



# LIQTECH

improving our future

## LIQT – Investor Update

September 2022

# Introduction



**Fei Chen, President & Chief Executive Officer**

*Appointed as CEO on September 12, 2022*

Background:   **TOPSOE**



**Alex Buehler, Board Member**

*Served as Interim CEO from March 18 - September 11, 2022*

Background:   



**Simon Stadil, Chief Financial Officer**

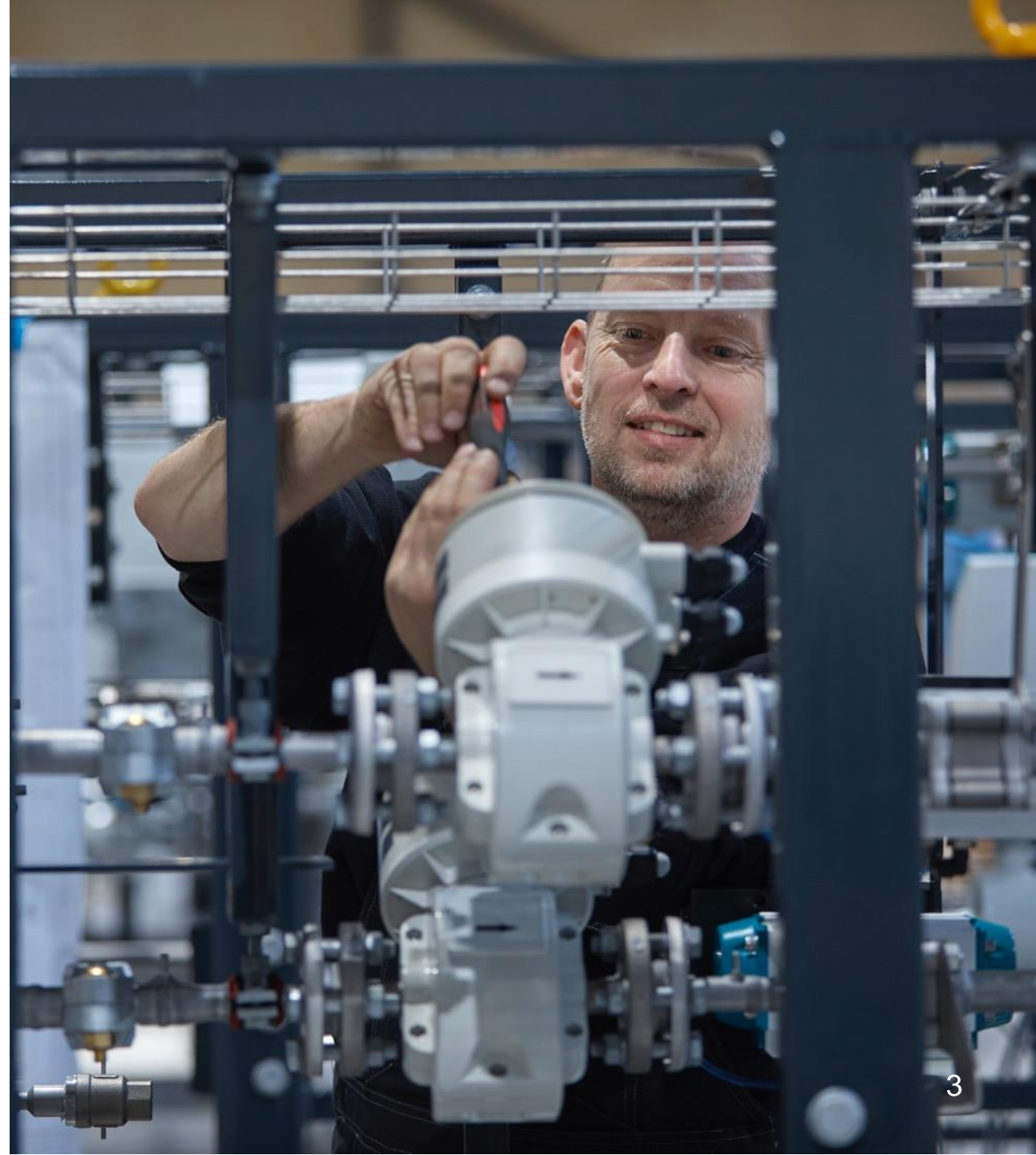
*Served as CFO since November 23, 2021*

Background:   

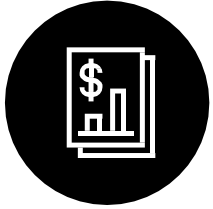


# Agenda

- LiqTech at a Glance
- Recent Events
- Financial Highlights
- Appendix
  - ESG Commitment
  - Case Studies
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# LiqTech at a Glance



