

# LiqTech International, Inc.

*Initiating Coverage with BUY and \$5.15 Price Target*  
*Corporate refocusing lays foundation for stock price appreciation*

United States  
Technology

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## COVERAGE INITIATION

### Rating: BUY

Ticker: LIQT

Price: \$3.13

Target: \$5.15

**Initiating with BUY:** We are initiating coverage of LiqTech International, Inc. with a BUY rating. LiqTech is a vertically integrated Danish industrial company specializing in environmental filtration solutions. The company focuses on silicon carbide ceramic filters and filtration systems that use them.

**LiqTech addresses a multi-billion-dollar market:** LiqTech's target markets include markets for ceramic filters based on silicon carbide as well as related filtration systems and services. Applications include industrial wastewater filtration, swimming pool filtration, water filtration for oil and gas, phosphoric acid filtration, and marine scrubbers. LiqTech estimates that the markets it sells to amounted to at least \$4 billion in 2023, giving it less than 1% market share, i.e., lots of market headroom.

**Focus on selling more systems will drive growth and profitability:** In its most recent reported quarter (Q3 FY23), systems and services made up just over half of LiqTech's sales, while components made up the rest. By 2028, the company aims to generate 80% of its sales from systems and services. The benefits of this strategy are 1) the company can increase average selling prices and therefore revenue growth and 2) the service contracts that come with selling systems are generally good for margins.

**Distribution strategy driving order opportunity:** Since LiqTech's new CEO came on board in mid-2022, LiqTech has signed a number of strategic distribution agreements designed to help the company accelerate its sales in new markets and applications. Given the relatively long sales cycles for system sales, we expect the fruits of LiqTech's partnership strategy to continue to become more apparent as time goes on.

**LiqTech's post-Covid turnaround is gathering pace:** Revenues in the most recent quarter were up 53% and are expected to grow at least 20% yoy for the full year. Margins are also improving, with Q3 FY23 gross margins at 19%, versus just 3% in the prior year period.

**Earnings momentum should catalyze stock-price appreciation:** Despite LiqTech's improving financial performance, the stock is trading not far off its all-time low of \$2.80, reached on December 26, 2022. Provided the company can maintain its momentum with orders and deliveries, we believe operational performance will provide ample catalysts for a stock-price re-rating.

**Balance sheet in good shape:** In its most recent quarter (Q3 FY23), the company had \$11.8 million in cash on the balance sheet. With cash burn currently running at \$5-6 million per year, we expect LiqTech's cash to last well into FY25, and perhaps longer, depending on sales growth.

**12-month price target of \$5.15 based on a NPV analysis:** LIQT is currently trading at an undemanding 1x book value, and 1.1x time trailing sales. We calculate a 12-month price target for shares of LIQT of \$5.15. This is based on a NPV analysis, representing 65% upside from the current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities.

### Company Description

Based in Ballerup, Denmark, LiqTech International, Inc. is an industrial company specializing in systems and components for environmental filtration.

### Stock Data

Exchange:	NasdaqCM
52-week Range:	\$2.80-4.24
Shares Outstanding (million):	5.7
Market cap (\$million):	\$17.9
EV (\$million):	\$14.1
Debt (\$million):	\$8.0
Cash (\$million):	\$11.8
Avg. Daily Trading Vol. (\$ million):	\$0.025
Float (million shares):	3.62M
Short Interest (million shares):	0.07
Dividend, annual (yield):	NA

### Revenues (US\$ million)

	2023E (Cur.)	2024E (Cur.)	2025E (Cur.)
Q1 Mar	4.0A	5.0E	6.0E
Q2 Jun	5.0A	6.2E	7.5E
Q3 Sep	5.1A	6.1E	7.4E
Q4 Dec	5.8E	7.3E	8.7E
Total	19.7E	24.7E	29.6E
EV/Revs	0.7x	0.6x	0.5x

### Earnings per Share (pro forma)

	2023E (Cur.)	2024E (Cur.)	2025E (Cur.)
Q1 Mar	(0.42)A	(0.30)E	(0.26)E
Q2 Jun	(0.27)A	(0.27)E	(0.22)E
Q3 Sep	(0.25)A	(0.24)E	(0.20)E
Q4 Dec	0.26E	0.20E	0.15E
Total	1.21E	1.01E	0.84E
P/E	NA	NA	NA

### Important Disclosures

Ascendant Capital Markets LLC seeks to do business with companies covered by its research team. Consequently, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making an investment decision.

**For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report, beginning on page 25.**

### Exhibit 1: LiqTech International, Inc. Stock Price (5 Years)



Source: <https://bigcharts.marketwatch.com/>

## INVESTMENT THESIS

**We are initiating coverage of LiqTech International, Inc. with a BUY rating and a 12-month price target of \$5.15**

**Overview.** LiqTech International, Inc. is a leader in the development, manufacturing, and marketing of high-grade ceramic silicon carbide filters, used for the control of soot exhaust particles from diesel engines and for liquid filtration. LiqTech's business is driven by the need for solutions that help companies comply with environmental regulations and reach environmental goals, within cost and performance constraints. LiqTech's products are based on unique silicon carbide membranes that are integrated into Diesel Particulate Filters (DPFs) for emission control, as well as liquid filtration systems used in swimming pools, industrial wastewater filtration, marine scrubbers, oil and gas produced water filtration, and phosphoric acid filtration, among other applications.

**Growth strategy.** LiqTech is a vertically integrated manufacturer with deep know-how residing in its Danish manufacturing and assembly operations. Its strategy for growth consists of 5 key elements:

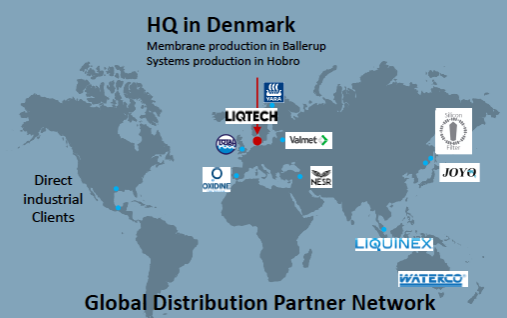
1. **Targeting end markets in which there is a strong need to comply with environmental standards.** An example is exhaust scrubbers for ships. Due to higher standards for the reduction of sulfur pollution in the effluent from marine scrubbers implemented by the International Maritime Organization (IMO) in 2020, more and more ships are electing to install LiqTech filtration systems. The tighter the regulations, the more companies are likely to invest in air and liquid filtration technologies.

2. **Providing custom systems based on modular design.** LiqTech utilizes a single design platform for its liquid filtration systems. The company can provide customized designs based on its platform which are implemented in a modular fashion for efficient assembly. This approach provides both cost savings and customized system solutions for the customer’s needs.
3. **Better penetrating existing end markets where LiqTech’s value proposition is strong.** With its sales running at around \$20 million annually, LiqTech has a large degree of headroom in the markets it targets. Established markets for the company include commercial swimming pool filtration, DPFs for diesel engines, and water filtration for marine exhaust scrubbers. Emerging opportunities where the company is making headway include filtration of produced water for oil and gas extraction, as well as phosphoric acid filtration for food and beverage companies.
4. **Focus on growing systems and services as a percent of sales.** With systems and services constituting roughly half of sales and components constituting the rest, LiqTech is prioritizing the sale of assembled systems that incorporate its silicon carbide filters as a way to boost service contracts and thus margins.
5. **Expand geographic reach through distribution agreements.** LiqTech has spare manufacturing capacity and has thus prioritized sales generation through partnerships with distributors that can sell its products in new geographies.

**Exhibit 2: LiqTech International, Inc. at a Glance**


## LiqTech at a glance

- A distinguished global leader in specialty filtration, dedicated focus on advanced Silicon Carbide Membranes.
- Following a successful turnaround in 2022, we've significantly enhanced our commercial capabilities, laying the foundation for sustained growth.
- We have achieved consecutive quarter-over-quarter growth in both revenue and profitability. Our progress has brought us closer to the break-even point.
- We have a strong and attractive value proposition. We invite you to join us on this exciting journey.




**HQ in Denmark**  
Membrane production in Ballerup  
Systems production in Hobro


**Global Distribution Partner Network**




**+100**  
Employees




**\$ 19-21 mil**  
Outlook (2023)



**3**  
Locations



**+ 300**  
Systems sold



**+ 20**  
Years of filtration experience

**LIQTECH** improving our future

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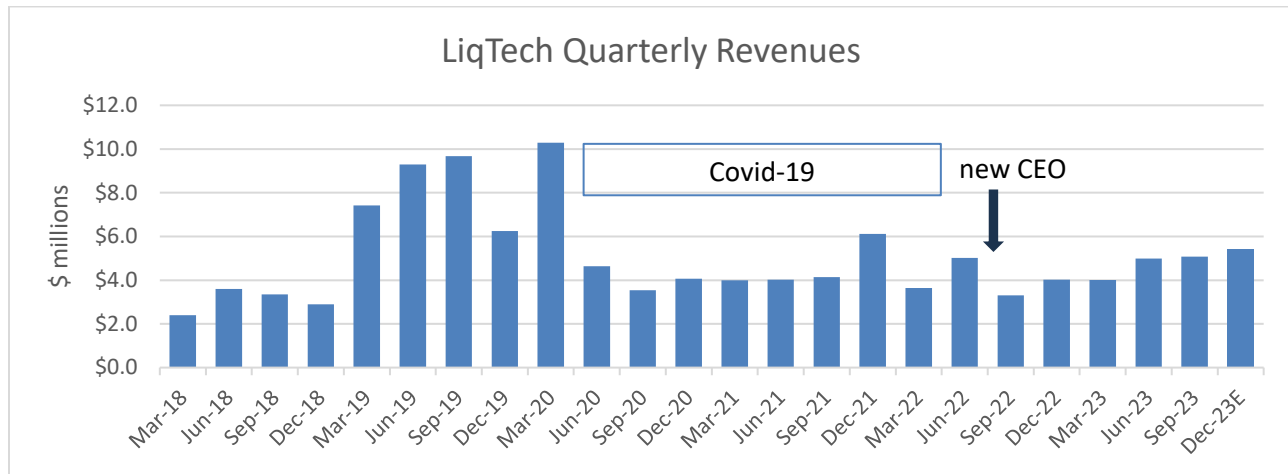
Source: Company Reports

**LiqTech’s sells to billion-dollar markets.** LiqTech sells into the large and varied market for environmental filtration systems and components. The overall market for ceramic membranes is estimated at over \$10 billion by Skyquest.com. Within this market, various types of materials are used, with LiqTech focusing on the silicon carbide membrane market. In addition to components, LiqTech sells complete filtration systems. Each of these separate end-markets (industrial wastewater filtration, swimming pool filtration, water filtration for oil and gas, phosphoric acid filtration, etc), is large. For instance, the market for industrial wastewater treatment is estimated at over \$13 billion by maximizemarketresearch.com. LiqTech estimates that the niches it sells to amounted to at least \$4 billion combined in 2023, giving it less than 1% market share, i.e., lots of market headroom.

