Corporate Research

Asetek

Initiation of Coverage | IT/Technology | Denmark | 05 January 2021

A better way of cooling

We initiate coverage on Asetek, a market leader in liquid cooling technology for desktop PCs and data centres. We believe the company will continue to experience double-digit sales growth and margin improvement for the next five years. We see a fair value range of NOK 126-141 per share. The valuation is highly sensitive to assumptions about Asetek's Datacenter business, which could provide significant upside to our estimates.

Structural demand to drive long-term G&E growth

Gaming & Enthusiast (G&E) is Asetek's largest business unit (95% of 2019 sales), focusing on liquid coolers for high-end desktop PCs. We expect the G&E to grow at an 8% sales CAGR or more for the next five years driven by increased demand for high-performance PCs, market penetration of liquid cooling technology and new product areas.

Datacenter a long-term driver with significant sales upside potential

Asetek's Datacenter business focuses on the mass market global data centre industry, which is experiencing explosive data generation and constantly increasing computing power. Asetek's liquid cooling technology is more efficient and sustainable than conventional air cooling. Adoption is at an early stage and the company has less than 1% market share. We think its recent partnership with the largest data centre server OEM HPE has provided greater market access and we expect the growth to accelerate in the coming years.

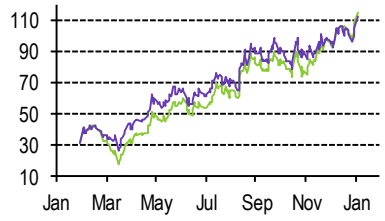
Fair value range of NOK 126-141

We expect Asetek to deliver a sales CAGR of 11% in 2020-25, but the growth could reach 19% if the company delivers our bull case scenario. Our mid-point fair value of NOK 133 is derived from a DCF-based SOTP valuation. However, if Asetek delivers our bull case scenario, we believe share price could more than double.

Key Data (2020E)

Price (NOK)	115.00
Reuters	ASETEK:OAP
Bloomberg	ASETEK:NO
Market cap (NOKm)	2,864
Market cap (USDm)	337
Market cap (EURm)	273
Net debt (USDm)	(22)
Net gearing	(58%)
Net debt/EBITDA (x)	(1.5)
Shares fully dil. (m)	24.9
Avg daily turnover (m)	0.0
Free float	0%

Share Price (12M)



Absolute (green) / Relative to Norway (purple).

Marketing communication commissioned by:
Asetek

Financials (USD)

Year end: Dec	2018	2019	2020E	2021E	2022E
Revenues (m)	67	54	69	74	82
Adj. EBIT	4	1	10	12	15
Pre-tax profit (m)	5	2	10	12	15
EPS	0.14	(0.02)	0.20	0.35	0.45
Adj. EPS	0.14	(0.02)	0.20	0.35	0.45
DPS	0.00	0.00	0.00	0.00	0.00
Revenue growth (%)	15.7	(19.3)	26.3	8.0	10.4
Adj. EBIT growth (%)	60.3	(76.3)	841.8	17.8	27.1
Adj. EPS growth (%)	(17.6)	n.m.	n.m.	78.3	27.9
Adj. EBIT margin (%)	6.6	1.9	14.4	15.7	18.1
ROE (%)	10.2	(1.3)	12.9	20.6	21.0
ROCE (%)	12.2	3.4	23.8	25.4	26.3
PER (x)			69.2	38.8	30.4
Free cash flow yield (%)			2.7	3.0	4.0
Dividend yield (%)			0.0	0.0	0.0
P/BV (x)			9.00	7.12	5.77
EV/Sales (x)			4.60	4.24	3.67
EV/Adj. EBITDA (x)	0.0	0.0	22.3	19.5	15.2
EV/Adj. EBIT (x)	0.0	0.0	32.0	27.0	20.3
Operating cash flow/EV (%)			3.9	4.3	5.7
Net debt/Adj. EBITDA (x)	(2.46)	(3.96)	(1.53)	(1.54)	(1.94)

Source for all data on this page: SEB (estimates) and Millistream/Thomson Reuters (prices)

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Investment summary

As computer manufacturers constantly look for ways to improve the computing power of hardware, the requirement for efficient cooling technology has increased. Conventional air cooling is the predominant way of removing heat for PCs and data centre servers today, but its capacity to meet the increasing cooling requirement of computing-intensive tasks is limited and air cooling often accounts for a significant share of the data centre's total power consumption.

With the mission of addressing these issues, the Danish technology company Asetek is a pioneer in the development of liquid cooling technology. Since the founder and current CEO André Sloth Eriksen invented the direct-to-chip (DTC) liquid cooling technology in 1997, the company has successfully developed and commercialized a wide range of CPU and GPU liquid cooling products, which are mostly used in high performance computing, gaming, engineering, financial software, etc.

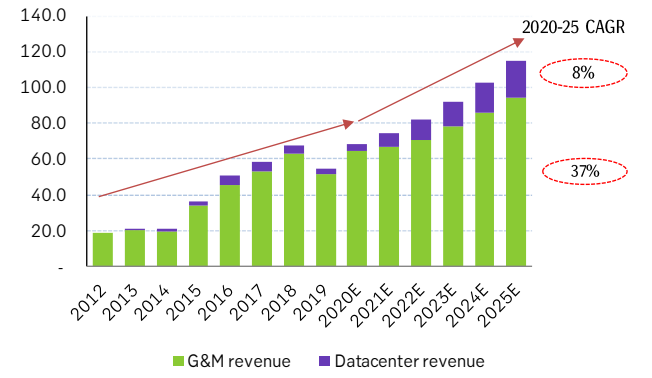
In 2020 Asetek expects to generate sales of USD 68-70m, of which ca. USD 64m is generated from its desktop liquid cooling business, which has grown at a sales CAGR of 18% over the last five years. In addition, since 2013 the company has strived to bring its DTC liquid cooling technology to the global data centre industry. The adoption is still at an early stage, but the long-term sales potential is huge.

In our view, Asetek should continue to experience double digit revenue growth in the coming years mainly for three reasons:

- Growing demand for high performing PCs should continue to increase demand for liquid cooling. We forecast a sales CAGR of 8% for Asetek's desktop liquid cooling business, which is above the expected average market growth rate of 3% for 2020-25. We estimate Asetek to increase its share of the high-end desktop market from currently 15% to 19% by 2023.
- The company's data centre solutions will benefit from long-term structural changes in the global data centre industry, where we expect explosive data generation and constantly increasing computing power to drive demand for efficient and sustainable cooling solutions. We estimate a 37% sales CAGR for 2020-25, outpacing the expected average market growth rate for liquid cooling of 19% over the same period. Asetek currently has less than 1% of the data centre liquid cooling market. The company has recently partnered with the largest data centre server OEM HPE – which has 37% of its targeted market of high-performance computing servers. In our view, this is a milestone as it will provide greater market access to Asetek. Our base case scenario has conservatively assumed the company will have 1% market share of the global liquid cooling market by 2025. However, we highlight that the focus on energy saving and potentially stricter regulation on the increasing data centre energy consumption could provide significant upside potential to Asetek.
- Asetek has a strong focus on R&D and broadening its product offering. The company has recently acquired intellectual property in the field of gaming stimulator technologies from a Finnish company Granite Devices and will launch new products for eSport. Although it is difficult for us to evaluate the impact from the new products at this moment, we believe that they could be an important growth driver in the years ahead. In addition, as Asetek's new product offerings will focus on the same customer groups and sales channel as its desktop liquid cooling business, we think there is sales synergy that could provide significant upside sales potential to the company.

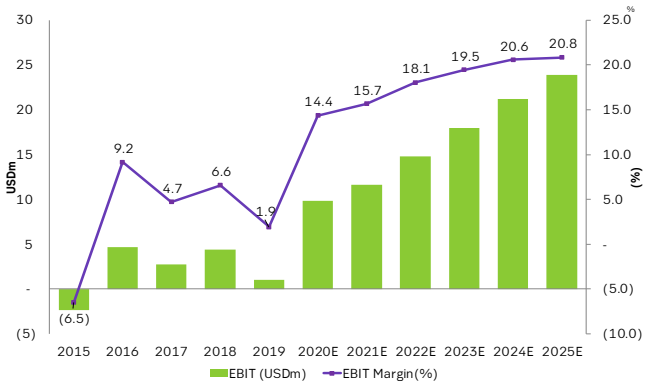
Furthermore, we expect Asetek to continue to experience margin expansion, mainly driven by its scalable business model. The Datacenter business currently dilutes profitability but with a gross margin potential above 60%, we estimate it will contribute positively to the group operating profits beyond 2022. We forecast 14% EBIT margin in 2020, rising to 21% by 2025.

Asetek sales (USDm) and sales CAGR (%)



Source: SEB, Asetek

Asetek EBIT (USDm) and EBIT margin (%)



Source: SEB, Asetek

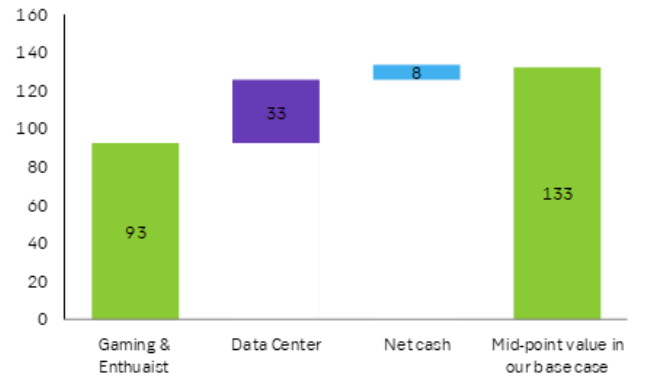
Valuation summary

We set our mid-point valuation at NOK 133 per share, in line with our DCF-based SOTP valuation. If Asetek delivers our bull case scenario, we have calculated that the share price could more than double.

Our bull case assumes average revenue growth of 19% in 2020-25, compared with 11% for our base case. It assumes that Asetek will have 2% of the global liquid cooling market for data centre industry, compared with 1% for our base case.

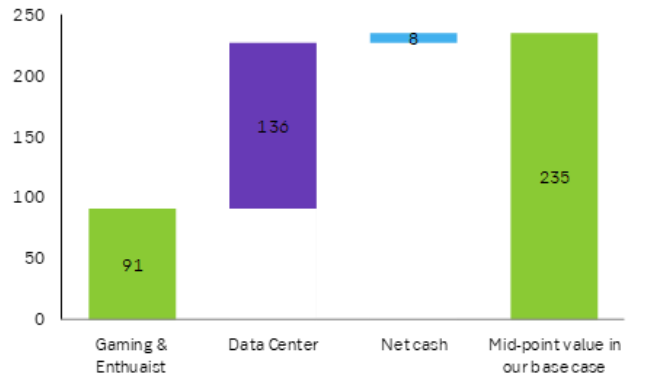
The unpredictable timing of Asetek's free cash flow and lack of close industry peers are the main reasons why we have not relied on a relative valuation approach. However, we have compared Asetek will some fast-growing Nordic technology companies. Asetek currently trades at a 43-48% valuation discount on 2021-22E EV/EBIT and a 41-42% discount on P/E. And for now we exclude all potential from new product areas in our estimates.

SEB SOTP valuation summary



Source: SEB

SEB bull case scenario



Source: SEB

Risks

Customer exposure
A limited number of customers account for a large portion of Asetek's sales. In The first nine months of 2020, Asetek's largest two customers accounted for 41% and 11% of the company's revenue. Therefore, the loss of one of these customers could have a significant impact on Asetek.

Supplier exposure
Asetek is highly dependent on the compliance of suppliers and manufacturing partners in China. The company has set up its own team in charge of sourcing and procurement and to ensure rigid quality management. This in our view has slightly alleviated the risk.

A one product company
Most of the company's revenues are derived from Asetek's liquid cooling products for gamers and enthusiasts and the company is highly dependent on the G&M product category. Although the G&M products have been favourably received by the market making Asetek a successful expanding company, it highlights that it depends on the demand to keep increasing.

Similar to many other expanding technology companies, R&D is of high priority for Asetek to diversify its business risk and sustain growth. The company has developed a liquid cooling product category for the data centre industry.

US import tariffs
The company produces its G&M products in China and export to the US. As the US imposed a 25% tariff on goods manufactured in China, the market demand for Asetek's products was hit badly. The company has worked to reduce the impact of the tariff by paying part of the tariff bill for its customers. However, the trade disputes between two nations and the existence of the tariff will continue to pose some uncertainties in the G&E market.

Intellectual property protection and patent risk
Similar to many other technology companies, the ability to protect its intellectual property is vital for Asetek to defend its market position. The company has in the past defended and filed lawsuits against competitors for patent infringement, which incurred significant legal costs.

Although the competitors have found a way to bypass Asetek's patents in their product development, the company has retained its technology advantage and leading market position through a strong focus on R&D and continuous innovation. Some of the company's patents are listed in the table below:

Astek's important patents

Description	Filing date	Issue date	Expiry date	Country
Computer Cooling, Compressor Cooling	4 Oct 2000	31 Mar 2010	4 Oct 2020	Europe
Cooling System, Condensate Cooling	7 Mar 2005	19 Apr 2011	7 Mar 2025	US
Cooling System, Condensate Cooling	7 Mar 2005	8 Aug 2012	7 Mar 2025	China
Cooling System, Condensate Cooling	7 Mar 2005	3 April 2008	7 Mar 2025	Germany
Cooling System, Condensate Cooling	1 Sep 2003	17 Feb 2005	1 Sep 2023	Germany
Cooling System, Condensate Cooling (Utility Model)*		7 Mar 2005	7 Mar 2015	Germany
CPU Cooling by Water I	7 Nov 2003	5 Jul 2011	7 Nov 2023	US
CPU Cooling by Water I	7 Nov 2003	14 Aug 2012	7 Nov 2023	US
CPU Cooling by Water II	6 May 2005	21 Aug 2012	6 May 2025	US
CPU Cooling by Water II	6 May 2005	13 Mar 2013	6 May 2025	China
CPU Cooling by Water II (Utility Model)*	6 May 2005	1 Oct 2009	6 May 2015	Germany
Graphics Card Thermal Interposer	21 May 2008	25 Sep 2012	21 May 2028	US
Graphics Card Thermal Interposer	21 May 2008	17 Jun 2014	21 May 2028	US
Integrated Liquid Cooling System	28 Oct 2010	22 Jan 2013	28 Oct 2030	US
Liquid Cooling for an Electronic System	28 Oct 2010	22 Jan 2013	28 Oct 2030	US
Server Rack Closed Loop Liquid Cooling System	26 Aug 2010	13 May 2014	26 Aug 2030	US
Server Rack Closed Loop Liquid Cooling System	26 Aug 2010	10 Jun 2014	26 Aug 2030	US
Server Cooling Distribution Unit	27 Nov 2014	19 Aug 2014	27 Nov 2034	US
Active cold plate/heat sink	15 Nov 2000	25 Jun 2002	15 Nov 2020	US
Impeller driven active heat sink	24 Jun 2003	6 Jun 2006	13 May 2024	US

*The utility model; Cooling System, Condensate Cooling , Germany expired on 7 March 2015, and the utility model CPU Cooling by Water II expires 6th May 2015

Source: Asetek

Company description

Asetek at a glance

Asetek is a rapidly growing liquid cooling technology company based in Denmark. The company was founded in 2000 by André Sloth Eriksen, who invented the first all-in-one liquid cooling technology for personal computers. Over the last two decades, the company has successfully developed and commercialized a wide range of water-cooling products for CPUs, graphic cards, chipsets, hard drives and data centre servers. The company had a breakthrough in 2007 when its technology was adopted by HP to cool its Blackbird gaming PC, soon followed by the largest CPU OEMs Intel and AMD bringing Asetek's liquid cooled CPU to the market.

The company is also a pioneer in the development and commercialization of direct-to-chip liquid cooling solutions for data centres with the first product launched in 2013. With the concept of liquid cooling at its core, Asetek has the ambition to bring liquid cooling into the mainstream in the global data centre industry. This will be driven by a combination of increasing its share with its existing OEM partners and developing partnerships with new OEMs.

Products launched over the last two decades

Source: Asetek

Product offerings

In a personal computer or data centre server, a tremendous amount of heat is generated by the central processing unit (CPU) and the graphics processing unit (GPU). The conventional way of cooling these components is through airflow, but liquid cooling technologies have increasingly gained traction. Both systems have the goal of absorbing and transferring heat away from the hardware, though the way they redistribute heat is fundamentally different.

Key technology: liquid vs. air cooling
Water is a much better than air at transferring heat for two reasons:

- Water is a much better conductor of heat. The thermal conductivity of water, measured as watts per square metre of surface area for a temperature gradient of 1K per unit thickness of 1m, is 0.6089, far more efficient than air at 0.026 W/mK. This means that for a given temperature gradient, the rate of heat transfer through water is 23 times that through air.