**\$18m**  
2021 Revenue



**250+**  
Clients Served  
Across the Globe



Global Operations in  
**35+**  
Countries



**3**  
Locations



**+130,000 ft<sup>2</sup>**  
Manufacturing Footprint



**100+**  
Employees



**300+**  
Systems Installed



**2,500,000+**  
Diesel Particulate Filters  
Sold

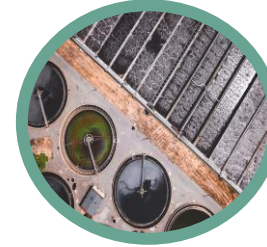


**20+**  
Years of Filtration  
Experience

# Business Highlights



**Differentiated Technology**



**Scalable Business**



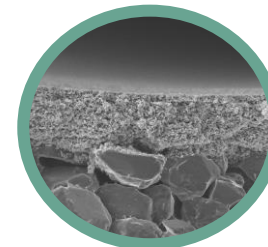
**Compelling Value Proposition**



**Material Science Advantage**



**Buoyant End Markets**



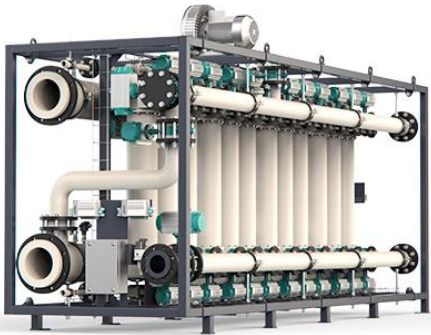
**Opportunity for Improvement**

# Differentiated Technology

## Water Treatment Systems



Crossflow Filtration System



Microfiltration System

## Silicon Carbide Ceramic Filters



Diesel Particulate Filters

Tubular membranes

# Buoyant End Markets

## Historical



### Transportation & Machinery

Diesel Particulate Filters for large vehicles, heavy offroad vehicles, and other machinery.



### Water Treatment

Pool filtration, fish farming, pre-treatment drinking water, water re-use.

## Current and Future Focus



### Oil & Gas

Produced water, MEG recovery, and injection water.



### Marine

Marine scrubber water treatment, scrubber conversion, black carbon reduction, NOx reduction, and carbon capture.



### Industrial

Acid purification, flue gas condensate cleaning, heavy metal removal, COD reduction, etc.



# Compelling Value Proposition

Agile ceramic membrane ultrafiltration system for different end markets – modular and easily scalable for future growth.

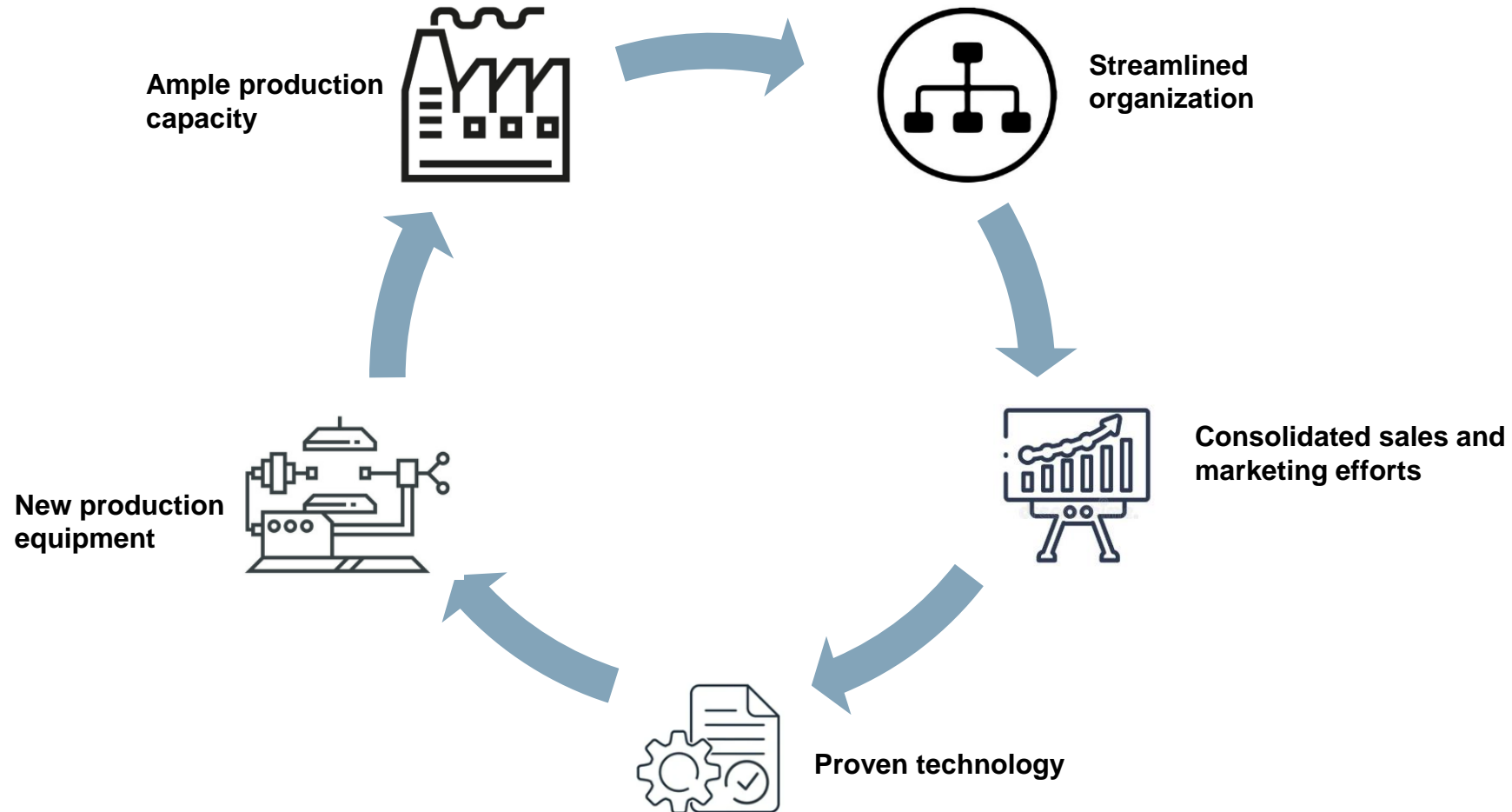
## System Advantages:

