The future is conversational

Artificial Solutions specializes in enterprise-grade conversational AI, and provides a platform that can be used by non-specialists to quickly and easily build conversational AI applications. Its platform, Teneo, is the most scalable of its kind, with a global market share of 10-15% of the world's automated call centre interactions. We initiate coverage with a Buy rating and SEK 2.3 TP.

Target price (SEK) 2.30
Share price (SEK) 0.93

▲ **BUY**
▬ HOLD
▼ SELL

New financial targets reflect high growth expectations

Artificial Solutions announced the following financial targets in its Q3 2022 report: I) more than 1bn API calls (i.e., usage of the platform) at an annualized run rate during 2024, II) more than SEK 200m in ARR during 2025, III) positive cash flow from operations during 2024, and IV) long-term EBITA margin exceeding 30% in a mature state. The company aims to reach these targets by I) growing with existing customers, II) transitioning non-SaaS customers to SaaS, and III) contracting a small number of strategically important new customers each year.

Market-leadership supported by industry-leading references

Artificial Solutions stands well-positioned to benefit from I) ongoing investments into contact centre automation, II) its partnership with Microsoft, and III) its market leadership. On the latter point, we estimate that Artificial Solutions captured 10-15% of the world's automated call centre interactions in 2022, despite only having about 20 customers. This portrays Teneo's scalability, and leading position in the market.

Artificial Solutions stated in the Q4 2022 report that Telefonica O2 Deutschland now handles more than 1m calls per month with its conversational AI solution built with Teneo. It has reached this milestone after less than 1.5 years of implementing the solution. No other competitors to our knowledge have come close to reaching these volumes.

Initiating with a Buy rating and SEK 2.3 TP

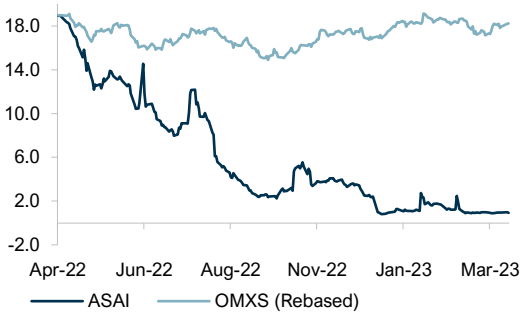
Artificial Solutions currently trades at a 2023E EV/sales multiple of 5.9x, with this falling to 2.6x by 2025E. Should the company reach its financial targets (which we count on), we argue that Artificial Solutions qualifies as one of the fastest-growing companies in its peer universe, which merits a premium. We initiate coverage with a Buy recommendation and SEK 2.3 TP based on an equal-weighted multiples-based and DCF valuation. This is equal to 8.2x/5.8x/3.5x 2023E/24E/25E EV/S multiples, implying 130%+ upside.

SEKm	2021	2022	2023e	2024e	2025e
Revenues	39	46	61	99	171
EBITDA	(58)	(76)	(71)	(49)	10
EBIT adj	(68)	(89)	(84)	(64)	(8)
EBIT margin ad	-	-	-	-	-
EPS	(12.20)	(12.98)	(0.92)	(0.79)	(0.26)
EPS adj	(11.72)	(12.95)	(0.92)	(0.79)	(0.26)
DPS	-	-	-	-	-
EV/EBITDA	-	-	-	-	43.9
EV/EBIT adj	-	-	-	-	-
P/E adj	-	-	-	-	-
P/B	-	-	-	-	-
ROE (%)	-	-	-	-	-
Div yield (%)	-	-	-	-	-
Net debt	126	246	263	339	355

Source: Pareto Securities

Ticker	ASAIN.ST, ASAI SS
Sector	Software & Services
Shares fully diluted (m)	102.4
Market cap (SEKm)	95
Net debt (SEKm)	263
Minority interests (SEKm)	0
Enterprise value 23e (SEKm)	358
Free float (%)	85