- The thermal capacity per unit volume of water is also much higher than for air. As the table below illustrates, the thermal capacity of water is more than three thousand times that of air. This means that to transfer the same amount of heat, the flow rate for water is much lower than for air, which can save a significant amount of energy. (For data centres this is a big issue – cooling can account for as much as 50% of the total power consumption.)

Liquid cooling is acknowledged as more efficient when compared to conventional air cooling and is often used for CPU/GPU-intensive tasks like high-volume video editing, engineering, financial software, high performance computing, AI etc.

Water is a more effective coolant than air

Characteristics	Air	Water
Thermal conductivity[2] under 25°C (W/(m·K))	0.026	0.6089
Density (kg/m^3)	1.29 (1atm, 0°C)	1,000 (4°C)
Specific heat capacity - C_p (kJ/(kg·K))	1.004	4.2
Thermal capacity per unit volume[3] (kJ/(m^3·K))	1.30	4,200
Comparison	Benchmark	3,243

Source: Schneider Electric

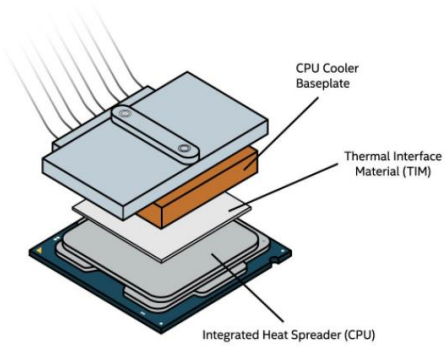
Desktop liquid cooling solutions

Liquid cooling solutions are generally considered as a high-performance alternative to the basic air cooling used in most PCs.

Air cooling systems typically consist of a single fan to blow air directly on a metal heatsink mounted to a processor.

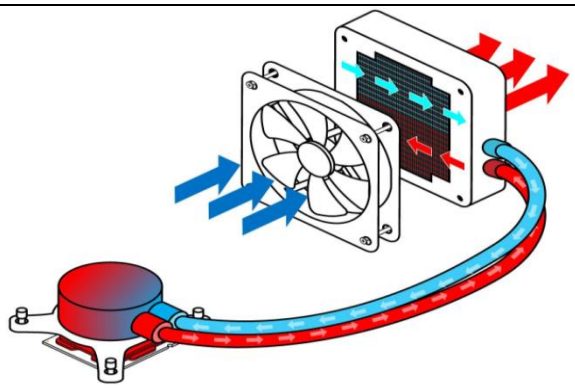
In contrast, liquid cooling systems function in a circular process: the heat generated by the CPU and GPU is transferred to the water block through which the coolant flows. The warm coolant is pushed by the pump into the outlet tube and transferred to the radiator for cooling. At the radiator, a fan blows the heat out of the case and cools the liquid, which then flows back to the water block.

Air cooler



Source: Intel

Liquid cooler: all-in-one system



Source: Intel

When compared to conventional air cooling, liquid cooling solutions can significantly reduce processor temperatures, enabling the processors to reach maximum performance and overclocking capabilities. Furthermore, liquid coolers generally come with significantly reduced fan noise, which has been an important selling point. Asetek has developed a wide range of liquid cooling solutions for both CPUs and GPUs, in order to keep pace with the constant demand for better thermal performance.

Asetek's CPU cooler

Source: Asetek

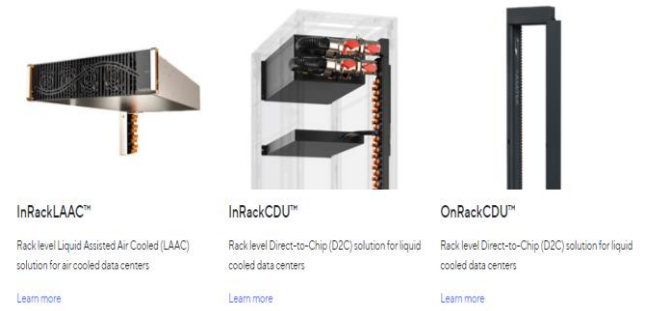
Asetek's GPU cooler

Source: Asetek

Data centre liquid cooling solutions

Like its desktop solutions, Asetek's Datacenter solution is designed with the direct-to-chip liquid cooling technology. This requires that its systems are installed at the server level and removes heat directly from CPUs, GPUs, memory modules and other hot spots with warm water. The water leaving the data centre is hot enough to be reused for building and district heating networks. This could significantly increase energy savings and reduce the carbon footprint.

Asetek data centre cooling solutions



Source: Asetek

DTC liquid cooling system

Source: Asetek

Business model and customers

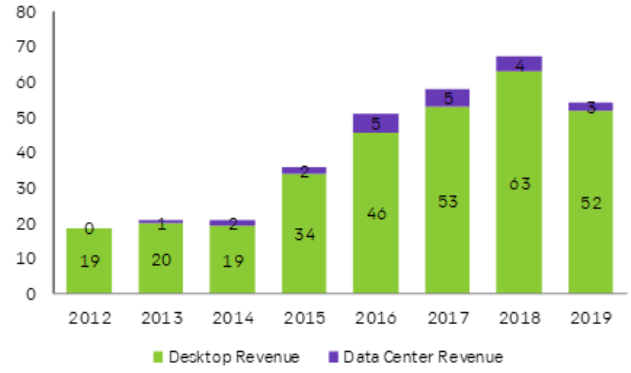
The company's desktop liquid cooling business (so-called Gaming & Enthusiast) accounts for 95% of its revenues (2019). The rest of its revenue is generated from liquid cooling solutions for data centres.

The G&E business unit generates annual sales of USD 66m (based on our 2020 estimate) from the global desktop PC market and it remains the market leader in the desktop liquid cooling technology.

While Game & Enthusiast will continue to be the main growth contributor, Datacenter could provide significant upside potential and will make up 6% of Asetek's group revenue by 2020 and 17% by 2025, based on our estimates.

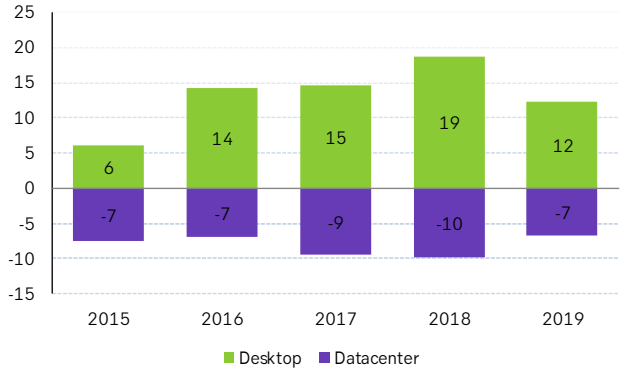
Asetek's two business units share a common technology foundation and therefore their R&D organizations work together closely. However, their sales and marketing organizations work independently as they target different customer groups.

Asetek sales split



Source: SEB, Asetek

Asetek EBIT split



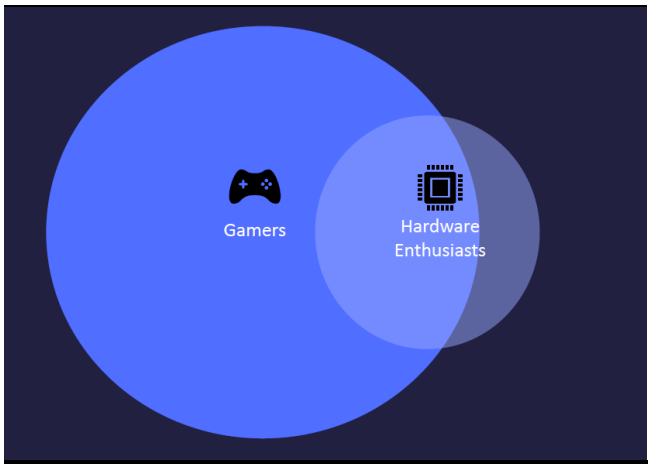
Source: SEB, Asetek

Desktop (Gaming & Enthusiast)

With over 30% market share in the liquid cooling technology (2020E), Asetek is the market leader in developing and selling liquid coolers to the global desktop market. The products are often used by gamers or DIY PC enthusiasts. The company does not sell to these end users directly, rather, mainly through gaming computer OEMs (Alienware, Velocity and Shark Gaming, etc.), computer hardware manufacturers (NZXT, ASUS and Gigabyte, etc.) and local computer resellers.

Although most of its end users are gamers/PC enthusiasts, its desktop liquid cooling sales can be split by its customer groups - OEMs (20%) and the DIY PC builders (80%).

The main end users



Source: Asetek

Asetek Gaming Partners

Source: Asetek

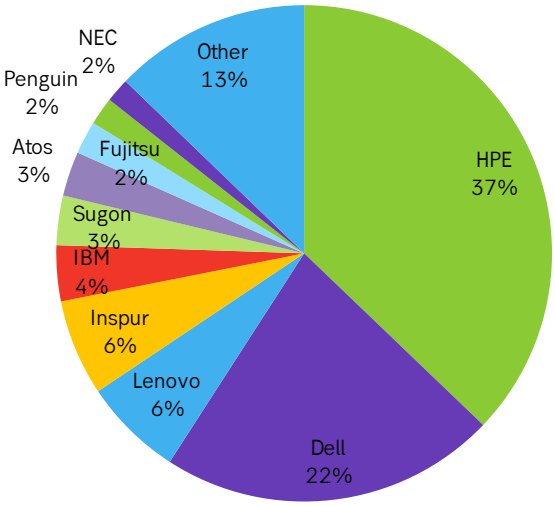
Data centre cooling

Asetek is one of few companies striving to bring liquid cooling technology into the mainstream in the data centre industry. Asetek develops and sells its cooling systems to OEM customers that integrate the hardware and/or software into their data centre server products. The commercial adoption of liquid cooling by the data centre industry is still at an early stage.

However, over recent years, the technology has been adopted by several large OEMs. The OEMs have either partnered with liquid cooling solution suppliers like Asetek and CoolIT or have developed their own systems.

Asetek has focused on the high-performance-computing (HPC) server segment, where the value proposition of its liquid cooling technology is appealing. Furthermore, since its liquid cooling technology can achieve significant power savings and CO2 emission reductions, the company has targeted campaigns to influence politicians which could potentially change legislation to support liquid cooling.

Asetek has targeted the main HPC OEMs



Source: Hyperion Research, SEB

Executive management

- **André Sloth Eriksen** is the inventor of close-loop liquid cooling technology. He founded Asetek back in 2000 and has successfully taken a company from a basement laboratory to the stock exchange. Mr Eriksen holds a mechanical engineering degree from Aalborg University. In addition, he has completed several executive MBA-level programmes at Stanford, MIT and Wharton.

- **Peter Dam Madsen** joined Asetek from Martin Professional, Inc., where he first served as International Controller (1998-2000, DK) and later was promoted to Chief Financial Officer (2000-2006, US) and was responsible for all operational, administrative and financial areas for the US operation. Mr Madsen holds an MBA in International Business from Fort Lauderdale Metropolitan University as well as a bachelor's degree in Financial Management from Aalborg University.

- **John Hamill** is Chief Operating Officer of Asetek and is responsible for Asetek's daily operations, including sales and marketing, engineering and operations. Mr Hamill has more than 30 years' experience working in the high-tech industry with diverse roles in engineering, sales and marketing. Prior to joining Asetek, he held senior roles at NVIDIA and AMD.

Desktop liquid cooling

Air cooling has been the predominant way of cooling PCs, but demand for liquid cooling technology has gradually increased. The success of the liquid cooler began in high-end desktop PCs, where it has addressed the increasing need for efficient cooling technology.

We believe the market demand for liquid coolers will continue to increase, for two main reasons.

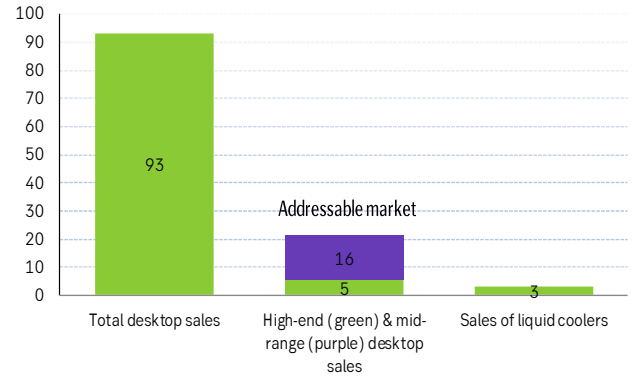
- **Rapid technology advances in CPUs and GPUs have increased the requirement for efficient cooling technology.** Liquid cooling is more efficient than air cooling, and therefore is often preferred in CPU/GPU-intensive tasks like high performance gaming, engineering, financial software, etc.
- **Rapid growth in the end market will continue to drive demand.** Liquid cooling is mainly used in high-end PCs and much of this market segment consists of gamers who regularly build and upgrade their PCs with high performance components. This is a growing market which will continue to grow at a CAGR of 6% in the coming years, according to market research company Jon Peddie Research.

Market analysis

With 93m units sold in 2020 (according to Jon Peddie), the global desktop market is huge. Liquid cooling is a niche segment that only represents 3% of total desktop sales. Its adoption is usually higher in the high-end desktop segment, where the users tend to spend more money on acquiring high performance hardware. However, adoption has also increased within mid-range desktops. According to Asetek, the high-end desktop segment represents two-thirds of its sales today, while the rest is sold to the mid-range segment.

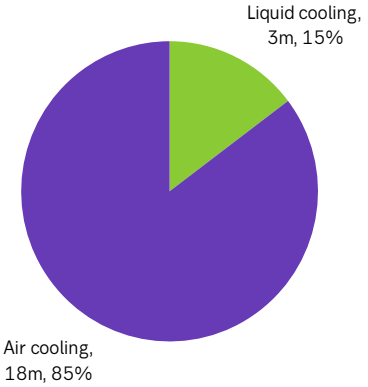
We estimate that 3m liquid coolers were sold in 2020, compared to high-end and mid-range desktop sales of ca. 5m and 16m respectively. This corresponds to 15% of penetration of the total addressable market.

A niche segment of the large desktop market (mil. units)



Source: SEB, Jon Peddie Research, Asetek

Liquid cooling represents 15% of TAM

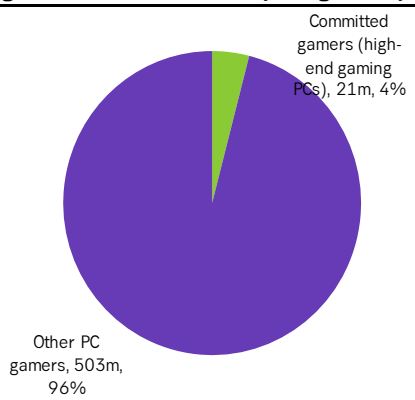


Source: SEB, Jon Peddie Research, Asetek

The core market: high-end gaming PCs

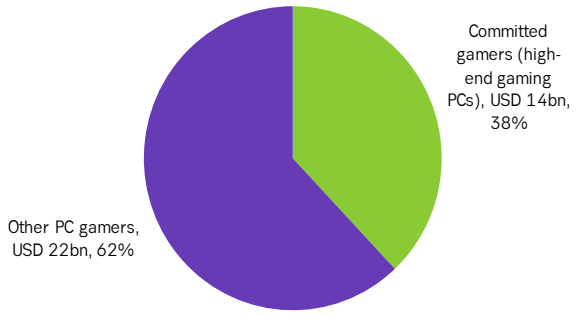
With its largest customer group being gamers, Asetek has targeted the high-performance gaming PC market. This is a market with around 21m gamers. In 2019 it represented 4% of the total PC gaming population, but around 40% of total spending on PC gaming equipment.