- Unique ceramic membrane technology
- Simple system to maintain and use
- Fully automated system with remote monitoring
- Flexible system design
- Low LCC





# Scalable Business



# Material Science Advantage

- More than two decades of manufacturing experience
- Unique advantages of silicon carbide ceramic membranes
- Able to withstand all types of liquids regardless of temperature and pH
- Consistent permeate quality regardless of feedwater
- Extremely durable material
- Extended service life with limited downtime



⇒ Unmatched Flux

🧪 Chemically Inert

✂ Small Footprint

🧼 Efficient Cleaning

🔥 Excellent Thermal Properties

💎 Robustness

📈 Superior Performance

🕒 Long Service Life

# Opportunity for Improvement

## Organizational

- Appoint sales leadership
- Develop sales organization
- Drive sales productivity



## Financial

- Elevate contribution margins through price and mix
- Achieve breakeven profitability
- Reinforce balance sheet



## Commercial

- Build market share in existing end markets (marine & pool)
- Penetrate new end markets (oil & gas, acid filtration)
- Optimize price and mix



## Operational

- Stabilize ceramics production
- Elevate aftermarket business for systems
- Continue improvement in plastics



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# Recent Events

## Organizational

- CEO transition with Fei Chen as President and CEO
- Corporate reorganization and streamlining
- Headcount reduction of roughly 25%

## Financial

- \$26m of public equity raise and \$6m of private debt placement
- Retirement of convertible note
- Rationalization of Capex / +\$4 million reduction in commitments
- Cost reduction program to substantially reduce breakeven revenue

## Operational

- Discontinuation of planned capacity expansion in China and Denmark
- Initiatives ongoing to optimize mix, reduce equipment downtime, increase manufacturing yields, and reduce scrap



# Recent Events - Continued

## Commercial

- Commissioned first commercial-scale oil & gas system in the Middle East
- Commissioned first acid filtration system in the U.S. validating value proposition
- Received new orders for the marine scrubber market
- Received first black carbon marine order with shipments planned in Q3 and Q4

## Prevailing Headwinds

### 1 European energy crisis

- Surge in gas and electricity prices across Europe
- Action: Introduced power price surcharge
- Risk: Order cancellations

### 2 Supply chain disruption

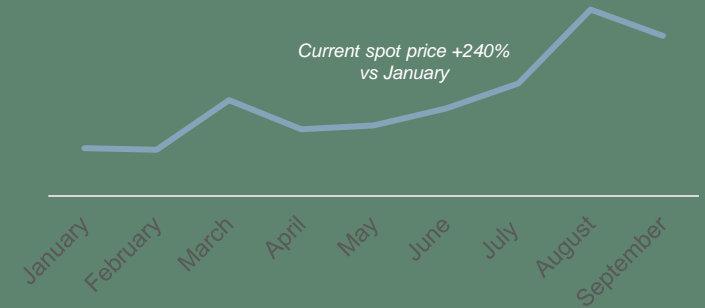
- Long lead times on critical components and raw materials
- Action: Proactive sourcing, partially cutting lead times
- Risk: Order delays and risk of slippage

### 3 Macroeconomic uncertainty

- Recessionary fears delay client decision-making
- Action: Intensified client engagement
- Risk: Customer-imposed delays and cancellations

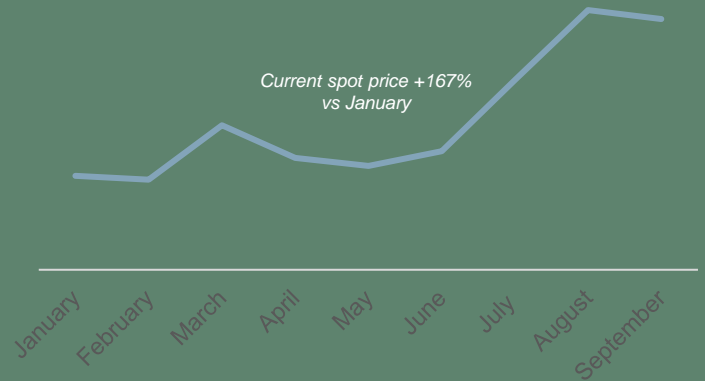
1

### DK1 Electricity price per MWh



2

Market data | Nord Pool ([nordpoolgroup.com](https://nordpoolgroup.com))



3

Dutch TTF Natural Gas Futures Chart - [Investing.com](https://www.investing.com)