**Turnaround in progress.** LiqTech’s business was heavily impacted by the Covid-19 pandemic (see exhibit 3). In March 2022, the company’s former CEO, Sune Mathiesen took a medical leave of absence. In May 2022, Sune Mathiesen resigned as CEO and director, paving the way for the current CEO, Fei Chen to take over. The company implemented a 25% headcount reduction in Q2

FY22, with a focus on creating a leaner and more focused management team. At the same time, the company terminated plans to build a facility in China. Since restructuring and refocusing under its new CEO, LiqTech has started to generate significant sales growth and margin expansion, with company guidance of 20-30% full-year revenue growth in FY23 and gross margin expansion to 19% in Q3 FY23 from single digits in FY22.

### Exhibit 3: LiqTech International, Inc. Quarterly Revenues



Source: Company Reports and Ascendant Capital Markets estimates

**IP and corporate 'moat'.** LiqTech has focused for over 20 years on the design and manufacture of ceramic filters and filtration systems. The company owns several patents relating to its core silicon carbide technology, as well as an accumulated body of proprietary trade secrets related to manufacturing the membranes. Examples of the company's branded technology include its CoMem ceramic tubular membranes for oil and gas water filtration and industrial wastewater, the Aqua Solution membranes for pool and spa filtration, and its HTM (Hybrid Technology Membrane) utilizing both silicon carbide and oxide zirconia. The company has nine full-time employees in R&D and has invested \$12.2 million in R&D since 2018.

**Focus on selling systems and service should be good for growth and margins.** Starting out as a supplier of components in the form of silicon carbide membranes, LiqTech now has the capability to provide full filtration systems customized to meet the needs of the end user. The company also provides service of those systems. In the most recent reported quarter (Q3 FY23), systems and service made up just over half of the company's sales, while components made up the rest. By 2028, the company aims to generate 80% of its sales from systems and service. The benefits of this strategy are 1) the company can increase average selling prices and therefore revenue growth and 2) the service contracts that come with selling systems are generally good for margins.

**New distribution strategy starting to bear fruit.** Since LiqTech's new CEO came on board in mid 2022, LiqTech has signed a number of strategic distribution agreements designed to help the company accelerate its sales in new markets and applications. Fruits of this strategy include:

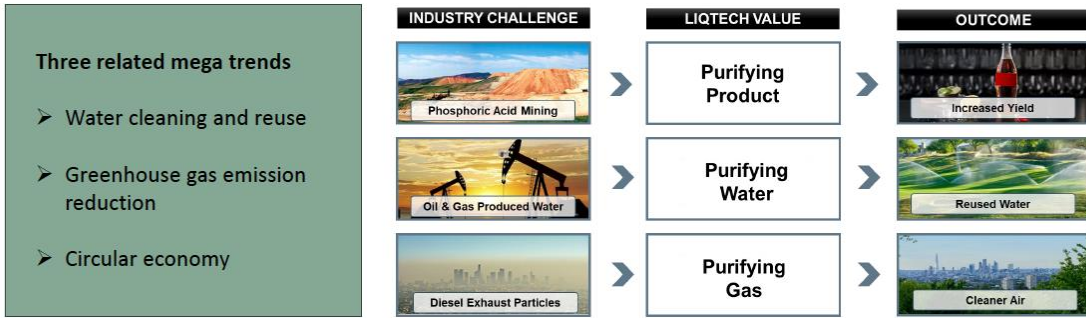
- A pilot oil and gas project in Kuwait thanks to a partnership with NESR (National Energy Services Reunited Corp.)
- A new agreement with Razorback Direct Oilfield Solutions of Houston to commercialize LiqTech's produced water treatment filtration solution in the U.S.
- A pilot phosphoric acid project in China thanks to a partnership with Silicon Filter of China
- 2 new marine scrubber sales in China thanks to help from JOYO
- 15 new pool filtration systems sold with help from distributors Barr + Wray, Oxidine, Total Pool, and Waterco

Given the relatively long sales cycles for system sales, we expect the fruits of LiqTech's partnership strategy to continue to become apparent as time goes on.

**Exhibit 4: Trends Driving LiqTech's Business**

**Mega trends driving LiqTech's business**

LiqTech contributes to saving the world's scarce resources and protecting the environment



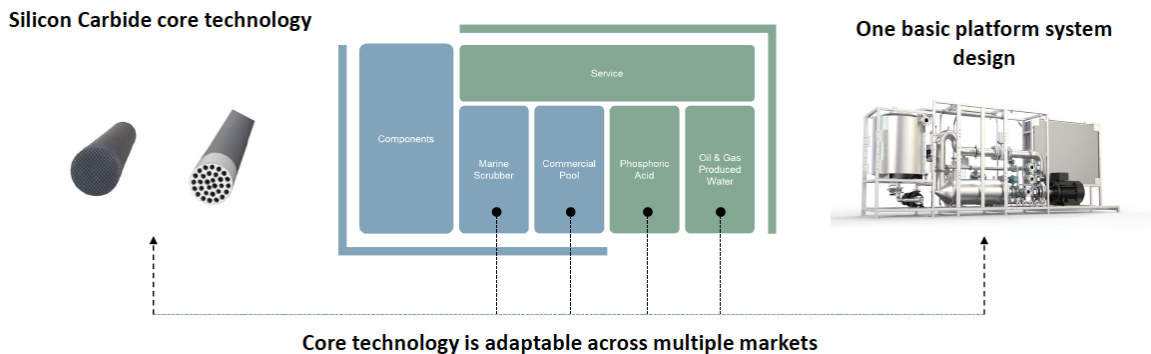
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Source: Company Reports

**Exhibit 5: LiqTech International, Inc. Core Technology and System Design**

**Our core technology and system design enable us to prioritize commercial development**



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Source: Company Reports

**Balance Sheet in good shape.** As part of its restructuring, LiqTech in Q2 FY22 raised \$25.3 million in equity capital, giving it a substantial war chest. In its most recent quarter (ended September 2023), the company had \$11.8 million in cash on the balance sheet. With cash burn currently running at \$5-6 million per year, we expect the company's reserve to last well into FY25, and perhaps longer, depending on sales growth.

**P&L momentum should catalyze stock-price performance.** After a couple of years of retrenchment and restructuring following a Covid-19-induced downturn, LiqTech's P&L is showing the benefits of turnaround. Revenues in the most recent quarter were up 53% and are expected to grow at least 20% yoy for the full year. Taking the high end of company guidance, revenues for Q4 FY23 could be up over 60% yoy. Margins are also improving, with Q3 FY23 gross margins at 19%, versus just 3% in the prior year period. Despite LiqTech's improving financial performance, the stock is trading not far off its all-time low of \$2.80, reached on December 26, 2022. Provided the company can maintain its sales momentum, we believe operational performance will provide ample catalysts for a stock-price re-rating.

### **Valuation: LIQT represents attractive risk/reward with business momentum accelerating**

Based on an NPV analysis, we believe LIQT is worth at least \$5.15 per share. Our model assumes a modest improvement in market share from 1% to 2% in the company's established markets over the next 5 years, and a conservative 1% of target markets by 2028. In addition, we use a conservative discount rate of 16% for future cashflows to account for general uncertainty relating to marketing and competition in the marketplace. With the stock currently trading at \$3.13, only 1x book value and 1.1x trailing sales, we believe the risk/reward is attractive. In addition, the stock could experience a significant boost with the achievement of commercial milestones, including further design wins from new distribution agreements, as well as revenue growth acceleration and margin improvement from rising sales volumes. We acknowledge that LiqTech is still relatively early in post-Covid reorganization and has a way to go before breaking even on its core business, but large market opportunities and commercialization milestones over the next year should be positive for the stock.

## **INVESTMENT RISKS**

**Operational Risks:** LiqTech's operational performance and financial condition could be affected by several factors, including changes in demand for its products, supply chain disruptions, and the ability to manage and scale operations effectively. In particular, the company relies on its ability to manufacture precision components at scale, and also assemble complex systems for its customers to high quality standards. Significant hiccups in its manufacturing process would adversely affect its sales and reputation. Failures of its products could result in environmental damage and thereby expose the company to fines or lawsuits.

**Technological Innovation and Competition:** The rapid pace of technological innovation in the industry poses a risk to LIQT if it cannot keep up with evolving technologies or if competitors develop more advanced or cost-effective solutions. Maintaining technological leadership and innovation is crucial for sustaining competitiveness and market position.

**IP Protection:** LiqTech's competitive position partly depends on its capability to develop, secure, and protect intellectual property for its recrystallized silicon carbide products, applications, and manufacturing processes. The company safeguards its IP through patents, trade secrets, and confidentiality agreements. However, the mature nature of silicon carbide technology, with over a century of development, poses challenges in asserting exclusive IP rights. The enforceability and scope of patents are uncertain and vary by country, complicating its IP strategy. Given the challenge of patenting in a well-explored field, LiqTech places significant emphasis on trade secrets as a protective measure. Trade secrets cover invaluable company knowledge, manufacturing processes, and practices not publicly disclosed. However, safeguarding these secrets is inherently challenging, requiring stringent internal security measures and robust legal agreements to prevent unauthorized disclosure or access by competitors, which could undermine its market position and innovation lead. If company trade secrets were to be obtained by competitors, it could significantly damage the company's competitive position.