The gaming PC market breakdown (# of gamers)



Source: Corsair, Jon Peddie Research

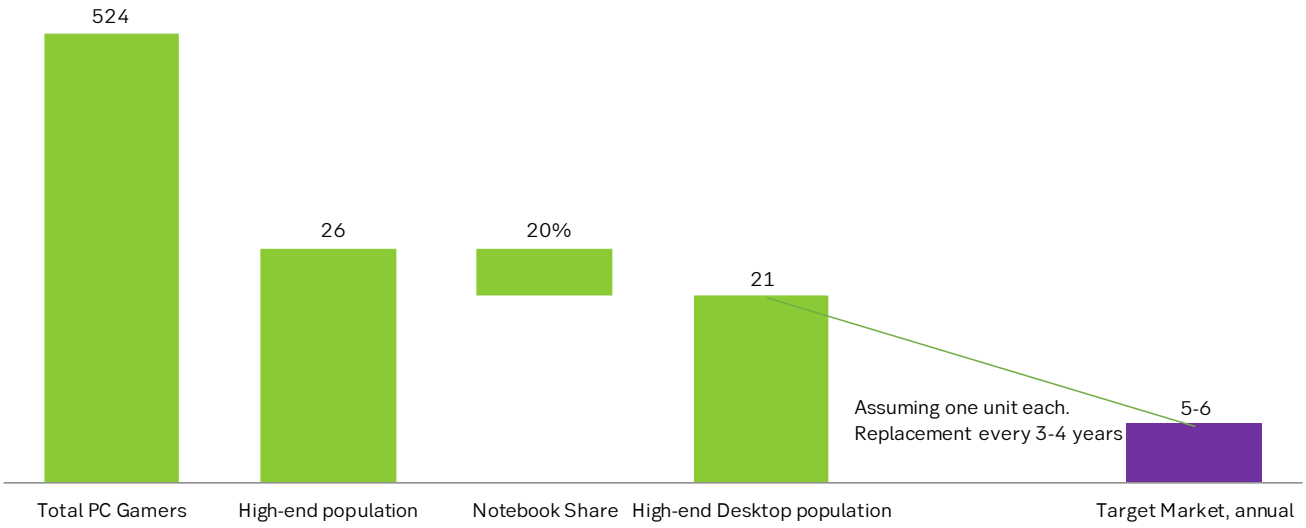
Spending on PC gaming gear by gamers



Source: Corsair, Jon Peddie Research

The company estimates that the size of its target market is between 5m and 6m annually in volume, as in general, gamers upgrade their PCs every three to four years.

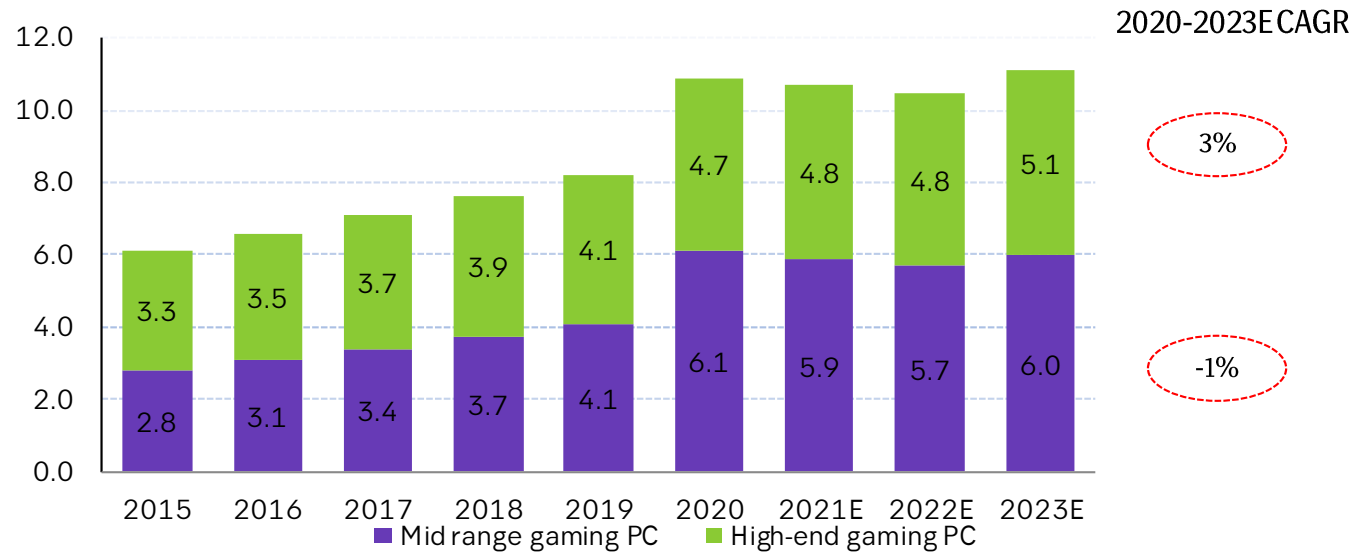
Asetek has targeted the high-end gaming PC market (million)



Source: Asetek, Jon Peddie Research, SEB

According to the independent market research company Jon Peddie Research, the high-end gaming PC market expanded at a CAGR of 6% in 2015-19. Market demand increased significantly in 2020 driven by the COVID-19 pandemic and staycation effects but is expected to normalize in 2021-22. Over the longer term, the market will continue to grow at ca. 6%, driven by growing gaming population and consumer trade-up.

Gaming PC market growth outlook (million units)



Source: John Peddie Research, SEB

Technology advances continue to drive liquid cooling adoption

While demand for high performance PCs is increasing, liquid coolers are also increasingly being used. Liquid cooling is recognized to have higher efficiency in removing excess heat and thereby enabling CPUs and GPUs to run at their maximum speeds, while minimising fan noise.

There is an ongoing need to improve hardware performance, mainly because:

- Games become more graphically intense every year, requiring high-end gaming PCs to play competitively.
- Competitive PC gamers demand both high-quality graphics and high frame rates. High quality graphics enhance the immersive experience while higher frame rates provide performance benefits. Both have driven the rapid development of GPU and its computing power.

As we have summarized in the table below, some of the most popular games such as World of Warcraft and Far Cry have consistently increased their requirement for the computing power of the CPU and GPU during their new releases. Obviously, this also increased the requirement on cooling systems, as measured by the thermal design power (TDP), which is the maximum amount of heat generated that the cooling system is designed to dissipate under any workload.

Game Releases and CPU/GPU Upgrade Recommendation

Title	Release Date	Years between release	GPU Upgrade	CPU Upgrade	Avg. GPU TDP	Avg. CPU TDP
World of Warcraft: Shadowlands	23-Nov-20	2.3	Yes	Yes	238	85
World of Warcraft: Battle for Azeroth	14-Aug-18	2.0	No	No	160	90
World of Warcraft: Legion	30-Aug-16	1.8	Yes	Yes	87.5	86
World of Warcraft: Warlords of Draenor	13-Nov-14	2.1	No	No	110	65
World of Warcraft: Mists of Pandaria	25-Sep-12	1.8	Yes	Yes	110	65
World of Warcraft: Cataclysm	7-Dec-10	2.1	No	Yes	47.5	65
World of Warcraft: Wrath of the Lich King	13-Nov-08	1.8	Yes	No	47.5	65
World of Warcraft: Burning Crusade	16-Jan-07	2.1	No	Yes	24	59
World of Warcraft	23-Nov-04	Base	Base	Base	24	60
Far Cry 6	15-Jun-21	3.2	Yes	No	178	118
Far Cry 5	27-Mar-18	3.4	Yes	No	219	75
Far Cry 4	18-Nov-14	2.0	Yes	Yes	243	95
Far Cry 3	29-Nov-12	Base	Base	Base	129	77

Source: SEB

Liquid cooling is proven to be more efficient than air cooling in terms of removing heat and increasing performance. The table below compares effectiveness of air and liquid cooling in various scenarios. Take AMD's Vega RX 64 GPU as an example. By undervolting the GPU and increasing the power limit, the GPU can reach a sweet spot with reduced power consumption, lowered core temperature thereby increasing performance. Obviously, the liquid cooled GPU has outperformed the air cooled one in all the scenarios.

Comparison between the effectiveness of air and liquid cooling on GPU

Vega RX 64	Voltage [V] and Power setting [%]	System power draw (idle) [W]	System power draw (load) [W]	Sustained GPU frequency [MHz]	Unigine Superposition 4K Score	FPS	Performance increase	Power draw increase	GPU Temp [°C]
Air cooled	Default (1.2V/1.15V; 0%)	74	375	1360	5516	41.26	-	-	83
Water cooled	Default (1.2V/1.15V; 0%)	71	360	1440	6015	44.99	9%	-4%	34
	1.15V/1.1V; 0%	71	352	1280	5210	38.96	-5,5%	-2%	34
	1.15V/1.1V; +25%	71	430	1540	6265	46.86	+13,6%	+14,6%	37
	1.1V/1.05V; +50%	71	430	1604	6509	48.68	18%	+14,6%	37
	1.05V/1.05V; +50%	**71**	**396**	**1584**	**6436**	**48.14**	**17%**	**+5,6%**	**35**

Source: https://www.ekwb.com/blog/can-water-block-really-boost-gpu-performance/, SEB

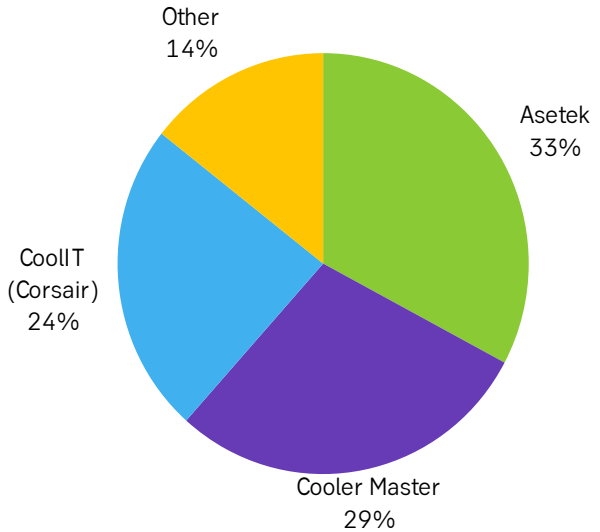
Competitive landscape

With the market share of 33% (2020E), Asetek has led the desktop liquid cooling market for many years. Its main competitors are Cooler Master (29%) and CoolIT Systems (24%).

Cooler Master is a Taiwan-based computer hardware manufacturer but has also established its own retail channel. It has taken advantage of vertical integration to gain market share. On the other hand, it has competed against its own customers in certain markets, which in our view constrains its further market expansion.

The Canadian-based company CoolIT Systems competes intensely with Asetek in both desktop PC and data centre markets. CoolIT has been in dispute twice with Asetek on patent infringements. Asetek won the lawsuit back in 2015 and received a settlement of USD 1.4m from CoolIT. It filed a patent infringement lawsuit again in 2019 against CoolIT that is still ongoing. Further, Asetek lost its largest customer Corsair to CoolIT in 2019, which had a significant impact on its sales.

Market share in the desktop liquid cooling market



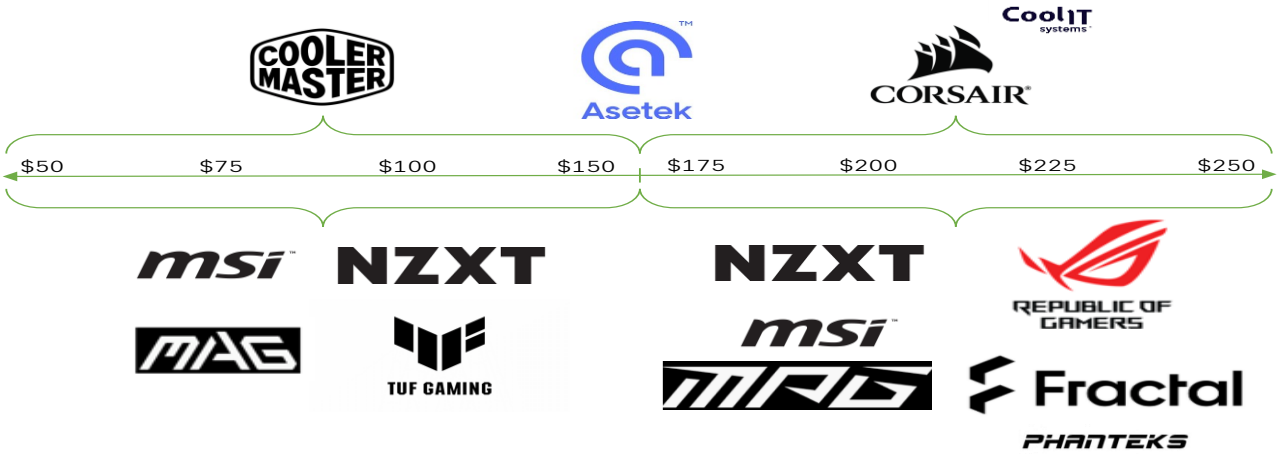
Source: Asetek

It should not come as surprise that the rapid growth of the high-end desktop market will attract more focus from liquid cooling manufacturers. Cooler Master has historically focused on the low-cost product offerings but currently has utilized its own brand to enter the premium segment. Asetek has positioned itself to focus more on premium product offerings.

Competitive landscape

Coolermaster supply similar liquid cooling solutions as Asetek for gaming PC's. They are the most direct competitor and are mainly focused on a low cost product offering.

Corsair has partnered with CoolIT to offer integrated cooling system that is used for gaming PCs.



Note: based on retail price

Source: SEB, Asetek

Ample room for long-term growth

According to industry estimates, market demand for gaming PCs increased significantly in 2020 due to the COVID-19 pandemic and staycation effects. Despite the loss of its largest customer Corsair, we expect Asetek's desktop liquid cooling sales expect to grow 24% in 2020. However, we expect growth to slow to 4-6% in 2021-22 as the market normalizes. Over the longer term, we think growing market demand will provide attractive growth to the company and we expect 10% growth for 2023E. Our sales forecasts are based on:

- Industry estimates that the global gaming PC market will grow 32% in 2020, decline 2% annually in 2021-22 assuming post-pandemic market normalisation, and grow 6% from 2023.
- The market will continue to convert from air cooling to liquid cooling (currently accounts for ca. 30% of high-end and mid-range gaming PCs), driven by increasing demand for high performance. Asetek lost market share from 14-15% in previous years to 11% in 2019, due to negative effects from trade wars (increased tariffs when exporting from China to the US) and the loss of its largest customer Corsair. We expect Asetek to increase its share from 11% in 2020 to 13% in 2023.
- Asetek has been able to increase its ASP over recent years, thanks to its focus on the high-end gaming PC segment driving positive product mix. However, the positive product mix effect will be partly offset by changes in its business model. The company will sell some unfinished liquid coolers to its OEM customers (accounting for 20% of Asetek's sales channel) and enable customers to customize the products with their own features and industrial design for both the product and packaging. This will reduce its ASP but expect to improve its margins. As a result, we forecast 2-3% ASP decrease for 2020-21.

Asetek G&E Market model

	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E
Market Potential, units (m)									
High-end desktop sales	3	3	4	4	4	5	5	5	5
Mid-Range desktop sales	3	3	3	4	4	6	6	6	6
Total Adressable Market	6	7	7	8	8	11	11	10	11
- market growth (%)		8%	8%	8%	8%	32%	-2%	-2%	6%
Market Share (%)									
High-End	15%	18%	18%	19%	14%	15%	16%	18%	19%
Mid-Range	9%	10%	10%	10%	7%	7%	7%	7%	7%
Total	**12%**	**14%**	**14%**	**15%**	**11%**	**11%**	**11%**	**12%**	**13%**
Asetek Shipments (m. units)									
High-End	0.48	0.63	0.67	0.74	0.59	0.69	0.78	0.87	0.96
Mid-Range	0.25	0.32	0.35	0.38	0.30	0.45	0.44	0.42	0.44
Total Shipments	0.73	0.95	1.02	1.12	0.90	1.15	1.21	1.29	1.40
- volume growth (%)		31%	7%	10%	-20%	28%	6%	6%	9%
ASP (USD) - Reported	47	48.2	52.2	56.3	57.9	56.2	55.0	55.0	55.6
- ASP change (%)		3%	8%	8%	3%	-3%	-2%	0%	1%
Asetek Revenue (USDm)									
Gaming & Enthusiast	34.2	45.7	53.2	63.0	51.8	64.3	66.8	70.8	78.0
- growth (%)		**34%**	**16%**	**18%**	**-18%**	**24%**	**4%**	**6%**	**10%**

Source: SEB, Asetek, John Peddie Research

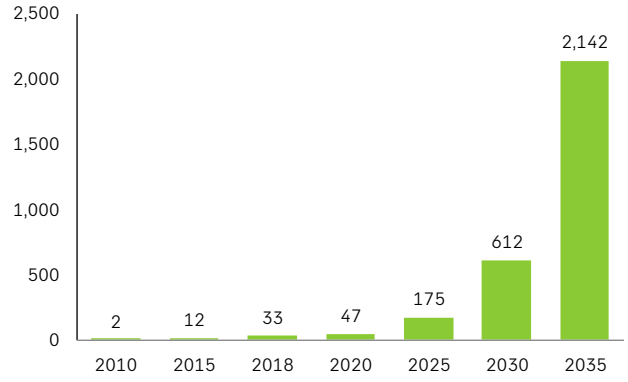
Data centre cooling systems

While air cooling has been the predominant way of removing heat in data centres for decades, there is growing interest in liquid cooling solutions. We expect the adoption of liquid cooling to accelerate, for the following reasons:

- With technology mega trends such as datafication, blockchains, IoT and AI producing a massive amount of data, data centres will constantly look at ways to improve their computing power.
- Rapid technology advances in computing performance also drive the increase in power consumption and heat density.
- This will likely push the capacity of conventional air-cooling technologies to the limit, thereby force the data centre industry to adopt liquid-cooling technologies that are much more effective at removing heat.