### EUROPEAN INFLATION

The annual inflation rate in the 27-country European Union was 9.8 % in July, figures released by the EU's statistics agency showed on Thursday (18 August), while inflation in the 19 member states using the euro hit 8.9 %

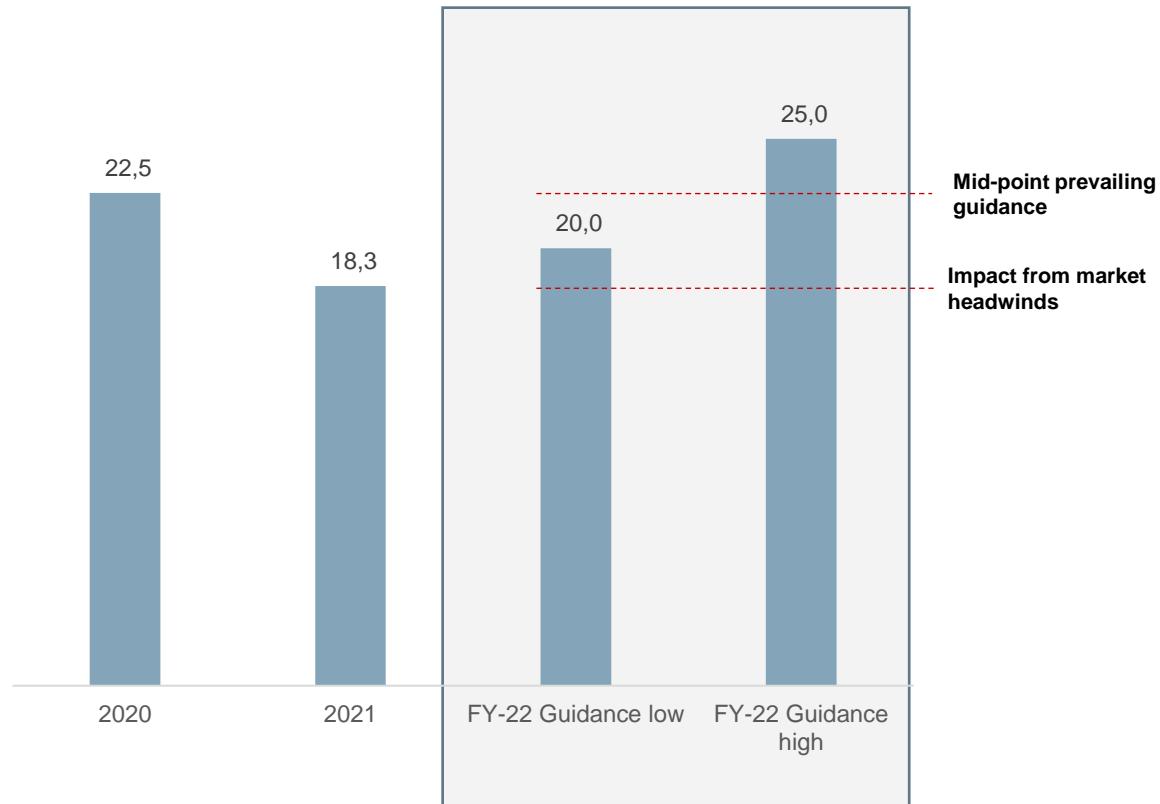
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# Revenue Performance and Outlook

## External Revenue \$m



## Outlook

*“Due to the worsening energy crisis in Europe, continued supply chain disruptions, and customer-imposed delays caused by macro-economic uncertainty, the Company believes that approximately \$3 to \$4 million in expected orders are at increased risk of slippage prior to the end of the year, exacerbated by the impact from the appreciation of the U.S. Dollar against the Euro.*

*The Company expects to provide further updates during its Q3 2022 Conference Call, which is normally scheduled to take place in mid-November 2022.”*

## Profitability

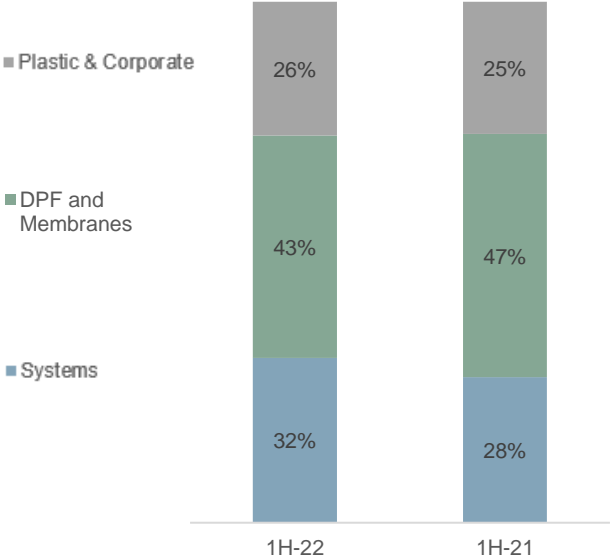
*The cost reduction program announced in Q2 will drastically change the breakeven revenue for the business to a run rate of approximately \$7 to \$8 million per quarter, measured on an adjusted EBITDA basis.*