Performance



Source: FactSet

Analysts
Forbes Goldman
+46 8 402 5278, forbes.goldman@paretosec.com

Table of contents

Investment case

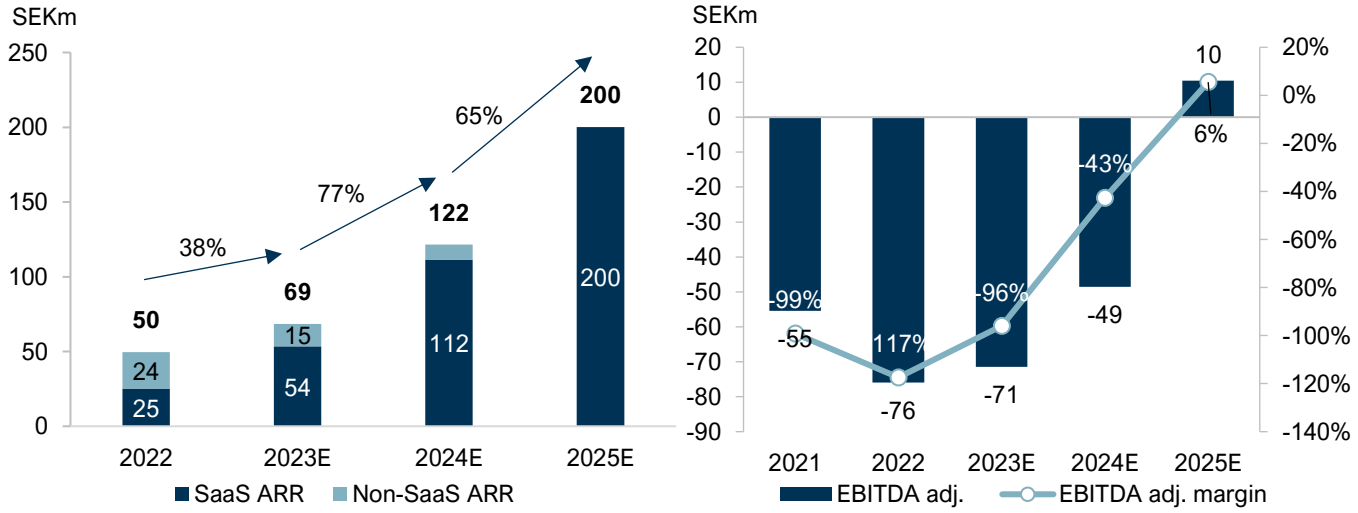
New financial targets reflect high growth expectations

Artificial Solutions announced the following financial targets in its Q3 2022 report:

- More than 1bn API calls (usage of the platform) at an annualized run rate during 2024.
- More than SEK 200m in ARR during 2025.
- Positive cash flow from operations during 2024.
- Long-term EBITA margin exceeding 30% in a mature state.

The company aims to reach these targets by I) growing with existing customers, II) transitioning non-SaaS customers to SaaS, and III) contracting a small number of strategically important new customers each year. Reaching these targets implies growing fast while keeping costs relatively under control. We believe Artificial Solutions has laid a solid foundation to do this, and our forecast reflects a scenario where the company meets its targets. We expect ARR to grow at a 59% CAGR in 2022-25E, and the adj. EBITDA margin to appreciate from -117% in 2022 to +6% in 2025E.

ARR forecast (LH chart), EBITDA forecast (RH chart)



Source: Company data, Pareto Securities

Major upside among existing customers, currently only penetrating 5-10% of the long-term potential

Artificial Solutions' ideal customers are large consumer-facing enterprises with significant call centre operations (more than 500 people working at the call centre). Existing customers include the telecom operators AT&T, O2 Telefonica and Swisscom, and companies in other industries including HelloFresh, the NHS (one of the world's largest healthcare providers), a global software firm, ICA and Folksam. Existing customers generate an average ARR of approximately SEK 2m, but management estimates that it only penetrates 5-10% of the long-term volume potential. It assesses that several existing customers could, in some years, generate an ARR of SEK 20-40m.

Market leadership supported by industry-leading references…

Artificial Solutions stands well-positioned to benefit from I) ongoing investments into contact centre automation, II) its partnership with Microsoft, and III) its market leadership. On the latter point, we estimate that Artificial Solutions captured 10-15% of the world's automated call centre interactions in 2022, despite only having about 20 customers. This portrays Teneo's scalability, and leading position in the market.

Artificial Solutions stated in the Q4 2022 report that Telefonica O2 Deutschland now handles more than 1m calls per month with its conversational AI solution built with Teneo. It has reached this milestone after less than 1.5 years of implementing the solution. No other competitors to our knowledge have come close to reaching these volumes.

…And enabled by foundational patents

Artificial Solutions has foundational patents within NLI (Natural Language Interaction) and NLP (Natural Language Processing), which are frequently cited by other leading conversational AI companies, including Apple, Nuance, Google and IBM. Artificial Solutions has significantly more forward citations than its average software peer (305 versus 33). Forward citations show that new patents consider the importance of a basic patent in the field.

All-star management team with deep industry knowledge

All management positions, except for the CTO, have been reassigned since 2020. The CEO, Per Ottosson, who took over in late 2020, has previously worked at a larger conversational AI vendor called Amelia (formerly known as IPsoft) for around ten years. He was the Chief Revenue Officer for its EMEA division before joining Artificial Solutions. Ottosson has also recruited former colleagues from Amelia to join the management team. Additionally, Paul St. John, who has extensive software experience and played a significant role in Github's growth and sale to Microsoft, has recently been appointed to Artificial Solutions' Board of Directors. Based on the team's proven track record and in-depth industry knowledge, we believe that the company has a positive long-term outlook (see appendix).