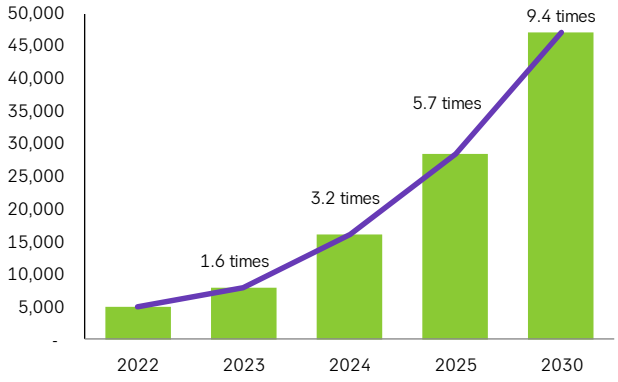
Statista projects that global data generation will grow by a factor of 13, to reach 621 zettabytes by 2030. This will lead the global data centre industry to consume more than nine times as much electricity in 2030 than in 2022, according to the estimates from the Ministry of the Economy in Japan.

Global data creation (zettabytes)



Source: Statista Digital Economy Compass 2019

Global data centre power consumption (100m kWh)



Source: Estimates by Ministry of Economy in Japan

In order to understand these technology trends, we have investigated the major changes in data centres:

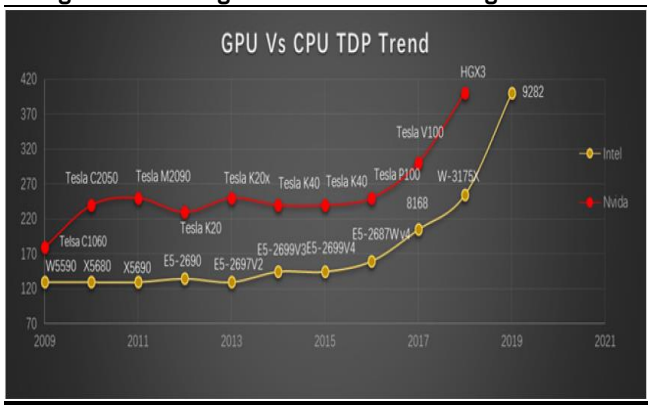
- **CPU power consumption has increased.** For typical servers, 70-80% of the heat is generated by the CPU and as the processor performance continues to improve as the number of cores increases along with processor power, more heat is also generated within the server. Furthermore, overclocking is often used to improve computing performance in certain applications like gaming and high-performance computing, which also leads to hotter chips.
- **Increasing use of high-power GPUs.** The GPU is being used along with the CPU to accelerate computational workloads in applications such as finance, data analytics, AI, scientific research, and oil & gas exploration. The GPU generally has much higher power consumption than the CPU and as CPU manufacturers have constantly moved towards higher performance, power demands of newly launched GPUs have also continued to rise.
- **Lower latency requirements result in increased heat density.** As the hardware performance improves, the interconnections between them become a bottleneck in terms of latency. To take advantage of improved performance, CPUs, GPUs and other components on the board are moving closer together to reduce latency. This results in increased physical density and temperatures within the server.

As the chart below on the left illustrates, the thermal design power (or heat generated) of an Intel CPU and Navida GPU that launched in 2013 was 135w and 235w respectively: this has rapidly increased to over 400w for their latest launches in 2018-19.

Obviously, a rack of servers equipped with these components could be too hot to be air-cooled. The industry consortium of global data centres, The Green Grid, suggests a range of 15-25 kilowatts per rack as the limit for air cooled racks without the use of additional cooling equipment, which could significantly increase the power consumption of the cooling system itself.

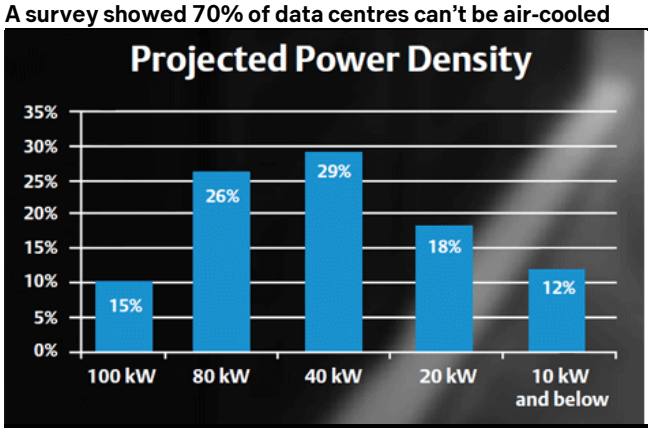
According to a survey conducted by The Green on 800 data centres, 70% of respondents think power density per rack will be at or above 40kW by 2025. In our view, this indicates that many of the data centres will have to adopt liquid cooling solutions, which have the capacity to remove up to 100kW of heat per rack.

Changes in technologies have increased heat generation



Source: XENON, Intel, Navida

A survey showed 70% of data centres can't be air-cooled



Source: the survey "Data Center 2025" by The Green Grid

The concept of liquid cooling

In our view, liquid and air cooling will not be mutually exclusive but liquid cooling will play an increasingly important role. We think the pace of adoption may vary with the main purpose of data centres. The concept of liquid cooling is a function of:

- Effectiveness.
- Economic benefit.
- Sustainability.

Effectiveness

Liquid cooling is not new to data centre applications and there are various ways of removing heat from IT equipment with different liquids (water, glycol, etc).

In general, liquid cooling solutions can be divided into two categories:

- **Immersive liquid cooling**. With immersive liquid cooling, the servers are fully or partially immersed in a dielectric liquid coolant covering the servers, which ensures over 95% of IT heat is removed. However, designing an immersive liquid cooling requires a lengthier product development project and normally conversion is costly. Immersive liquid cooled IT is not yet readily available for many configurations.

- **Direct to chip (DTC) liquid cooling**. DTC liquid cooling can remove 60-80% of the heat but is less effective than immersive liquid coolers. Therefore, it is often used together with existing air-cooling systems. However, given water is still much better than air at removing heat, it can significantly reduce the amount of cooling equipment that is needed, which brings the cost down. Furthermore, as it is designed as a plug-and-play solution to adapt to existing air-cooled servers, the installation is much easier. For OEM partners, only minor alterations to their products are required and this allows their existing supply chain to remain virtually unchanged, with just the addition of the cold plates and tubing.

As we have argued in previous sections, with computing power continuing to increase, the capacity of existing air-cooling technologies will no longer meet the cooling requirement of the data centre industry.

The question is how to use both liquid and air effectively

By removing conventional air-cooling limitations, such as hot spots, a rack can be used to its full capacity. This enables a significant enhancement in rack utilization and facilitates peak performance for overclocked processors.

Therefore, we expect more data centres to adopt liquid cooling technologies and combine them with air cooling.

Effectiveness of data centre cooling

	Liquid cooling		Air cooling
	Immersion	DTC	
% of heat captured liquid	100%	60-80%	0%
% of heat captured by air	0%	20-40%	100%

Source: SEB, Asetek, Schneider Electric

Economic benefit

The cost comparisons between air cooling and liquid cooling should include more than the capital investment. Taking account of total cost of ownership, DTC cooling affects the cost for cooling data centres in two ways:

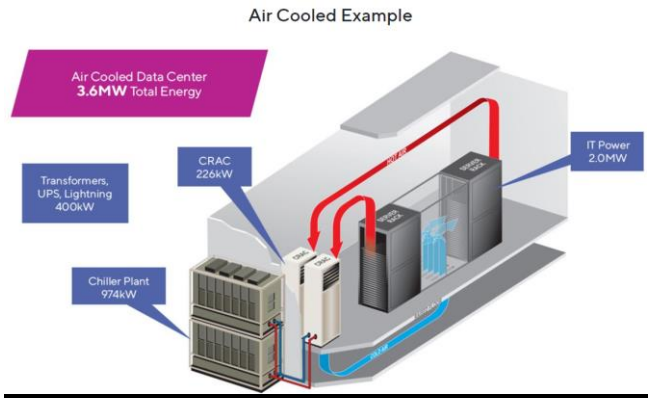
- **Initial capital investment for installation of cooling system.** For a typical data centre, a traditional air-cooling system consists of computer room air conditioning (CRAC) and outdoor chillers. When integrating the DTC liquid cooling, there are extra costs for cold plates, pumps and radiators, as well as the costs for loops bringing water to each rack and distributing it to each server. On the other hand, DTC cooling reduces (but does not eliminate) the need for CRAC and chillers. Overall, adoption of DTC liquid cooling generally increases capital investment by 5-6%.
- **Significant savings on operating costs.** The CRAC and chillers account for a large part of data centres' power consumption. DTC liquid cooling reduces the need for chillers and CRAC and thereby lowers operating costs. The table below shows that the DTC liquid cooling could achieve more than 20% of power savings for data centres.

DTC liquid cooling could achieve power savings of more than 20%

kW	Air cooled	Liquid cooled
IT power	2,000	1,900
Transformers, UPS, Lightening	400	400
CRAC	226	90
Chiller plant	974	390
Total power consumption	3,600	2,780
Savings in operating costs		**-23%**

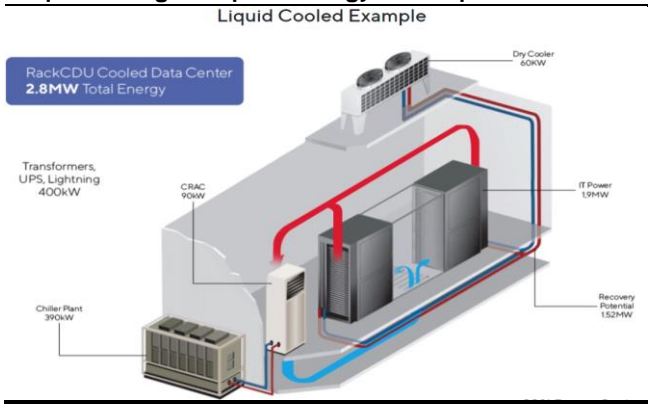
Source: Asetek

An air-cooling example of energy consumption



Source: Asetek

A liquid-cooling example of energy consumption



Source: Asetek

Sustainability

The strong growth of the data centre industry has raised the question on its environmental impacts. Liquid cooling can provide significant energy efficiency benefits. The energy savings can be achieved in three ways:

- Conventional air cooling represents more than 30% of power consumption of data centre and liquid cooling can achieve significant power savings from reducing IT fan energy.
- Air-cooled data centres are often equipped with outdoor water chillers or cooling towers, which use a significant amount of water. Liquid cooling can reduce the reliance on these chillers and water usage.
- Sometimes the DTC liquid cooling can be connected to district heating networks so waste heat can be reused. Asetek claims that its system could reuse 70-80% of all the electricity already used by the data centre's servers for district heating without the need for further heating with heat pumps. This could achieve carbon emission neutrality for the data centre.

Barriers to adoption

Despite the evident appeal of liquid cooling technology, its adoption by the data centre industry has been slow, primarily for three reasons:

- Many data centre operators prioritize uniformity and the purchase of power from renewable energy sources, instead of focusing on maximizing energy efficiency.
- Although the increasing energy consumption of data centres has gained a lot of political attention, the usual way of measuring a data centre's energy efficiency does not include reuse of waste heat. This has understated the overall energy savings that liquid cooling technology can provide.
- The server OEMs tend to deliver a large quantity of identical products and they have been reluctant to offer servers with different cooling technologies.

However, adoption could significantly accelerate if regulation sets requirements for the energy efficiency of data centres

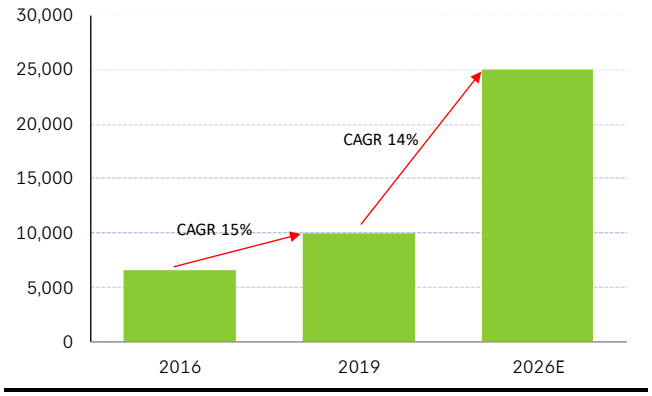
The data centre cooling market

The global market for data centre cooling has been dominated for decades by international industrial companies Schneider Electric, Emerson and Rittal. The three major players have more than 85% of the market with their air-cooling systems.

The total data centre cooling market is estimated at USD 10bn in 2019 and is expected to grow at an CAGR of 15% to reach USD 25bn by 2026, according to market research company Global Market Insights (GMI).

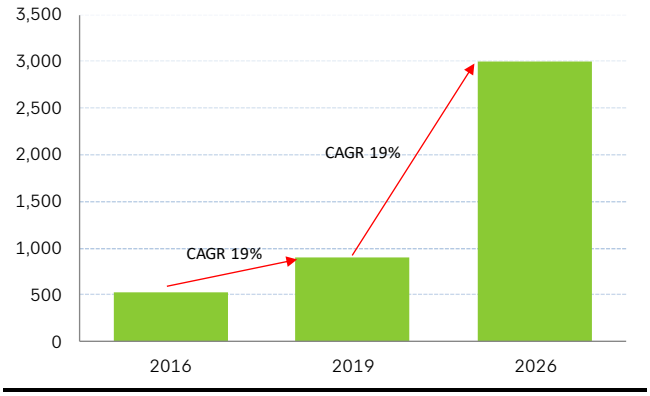
GMI estimates that the liquid cooling market segment is worth USD 900m and represented 9% of the total data centre cooling market in 2019. It projects the liquid cooling segment will continue to grow at an CAGR of 19% and increase to USD 3bn by 2026.

Total data centre cooling market development



Source: Global Market Insights, SEB

The market projection for liquid cooling segment

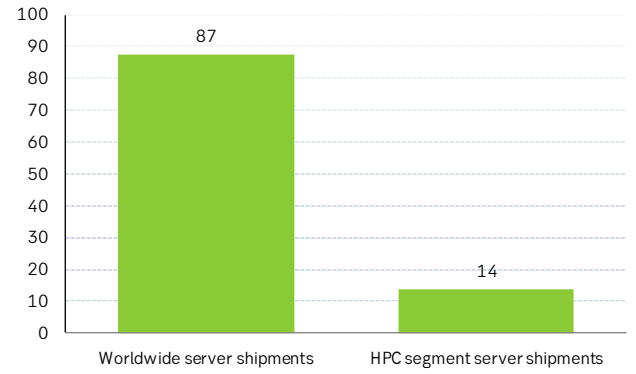


Source: Global Market Insights, SEB

We identify several drivers contributing to the rapid growth of the liquid cooling segment:

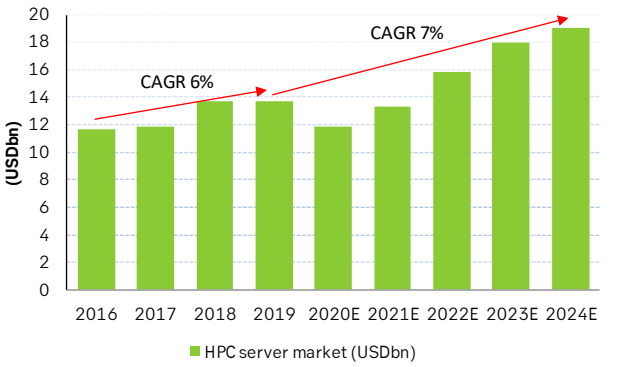
- **Demand from the underlying market remains strong.** High-performance computing (HPC) data centres usually have higher computing power, therefore require efficient cooling to avoid damage to their servers. The underlying HPC data centre market grew at a CAGR of 6% in 2016-19 and is expected to grow at 7% in 2020-24, based on the market research company Hyperion Research's estimates.
- **Higher requirements for cooling efficiency and cost savings.** On average HPC servers are replaced every three to five years, which in our view could trigger enhancements and upgrades from conventional air cooling to liquid cooling.
- **Increased focus on environmental impacts of the data centre industry.** We think increased demand for green data centres across the world will push the market towards energy-efficiency liquid cooling. Furthermore, stricter energy and environment regulations could potentially accelerate adoption.