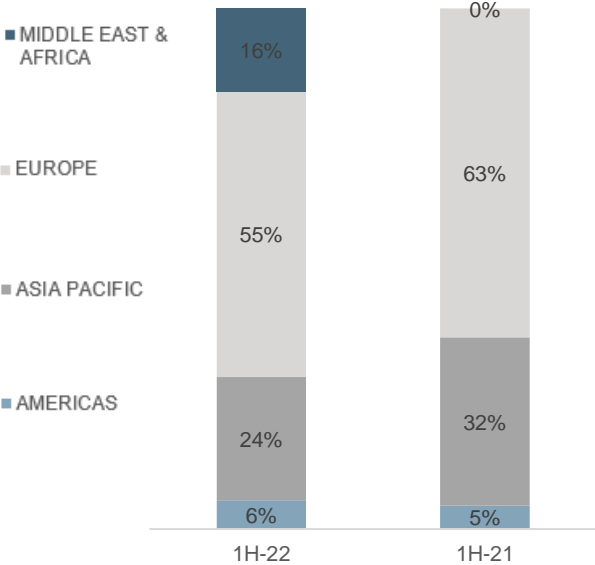
# Revenue Breakdown

Commercial efforts have successfully diversified the LiqTech business across applications, geographies, and industries with more than 200 clients serviced during 2021/22