**Loosening of environmental regulations:** LiqTech is a net beneficiary of the trend towards stricter environmental controls and government funding for environmental protection, as its products help companies comply with stricter standards and implement solutions that help meet environmental goals. As an example, the company's expansion efforts in the marine sector are contingent upon the stringent enforcement of IMO 2020 standards, which mandate the use of low-sulfur fuel by marine vessels or the

installation of scrubber technology. Ongoing discussions and proposals at international forums regarding further greenhouse gas reduction measures highlight the dynamic nature of regulatory standards affecting the ceramic filtration industry. Any stagnation in the tightening of emissions regulations, their relaxation, or lax enforcement due to various pressures could detrimentally impact the company's operational performance and future growth trajectory. This risk is particularly salient in light of the backlash against ESG investment currently underway in portions of the US financial sector.

**Reliance on distribution partners:** As LiqTech seeks to grow its sales in new end markets and geographies, it is increasingly turning to strategic distribution partners to sell its products and services to end customers. These collaborations come with risks such as partners' failing to meet commitments, and reliance on partners for order flow. Thus, while distribution partners are critical to the company's growth strategy, they also expose LiqTech to certain risk factors beyond the company's control.

**Customer Concentration:** The company's financial health significantly hinges on a small group of key customers, with the largest four contributing 13%, 9%, 6%, and 4% of net sales in 2022, summing to 31%. This was a slight decrease from 2021 when these customers made up 12%, 10%, 9%, and 6% of net sales, totaling 37%. This reliance poses risks to operational stability if these customers reduce orders or fail to meet financial obligations, underlining the importance of customer diversification and the management of credit risks associated with concentrated receivables.

**Liquidity and Need for External Financing:** LiqTech is in a relatively good position financially, with \$11.8 million in cash on the balance sheet exiting September 2023. In addition, cash burn has been reduced as the company ramps sales and margins improve. Despite decreasing cash burn, we forecast the company will likely need to raise external financing in FY25, thereby subjecting it to market conditions and investor sentiment. Failure to obtain such funding on favorable terms could adversely affect its business and operational strategies. Even if the company is successful in raising funds, additional equity financing will expose investors to dilution.

## VALUATION

### **We see upside to \$5.00+ as LiqTech continues to reap the benefits of its refocused commercialization strategy**

**Valuation methodology and price target.** To create an NPV estimate for LiqTech, we started by forecasting future cashflows, using the company's estimates of its established and target market sizes in 2023 (\$1.1 billion and \$2.9 billion, respectively) and projecting those market sizes in 2028 using the company's estimates of market CAGR (4% for established markets and 6% for target markets). We then assumed the company's market share in its established market grows from 1% to 2% over the next five years, and that its market share in its target market grows from 0.1% to 1% over the same period. Using a discount rate of 16%, and a projected net margin of 8%, adding current cash and subtracting an estimate of additional financing needed, we come up with a current value for existing shareholders of \$36 million, or \$5.15 per share (see exhibit 6).

We acknowledge that as an industrial company in turnaround mode, LiqTechs' valuation is subject to great uncertainty. We believe our conservative market share assumptions, and a high discount rate of 16% used in our NPV calculation account for this. Given that LIQT traded more than 15x higher than our current Price Target prior to Covid, it might appear that our valuation is on the conservative side. Yet, marketing environmental systems is a relatively long process, subject to competitive risks. In addition, the company will likely need to raise substantial funds to carry it to financial breakeven. Therefore, we feel conservatism is warranted. Still, our valuation represents 65% upside to the current stock price and is far below the stock's historical high of \$140.80 reached in January of 2012.

**Exhibit 6: LiqTech International, Inc. Valuation, NPV**

LiqTech's Established Markets (Components, Pools, Marine Scrubbers)*	\$1,100,000,000
Established Markets CAGR	6%
LiqTech's Target Markets (Oil & Gas, Phosphoric Acid, Service)*	\$2,900,000,000
Target Markets CAGR	4%
Established Markets (2028)	\$1,472,048,135
Target Markets (2028)	\$3,528,293,417
LiqTech Established Market Share (2023E)	1.07%
LiqTech Target Market Share (2023E)	0.11%
LiqTech Established Market Share Projected (2028)	2%
LiqTech Target Market Share Projected (2028)	1%
Estimated 2028 Sales	\$64,723,897
Discount Rate	16%
NPV of Future Sales	\$407,068,534
Projected Net Margin	8%
Estimated NPV of Future Net Profit	\$32,565,483
Net Cash	\$11,832,959
Estimated Additional Capital Required	(\$15,000,000)
Current Value for Existing Shareholders	\$29,398,442
Shares Outstanding	5,705,729
Estimated Value Per Share	\$5.15

Source: Company reports, Ascendant Capital Markets estimates

**Trading History.** LiqTech originally listed on the Nasdaq on August 28, 2011, at a split-adjusted price of \$104. The stock reached a high of \$140.80 in January 2012. By February 2018, the stock had fallen to \$9.60 before beginning a multi-year rally in 2017 which saw the stock rise to a high of \$88 in February 2021. By June 2022, the stock had fallen again, touching a low of \$2.80 on December 26, 2022, and settling into its current range of \$3-4 per share on relatively muted volume. At present, the stock appears inexpensive relative to similar companies on a price-to-sales basis, with market cap-to-trailing-sales of only 1.1x, versus an average of 1.4x for peers (see exhibit 7).

**Exhibit 7: Industrial Filtration Companies, Market Cap to Sales**

Company	Ticker	Market capitalization, USDM	Revenue (ttm, USDM)	P/S ratio
LiqTech International, Inc.	LIQT	\$ 19.8	\$ 18.1	1.09
Euro Tech Holdings Company Limited	CLWT	\$ 12.7	\$ 16.2	0.79
China Natural Resources, Inc.	CHNR	\$ 14.5	\$ 16.5	0.88
TOMI Environmental Solutions, Inc.	TOMZ	\$ 16.5	\$ 7.5	2.19
V.S. International Group Limited	1002.HK	\$ 28.3	\$ 9.7	2.91
Adval Tech Holding AG	ADV.N.SW	\$ 87.4	\$ 204.3	0.43
<b>Average</b>		<b>\$ 29.87</b>		<b>1.38</b>

Source: Yahoo Finance, Ascendant Capital Markets estimates

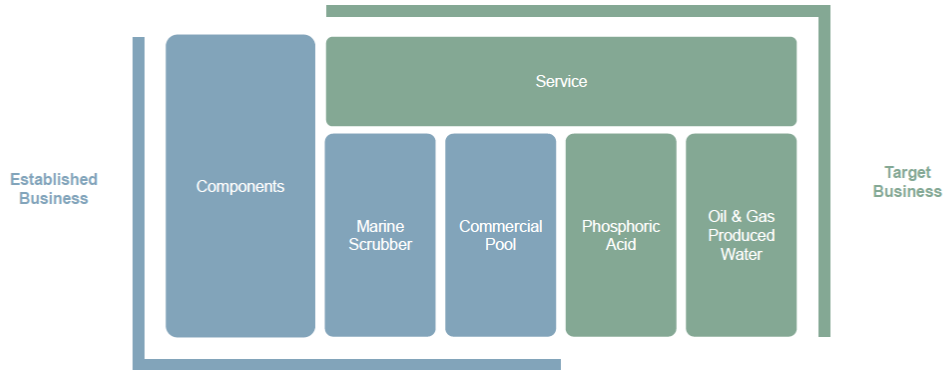
Given the commercial momentum the company is experiencing with new distribution agreements yielding design wins, and gross margins on an upward trajectory, it would appear the stock is overdue for a re-rating. With the stock currently trading at an undemanding 1.1x times sales, and 1x times book value, we feel the downside risk is very limited.



**Exhibit 8: LiqTech International, Inc. New Commercial Strategy**

**New commercial strategy is implemented**

Focus is the key word – **Delivering revenue** on established business and **Driving growth** through expansion into additional target markets



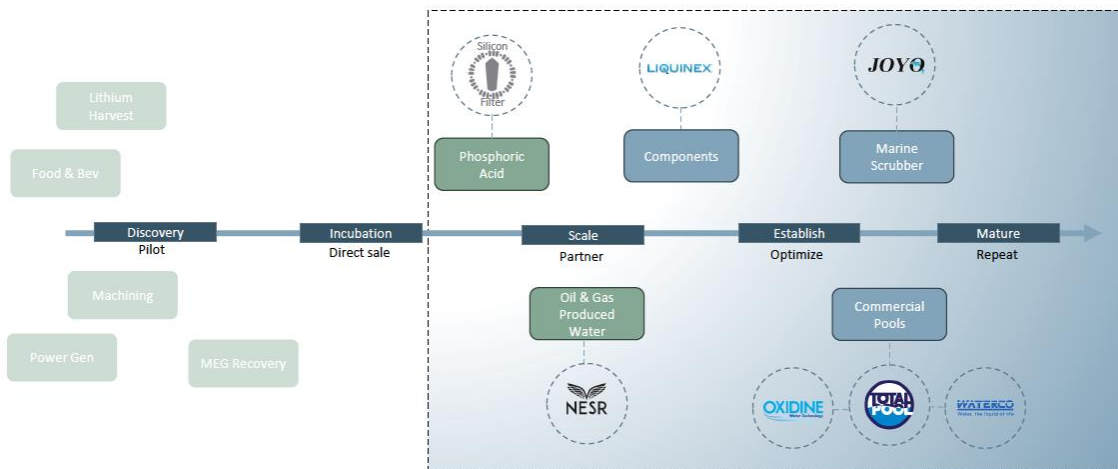
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Source: Company Reports

**Exhibit 9: LiqTech International, Inc. Strategic Distribution Partnerships**

**Commercial scale up by strategic distribution and partnership collaborations**



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Source: Company Reports

## **COMPANY**

### **History**

Headquartered in Ballerup, Denmark, LiqTech International, Inc. was established in 2004 to produce silicon carbide filters targeted at the diesel particulate filtration market. In 2010, LiqTech expanded its technology portfolio and market presence by acquiring Provital Solutions, Inc., a company involved in the production of ceramic membranes for liquid filtration. In 2013, LiqTech went public, listing on the NASDAQ stock exchange under the ticker symbol LIQT. Today LiqTech manufactures silicon carbide filtration components and systems in Denmark for customers globally. Key end-markets for LiqTech include emissions filters for diesel engines, marine exhaust scrubber systems, swimming pool filtration, phosphoric acid purification for soft drink companies, and waste-water purification for oil and gas extraction. The company also produces engineered plastic parts and products for various internal and external uses including food & beverage and pharmaceutical applications.