HPC represents 16% of total server shipment 2019



Source: IDC, Hyperion Research, Asetek, SEB

HPC server market growth projection



Source: SEB, Hyperion Research

Competitive landscape

Intense competition in a structurally growing market

Competition will naturally intensify in the long term in the data centre liquid cooling market as it provides attractive sales growth opportunities. Since the launch of its first data centre cooling system in 2013, Asetek has established a foothold in the data centre cooling market.

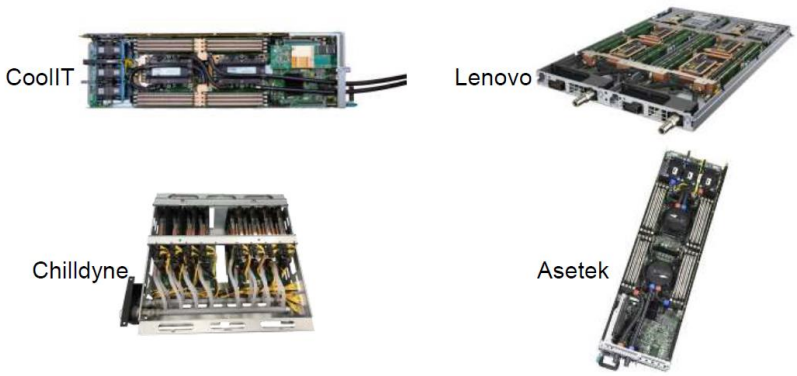
The table below shows the main HPC server OEMs and their DTC liquid cooling suppliers. CoolIT is, in our view, the main competitor to Asetek. However, OEMs like Lenovo, IBM, Inspur and Sugon have tried to develop their own liquid cooling systems, which utilize similar technologies as Asetek and CoolIT's warm water DTC liquid cooling solutions.

HPC OEMs and their liquid cooling partners

OEMs	Market share	DTC liquid cooling provider
HPE	37%	Asetek/CoolIT
Dell	22%	CoolIT
Lenovo	6%	Lenovo
Inspur	6%	Inspur*
IBM	4%	IBM
Sugon	3%	Sugon
Atos	3%	CoolIT
Fujitsu	2%	Asetek
Penguin	2%	Asetek
NEC	2%	Asetek
Other	13%	
Total	100%	

Source: Asetek, company releases

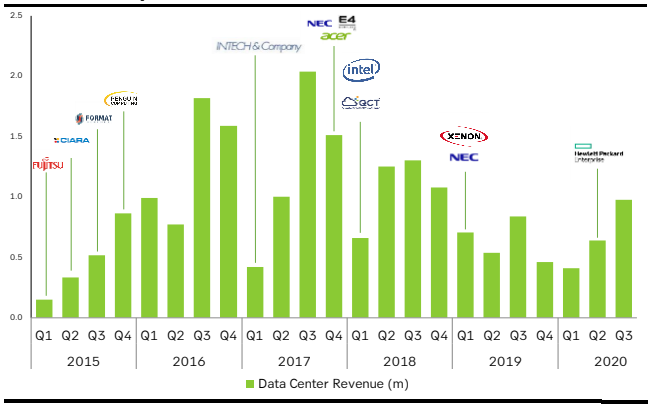
Close competitors



Source: SEB

Asetek's growth journey in the data centre cooling market has been lumpy. After some exponential sales growth in 2015-17, its sales declined in 2018-19 without large orders from its OEM partners. However, momentum picked up again in 2020, mainly driven by winning of contract with the largest HPC OEM Hewlett Packard Enterprise (HPE).

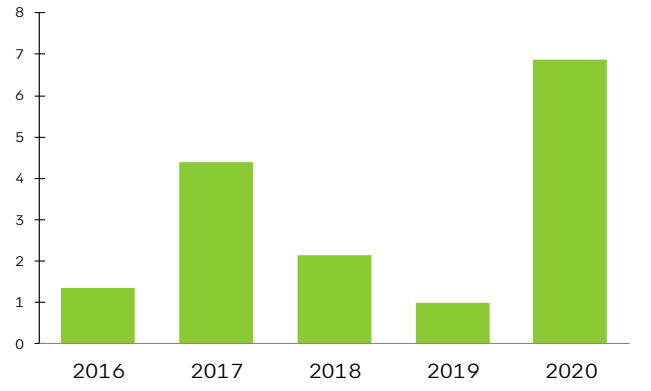
Sales development and orders received from OEMs



Note: the company has not disclosed its Datacenter revenue since Q1/20. Therefore, data used in this chart are our estimates based on the company's large order announcements.

Source: Asetek, SEB

Asetek Datacenter cooling order book (USDm)



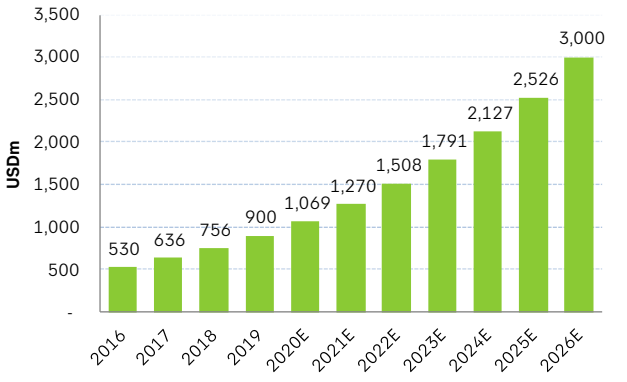
Source: Asetek, SEB

Attractive growth opportunity

We expect growing market demand will continue to provide Asetek with attractive sales growth potential. We forecast 70% revenue growth for Datacenter in 2021, based on the strong momentum in its order book in 2020. For 2022 and 2023 we expect 30-50% annual growth, and gradually slow down to 20% by 2024, in line with the liquid cooling market growth.

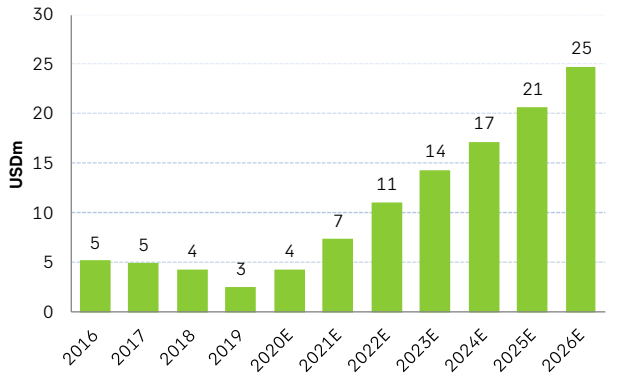
We estimate it currently has less than 1% of the data centre liquid cooling market and on our conservative estimates, the company will sustain its 1% market share by 2026.

Liq. cool. market expects to sustain 19% growth CAGR



Source: Global Market Insights, SEB

Asetek Datacenter sales forecast, as. 1% mkt. share

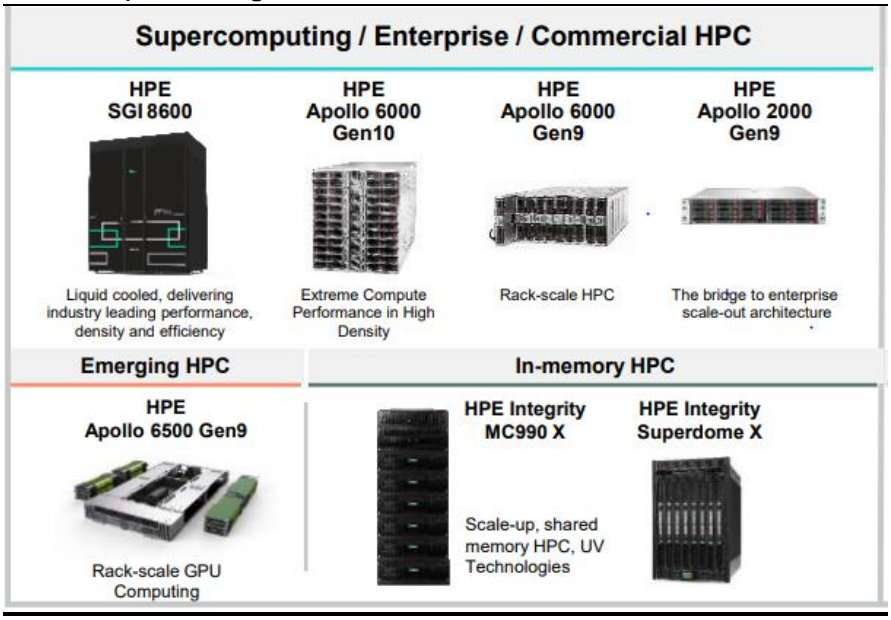


Source: SEB, Asetek

However, we highlight that there is significant upside potential for Asetek in the long term, assuming the company could increase its market share, which could be driven by:

- **Expansion of its partnership with HPE**, which has 37% of the HPC server market. So far HPE has chosen both Asetek and CoolIT to supply its Apollo product lines. We think there is ample room to grow with this OEM.
- **Winning contracts with other large HPC OEMs like Dell and Atos,** which could potentially broaden their liquid cooling suppliers, as HPE did.

There is ample room to grow with HPE



Source: HPE

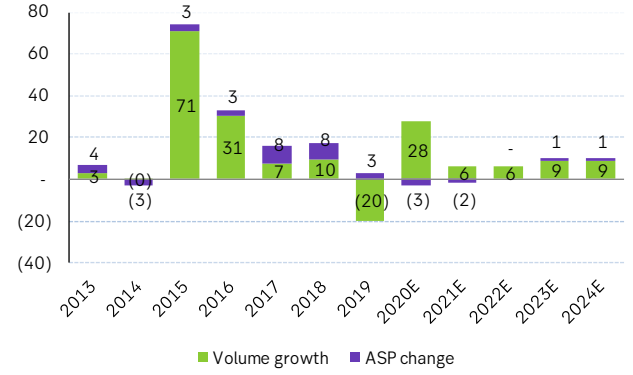
Financial estimates

Revenues

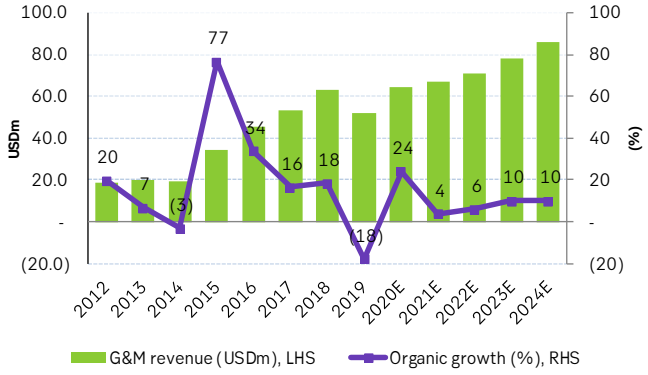
Based on the observations described in the previous sections of this report, we expect Asetek to grow at high single-digit rates in the coming years, driven by both its Gaming & Enthusiast (G&M) and Datacenter businesses.

Asetek's G&M business has benefited from increased market demand for gaming PCs due to the COVID-19 pandemic and staycation effects – it grew 24% organically in 2020 on our estimates. However, we expect sales growth to slow in 2021 as the market normalizes. In the long term, we forecast a sales CAGR of 8% in 2020-2025, driven by the increasing adoption of liquid coolers in the gaming PC market.

Organic revenue growth breakdown, G&M (%)



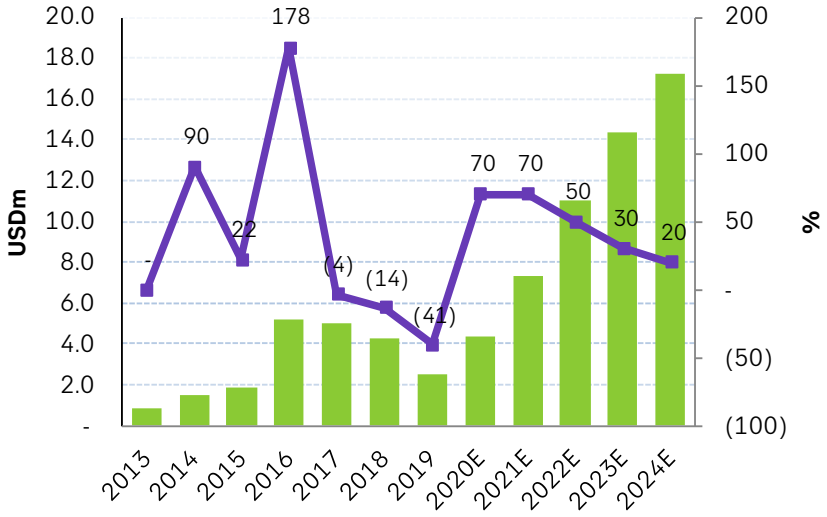
Revenue & organic revenue growth, G&M



Source: SEB, Asetek

We believe the Datacenter business will play an increasingly important role in Asetek's future growth. We believe the new partnership with the largest server OEM, HPE, has provided Asetek with access to a large untapped market. Given the strong current momentum in its order book, we forecast 70% organic growth in 2020 and 2021. Over the longer term, we forecast a sales CAGR of 37% in 2020-2025, driven by a combination of rapid market growth and increasing market share.

Revenue & organic revenue growth, Datacenter



Source: SEB, Asetek

The margin potential

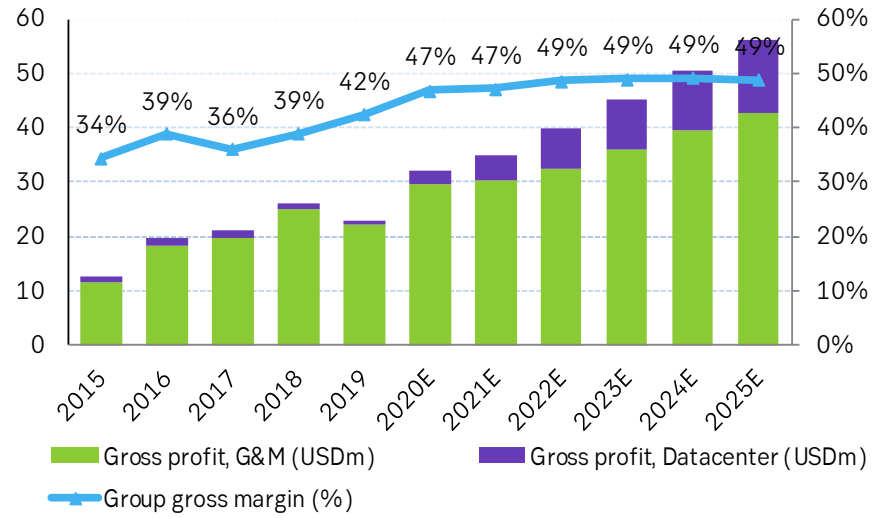
The structural growth in volumes should benefit margins, further supported by positive product mix. However, as Asetek's production is mostly outsourced, the positive effects from scale economies could be limited unless the company gains strong bargaining power over its suppliers and manufacturing partners.

Gross margin

Asetek's gross margin improved from 34% in 2015 to 42% in 2019, mainly driven by positive product mix in its G&M business. The company continued to increase its gross margin in the first nine month of 2020 to 49%. For the full year, we expect 47%, in line with the company's current guidance. The main reasons for such a significant margin improvement are positive product mix towards its high-end desktop liquid coolers and higher sales prices for its Datacenter products. In addition, the company has changed its business model with its G&M OEM customers which will decrease its ASP but improve margins.

In the longer term, we estimate that gross margin improvement will be slower than in 2015-2020, but that it will continue to increase in 2021-22, mainly due to continued positive product mix effects in G&M and the economies of scale in its Datacenter business. We forecast a long-term gross margin of 49% for the Asetek Group.

Gross profit & margin – Asetek Group



Source: Asetek, SEB

Positive product mix effects are the key margin driver for G&M

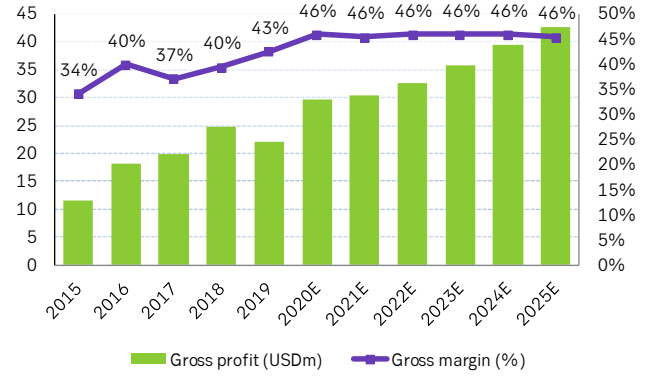
Apart from its Datacenter liquid cooling products produced by Asetek in Denmark, the main production of its G&M products is outsourced to its manufacturing partners in China. As a result, a large part of its COGS are variable – economies of scale in production are limited.

