Scientific Research & Development

Headed by



**Dr. Boris Monahov**Chief Scientific Officer

Team: 14 people (7 PhDs)

# Software & Hardware Development/Production

Headed by



Matthew Fitzgerald
Chief Technology Officer

Team: 24 people

#### Sales

Team: 10 people

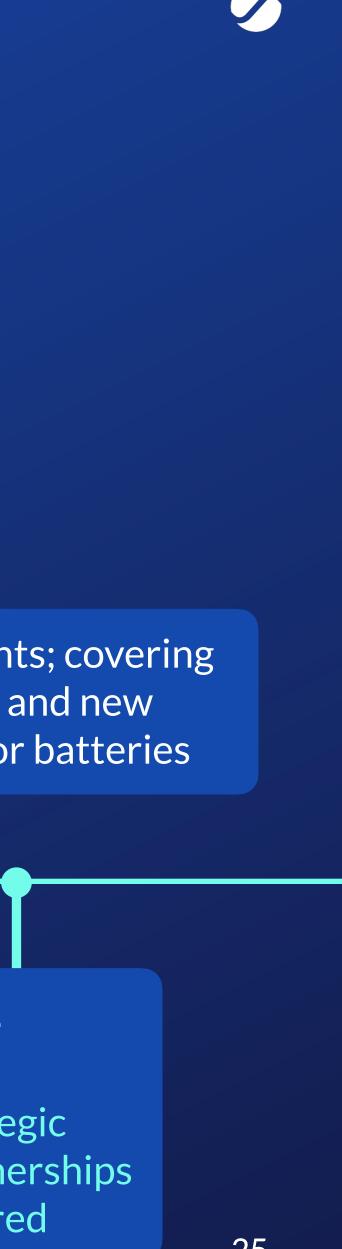
Marketing

Team: 2 people

**Finance & Administration** 

Team: 7 people

# Company Milestones



2009

**Crystal Control Technology**® was born

2017

Product field testing

2019

R&D Departments in **US** and Bulgaria are expanded

2021

**Annual Revenue** of \$ 10M USD

Positive results in **Lithium Validation** program

Filing of two new patents; covering new Battery Materials and new Recovery Procedure for batteries

2003

WaveTech was founded

2012

First US patent approved

2018

Start of Lithium-Ion studies

2020

First US Customers 2022

Strategic Partnerships secured





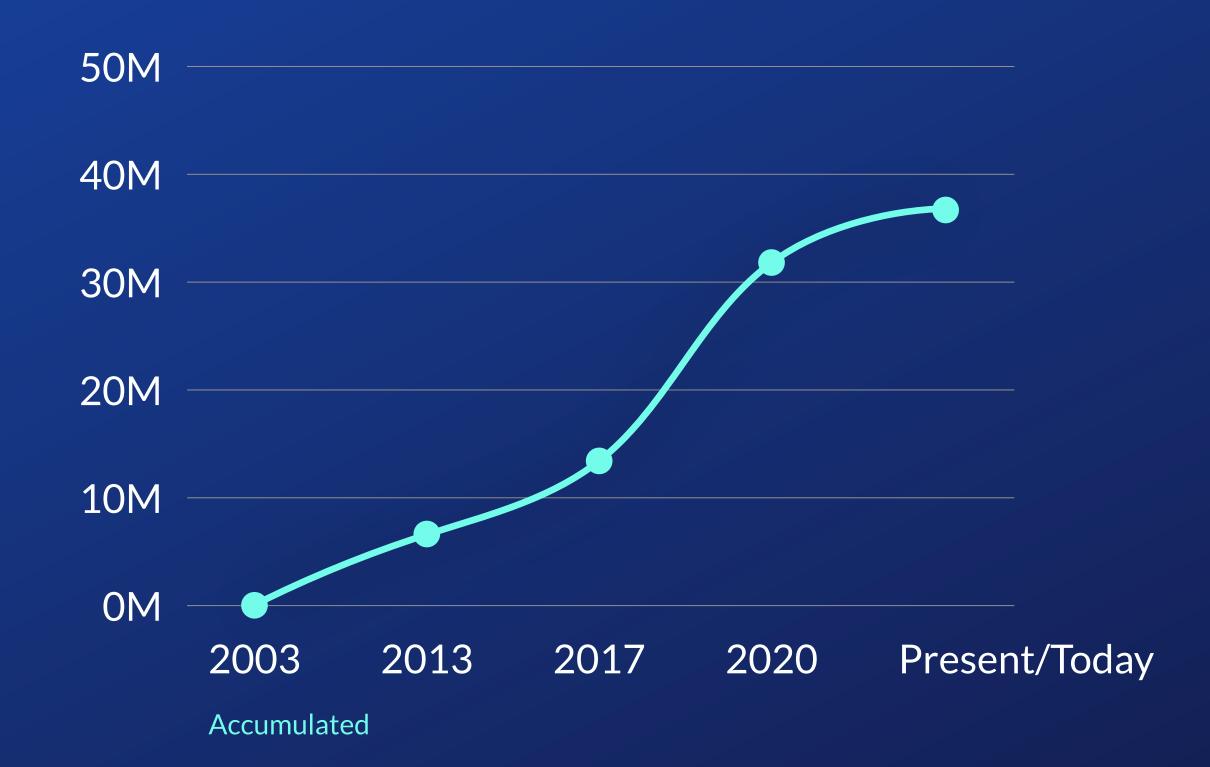
# Total Fundraising History

Investments made into WaveTech since 2003

\$37MUSD

At a fair valuation of







# Fundraising Information

## Ask



To fuel growth and operations while pursuing a \$25M USD priced round from one or more strategically valuable institutional investors.

### Use of Funds









	2021	2022	2023	2024
Revenue	10,088,949	16,077,280	31,383,064	78,304,566
Gross Profit	3,435,120	8,263,546	17,300,705	46,094,055
EBITDA	(-)4,502,677	1,053,375	4,149,353	27,416,001
Net Profit/Loss	(-)5,911,764	(-)305,289	2,319,399	20,160,577

All Figures in USD

# Exit



Company name	Area	Revenues 2020	Post Deal Valuation
Quantumscape	Lithium battery technology	\$0USD	\$ 14.3B USD
EOS Energy Enterprises	OS Energy Enterprises battery technology (zinc electrolyte)		\$ 700M USD
Romeo Power	Battery technology (battery packs & BMS)	\$ 11M USD	\$ 1.1B USD



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