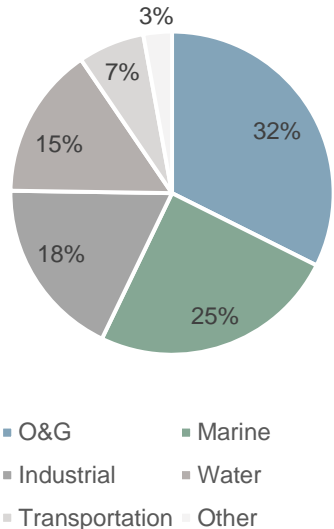
Revenue by Segment



Revenue by Geography

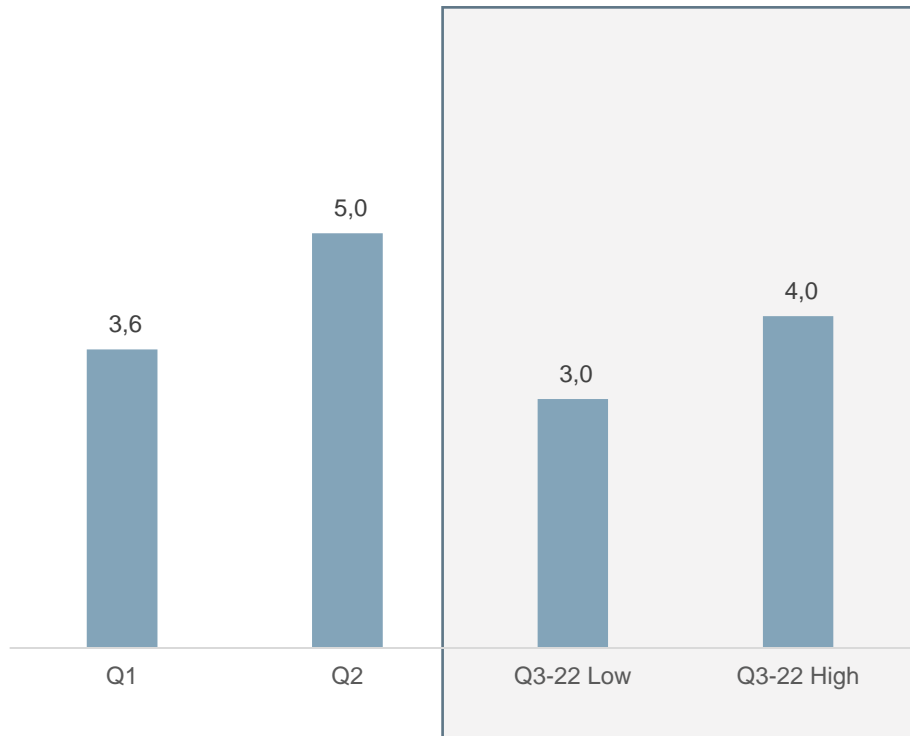


Opportunity Pipeline



# Q2 Financial Results and Q3 Outlook

Quarterly Revenue \$m



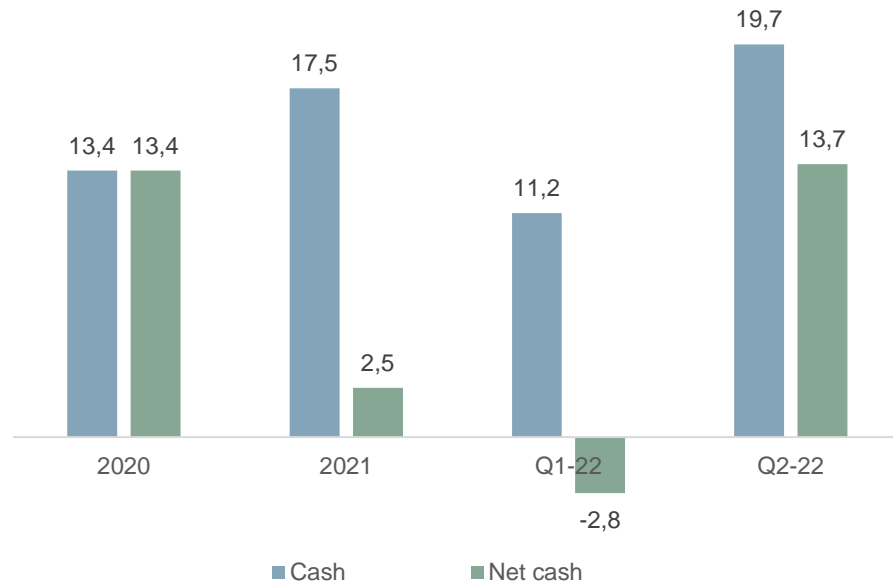
Q2 results

- Q2 2022 revenue of \$5.0 million, an increase of 25% from Q2 2021 and 38% sequentially
- Gross margin of 3.0%, compared to 8.0% in Q2 2021
- Net loss of \$(6.5) million that included \$3.8 million of non-recurring costs
- Strong ending cash balance of \$19.7 million
- Raised \$26.5 million in a public equity offering, placed \$6 million of senior notes, and repaid \$15 million convertible note due in 2023

# Balance Sheet Strength

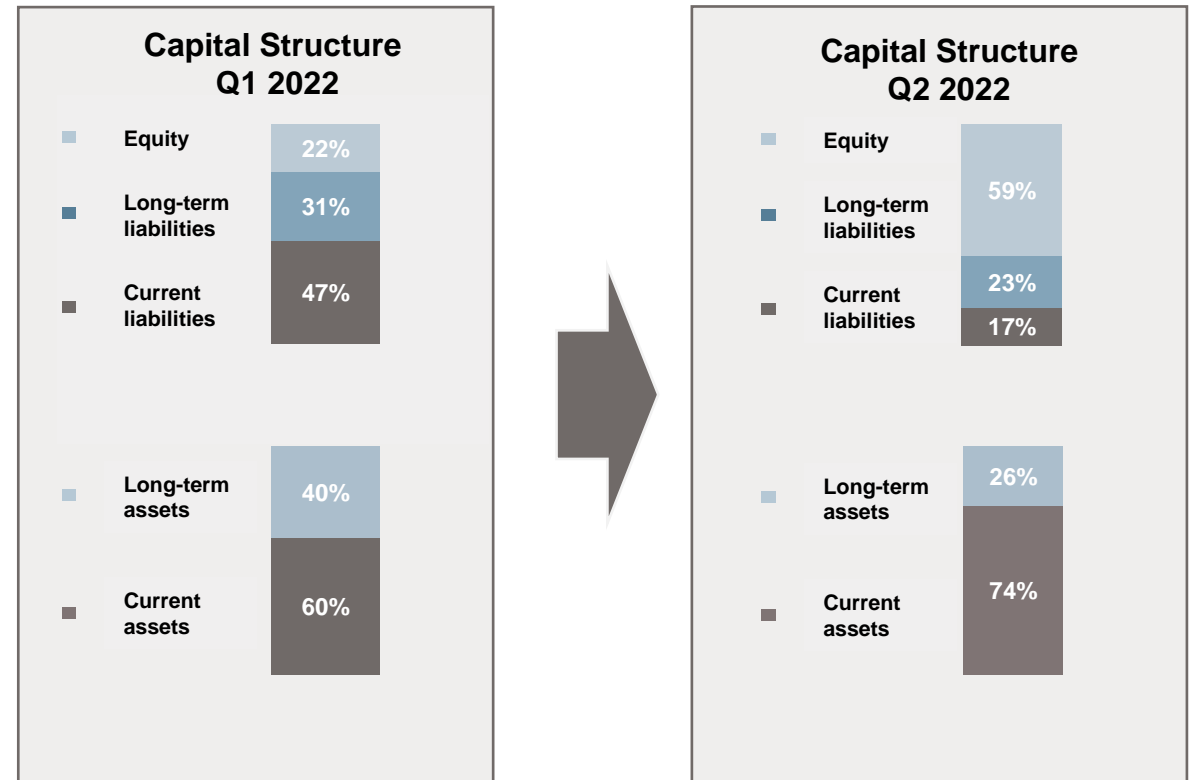
Successful refinancing and restructuring efforts completed in H1 2022, significantly improving capital structure and cash balance