However, the positive product mix effect has been the main driver for increasing the gross margin of its G&M business. As the company increasingly has focused on the high-end gaming PC market, a higher share of its premium product sales increased the average selling price of its G&M business by 3-8% in 2015-2019. This pushed the gross margin of G&M from 34% in 2015 to 43% in 2019.

In 2020, the company changed its business model in response to its OEM customers (accounting for 20% of Asetek's G&M sales channel) asking for unfinished liquid coolers that they could customize both in terms of design and packaging. This will reduce Asetek's ASP but should further improve its margins by reducing its COGS.

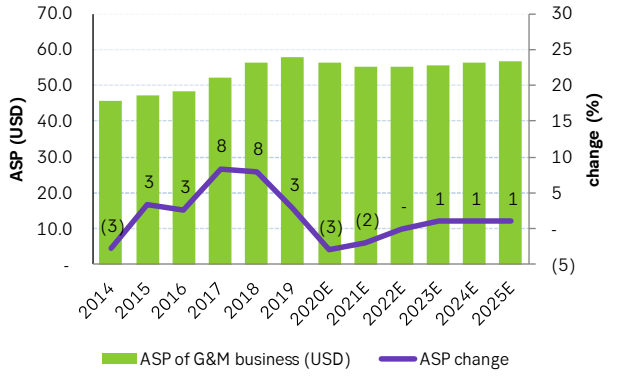
We estimate a 46% gross margin of G&M for 2020 and we have conservatively assumed the gross margin to stay at 46% for the next five years.

Gross profit & margin – G&M



Source: Asetek, SEB

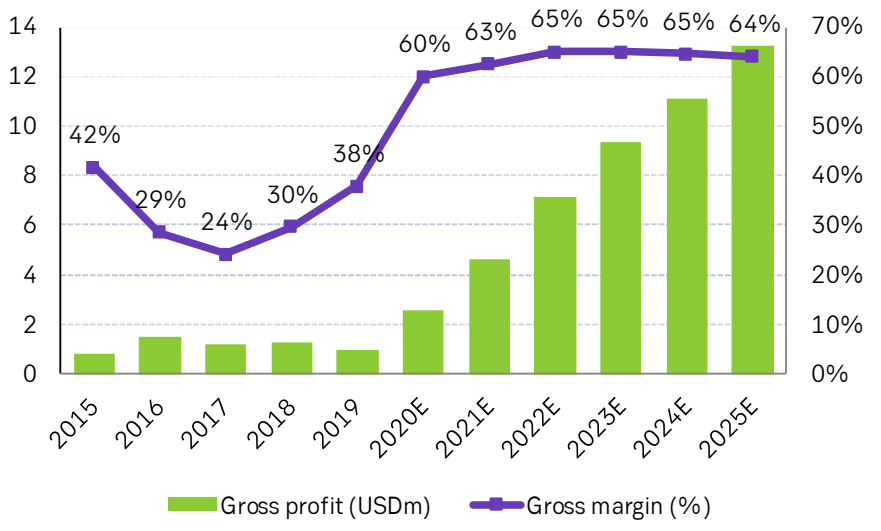
Positive product mix effect increased ASP of G&M



Source: Asetek, SEB

Asetek manufactures some of its Datacenter liquid cooling products and therefore should benefit from the economics of scale as the business grows. The company increased its gross margin from 24% in 2017 to 38% in 2019, mainly driven by cost saving initiatives implemented in 2018 and increased selling prices for its Datacenter products, which have doubled since late 2019. We estimate a gross margin of 60% in 2020, rising to 65% in 2022 driven by increased scalability.

Gross profit & margin - G&M

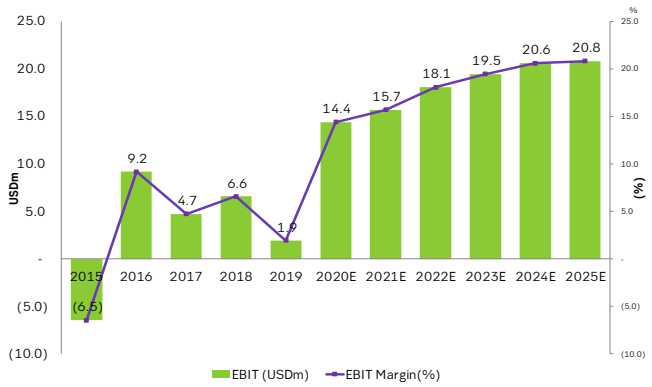


Source: Asetek, SEB

EBIT margin

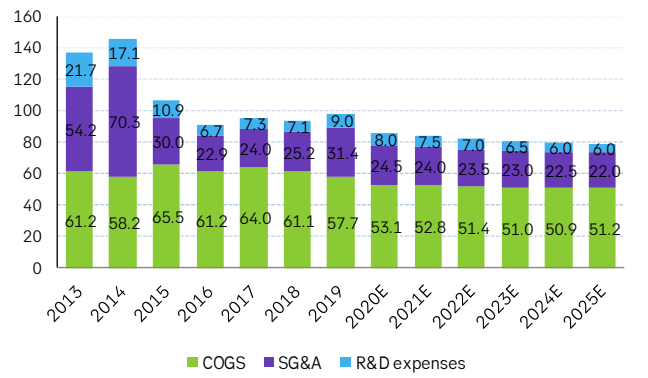
In 2020, we estimate an EBIT margin of 14%, a significant increase from only 2% in 2019. This improvement is attributable partly to higher gross margins, but also to operating leverage. We estimate that sales & marketing costs will represent 24.5% and 8% of sales respectively in 2020 and decrease to 22% and 6% by 2025, driven mainly by scale benefits.

EBIT vs. EBIT margin



Source: Asetek, SEB

Opex as % of sales



Source: Asetek, SEB

Tax

Asetek moved its parent company from the US to Denmark in 2013 but remains subject to both US and Danish taxes. There was no material impact until the US recently imposed GILTI tax on foreign activities, which has not been acknowledged as double taxation by the Danish tax authorities. This has increased Asetek's tax bill in the short term. The company has worked with the tax authorities to resolve this double taxation issue.

On the other hand, the company has been allowed to carry forward its net operating losses in the past to current year profits in order to reduce its tax liability. The tax benefits from this loss carry forward have been considered as deferred tax assets. Asetek has used part of this tax asset and the rest of it is expected to be utilized in the coming years. The company had around USD 5.5m loss carry forward in 2019.

We expect a tax rate of 50% for 2021 and from 2022 and onwards we assume a long-term tax rate of 25%.

Capex

We estimate capex to represent 5% of revenues in our forecast period. Compared with the 4% capex-to-sales ratio in 2019, the main reason for slightly higher capex is increasing investments in the development of Datacenter liquid cooling products. The company temporarily reduced investment in this segment in 2019.

Currency exposure

Asetek operates globally and has its main subsidiaries in China, Taiwan, the US and Denmark. Its reporting currency is the US dollar because most of its revenue is billed in USD. However, many its customers resell Asetek products to countries where the USD is not the transactional currency. Therefore, some of its sales are indirectly affected by currency fluctuations. The company estimates that around one third of its products sold to end users in Europe and Japan.

On the cost side, the US dollar, Chinese renminbi and the Danish krone are the most significant currencies for Asetek. The company sources its raw materials and produces its G&M products in China, but the costs are mainly met in US dollars. The costs are adjusted monthly if the CNY and USD fluctuates more than 3 p.p. Of overhead costs, 5-10% are paid in CNY and 60% in DKK.

Overview

Divisional sales forecasts

	2014	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E
G&E												
Revenue (USDm)	**19**	**34**	**46**	**53**	**63**	**52**	**64**	**67**	**71**	**78**	**86**	**94**
Growth, local currency (%)	(3)	77	34	16	18	(18)	24	4	6	10	10	10
- unit growth (%)	0	71	31	7	10	-20	28	6	6	9	9	9
- ASP change (%)	(3)	3	3	8	8	3	(3)	(2)	-	1	1	1
Foreign exchange (%)	(0)	(0)	0	(0)	0	(0)	-	-	-	-	-	-
Total growth (%)	-3	77	34	16	18	-18	24	4	6	10	10	10
Unit sold (thousands)	425	727	949	1,020	1,119	895	1,146	1,214	1,287	1,403	1,529	1,659
Datacenter												
Revenue (USDm)	**2**	**2**	**5**	**5**	**4**	**3**	**4**	**7**	**11**	**14**	**17**	**21**
Growth, local currency (%)	90	22	178	-4	-14	-41	70	70	50	30	20	20
Foreign exchange (%)	0	0	0	0	0	0	0	0	0	0	0	0
Total growth (%)	90	22	178	-4	-14	-41	70	70	50	30	20	20
Group												
Revenue (USDm)	**21**	**36**	**51**	**58**	**67**	**54**	**69**	**74**	**82**	**92**	**103**	**115**
Growth, local currency (%)	4	74	48	15	16	-19	27	10	12	13	12	11
Foreign exchange (%)	0	0	0	0	0	0	0	0	0	0	0	0
Total growth (%)	**1**	**73**	**42**	**14**	**16**	**-19**	**26**	**8**	**10**	**13**	**12**	**11**

Source: SEB, Asetek

Divisional sales growth contribution

Key sales growth forecasts by business segments (%)	**2017**	**2018**	**2019**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**CAGR (%) (2016-21)**	**(2021-24E)**
Desktop (Gaming & Enthusiast)	16	18	(18)	24	4	6	10	10	8	9
Datacenter	(4)	(14)	(41)	70	70	50	30	20	7	33
Net sales	**14**	**16**	**(19)**	**26**	**8**	**10**	**13**	**12**	**8**	**12**
Growth by business segments (USDm)									**Cumulated**	
Desktop (Gaming & Enthusiast)	7	10	(11)	13	2	4	7	8	21	19
Datacenter	(0)	(1)	(2)	2	3	4	3	3	2	10
Rep. growth	**7**	**9**	**(13)**	**14**	**6**	**8**	**10**	**11**	**23**	**29**
Growth contribution (%)										
Desktop (Gaming & Enthusiast)	103	107	87	88	45	52	68	73	91	66
Datacenter	(3)	(7)	13	12	55	48	32	27	9	34
Rep. growth	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SEB, Asetek

Annual P&L summary (USDm)

	2014	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E
Sales												
Desktop (Gaming & Enthusiast)	19	34	46	53	63	52	64	67	71	78	86	94
Datacenter	2	2	5	5	4	3	4	7	11	14	17	21
Net sales	**21**	**36**	**51**	**58**	**67**	**54**	**69**	**74**	**82**	**92**	**103**	**115**
% change, yr-on-yr	1	73	42	14	16	(19)	26	8	10	13	12	11
Org. Growth, local cur. (%)	4	74	48	15	16	(19)	27	10	12	13	12	11
COGS	(12)	(24)	(31)	(37)	(41)	(31)	(36)	(39)	(42)	(47)	(52)	(59)
Gross profit	**9**	**12**	**20**	**21**	**26**	**23**	**32**	**35**	**40**	**45**	**51**	**56**
Gross margin (%)	41.8	34.5	38.8	36.0	38.9	42.3	46.9	47.2	48.6	49.0	49.1	48.8
OPEX												
R&D expenses	(4)	(4)	(3)	(4)	(5)	(5)	(5)	(6)	(6)	(6)	(6)	(7)
- as % of sales	17	11	7	7	7	9	8	8	7	7	6	6
SG&A costs	(15)	(11)	(12)	(14)	(17)	(17)	(17)	(18)	(19)	(21)	(23)	(25)
- as % of sales	70	30	23	24	25	31	25	24	24	23	23	22
EBIT	**(10)**	**(2)**	**5**	**3**	**4**	**1**	**10**	**12**	**15**	**18**	**21**	**24**
EBIT margin (%)	(45.6)	(6.5)	9.2	4.7	6.6	1.9	14.4	15.7	18.1	19.5	20.6	20.8
EBIT growth (%)	24	(76)	(301)	(41)	60	(76)	842	18	27	21	18	13
Net financials	(0)	0	0	(1)	0	0	0	0	0	0	0	1
PTP	**(10)**	**(2)**	**5**	**1**	**5**	**1**	**10**	**12**	**15**	**18**	**22**	**25**
Taxes	1	0	5	3	(1)	(2)	(5)	(3)	(4)	(5)	(5)	(6)
Tax rate (%)	12	21	(93)	(199)	25	143	50	25	25	25	25	25
Net income from continuing activities	**(9)**	**(2)**	**10**	**4**	**4**	**(1)**	**5**	**9**	**11**	**14**	**16**	**18**

Source: SEB, Asetek

Valuation

We have used absolute and relative approaches to value Asetek. We place most emphasis on DCF, primarily due to the lack of close peers.

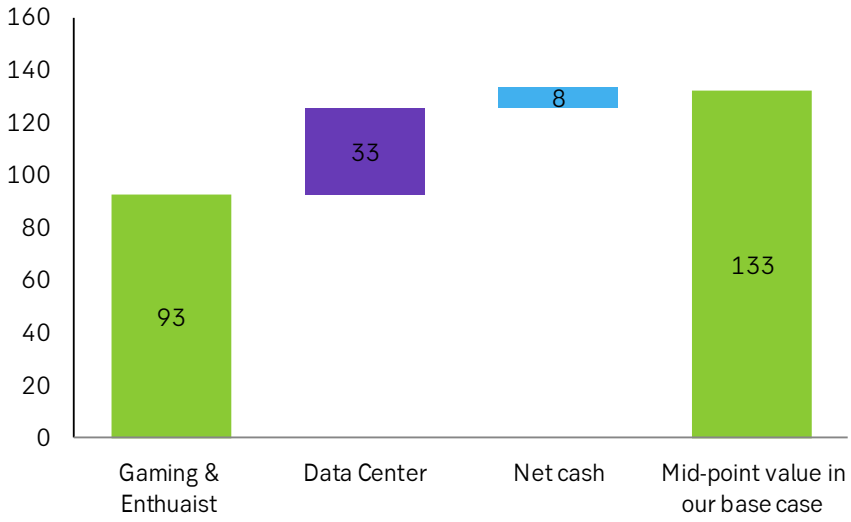
We derive a fair value range of NOK 126-141, in line with our base case DCF valuation, which rests on the estimates and assumptions described elsewhere in this report. Our mid-point value is NOK 133 per share.

DCF scenarios

We have used a WACC of 7.5% which is in the middle of the 7-8% range we normally use for Nordic small-cap companies. One could argue that Asetek should have a higher WACC than its Nordic small-cap peers because of its unpredictable free cash flow. However, we think Asetek has a conservative capital structure with low debt and a strong cash balance. Furthermore, the company is diversifying its risk through broadening its customer base, which should lead to more stable cash flow generation.

We have constructed a 20-year DCF valuation model based on the estimates described in previous sections of this report.

SEB SOTP valuation summary



Source: SEB

Base case: NOK 126-141 fair value range
Our base case rests on the estimates and assumptions described elsewhere in this note. We assume the following:

- Revenue CAGR of 11% in 2020-2025, slowing after that.
- Terminal growth of 3%.
- The EBIT margin increases to 21% by 2024, falling to 14% in the terminal period.

We reach a mid-point DCF value of NOK 133 per share.