### **Why Silicon Carbide?**

Ceramic membranes function like coffee filters to filter out tiny particles suspended in gases and liquids. The technology is widely deployed to control pollution and safeguard the environment. According to Skyquest.com, the market for ceramic membranes is estimated at over \$10 billion, and comprises several different materials, including aluminum oxide, titanium oxide, zirconium oxide, and silicon carbide. Silicon carbide membranes typically consist of a substrate and a membrane in a tubular housing. We are not aware of other companies that make both the substrate (honeycomb) and the membrane (the part that accomplishes the filtering) solely from silicon carbide. LiqTech focuses on silicon carbide technology for several reasons:

1. Silicon carbide is extremely hard, second only to diamond on the Mohs hardness scale. This makes silicon carbide very durable and thus a highly desirable material for filtering various abrasive fluids, such as phosphoric acid in industrial applications.
2. Unlike filtration products made of, for example, aluminum oxide, silicon carbide membranes are chemically inert and temperature resistant.
3. Silicon carbide membranes exhibit a high degree of hydrophilicity (the tendency of a surface to become wet or absorb water), which results in high flux (flow rate) for water filtration and correspondingly low energy consumption.
4. Silicon carbide membranes are oleophobic, i.e., they repel oil, making them ideal for cleaning oily water, such as that produced in oil and gas extraction.

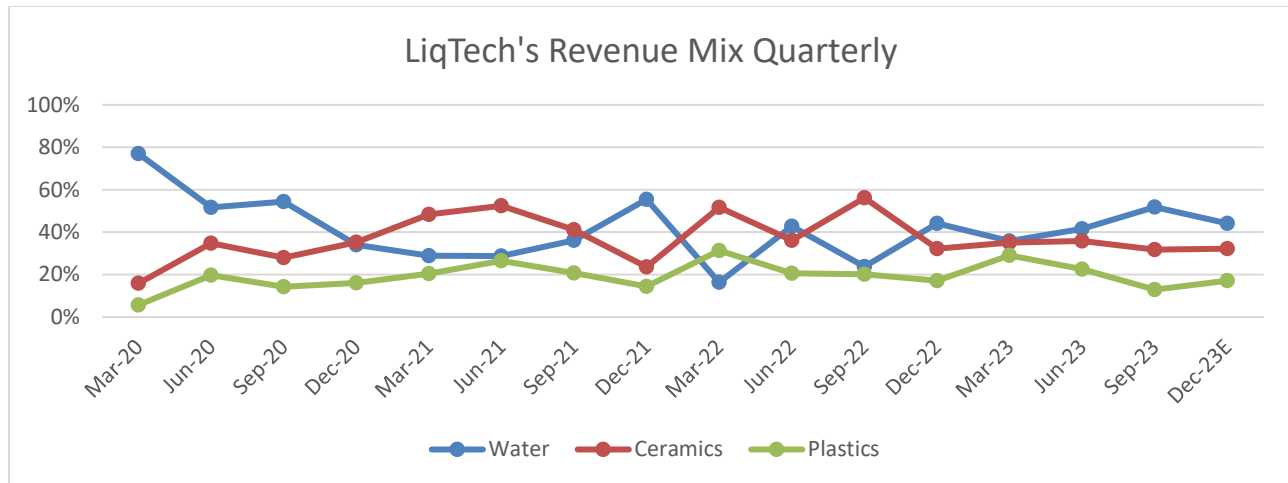
### **Intellectual Property**

LiqTech is virtually unique in that it has focused exclusively on the development and manufacture of silicon carbide membranes and systems for environmental filtration. In other words, it is a pure-play specialist in this technology. While the company has a patent portfolio, including one issued patent in the United States co-owned with a third party, two issued patents in Denmark, three issued foreign patents (Germany, China, and South Korea) co-owned with a third party, and one European patent co-owned with a third party, much of the company's intellectual property 'moat' resides in its accumulated manufacturing know-how. To protect its trade secrets, LiqTech requires all personnel and partners to agree to confidentiality upon starting their relationship with the company. In parallel, LiqTech has branded its technology and has secured trademark registrations including Aqua Solution, CoMem, CDPX, and Future Filtration in China and Denmark, with ongoing initiatives to renew and create new trademarks in strategic regions.

Since 2018, Liqtech has invested \$12.2 million in R&D and currently has nine full-time employees dedicated to the development of technology and intellectual property rights related to silicon carbide product forms, applications, and manufacturing processes.

### **Business Mix**

LiqTech divides its business up into 3 primary segments: ceramics (consisting of DPF filters and silicon carbide membranes), water (consisting of filtration systems and aftersales services), and plastics (consisting of molded components for industrial applications). While LiqTech's mix has tended to fluctuate over the quarters, the company over time aims to boost its sales of systems and related services (the water segment) as a percent of sales, as the service component carries a higher margin and thus renders this segment more profitable than the others. The following chart illustrates LiqTech's changing mix:

**Exhibit 10: LiqTech International, Inc. Quarterly Revenue Mix**


Source: Company Reports, Ascendant Capital Markets estimates

**Ceramics.** Comprising LiqTech’s core ceramic membrane business, as well as DPF filters for diesel emissions, this segment currently represents 32% of revenues (Q3 FY23). Sales cycles tend to be relatively short for ceramics, but margins are low and this segment is currently losing money. Ceramics are manufactured at the company’s facility in Ballerup, Denmark, near Copenhagen.

**Water.** LiqTech has created a single-platform modular design that allows the company to create systems that are customized for the end-user. These systems are used for diverse applications ranging from swimming pool filtration to marine scrubbers to phosphoric acid filtration. A benefit of selling systems is that systems require aftersales services and support for the company’s more than 300 installed filtration systems, a business that carries high margins. The company assembles its water treatment systems in Hobro, Denmark. According to recent filings, this segment is currently turning a nominal profit. The water segment (systems and service) comprised 52% of sales in the Q3 FY23 quarter.

**Plastics.** Constituting 13% of sales in the most recent quarter (Q3 FY23), LiqTech's plastics business segment sells to various end markets including clean technology, pharmaceuticals, food, healthcare, and graphics. In addition, the company manufactures key plastic components for assembly into LiqTech liquids filtration systems, in particular pool and marine scrubber applications. The company manufactures plastic products at its facility in Aarhus, Denmark. According to recent filings, this segment is currently loss-making.

### End-Markets

LiqTech divides its end markets into areas where it has an established presence and areas it is targeting for fuller development. Its established markets include water filtration for swimming pools and particulate filters for diesel engines. Its target markets include water filtration for marine scrubbers, water purification for oil and gas extraction, as well as phosphoric acid purification for food & beverage applications. According to company estimates, LiqTech’s established markets exceeded \$1.1 billion in 2023 and are growing at 6% annually, while its target markets exceeded \$2.9 billion in 2023 with a 4% CAGR.

### Established Markets

**Water filtration.** Conventional filtration systems for swimming pools use large amounts of chemicals for disinfection. In addition, they typically use sand as a filtration medium, requiring a large amount of space and considerable energy. LiqTech’s Aqua Solution system offers the same water flow as conventional sand filters, with much less space required, fewer membrane elements, fewer pressure vessels, and a lower carbon footprint due to lower energy consumption. To date, LiqTech has installed over 300 water treatment systems, including very large public swimming pool installations in Europe and Asia.

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### Exhibit 11: LiqTech International, Inc. Pool Filtration System



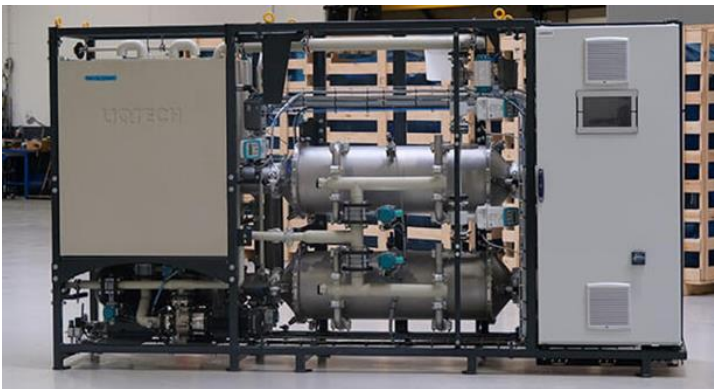
Source: Company Reports

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**DPFs for diesel engines.** LiqTech's first application consisted of diesel particulate filters for auto emission control. Key advantages of LiqTech's silicon carbide approach include durability, chemical non-reactivity, temperature resilience, and thermal conductivity. The company's DPF automobile filters can handle higher soot loads than filters that do not use a silicon carbide membrane, making them ideal for situations in which engines infrequently reach high enough temperatures to burn off the soot. The company uses a proprietary 'nano wash coat' to provide a catalytic coating for DPF automobile. Applications include garbage trucks, port vehicles, diesel pickup trucks, off-road construction vehicles, and backup generators. The company's products are sold worldwide under the LiqTech brand and have been used to retrofit more than 2.5 million large vehicles.