Reported Cash and Net Cash\* - \$m



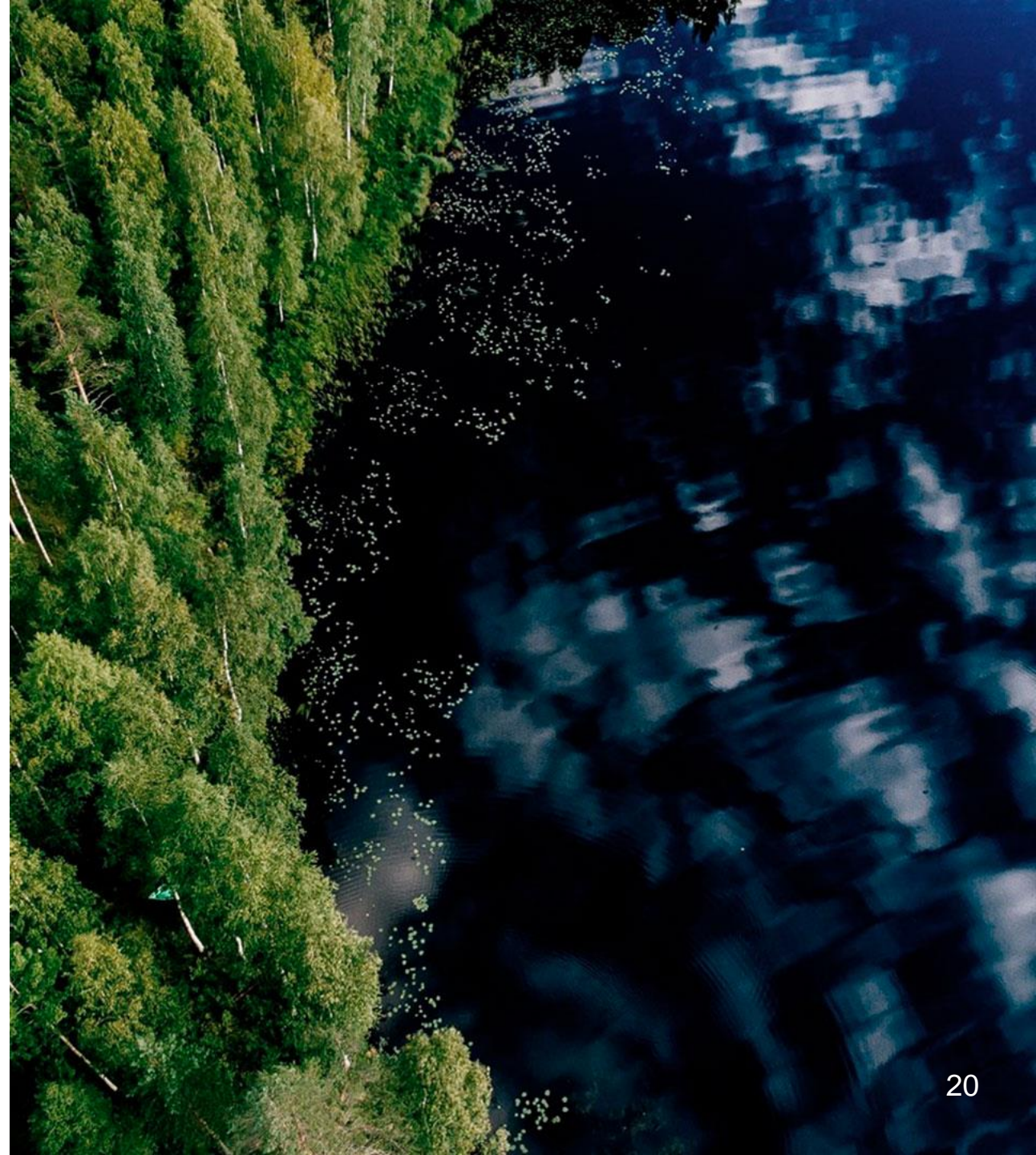
\*Net cash = Cash less debt obligations

Balance Sheet Composition



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# ESG Commitment

- The impact on the environment is one of our main challenges
- Minimize the impact from some of the most polluting industries
- Shipping, power plants, oil, and gas, etc.
- Ensure progress and sustainability through innovative thinking
- Unique technology for purification and/or recycling/reuse
- Highest standards of corporate ethics and diligent compliance with financial accounting and reporting rules



*Ensure availability and sustainable management of water and sanitation for all*



*Take urgent action to combat climate change and its impacts*



*Conserve and sustainably use the oceans, seas, and marine resources for sustainable development*

# Business Case – Acid Purification

## Phosphoric Acid Plant, US

### Application:

- Remove solids from phosphoric acid
- Obtain a clean permeate acid to protect downstream carbon beds
- Permeate production: 100gpm (22.7m<sup>3</sup>/h)

### Product:

- 6 pcs of feed units
- 12 pcs of filtration skids

### Value Proposition:

- Six-month payback (\$18 million savings / year)
  - Elimination of silica in the filtration process
  - Significant reduction in carbon bed OPEX
  - Reduced labor
- Improved quality of acid produced



# Business Case – Aquifer & Produced Water

## Middle East Oil & Gas

### Background:

- Large amounts of produced water pumped to local disposal wells
- Reduction in available disposal wells and increased water scrutiny
- Contamination from disposal wells to aquifer water

### Application:

- Achieve high-quality water for reinjection without particles or oil droplets

### Product:

- 2 pcs. air-conditioned containers, containing 3 pcs filtration skids

### Value Proposition:

- Increase permeability of reservoir, extend well life, and increase production



# Business Case – Commercial Pool Filtration

## Stretford Sports Village, UK

### Background:

- Existing steel filters had reached the end of their life and needed replacement

### Application:

- Refurbishment of pool filtration system

### Product:

- 6 membrane microfiltration systems

### Value Proposition:

- Excellent water quality
- 66% reduction in water spending
- 36% lower energy bill
- 62% reduction in footprint
- 28% lower salt usage