Mid-point DCF equity valuation

DCF valuation (USDm)		Weighted average cost of capital (%)	
NPV of FCF in explicit forecast period	1,825	Risk free interest rate	2.5
NPV of continuing value	1,327	Risk premium	5.0
Value of operation	**3,152**	**Cost of equity**	**7.5**
Net debt	(258)	**After tax cost of debt**	**1.9**
Share issue/buy-back in forecast period	-		
Value of associated companies	-	**WACC**	**7.5**
Value of minority shareholders' equity	-		
Value of marketable assets	-	**Assumptions**	
DCF value of equity	**3,410**	Number of forecast years	20
DCF value per share (USD)	**133**	EBIT margin - steady state (%)	14.0
Current share price (USD)	102.80	EBIT multiple - steady state (x)	16.5
DCF performance potential (%)	30	Continuing value (% of NPV)	42.1

Source: SEB

Mid-point DCF equity valuation - detailed assumptions

(USDm)	2020E	2021E	2022E	2023E	2024E	Average year 6-10	Average year 11-15	Average year 16-20
Sales growth (%)	26.3	8.0	10.4	12.8	11.6	9.3	5.1	3.9
EBITDA margin (%)	20.6	21.8	24.2	25.0	25.9	25.2	23.3	20.3
EBIT margin (%)	14.4	15.7	18.1	19.5	20.6	20.4	18.8	15.9
Gross capital expenditures as % of sales	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Working capital as % of sales	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Sales	69	74	82	92	103	138	189	232
Depreciation	(4)	(4)	(5)	(5)	(6)	(7)	(9)	(10)
Intangibles amortisation	0	0	0	0	0	0	0	0
EBIT	10	12	15	18	21	28	35	37
Taxes on EBIT	(2)	(3)	(4)	(4)	(5)	(7)	(9)	(9)
Increase in deferred taxes	2	1	2	1	1	0	0	0
NOPLAT	**10**	**9**	**13**	**14**	**17**	**21**	**27**	**28**
Gross capital expenditure	(3)	(3)	(4)	(4)	(5)	(6)	(8)	(10)
Increase in working capital	1	(0)	(0)	(1)	(1)	(1)	(1)	(1)
Free cash flow	**12**	**10**	**13**	**14**	**17**	**21**	**26**	**27**
ROIC (%)	20.5	16.3	18.4	20.6	24.8	30.8	37.1	37.0
ROIC-WACC (%)	13.0	8.8	10.9	13.1	17.3	23.3	29.6	29.5
Share of total net present value (%)	0.0	2.7	3.3	3.3	3.7	17.9	15.6	11.3

Source: SEB

DCF sensitivity analyses – cost of capital and equity weight

		Cost of equity (%)				
		6.5	7.0	**7.5**	8.0	8.5
Equity capital weight (%)	80	174	166	158	151	144
	90	161	153	145	138	131
	100	149	141	133	126	120
	100	149	141	133	126	120
	100	149	141	133	126	120

		Absolute change in EBITDA margin - all years				
		-2%	-1%	**0**	+1%	+2%
Abs. change in sales growth - all years	-2%	100	105	111	117	123
	-1%	109	115	122	128	134
	0	119	126	133	141	148
	+1%	130	138	147	155	163
	+2%	143	152	162	171	180

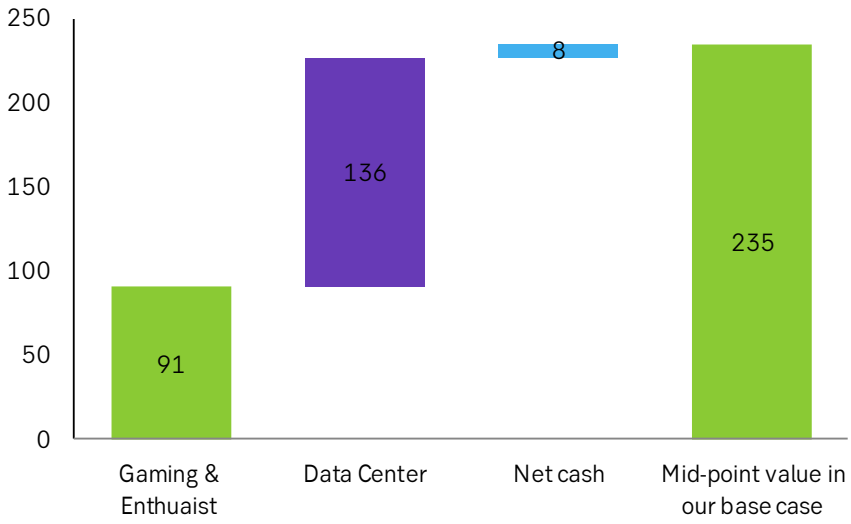
Source: SEB

Bull case

The data centre liquid cooling market could provide significant long-term sales potential to Asetek. The market was worth USD 900m in 2019 and currently the company has less than 1% market share. Market research company Global Market Insights estimates the market will grow at a CAGR of 19% in the coming years and reach USD 2.5bn by 2025. In the bull case we assume that Asetek will gain market share in the long term and reach 2% by 2025E.

Assuming all else being equal, our bull case scenario indicates a fair value of NOK 235 per share.

Bull case: NOK 235



Source: SEB

Datacenter bull case scenario

	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E
TAM to Asetek (USDm)	**530**	**636**	**756**	**900**	**1,069**	**1,270**	**1,508**	**1,791**	**2,127**	**2,526**
- market growth (%)		19%	19%	19%	19%	19%	19%	19%	19%	19%
Asetek sales	5	5	4	3	4	9	16	28	45	63
Market share	1%	1%	1%	0.3%	0.4%	1%	1%	2%	2%	2%

Source: SEB

DCF assumption summary - Bull case scenario

	2020E	2021E	2022E	2023E	2024E	Avg Year 6-10	Avg Year 11-15	Avg Year 16-20
Sales Growth (%)	26	10	16	21	23	13	6	4
EBITDA Margin (%)	21	22	25	27	28	29	27	25
EBIT Margin (%)	14	16	19	22	24	25	23	21
Gross Capital Expenditures as % of sales	5	5	5	5	5	5	5	5
Working Capital as % of sales	6	6	6	6	6	6	6	6
Sales	75	87	106	130	157	218	303	293
Depreciation	-4	-5	-5	-5	-6	-8	-11	-14
Intangibles amortisation	0	0	0	0	0	0	0	0
EBIT	**10**	**12**	**17**	**23**	**31**	**49**	**67**	**74**
Taxex on EBIT	-2	-3	-4	-6	-8	-12	-17	-19
Increase in deferred taxes	-2	-1	-2	-1	0	0	0	0
NOPLAT	**10**	**10**	**14**	**18**	**23**	**37**	**51**	**56**
Gross Capital Expenditures	-3	-3	-4	-5	-6	-9	-13	-16
Increase in Working Capital	1	0	-1	-1	-2	-1	-1	-1
Free Cash Flow	**12**	**10**	**15**	**18**	**22**	**34**	**48**	**53**

Source: SEB

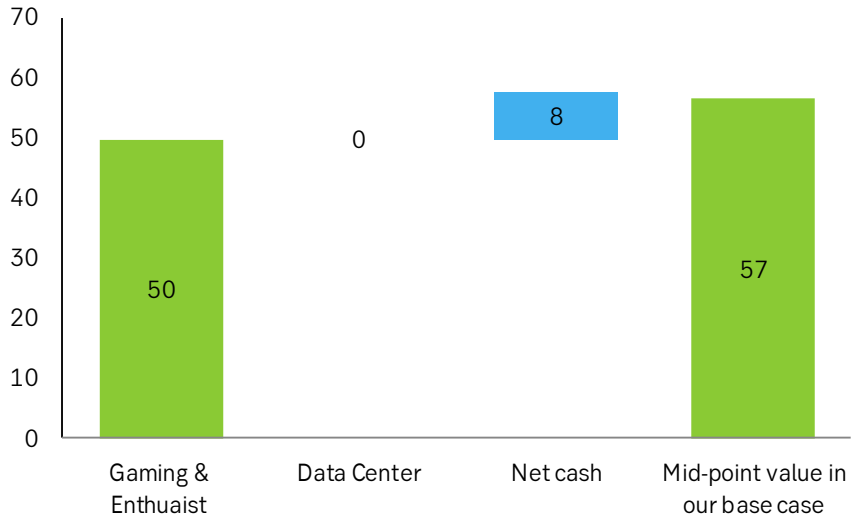
Bear case

In our bear case scenario, we have assumed Asetek will not be able to increase its market share in the global high-end gaming PC market and will not succeed with its Datacenter business.

We also assume that the EBIT margin will decline more rapidly than in our base case. The average EBIT margin for the last five years in our forecasting period is 6%.

Based on the above assumptions, our bear case scenario indicates a fair value of NOK 57 per share.

Bear case: NOK 57



Source: SEB

Our bear case scenario assumes Asetek will not increase its market share in the G&E market

	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E
Market Potential, units (m)									
High-end desktop sales	3	3	4	4	4	5	5	5	5
Mid-Range desktop sales	3	3	3	4	4	6	6	6	6
Total Adressable Market	6	7	7	8	8	11	11	10	11
- market growth (%)		8%	8%	8%	8%	32%	-2%	-2%	6%
Market Share (%)									
High-End	15%	18%	18%	19%	14%	15%	15%	15%	15%
Mid-Range	9%	10%	10%	10%	7%	7%	7%	7%	7%
Total	12%	14%	14%	15%	11%	11%	11%	11%	11%
Asetek Shipments (m. units)									
High-End	0.48	0.63	0.67	0.74	0.59	0.69	0.70	0.70	0.75
Mid-Range	0.25	0.32	0.35	0.38	0.30	0.45	0.44	0.42	0.44
Total Shipments	0.73	0.95	1.02	1.12	0.90	1.15	1.13	1.12	1.19
- volume growth (%)		31%	7%	10%	-20%	28%	-1%	-1%	6%
ASP (USD) - Reported	47	48.2	52.2	56.3	57.9	56.2	55.0	55.0	55.6
- ASP change (%)		3%	8%	8%	3%	-3%	-2%	0%	1%
Asetek Revenue (USDm)									
Gaming & Enthusiast	34.2	45.7	53.2	63.0	51.8	64.3	62.4	61.8	66.2
- growth (%)		34%	16%	18%	-18%	24%	-3%	-1%	7%

Source: SEB

DCF assumption summary - Bear case scenario

	2020E	2021E	2022E	2023E	2024E	Avg Year 6-10	Avg Year 11-15	Avg Year 16-20
Sales Growth (%)	18	-3	-1	7	7	6	4	4
EBITDA Margin (%)	20	29	30	29	29	25	17	11
EBIT Margin (%)	14	22	22	22	22	18	11	6
Gross Capital Expenditures as % of sales	5	5	5	5	5	5	5	5
Working Capital as % of sales	6	6	6	6	6	6	6	6
Sales	62	62	66	71	75	90	112	106
Depreciation	-4	-4	-5	-5	-5	-5	-6	-7
Intangibles amortisation	0	0	0	0	0	0	0	0
EBIT	**9**	**13**	**14**	**15**	**16**	**15**	**12**	**7**
Taxex on EBIT	-2	-3	-3	-4	-4	-4	-3	-2
Increase in deferred taxes	-2	-1	-1	-1	0	0	0	0
NOPLAT	**9**	**11**	**12**	**12**	**12**	**12**	**9**	**5**
Gross Capital Expenditures	-3	-3	-3	-3	-3	-4	-5	-6
Increase in Working Capital	1	0	0	0	0	0	0	0
Free Cash Flow	**11**	**12**	**14**	**13**	**13**	**13**	**10**	**6**

Source: SEB

Relative valuation

We have constructed a peer group of fast-growing Nordic technology companies, none of which provides an especially good match. Asetek's closest peer CoolIT Systems – which is a close competitor in the global liquid cooling market – is not listed.

In the absence of direct industry peers, we flag technology companies including HMS Networks and Invisio that share some characteristics with Asetek. First, they all enjoy positive long-term structural growth. Second, although it can take a long time to acquire a customer, acquisition creates an entry barrier. Third, all three companies have lumpy order books that over time should become more stable as more customers are won.

As the table below shows, Asetek currently trades at a 43-48% valuation discount on 2021-22E EV/EBIT and a 41-42% discount on P/E when compared with the fast-growing Nordic peer group median.

Peer group

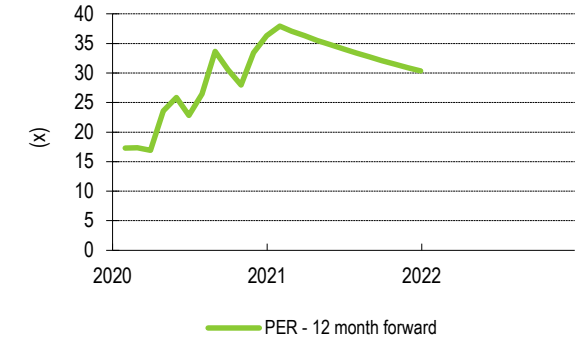
	Price (local)	Mkt cap (EUR)	EV/EBIT			P/E			Free cash yield (%)			EBIT CAGR	NIBD / EBITDA
			2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E		2020E
Fast growing similar Nordic peers													
Invisio	250	1,097	84.8x	48.9x	36.4x	122.9x	65.2x	49.3x	0.9%	1.1%	1.9%	51%	-1.2x
HMS Networks	259	1,211	47.0x	37.4x	33.4x	61.2x	51.7x	46.1x	1.8%	2.1%	2.4%	17%	0.7x
IAR	140	190	20.5x	16.7x	16.8x	28.1x	22.5x	22.4x	1.7%	2.7%	3.4%	11%	-0.1x
BioGaia	536	1,079	41.3x	37.0x	32.7x	51.4x	48.7x	43.1x	1.7%	1.7%	2.0%	12%	-3.6x
Cellavision	306	729	62.7x	44.8x	35.8x	80.2x	59.4x	47.7x	1.2%	1.5%	1.9%	30%	0.0x
MIPS	514	1,342	82.2x	54.0x	43.0x	107.6x	71.0x	55.6x	0.9%	1.2%	1.5%	37%	-1.4x
Biotage	139	902	43.9x	36.2x	33.9x	52.1x	49.3x	46.5x	1.9%	2.0%	2.0%	13%	-0.9x
Medicover	164	2,422	42.1x	34.9x	29.0x	71.4x	56.2x	44.0x	2.6%	2.8%	3.6%	20%	1.5x
Probi	421	489	34.7x	30.0x	25.6x	46.6x	39.6x	34.3x	1.5%	2.6%	3.2%	14%	-1.3x
Vitrolife	215	2,331	64.5x	46.5x	41.2x	80.1x	61.3x	53.8x	1.5%	1.6%	1.9%	24%	-2.0x
Sectra	732	2,811	74.9x	65.9x	n.a.	98.0x	86.5x	n.a.	0.9%	0.9%	1.0%	12%	-0.8x
Sinch	1337	7,859	126.0x	67.3x	52.8x	156.4x	92.1x	77.0x	-3.4%	0.7%	1.5%	54%	0.5x
Average			**60.4x**	**43.3x**	**34.6x**	**79.7x**	**58.6x**	**47.3x**	**1.1%**	**1.7%**	**2.2%**	**25%**	**-0.7x**
Median			**54.8x**	**41.1x**	**33.9x**	**75.7x**	**57.8x**	**46.5x**	**1.5%**	**1.7%**	**1.9%**	**19%**	**-0.9x**
Asetek (SEB)	**109**	**275**	**28.1x**	**23.5x**	**17.6x**	**60.5x**	**34.3x**	**26.9x**	**2.6%**	**1.1%**	**4.5%**	**22.4%**	**-1.5x**
Premium/discount to peer group median													
Fast growing similar Nordic peers			*-49%*	*-43%*	*-48%*	*-20%*	*-41%*	*-42%*	*73%*	*-33%*	*133%*		

Source: SEB, Factset

Overview

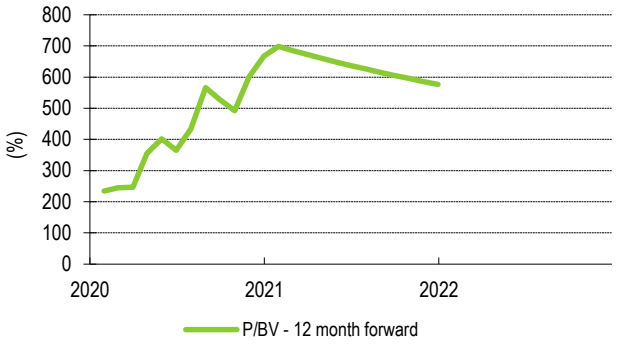
Investment case	The long-term investment case in Asetek relies on the success of its Datacenter business. The company has less than 1% of its target market, which is seeing rapid growth driven by rapid technology advances, explosive data generation, growing demand for high performance computing and thereby efficient cooling technologies. More importantly, increased focus on energy saving and potentially stricter regulation on the data centre energy consumption could provide significant sales opportunities for Asetek.
Company profile	Asetek is a developer and seller of liquid coolers for personal computer and data centre servers. Since the founder and current CEO André Sloth Eriksen invented the direct-to-chip (DTC) liquid cooling technology in 1997, the company has successfully developed and commercialized a wide range of CPU and GPU liquid cooling products, which are mostly used in high performance gaming, engineering, financial software, etc. Today, Asetek is the largest supplier of liquid cooling technologies in the global PC market with over 30% market share. Further, the company has strived to bring its DTC liquid cooling technologies to the data centre industry with the first product launched in 2013. The company expects to generate sales of ca. USD 68-70m in 2020 and grow at a CAGR of 18% over the last five years. The desktop liquid cooling business still accounts for more than 90% of its revenue.
Valuation approach	We have used a scenario-based DCF valuation to value Asetek and our fair share price range is based on a mid-point DCF value +/- 1% absolute change to our EBITDA assumptions being the upper and lower end of the range.
Target price risks	Asetek generates revenue from a limited number of customers and a loss of one of these could have a material negative impact. Furthermore, most of its products are manufactured in mainland China and exported to Taiwan and the US. Political risks such as increased tariffs could reduce demand from the end market.