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### Exhibit 12: LiqTech International, Inc. Marine Scrubber Filtration System



Source: Company Reports

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**Marine scrubbers.** Marine scrubbers use water to clean the exhaust from ship engines, as required by industry regulations. In January 2020, the International Maritime Organization (IMO) implemented a new lower cap on sulfur emissions for international shipping to further reduce air pollution. The exhaust limits are even stricter inside designated Emission Control Areas (ECAs). The addressable market for LiqTech consists of closed-loop scrubbers, where scrubber wash water is routed through a LiqTech filtration system to remove sulfur and other particulates, and the clean water is then recycled as wash water. To date, more than 250 water treatment systems have been installed, with orders from European and Asian scrubber technology providers, shipyards, and ship

owners. As environmental regulations continue to tighten, more and more ships are likely to be retrofitted with closed-loop scrubbers using LiqTech filtration systems.

### Target Markets

**Oil and Gas.** Large amounts of water are used in the process of oil and gas extraction, particularly in the fracking industry. In the process, water becomes oily and filled with pollutants. Silicon carbide membranes work well in the high-performance oil and gas filtration environment. The hydrophilic nature of the material increases the throughput of water, while the oleophobic quality of the material means that it repels oil and therefore is less prone to fouling, and thus requires less downtime for cleaning. Silicon carbide membranes conserve weight and space, both of which are at a premium in offshore drilling applications. LiqTech designs customized systems that clean the water and afford several benefits to oil and gas producers, including extended well lifetimes, protection of expensive drilling equipment, reduced energy consumption, and the ability to re-inject the water into the reservoir and thereby reduce both waste handling and the amount of suitable injection water required. Furthermore, it is possible to discharge the filtrated water into the sea or onshore environment and still comply with the strict environmental requirements. It is also possible to reuse water for irrigation purposes or further desalinate the produced water. To penetrate this market, LiqTech has a strategic distribution agreement with NESR, one of the largest national oilfield services providers in the MENA and Asia Pacific regions. So far, the partnership has yielded a pilot project in Kuwait. In addition, the company recently won service contracts for a pair of oil and gas companies.

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### Exhibit 13: LiqTech International, Inc. Oil and Gas Produced Water Filtration System



Source: Company Reports

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**Phosphoric Acid.** High-grade phosphoric acid is used in the food, pharma, and lithium-iron-phosphate battery industries. For example, it is added to colas to impart a tangy flavor and prevent the growth of mold and bacteria. To be useful in these applications, the acid must be purified to eliminate hazardous compounds such as arsenic and sulfur. Conventional filtration technologies may be insufficient in this challenging environment, leading plants to rely heavily on filter aids. However, using filter aids can lead to filter malfunctions, decreased instrument reliability, and contamination by remnants of the filter aids, such as silica and carbon powder. The result is costly downtime and higher maintenance expenses. Using LiqTech's chemically inert silicon carbide membranes, the company offers modular system solutions with automated cleaning which greatly reduce downtime. To penetrate the market for phosphoric acid filtration, LiqTech announced in August 2023 a strategic distribution partnership with China-based Silicon Filter, which has agreed to sell LiqTech systems in the important China market. A pilot project in China is currently underway.

**Exhibit 14: LiqTech International, Inc. Phosphoric Acid Filtration System**



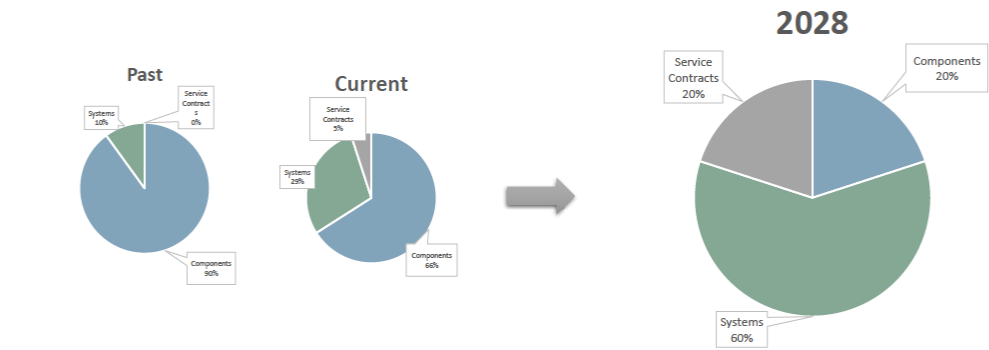
Source: Company Reports

**Sales and Marketing**

As of March 2023, LiqTech employed eleven full-time sales and marketing people. Increasingly, the company is seeking to accelerate sales growth by working with third-party distributors and sales agents. Collaboration with system integrators, who incorporate LiqTech's products into larger systems, is subject to regulatory approvals, creating a high barrier to entry for competitors. The company promotes its products through direct sales to potential customers and marketing activities such as participation in tradeshows and exhibitions, with a heavy focus on digital marketing.

**Exhibit 15: LiqTech International, Inc. Revenue Mix Goals**

**Transforming into a balanced business including system, service and component sales**



**LIQTECH** improving our future

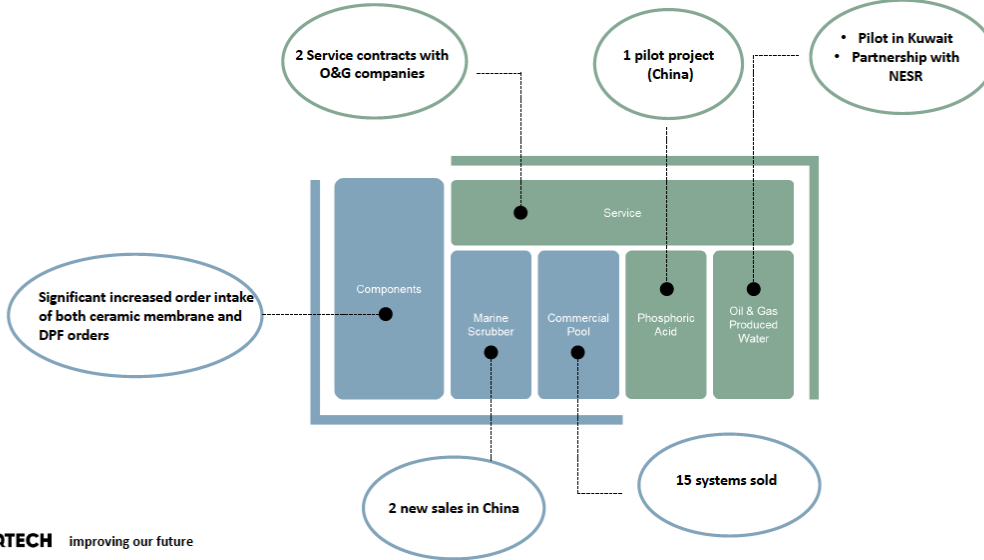
10

Source: Company Reports

**Exhibit 16: LiqTech International, Inc. Recent Design Wins by Segment**

**Recent wins**

Our new commercial strategy is showing good results



**LIQTECH** improving our future

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Source: Company Reports

**Exhibit 17: LiqTech International, Inc. Senior Management Team**

**Revitalized leadership team to lead the journey**

Since Sep-2022	Since Dec-2021	Since Dec-2022	Since Nov-2022	Since Jun-2023	Since Jan-2014	Since May-2023	Since Jan-2023
33 yrs.	16 yrs.	16 yrs.	25 yrs.	18 yrs.	12 yrs.	32 yrs.	23 yrs.

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Source: Company Reports

## Team

LiqTech's management team is deep and highly experienced, with an average of 20+ years in industry. Key leaders include:

**Fei Chen**, CEO. Ms. Chen is a chemical engineer with over 30 years of experience in industry, including R&D and sales roles in companies ranging from industrial (Haldor Topsoe, Grundfos) to life sciences (Coloplast, Novozyme, Lattec). Ms. Chen also has deep experience as a board director. Ms. Chen was hired in 2023 to turn around the company.

**Simon Stadil**, CFO. CFO of LiqTech since November 2021, Mr. Stadil is an experienced finance, treasury, and investor relations professional with comprehensive industry and management experience, including stints at Barclays Capital, Welltec, and (currently) chairmanship of Gunnar Haagensen.

**Phillip Massie Price**, CFO. Formerly the head of Finance for LiqTech, Mr. Massie Price will be taking over the role of CFO from Simon Stadil, who is transitioning to other opportunities. Mr. Massie-Price has served in a variety of controller roles, including at Vektus, K.W. Bruun Import, and Inforevision, and has a master's in economics and accounting from the Copenhagen Business School.

Other important team members include Tobias Madsen, head of Strategy and Business Development, Malte Eriksen, VP of R&D, and Mikael Nielsen, head of Operations.

## Competitive Landscape

The \$10 billion market for ceramic membranes is diverse and varied, with silicon carbide technology competing with at least 3 other mineral-based solutions (aluminum oxide, titanium oxide, and zirconium oxide) as well as filters based on organic polymers, such as Polyvinylidene Fluoride (PVDF), Polysulfone (PSU), Polyamide (Nylon), and Polytetrafluoroethylene (PTFE). Most competitors are large industrial companies, and different competitors focus on different end markets, applications, and geographies, applying unique approaches and technologies. Following is an overview of significant LiqTech competitors in the ceramic membrane market:

**Atech Innovations (Germany):** Atech Innovations is known for its expertise in the ceramic membrane field, producing durable and efficient products for a variety of filtration applications. They offer a range of inorganic membranes suitable for microfiltration and ultrafiltration, serving industries from food and beverage to biotechnology.

**CTI Salindres (US):** CTI Salindres brings a strong focus on ceramic technology, particularly for the chemical and pharmaceutical industries. Their ceramic membranes are utilized in demanding separation processes, where chemical resistance and thermal stability are crucial.