# Business Case – Marine Black Carbon

## China Marine Application

### Background:

- Inland waterway ships in Asia adopting regulations to remove Black carbon/soot particulates from heavy engines
- Fine-particulate particles (PM 2,5) contribute to air pollution with two-weeks lifetime in the atmosphere

### Application:

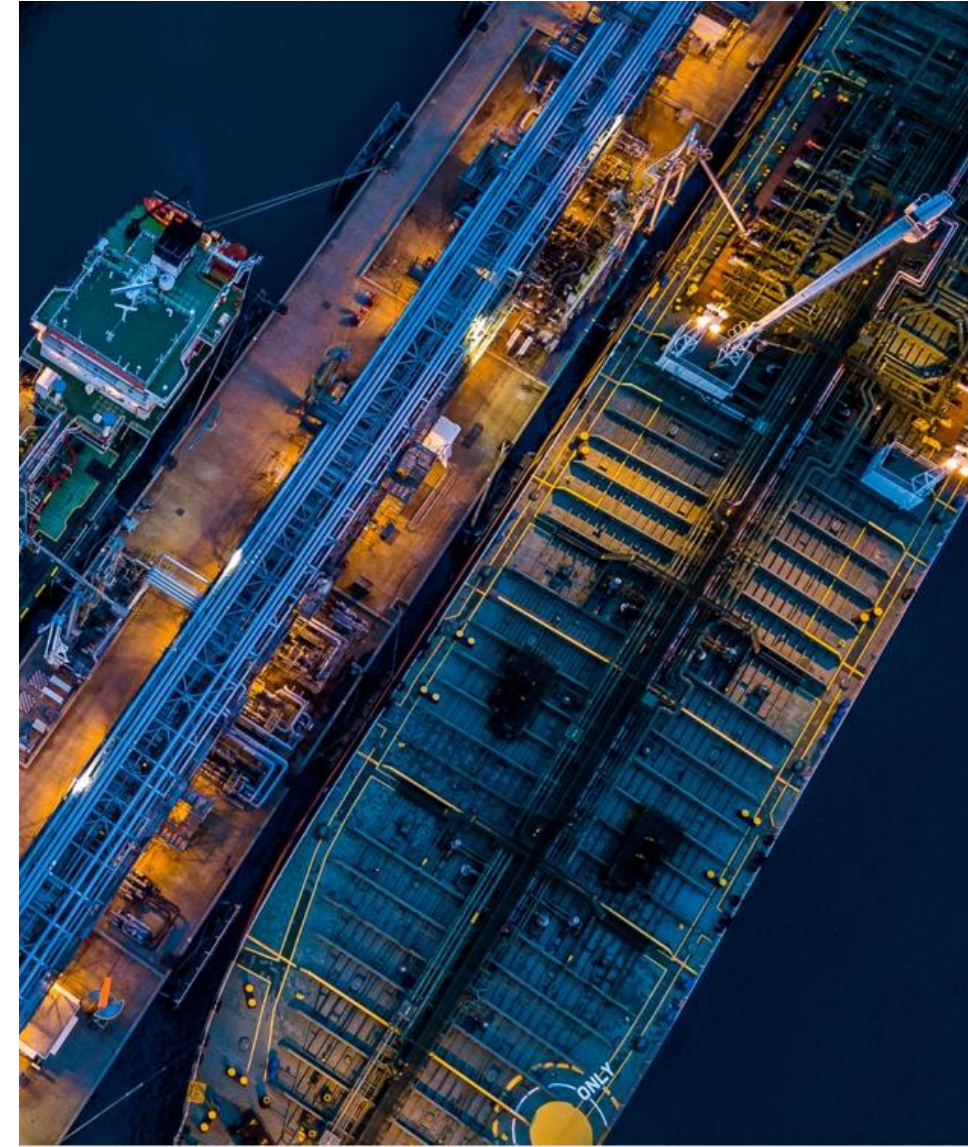
- Removal of about 99% of the soot particulates will contribute strongly to fight the climate impact

### Product:

- Project ongoing to install Diesel Particulate Filters on 4 MW and 9 MW propulsion engines
- Estimated that 1,000 ships will be retrofitted

### Value Proposition:

- Regulatory compliance



# Biography – Fei Chen

## CAREER BEFORE LIQTECH

- **2013 – 2022: Topsoe**
  - Group Senior Vice President
  - Vice President, Licensing and Project Sales
  - Vice President, New Business Research and Development
- **2010 - 2013 Grundfos** - Innovation Platform Director
- **2008 - 2010 Coloplast** - Director, Technology Scouting
- **2006 - 2007 Novozymes** - Senior Business Development Manager
- **2004 - 2006 FOSS China** - General Manager
- **2001 - 2004 Lattec** – Director of Research and Development
- **1996 - 2001 Coloplast** - Team Manager
- **1991 - 1996 National Environmental Research Institute** - Senior Researcher
- **1986 - 1989 Zhejiang University** - Assistant Professor, Dep. of Chemical Eng.



## ACADEMIC BACKGROUND

- **Ph.D., Chemical Engineering**, Technical University of DK
- **MSc., Chemical Engineering**, Zhejiang University

## PERSONALLY

- **Living in Hørshølm with Husband**
- **Mother of two adult sons, who have left home**