Recent capital raise offsets near-term capital constraints

Artificial Solutions' cash position was approximately SEK 18m in year-end 2022, and the company has carried out a SEK 96m rights issue (gross proceeds) in Q1 2023, which offsets any near-term capital constraints. In connection with the rights issue, Artificial Solutions renegotiated its credit facility agreement of SEK 250m with Capital Four and Nordic Trustee. In summary, the parties have agreed that all accrued interest on the credit facility up to 1 December 2022 is written off (approximately SEK 28m), and that the annual interest rate going forward is 4% (previously 10% plus STIBOR). The interest is due on the maturity date of the credit facility, i.e., December 2026, and has no cash impact until then.

Initiating with a Buy rating and SEK 2.3 TP

Artificial Solutions currently trades at a 2023E EV/sales multiple of 5.9x, with this falling to 2.6x by 2025E. Should the company reach its financial targets (which we count on), we argue that Artificial Solutions qualifies as one of the fastest-growing companies in its peer universe, which merits a premium. We initiate coverage with a Buy recommendation and SEK 2.3 TP based on an equal-weighted multiples-based and DCF valuation. This is equal to 8.2x/5.8x/3.5x 2023E/24E/25E EV/S multiples, implying 130%+ upside.

Company overview

Artificial Solutions specializes in enterprise-grade conversational AI, a form of AI that enables people to communicate with applications, websites and connected devices in everyday, natural human language via messaging, chat, telephony or email.

In 2010, the company started developing a platform that can be used by non-specialists to quickly and easily build conversational AI applications. This materialized in the Teneo platform, a multi-award-winning technology that targets enterprise-grade use-cases within conversational AI. Teneo supports communication applications in 86 languages across multiple platforms and channels. In Q1 2023, Artificial Solutions launched OpenQuestion, which is currently the first company-built solution available on the Teneo platform.

The company has just completed a transition that has resulted in Artificial Solutions becoming a fully-fledged SaaS company. Teneo will thus be delivered as software to businesses and generate revenue through four revenue streams: subscription services, API calls (usage of the platform), data, and expert and training services. The transition to SaaS makes Artificial Solutions' offering scalable and easy to implement vertically for existing and new customers. New customers to the company will only be connected to the cloud-based SaaS solution that Artificial Solutions offers, while customers who were added before the year 2021 will continue to use Teneo in the traditional way on their own servers.

The conversational applications developed with the help of Teneo cover a wide range of use-cases ranging from intelligent chatbots for customer service, virtual sales assistants to simplify online sales, to controlling lighting, temperature and entertainment in the home through voice-activated digital assistants.

Artificial Solutions has its headquarters in Stockholm, Sweden, and has around 74 people employed in its offices in EMEA and the US. The company delivers products and services to clients in a number of areas, with a particular focus on global corporations; customers include the telecom operators AT&T, O2 Telefonica and Swisscom as well as companies in other industries including HelloFresh, the NHS (one of the world's largest healthcare providers), a global software firm, ICA and Folksam.