**Pall Corporation (US):** Pall Corporation, a subsidiary of Danaher Corporation since 2015, is a global leader in filtration, separation, and purification technologies. Pall Corporation operates globally and serves multiple industries including pharmaceuticals, biotechnology, and food & beverage.

**TAMI Industries (France):** TAMI Industries specializes in ceramic filtration technology, offering membranes that cater to a broad spectrum of applications, including water treatment and purification processes. They focus on providing solutions that blend high performance with reliability.

**Veolia Water Technologies (France):** Veolia is a renowned player in the water sector, providing a wide range of water treatment solutions that include ceramic membrane technology. Veolia's OPUS II technology and Ross system represent advances in the treatment of oilfield-produced water.

**Ceraflo (Singapore):** Ceraflo designs and manufactures both ceramic and polymeric membranes which they market individually or integrate into systems. Their ceramic membranes are noted for their proprietary multi-channel design which is effective at removing a range of impurities including suspended particulates, colloidal materials, and bacteria, with a pore size of 0.5 micrometers.



**Exhibit 18: LiqTech International, Inc. Recent Design Wins**

**Recent wins**

Our new commercial strategy is showing good results



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Source: Company Reports

**Exhibit 19: LiqTech International, Inc. Case Studies**

**CASE STUDY**

**Commercial Pools**

UK Commercial pool market benchmark made by our partner Total Pool

Sand filter	Vs.	Aqua Solution®
	<b>Payback ~ 3 yrs</b>	
\$ 26,260	<b>Annual Electricity Cost</b>	\$ 10,980
\$ 6,690	<b>Annual Water Cost</b>	\$ 1,352
\$ 8,711	<b>Annual Heating Cost</b>	\$ 1,760

Sand filters are commonly used in Swimming pool filtration and they are usually expensive and very manual to operate

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**Phosphoric Acid**

Major Phosphoric Acid producer for the soft drink industry in USA

Leaf filter	Vs.	PurePhos
	<b>Payback ~ 0.5 yrs</b>	
24 days	<b>Annual Downtime</b>	0 days
> \$ 10 mil	<b>Annual Downtime cost</b>	\$ 0
> \$ 1.8 mil	<b>Annual Carbon filter cost</b>	\$ 300k

Leaf filters are commonly used in phosphoric acid purification and they are usually the bottle-neck in plants due to high maintenance frequency

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Source: Company Reports

**Metawater Co. (Japan):** Metawater leverages its ceramic membrane technology for water and sewage treatment solutions. They have a strong presence in both the domestic and international markets, with a focus on environmental sustainability.

**Nanostone Water (US):** Nanostone Water, Inc. is focused on improving water and wastewater treatment with their ceramic ultrafiltration membranes. Their technology is engineered for high performance and is particularly aimed at municipal and industrial water treatment applications.

**Jiangsu Jiuwu Hi-Tech Co. (China):** Jiangsu Jiuwu Hi-Tech Co., Ltd., based in China, is recognized for its development of ceramic membranes and membrane processes, serving various sectors like food, pharmaceutical, and environmental protection.

**GEA Group (Germany):** GEA Group is a global engineering company offering a broad range of systems, including ceramic membranes for the food sector, pharmaceuticals, and chemical industries. They focus on efficient and sustainable solutions.

**Applied Membranes (US):** Applied Membranes, Inc. is a manufacturer and distributor of membrane systems, including ceramic membranes, for water treatment, and they also specialize in custom membrane systems to meet specific filtration needs.

## Growth Strategy

LiqTech's growth strategy involves leveraging its core expertise in silicon carbide membranes and filtration systems to provide competitive solutions in end markets with regulatory and ESG tailwinds. Key elements of this strategy include:

**Targeting end markets in which there is a strong need to comply with environmental standards.** At the end of the day, many of LiqTech's solutions address a need for environmental compliance. As an example, in January 2020, the International Maritime Organization (IMO) implemented a new lower cap on sulfur emissions for international shipping. This sets new standards for how ships should treat their marine scrubber wastewater. LiqTech can help ship owners and operators meet this standard by providing robust customized wastewater filtration systems for marine scrubbers. Other use cases where rising environmental standards can drive opportunities for LiqTech include industrial wastewater and filtration of produced water for oil and gas companies.

**Providing custom systems based on modular design.** At its facility in Hobro, Denmark, LiqTech assembles complete filtration systems made from corrosion-resistant materials and components. The company possesses in-house engineering capabilities for process design, 3D modeling, automation, and control. LiqTech assumes responsibility for the entire specification, engineering, fabrication, and commissioning process. LiqTech's specialization in silicon carbide membranes, in-house manufacturing capability, combined with the ability to customize each system for the end-user while utilizing a modular design based on a single platform allows LiqTech to provide turnkey filtration solutions at reasonable cost.

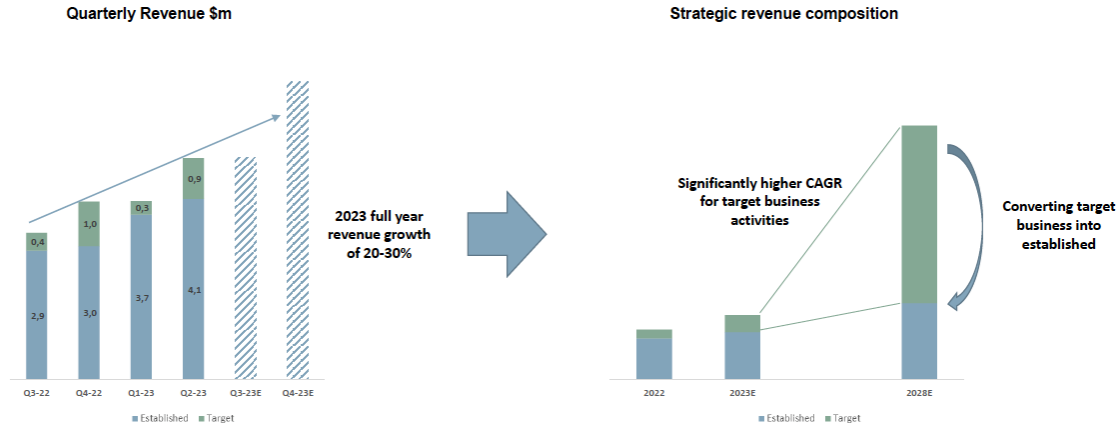
**Better penetrating existing end markets where LiqTech's value proposition is strong.** LiqTech has successfully sold products and installed systems to several end markets including transportation, pool filtration, shipping, industrial wastewater, acid, and oil & gas applications. The company is focused on targeting and developing new customers in these end markets where it has already demonstrated success.

**Focus on growing systems and services as a percent of sales.** In Q2 FY23, Liqtech's systems and services revenues accounted for 52% of the total. According to the company's investor presentation, the goal is to bring systems and service revenues to 80% of the total by 2028. The key advantage of selling systems versus components is that systems sales bring service contracts with them, and service contracts carry a high profit margin.

**Expand geographic reach through distribution agreements.** To scale quickly in diverse geographies, LiqTech has signed a number of strategic distribution agreements. For example, on February 14, LiqTech announced a distribution agreement with Razorback Direct Oilfield Solutions of Houston to commercialize LiqTech's produced water treatment filtration solution for re-injection and reuse, as well as lithium harvest, in five different states in the U.S. including Texas, Oklahoma, Louisiana, Ohio, and Pennsylvania. Similar agreements have been struck with Silicon Filter for the Phosphoric Acid market in China, NESR for the oil and gas market in MENA and Asia, JOYO for the marine scrubber market in Asia, and Barr + Wray, Oxidine, Total Pool, and Waterco for the commercial pool filtration market in MENA, Spain, Eastern Europe, and Australia, respectively.

Exhibit 20: LiqTech International, Inc. 2023 Revenue Guidance and Goals

## Our positive development leads to a full year revenue growth of 20-30% in 2023



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Source: Company Reports

Exhibit 21: LiqTech International, Inc. Margin Guidance

## A gross margin range of 15-20% in 2023 brings us closer to achieving near-term breakeven



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Source: Company Reports

## FINANCIALS

**Overview.** LiqTech has a December fiscal year. The company breaks its revenues into 3 segments: components (including silicon carbide membranes and DPFs for emissions control), water (complete systems and service for liquid filtration), and plastics (plastic molded components). Quarterly revenues reached a peak of \$9.7 million in Q3 of 2019, before falling precipitously in 2020 and 2021. The company is currently 6 quarters into a reorganization which has included a new CEO, 25% cuts to personnel, and a large capital raise in 2022. We expect the company to report its results for FY2023 (ending December) on or about March 25, 2024.

**Recent Results (fiscal Q3 ending September)** On November 9, 2023, LiqTech reported results for Q2 FY23. Revenues for the quarter came in at \$5.1 million, up by 53% yoy, alongside a marked improvement in gross profit margin to 19%. Sales growth was driven by strength in the company's established markets for pool filtration and marine scrubber systems, along with silicon carbide membranes. Revenues for DPFs for emissions control were steady. Operating expenses increased 11% yoy to \$2.6 million, and net loss narrowed to \$(1.4) million. Marketing investments, including new hires in sales and marketing, contributed to higher operating expenses. The company reported new orders for marine scrubber water treatment systems and expanding distribution agreements in China, the Middle East, and Australasia. Management reaffirmed its full-year targets of 20-30% revenue growth and 15-20% gross margin, while also sounding a note of caution regarding the volatile political climate in the Middle East, where it is currently targeting new business in the oil and gas sector.