PER - 12 month forward



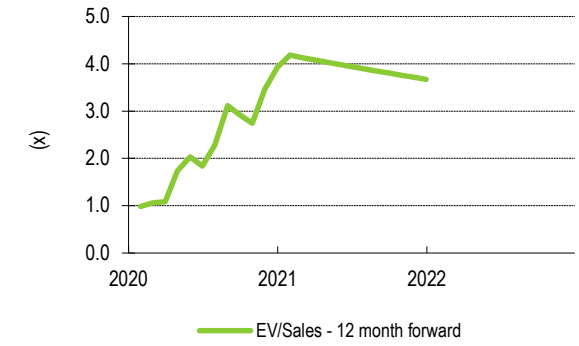
Source: SEB

P/BV - 12 month forward



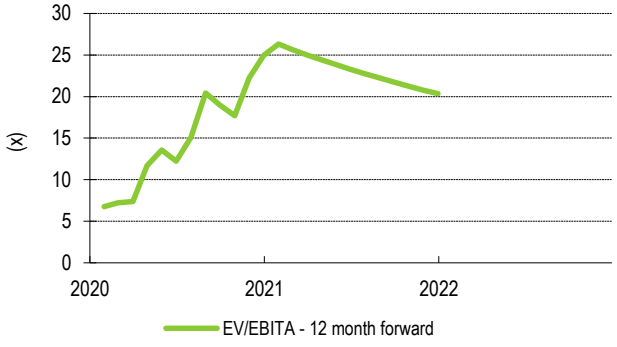
Source: SEB

EV/Sales - 12 month forward



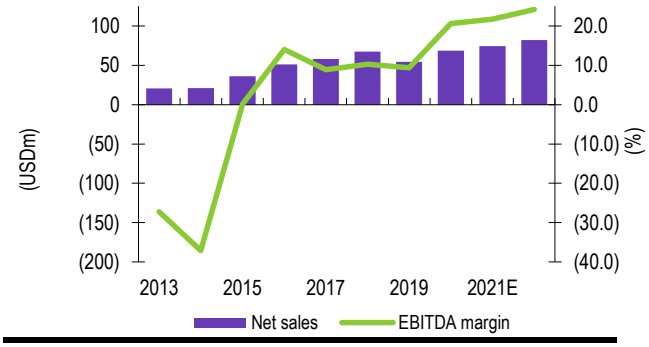
Source: SEB

EV/EBITA - 12 month forward



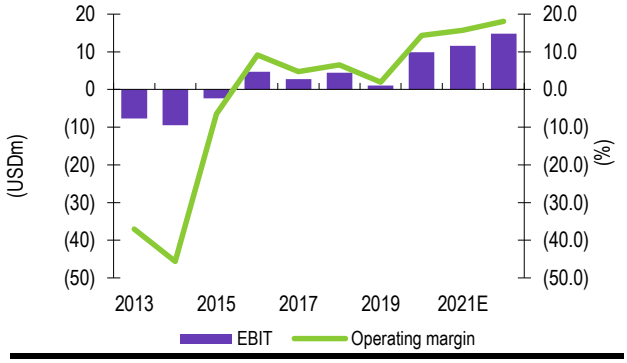
Source: SEB

Net sales & EBITDA margin



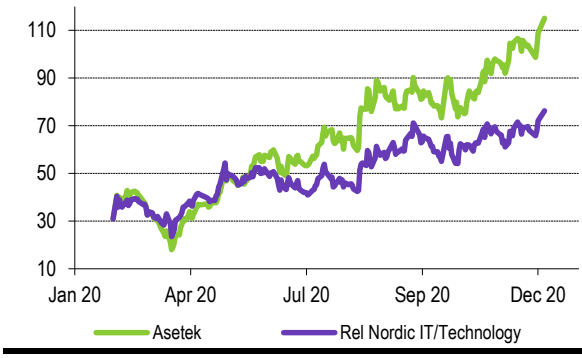
Source: SEB

EBIT & Operating margin



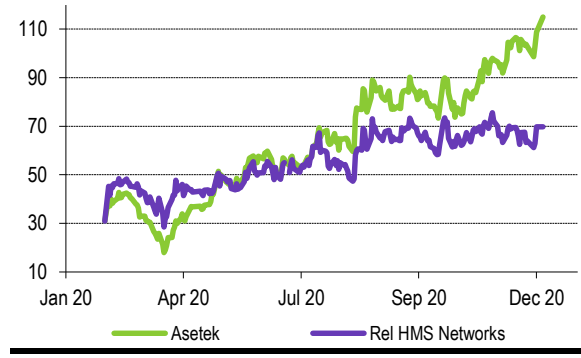
Source: SEB

Comparison with sector index - 1 year



Source: SIX

Comparison with HMS Networks - 1 year



Source: SIX

Profit & loss statement - Asetek										
(USDm)	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020E**	**2021E**	**2022E**
Net Sales	21	21	36	51	58	67	54	69	74	82
Other revenues	0	0	0	0	0	0	0	0	0	0
Total revenues	**21**	**21**	**36**	**51**	**58**	**67**	**54**	**69**	**74**	**82**
Total expenses	(26)	(29)	(36)	(44)	(53)	(60)	(49)	(54)	(58)	(62)
Profit before depreciation	**(6)**	**(8)**	**0**	**7**	**5**	**7**	**5**	**14**	**16**	**20**
Depreciation - Fixed assets	(0)	(0)	(0)	(1)	(1)	(0)	(2)	(2)	(2)	(2)
Depreciation - Other assets	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)
Amortisation - Goodwill	0	0	0	0	0	0	0	0	0	0
Amortisation - Other intangibles	0	0	0	0	0	0	0	0	0	0
Operating profit	**(8)**	**(10)**	**(2)**	**5**	**3**	**4**	**1**	**10**	**12**	**15**
Net interest expenses	1	(0)	(0)	(0)	0	0	0	0	0	0
Foreign exchange items	(0)	(0)	0	0	(1)	0	0	0	0	0
Other financial items	0	0	0	0	0	0	0	0	0	0
Value changes - Fixed assets	0	0	0	0	0	0	0	0	0	0
Value changes - Financial assets	0	0	0	0	0	0	0	0	0	0
Value changes - Other assets	0	0	0	0	0	0	0	0	0	0
Reported pre-tax profit	**(7)**	**(10)**	**(2)**	**5**	**2**	**5**	**2**	**10**	**12**	**15**
Minority interests	0	0	0	0	0	0	0	0	0	0
Total taxes	0	1	0	5	3	(1)	(2)	(5)	(3)	(4)
Reported profit after tax	**(6)**	**(9)**	**(2)**	**10**	**5**	**4**	**(1)**	**5**	**9**	**11**
Discontinued operations	0	0	0	0	0	0	0	0	0	0
Extraordinary items	0	0	0	0	0	0	0	0	0	0
Net Profit	**(6)**	**(9)**	**(2)**	**10**	**5**	**4**	**(1)**	**5**	**9**	**11**
Adjustments:										
Discontinued operations	0	0	0	0	0	0	0	0	0	0
Interest on convertible debt	0	0	0	0	0	0	0	0	0	0
Minority interests (IFRS)	0	0	0	0	0	0	0	0	0	0
Value changes	0	0	0	0	0	0	0	0	0	0
Goodwill/intangibles amortisations	0	0	0	0	0	0	0	0	0	0
Restructuring charges	0	0	0	0	0	0	0	0	0	0
Other adjustments	0	0	0	0	0	0	0	0	0	0
Tax effect of adjustments	0	0	0	0	0	0	0	0	0	0
Adjusted profit after tax	**(6)**	**(9)**	**(2)**	**10**	**5**	**4**	**(1)**	**5**	**9**	**11**
Margins, tax & returns										
Operating margin	(37.0)	(45.6)	(6.5)	9.2	4.7	6.6	1.9	14.4	15.7	18.1
Pre-tax margin	(32.4)	(47.5)	(5.8)	9.8	2.6	7.3	2.9	14.4	15.7	18.2
Tax rate	6.6	11.5	21.0	(93.3)	n.m.	24.5	133.7	50.0	25.0	25.0
ROE	48.6	(78.8)	(12.6)	41.0	14.6	10.2	(1.3)	12.9	20.6	21.0
ROCE	(59.0)	(80.9)	(17.0)	19.5	8.8	12.2	3.4	23.8	25.4	26.3
Growth rates y-o-y (%)										
Total revenues	n.a.	0.6	72.6	41.5	14.3	15.7	(19.3)	26.3	8.0	10.4
Operating profit	n.m.	n.m.	n.m.	n.m.	(41.0)	60.3	(76.3)	841.8	17.8	27.1
Pre-tax profit	n.m.	n.m.	n.m.	n.m.	(69.2)	219.3	(68.2)	534.2	18.1	27.7
EPS (adjusted)	0.0	0.0	0.0	0.0	(54.7)	(17.6)	0.0	0.0	78.3	27.9

Cash flow										
(USDm)	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020E**	**2021E**	**2022E**
Net profit	(6)	(9)	(2)	10	5	4	(1)	5	9	11
Non-cash adjustments	1	2	3	(2)	1	5	7	7	5	7
Cash flow before work cap	**(5)**	**(7)**	**2**	**8**	**6**	**9**	**7**	**12**	**14**	**18**
Ch. in working capital / Other	0	1	(3)	0	1	(5)	2	1	(0)	(0)
Operating cash flow	**(5)**	**(6)**	**(1)**	**8**	**6**	**4**	**9**	**12**	**13**	**17**
Capital expenditures	(3)	(2)	(2)	(3)	(4)	(4)	(2)	(3)	(3)	(4)
Asset disposals	0	0	0	0	0	0	0	0	0	0
L/T financial investments	0	0	0	0	0	0	0	0	0	0
Acquisitions / adjustments	0	0	0	0	0	0	0	(1)	(8)	0
Free cash flow	**(8)**	**(8)**	**(3)**	**5**	**2**	**0**	**7**	**8**	**2**	**14**
Net loan proceeds	(4)	0	0	0	0	(0)	0	0	0	0
Dividend paid	0	0	0	0	0	0	0	0	0	0
Share issue	22	0	12	0	1	1	0	(7)	1	0
Other	0	0	(0)	(1)	(2)	(1)	(1)	0	0	0
Net change in cash	**10**	**(7)**	**9**	**5**	**1**	**0**	**6**	**1**	**3**	**14**
Adjustments										
C/flow bef chng in work cap	(5)	(7)	2	8	6	9	7	12	14	18
Adjustments	0	0	0	0	0	0	0	0	0	0
Int on conv debt net of tax	0	0	0	0	0	0	0	0	0	0
Cash earnings	(5)	(7)	2	8	6	9	7	12	14	18
Per share information										
Cash earnings	(0.36)	(0.49)	0.07	0.3	0.21	0.33	0.27	0.46	0.55	0.71
Operating cash flow	(0.33)	(0.41)	(0.05)	0.3	0.23	0.15	0.35	0.49	0.54	0.69
Free cash flow	(0.55)	(0.56)	(0.15)	0.19	0.07	0.01	0.27	0.31	0.07	0.54
Investment cover										
Capex/sales (%)	4.6	0.8	2.5	2.1	3.2	2.8	1.3	2.0	2.0	2.0
Capex/depreciation (%)	279	39	210	162	210	456	34	66	73	70

Source for all data on this page: SEB

Balance sheet - Asetek										
(USDm)	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020E**	**2021E**	**2022E**
Cash and liquid assets	12	4	13	18	18	19	25	26	29	43
Debtors	5	4	9	13	13	16	14	16	17	19
Inventories	1	1	2	1	2	3	2	2	2	2
Other	0	0	0	0	0	0	0	0	0	0
Current assets	**18**	**9**	**24**	**32**	**34**	**37**	**40**	**44**	**48**	**64**
Interest bearing fixed assets	0	0	0	0	0	0	0	0	0	0
Other financial assets	0	0	0	0	0	0	0	0	0	0
Capitalized development cost	0	0	0	0	0	0	0	(0)	4	3
Goodwill	0	0	0	0	0	0	0	0	0	0
Other intangibles	2	2	2	2	3	2	2	2	7	7
Fixed tangible assets	1	1	1	2	4	4	6	5	5	4
Other fixed assets	0	0	0	6	9	8	6	6	6	6
Fixed assets	**3**	**3**	**4**	**9**	**15**	**14**	**14**	**14**	**21**	**20**
Total assets	**21**	**13**	**28**	**41**	**49**	**51**	**54**	**58**	**70**	**84**
Creditors	3	3	6	9	10	7	8	10	11	12
Other trade financing	2	2	2	3	4	4	3	3	3	4
S/T interest bearing debt	0	0	0	1	1	1	2	2	2	2
Other	0	0	0	0	0	0	0	0	0	0
Current liabilities	**6**	**5**	**9**	**13**	**15**	**12**	**12**	**15**	**16**	**18**
L/T interest bearing debt	0	0	0	0	1	1	3	3	3	3
Other long-term liabilities	0	0	0	0	0	0	0	0	0	0
Convertible debt	0	0	0	0	0	0	0	0	0	0
Pension provisions	0	0	0	0	0	0	0	0	0	0
Other provisions	0	0	0	0	0	0	0	0	0	0
Deferred tax	0	0	0	0	0	0	0	2	3	5
Long term liabilities	**0**	**0**	**0**	**0**	**1**	**1**	**3**	**5**	**6**	**7**
Minority interests	0	0	0	0	0	0	0	0	0	0
Shareholders' equity	**15**	**7**	**19**	**28**	**33**	**39**	**39**	**37**	**48**	**59**
Total liabilities and equity	**21**	**13**	**28**	**41**	**49**	**51**	**54**	**58**	**70**	**84**
Net debt (m)	(11)	(4)	(12)	(17)	(17)	(17)	(20)	(22)	(25)	(38)
Working capital (m)	1	1	3	2	2	8	5	4	5	5
Capital employed (m)	15	8	19	29	35	41	43	42	52	63
Net debt/equity (%)	(74)	(48)	(67)	(59)	(50)	(44)	(52)	(58)	(52)	(65)
Net debt/EBITDA (x)	1.9	0.5	(185.5)	(2.4)	(3.2)	(2.5)	(4.0)	(1.5)	(1.5)	(1.9)
Equity/total assets (%)	71	58	67	69	68	76	72	65	68	70
Interest cover	(7.0)	(108.1)	(34.7)	69.0	41.6	67.7	20.6	40.8	48.0	61.0

Valuation										
(USD)	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020E**	**2021E**	**2022E**
No of shares, fully dil. (y/e)	14.1	14.2	24.8	25.6	26.5	26.4	25.6	24.9	25.0	25.0
No of shares, fully dil. avg.	13.8	14.1	22.3	25.6	26.5	26.4	25.6	25.2	25.1	25.0
Share price, y/e								115.0	115.0	115.0
Share price, high								109.8		
Share price, low								18.0		
Share price, avg								63.8		
EPS (reported)	(0.46)	(0.62)	(0.07)	0.38	0.17	0.14	(0.02)	0.20	0.35	0.45
EPS (adjusted)	(0.46)	(0.62)	(0.07)	0.38	0.17	0.14	(0.02)	0.20	0.35	0.45
Cash earnings/share	(0.36)	(0.49)	0.07	0.30	0.21	0.33	0.27	0.46	0.55	0.71
Dividend/share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enterprise value/share								12.7	12.5	12.0
Book value/share	1.1	0.5	0.8	1.1	1.3	1.5	1.5	1.5	1.9	2.3
Adjusted equity/share	1.1	0.5	0.8	1.1	1.3	1.5	1.5	1.5	1.9	2.3
PER (adjusted)								69.2	38.8	30.4
CEM								29.2	24.5	19.2
Dividend yield								0.0	0.0	0.0
EV/EBITDA								22.3	19.5	15.2
EV/EBITA								32.0	27.0	20.3
EV/EBIT								32.0	27.0	20.3
EV/Sales (x)								4.60	4.24	3.67
Price/Book value								9.00	7.12	5.77
Price/adjusted equity								9.00	7.12	5.77
Free cash flow/Market cap (%)								2.7	3.0	4.0
Operating cash flow/EV (%)								3.9	4.3	5.7
EV/Capital employed (x)								7.6	6.1	4.8

Main shareholders			
Name	**(%) Votes**	**Capital**
Arbejdsmarkedets Tillægspension (ATP)	10.3	10.3
HSBC Trinkaus & Burkhardt AG	8.6	8.6
Sunstone technology	6.0	6.0

Management	
Title	**Name**
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CEO	André Sloth Eriksen
CFO	Peter Dam Madsen
IR	

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