### Exhibit 22: LiqTech International, Inc. Annual Historical and Projected Financial Metrics

FYE December (\$ mils) Fiscal Year End: December 31	2018 FY-A	2019 FY-A	2020 FY-A	2021 FY-A	2022 FY-A	2023 FY-E	2024 FY-E	2025 FY-E
Revenue	12.2	32.6	22.5	18.3	16.0	19.7	24.7	29.6
Operating income (loss)	(4.5)	(0.4)	(8.3)	(10.7)	(12.5)	(7.0)	(5.7)	(4.7)
Net income (loss)	(3.8)	0.0	(9.8)	(11.1)	(14.2)	(6.9)	(5.8)	(4.8)
EPS	(1.91)	0.02	(3.70)	(4.13)	(3.20)	(1.21)	(1.01)	(0.84)
Operating cash flow	(3.9)	(4.5)	(2.6)	(7.2)	(12.0)	(5.6)	(5.8)	(5.8)

Source: Company Reports, Ascendant Capital Markets Estimates

**Income Statement.** For full-year revenues, LiqTech is guiding to growth of 20-30% yoy. The low end of the range, \$19.2 million, implies Q4 revenues of \$5.1 million, while the high end, \$20.8 million implies Q4 revenues of \$6.7 million. We are currently modeling \$5.8 million, in the middle of the range. For FY24 and FY25, we are currently modeling revenue growth of 25% and 20% respectively.

With regards to COGS, we are forecasting a further gradual improvement in gross margin to 24% by the end of FY25, compared with 19% reported in the most recent quarter ended September 2023. For operating expenses, we are modeling modest growth to \$11.2 million and \$11.7 million in FY24 and FY25, respectively. We are modeling shrinking net losses of \$(5.9) million in FY24 and \$(4.8) million in FY25 as the company benefits from positive operating leverage on higher sales volumes and a richer sales mix. We note that the company is focused on achieving cash flow breakeven and may very perform better than our model as it pursues this goal.

**Initiating Estimates.** We are initiating EPS estimates of (\$0.26) for Q4 2023 on revenues of \$5.8 million, slightly below consensus of \$(0.22) on revenue of \$5 million. On an annual basis, we are initiating estimates of (\$1.01) for FY2024 and (\$0.84) for FY2025 on revenues of \$24.7 million and \$29.6 million, respectively. This is below the current consensus (one publishing analyst) of \$(0.31) and \$0.22 for FY24, and FY25 on revenues of \$29.7 million and \$39.5 million, respectively.

**Balance Sheet.** LiqTech has dramatically reduced its cash burn over the past 4 quarters from \$3 million per quarter in 2022 to roughly \$1.5 million per quarter currently. With \$11.8 million in cash at the end of September, the company should be able to last well into FY25 before needing to raise cash. The company also has a net \$4.5 million in senior notes which mature in January 2026. If revenue and margin momentum continue, LiqTech should be able to handle its cash needs comfortably with modest financing, and/or organic cash flow.

**Exhibit 23: LiqTech International, Inc. Consensus Revenue and Earnings Estimates**

02/23/24

	Revenue (USD million)				EPS (USD)		
	FY2023E	FY2024E	FY2025E		FY2023E	FY2024E	FY2025E
Q1 Mar	\$4.0A	\$5.8E	\$7.9E	Q1 Mar	\$(0.42)A	\$(0.16)E	\$(0.03)E
Q2 Jun	\$5.0A	\$7.1E	\$8.6E	Q2 Jun	\$(0.27)A	\$(0.12)E	\$0.01E
Q3 Sep	\$5.1A	\$7.8E	\$10.4E	Q3 Sep	\$(0.25)A	\$(0.03)E	\$0.08E
Q4 Dec	\$5.0E	\$9.0E	\$12.6E	Q4 Dec	\$(0.15)E	\$(0.00)E	\$0.17E
Total	\$19.1E	\$29.7E	\$39.5E	Total	(\$1.13)E	(\$0.31)E	\$0.22E

Source: Company Reports, Capital IQ, Ascendant Capital Markets Estimates

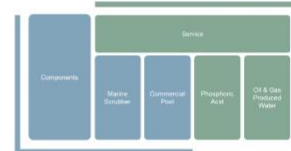
**Conclusion.** The key variable in our model and the determinant of when the company can achieve breakeven is the level of revenue growth. In 2019, the company logged revenues of \$32.6 million, demonstrating the strength of the company’s product line and market opportunity. As LiqTech continues to execute its plan for focused growth and improved mix, we look forward to adjusting our model accordingly. With the stock trading close to its all-time lows, despite positive commercial momentum and considerable margin improvement, we believe the scope for stock price appreciation is ample, as long as the company continues to execute well. If external or internal factors derail the turnaround currently in progress, then the stock is likely to continue to languish.

**Exhibit 24: LiqTech International, Inc. Key Takeaways**

**Key takeaways**

- 1 Investments have been made to transform LiqTech.
- 2 Our new commercial strategy has already yielded positive outcomes.
- 3 We have a new leadership team in place.

**OUR VISION**  
LiqTech will become a leading provider of advanced and sustainable filtration solutions



**LIQTECH** improving our future

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Source: Company Reports



## LiqTech International, Inc. (LIQT)

Balance Sheet (\$ mils)	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25
Fiscal Year End: December 31	Q4A	Q4A	Q4E	Q4A	Q4A	Q1A	Q2A	Q3A	Q4E	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
<b>Current assets</b>																	
Cash	3.8	9.8	13.3	17.5	16.6	14.3	12.6	11.8	9.2	9.4	6.5	5.8	3.3	4.1	0.9	0.2	(2.6)
Accounts receivable, net	1.3	6.3	3.1	2.0	2.3	2.7	3.0	3.9	4.0	3.4	4.2	4.2	5.0	4.1	5.1	5.0	6.0
Inventories, net	4.4	5.2	5.5	5.4	4.1	4.4	4.4	4.6	5.4	4.6	5.6	5.5	6.5	5.4	6.6	6.5	7.7
Contract assets	0.6	2.8	2.7	1.9	2.3	2.4	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Prepaid expenses and other assets	0.1	0.3	1.0	1.3	1.7	2.1	2.8	1.3	2.6	2.2	2.8	2.8	3.3	2.7	3.4	3.3	3.9
Other current assets	1.1	3.2	-	-	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<b>Total current assets</b>	<b>11.4</b>	<b>27.5</b>	<b>25.7</b>	<b>28.1</b>	<b>27.7</b>	<b>26.7</b>	<b>25.9</b>	<b>24.6</b>	<b>24.1</b>	<b>22.7</b>	<b>22.2</b>	<b>21.2</b>	<b>21.0</b>	<b>19.3</b>	<b>18.9</b>	<b>18.0</b>	<b>17.9</b>
Property and equipment, net	1.4	4.8	10.3	8.9	8.3	7.9	7.5	8.6	7.8	7.0	6.3	5.7	5.1	4.6	4.1	3.7	3.3
Operating lease right-of-use assets	-	5.1	4.9	6.9	3.3	3.2	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Deposits and other assets	0.3	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Goodwill	-	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other assets	0.0	0.5	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total assets</b>	<b>13.2</b>	<b>38.6</b>	<b>42.2</b>	<b>45.1</b>	<b>40.1</b>	<b>38.7</b>	<b>37.3</b>	<b>36.8</b>	<b>35.5</b>	<b>33.3</b>	<b>32.1</b>	<b>30.5</b>	<b>29.7</b>	<b>27.5</b>	<b>26.7</b>	<b>25.3</b>	<b>24.9</b>
<b>Liabilities and Stockholders' Equity</b>																	
<b>Current liabilities</b>																	
Accounts payable	2.1	4.3	2.3	1.6	1.4	2.2	2.0	2.2	2.6	2.2	2.7	2.6	3.1	2.6	3.2	3.1	3.7
Accrued expenses	1.9	3.2	4.9	4.7	3.1	2.7	3.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Current portion of finance lease obligations	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Current portion of operating lease liabilities	-	1.0	1.0	0.8	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Contract liabilities	0.5	1.4	1.2	0.9	0.6	0.7	0.9	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1
Other current liabilities	0.1	0.3	-	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total current liabilities</b>	<b>4.6</b>	<b>10.3</b>	<b>9.8</b>	<b>16.9</b>	<b>6.1</b>	<b>6.6</b>	<b>6.8</b>	<b>7.7</b>	<b>8.0</b>	<b>7.6</b>	<b>8.0</b>	<b>7.9</b>	<b>8.4</b>	<b>7.8</b>	<b>8.3</b>	<b>8.2</b>	<b>8.7</b>
Finance lease obligations, net of current portion	-	0.2	3.1	2.5	2.4	2.3	2.2	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Operating lease liabilities, net of current portion	-	4.1	4.2	6.2	2.7	2.6	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4
Senior promissory notes payable, net	-	-	-	-	5.5	5.6	5.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Other liabilities	-	0.9	0.3	6.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total liabilities</b>	<b>4.6</b>	<b>15.6</b>	<b>17.4</b>	<b>32.3</b>	<b>16.8</b>	<b>17.3</b>	<b>17.3</b>	<b>17.6</b>	<b>17.8</b>	<b>17.2</b>	<b>17.6</b>	<b>17.4</b>	<b>17.7</b>	<b>17.0</b>	<b>17.5</b>	<b>17.3</b>	<b>17.7</b>
<b>Stockholders' Equity</b>																	
Preferred stock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Common stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional paid-in capital	46.6	61.4	69.9	70.9	97.0	97.1	97.3	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7
Accumulated deficit	(32.3)	(32.2)	(42.1)	(53.2)	(67.4)	(69.7)	(71.3)	(72.7)	(74.2)	(75.9)	(77.5)	(78.8)	(80.0)	(81.5)	(82.7)	(83.9)	(84.7)
Deferred compensation	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accumulated other comprehensive loss	(5.7)	(6.2)	(3.0)	(5.0)	(6.3)	(5.9)	(6.0)	(6.7)	(6.7)	(6.7)	(6.7)	(6.7)	(6.7)	(6.7)	(6.7)	(6.7)	(6.7)
<b>Total stockholders' equity</b>	<b>8.5</b>	<b>23.0</b>	<b>24.8</b>	<b>12.8</b>	<b>23.3</b>	<b>21.5</b>	<b>20.0</b>	<b>19.3</b>	<b>17.8</b>	<b>16.1</b>	<b>14.5</b>	<b>13.1</b>	<b>12.0</b>	<b>10.5</b>	<b>9.2</b>	<b>8.1</b>	<b>7.2</b>
<b>Total liabilities and stockholders' equity</b>	<b>13.2</b>	<b>38.6</b>	<b>42.2</b>	<b>45.1</b>	<b>40.1</b>	<b>38.7</b>	<b>37.3</b>	<b>36.8</b>	<b>35.6</b>	<b>33.3</b>	<b>32.1</b>	<b>30.5</b>	<b>29.7</b>	<b>27.5</b>	<b>26.7</b>	<b>25.3</b>	<b>24.9</b>

## Balance Sheet Drivers

	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25
	Q4A	Q4A	Q4E	Q4A	Q4A	Q1A	Q2A	Q3A	Q4E	Q1E	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
<b>Book &amp; Cash Value (per share)</b>																	
Book Value per Share (diluted)	4.3	8.9	-	4.7	4.2	3.8	3.5	3.4	3.1	2.8	2.5	2.3	2.1	1.8	1.6	1.4	1.3
Cash per Share (diluted)	2.0	3.9	5.4	7.0	3.3	2.9	2.7	2.3	2.1	2.0	1.6	1.5	1.1	1.2	0.7	0.6	0.2
Net cash per Share (diluted)	1.8	3.3	4.9	0.9	2.0	1.5	1.2	1.3	0.8	0.8	0.3	0.2	(0.2)	(0.1)	(0.7)	(0.8)	(1.3)

Source: Company reports, Ascendant Capital Markets estimates

LiqTech International, Inc. (LIQT)

Cash Flow Statement (\$ mil)	2018	2019	2020	2021	2022	Mar-23	Jun-23	Sep-23	Dec-23	2023	Mar-24	Jun-24	Sep-24	Dec-24	2024	Mar-25	Jun-25	Sep-25	Dec-25	2025	
Fiscal Year End: December 31	FY-A	FY-A	FY-A	FY-A	FY-A	Q1A	Q2A	Q3A	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E	
<b>Cash flow from operating activities</b>																					
Net Income (Loss)	(3.8)	0.0	(9.8)	(11.1)	(14.2)	(2.4)	(1.6)	(1.4)	(1.5)	(6.9)	(1.7)	(1.5)	(1.4)	(1.1)	(5.8)	(1.5)	(1.3)	(1.2)	(0.8)	(4.8)	
Adjustments:															10%					10%	
Depreciation and amortization	0.6	1.3	2.8	2.7	2.6	0.8	0.8	0.8	0.9	3.2	0.8	0.7	0.6	0.6	2.7	0.5	0.5	0.4	0.4	1.8	
Amortization of discount on convertible notes payable	-	-	-	0.8	2.4	0.1	0.1	0.1	-	0.3	-	-	-	-	-	-	-	-	-	-	
Non-cash compensation	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stock-based compensation	-	0.2	0.3	0.5	0.9	0.2	0.2	0.1	-	0.5	-	-	-	-	-	-	-	-	-	-	
Change in fair value of warrant liability	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain on modification of earn-out liability	-	-	(0.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Change in deferred tax asset / liability	-	0.0	(0.1)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	-	(0.0)	-	-	-	-	-	-	-	-	-	-	
Gain on lease termination	-	-	-	-	(0.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain on sale of fixed assets	(0.0)	0.0	(0.0)	(0.0)	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Reserve for obsolete inventory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WC changes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accounts receivable	(0.2)	(4.4)	3.1	1.0	(0.5)	(0.4)	(0.2)	(1.0)	(0.1)	(1.7)	0.6	(0.8)	0.1	(0.8)	(1.0)	0.9	(1.0)	0.1	(0.9)	(1.0)	
Other receivables	(0.5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Inventory	0.2	(0.4)	(0.3)	(0.3)	1.0	(0.3)	(0.0)	(0.3)	(0.8)	(1.4)	0.8	(1.0)	0.2	(1.0)	(1.1)	1.1	(1.2)	0.1	(1.2)	(1.2)	
Deposits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Contract assets	(0.1)	(4.2)	2.5	(0.3)	(0.5)	(0.2)	0.0	(0.5)	-	(0.6)	-	-	-	-	-	-	-	-	-	-	
Prepaid expenses and other current assets	(0.2)	(0.2)	0.0	0.5	(0.4)	(0.3)	(0.7)	1.5	(1.3)	(0.9)	0.4	(0.5)	0.0	(0.5)	(0.7)	0.6	(0.7)	0.1	(0.6)	(0.7)	
Accounts payable	0.3	2.1	(2.0)	(0.5)	(0.2)	0.8	(0.2)	0.3	0.4	1.2	(0.4)	0.5	(0.1)	0.5	0.5	(0.5)	0.6	(0.0)	0.6	0.6	
Accrued expenses	(0.7)	1.5	1.4	0.8	(1.6)	(0.4)	0.3	1.2	-	1.1	-	-	-	-	-	-	-	-	-	-	
Operating lease liabilities	-	(0.5)	(0.9)	(0.9)	(0.5)	(0.1)	(0.1)	(0.1)	(0.1)	(0.5)	(0.1)	(0.1)	(0.1)	(0.1)	(0.4)	(0.1)	(0.1)	(0.1)	(0.1)	(0.4)	
Contract liabilities	0.2	0.0	(0.3)	(0.2)	(0.2)	0.0	0.0	(0.2)	(0.1)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	
Assets held for sale	-	-	-	-	(0.7)	0.0	0.0	0.3	-	0.3	-	-	-	-	-	-	-	-	-	-	
Income taxes payable	-	(0.0)	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Net cash used in operating activities</b>	<b>(3.9)</b>	<b>(4.5)</b>	<b>(2.6)</b>	<b>(7.2)</b>	<b>(12.0)</b>	<b>(2.3)</b>	<b>(1.5)</b>	<b>0.8</b>	<b>(2.7)</b>	<b>(5.6)</b>	<b>0.3</b>	<b>(2.9)</b>	<b>(0.7)</b>	<b>(2.5)</b>	<b>(5.8)</b>	<b>0.9</b>	<b>(3.3)</b>	<b>(0.7)</b>	<b>(2.8)</b>	<b>(5.8)</b>	
<b>Investing Activities</b>																					
Purchase of property and equipment	(0.2)	(2.5)	(3.8)	(1.1)	(1.7)	(0.0)	(0.3)	(2.0)	-	(2.3)	-	-	-	-	-	-	-	-	-	-	
Purchase of other intangible assets	-	(0.0)	(0.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Proceeds from sale of fixed assets	0.0	0.0	0.1	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Net cash paid for acquisition	-	(2.5)	(3.8)	(1.1)	(1.7)	(0.0)	(0.3)	(2.0)	-	(2.3)	-	-	-	-	-	-	-	-	-	-	
<b>Net cash used in investing activities</b>	<b>(0.2)</b>	<b>(3.7)</b>	<b>(4.0)</b>	<b>(1.5)</b>	<b>(1.7)</b>	<b>(0.0)</b>	<b>(0.3)</b>	<b>(2.0)</b>	<b>-</b>	<b>(2.3)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Financing Activities</b>																					
Payments on finance lease obligation	(0.0)	(0.0)	(0.0)	(0.4)	0.1	(0.1)	(0.1)	(0.1)	-	(0.3)	-	-	-	-	-	-	-	-	-	-	
Proceeds from Sale and Leaseback Agreements	-	-	-	-	-	-	-	1.0	-	1.0	-	-	-	-	-	-	-	-	-	-	
Proceeds from issuance of Common Stock and prefunded warrants	6.0	14.5	4.7	24.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Proceeds from issuance of Senior Promissory Notes	-	-	2.6	-	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Payment of stock offering costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Payments on Convertible Note	-	-	-	14.3	(16.8)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Interest payments on convertible note	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Proceeds from exercise of stock options	-	0.1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Net cash provided by financing activities</b>	<b>6.0</b>	<b>14.6</b>	<b>7.2</b>	<b>13.9</b>	<b>13.7</b>	<b>(0.1)</b>	<b>(0.1)</b>	<b>0.9</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Gain (Loss) on Currency Translation</b>	<b>(0.6)</b>	<b>(0.4)</b>	<b>2.9</b>	<b>(1.0)</b>	<b>(0.9)</b>	<b>0.1</b>	<b>0.1</b>	<b>(0.5)</b>	<b>-</b>	<b>(0.2)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Net cash increase (decrease)</b>	<b>1.3</b>	<b>6.0</b>	<b>3.5</b>	<b>4.2</b>	<b>(0.9)</b>	<b>(2.3)</b>	<b>(1.7)</b>	<b>(0.8)</b>	<b>(2.7)</b>	<b>(7.4)</b>	<b>0.3</b>	<b>(2.9)</b>	<b>(0.7)</b>	<b>(2.5)</b>	<b>(5.8)</b>	<b>0.9</b>	<b>(3.3)</b>	<b>(0.7)</b>	<b>(2.8)</b>	<b>(5.8)</b>	
Cash balance at beginning of period	2.5	3.8	9.8	13.3	17.5	16.6	14.3	12.6	11.8	16.6	9.2	9.4	6.5	5.8	9.2	3.3	4.1	0.9	0.2	3.3	
<b>Cash balance at end of period</b>	<b>3.8</b>	<b>9.8</b>	<b>13.3</b>	<b>17.5</b>	<b>16.6</b>	<b>14.3</b>	<b>12.6</b>	<b>11.8</b>	<b>9.2</b>	<b>9.2</b>	<b>9.4</b>	<b>6.5</b>	<b>5.8</b>	<b>3.3</b>	<b>3.3</b>	<b>4.1</b>	<b>0.9</b>	<b>0.2</b>	<b>(2.6)</b>	<b>(2.6)</b>	

Source: Company reports, Ascendant Capital Markets estimates



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Total return is defined as price appreciation plus dividend yield.

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Rating	Count	Percent	Investment Banking Services Past 12 months	
			Count	Percent
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Sell	1	2%	0	0%
Total	53	100%	16	38%

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