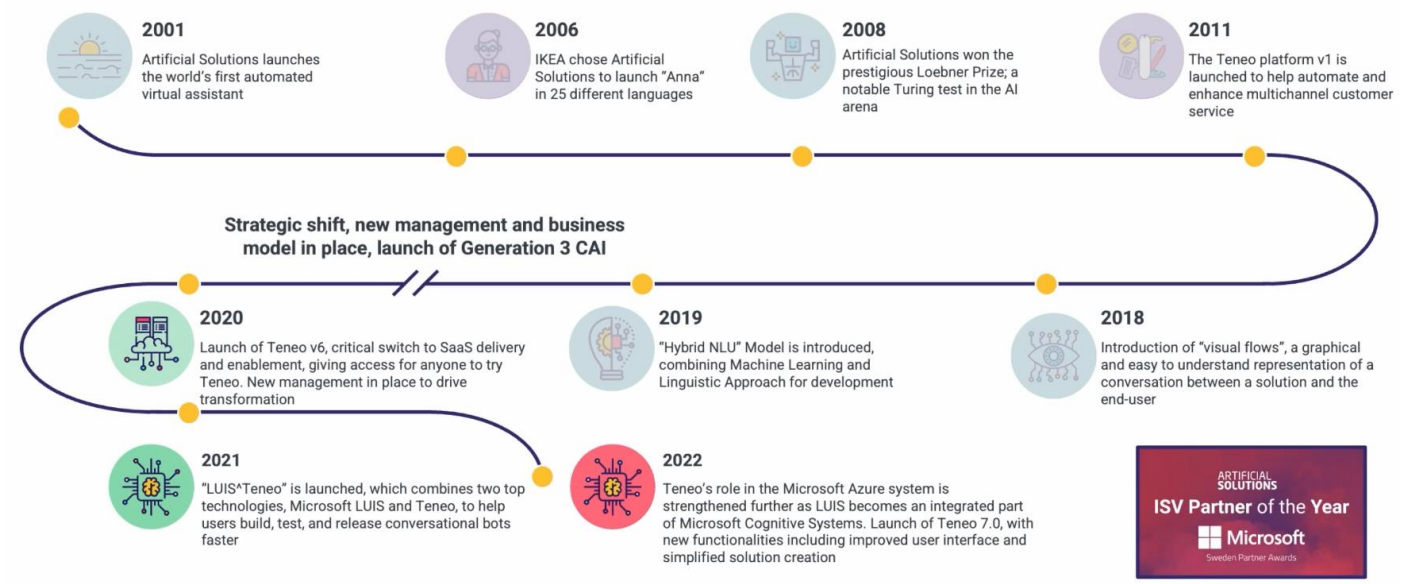
Brief intro to Artificial Solutions

Source: Company data

A brief history of Artificial Solutions

Artificial Solutions is a pioneer in the virtual assistant space, as seen by its launch of the world's first automated virtual assistant in 2001. IKEA launched its first chatbot (text-based) in 2006 using Artificial Solutions' technology, and quickly became its largest customer. First generation chatbots (those developed until 2014/2015) became difficult to manage once customers wanted to scale these by adding languages and channels. Thus, Artificial Solutions started to develop a second-generation application in the latter half of the 2010s. In 2019, it launched a hybrid natural language understanding (NLU) model, which means that customers need less data to train. Then, in 2020, Artificial Solutions launched version 6 of Teneo, which enabled its transition to a SaaS business and delivery model.

History timeline

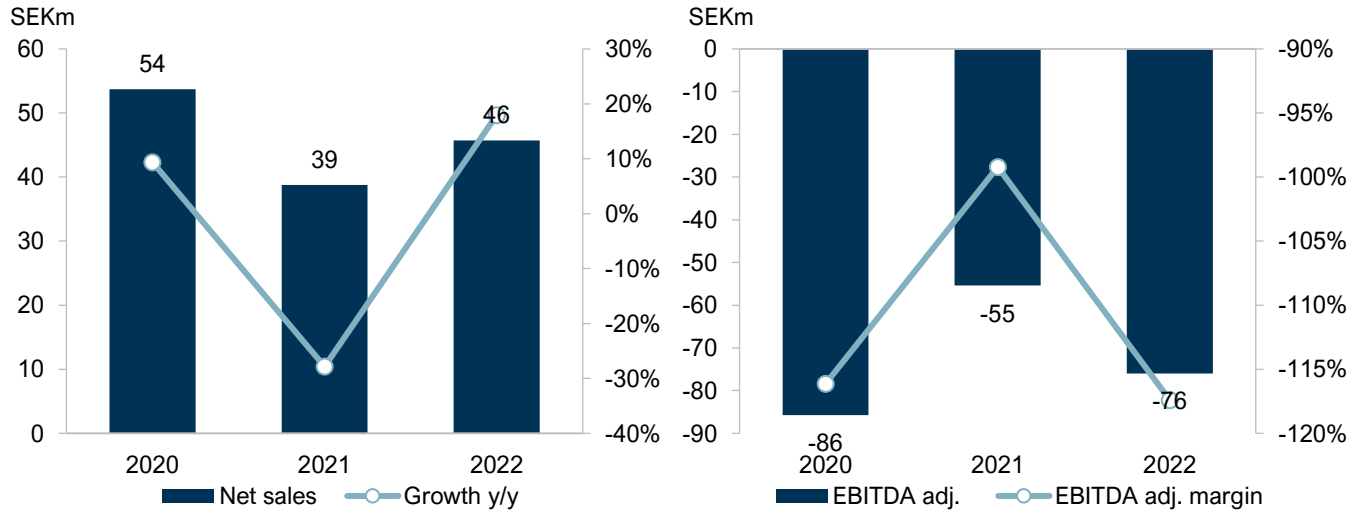


Source: Company data

Historical financials

Artificial Solutions ended its professional services operations in 2021, outsourcing this capability to partners, and instead focused exclusively on its SaaS offering. This led to a 28% sales drop and reduced operating loss that year. Investments into the SaaS organization in 2022 led to 18% sales growth and an increased operating loss. However, the company expects the cost structure to flatten out in the coming years, while realizing significant sales growth, as implied by its recently announced financial targets.

Net sales (LH chart), and adjusted EBITDA (RH chart)

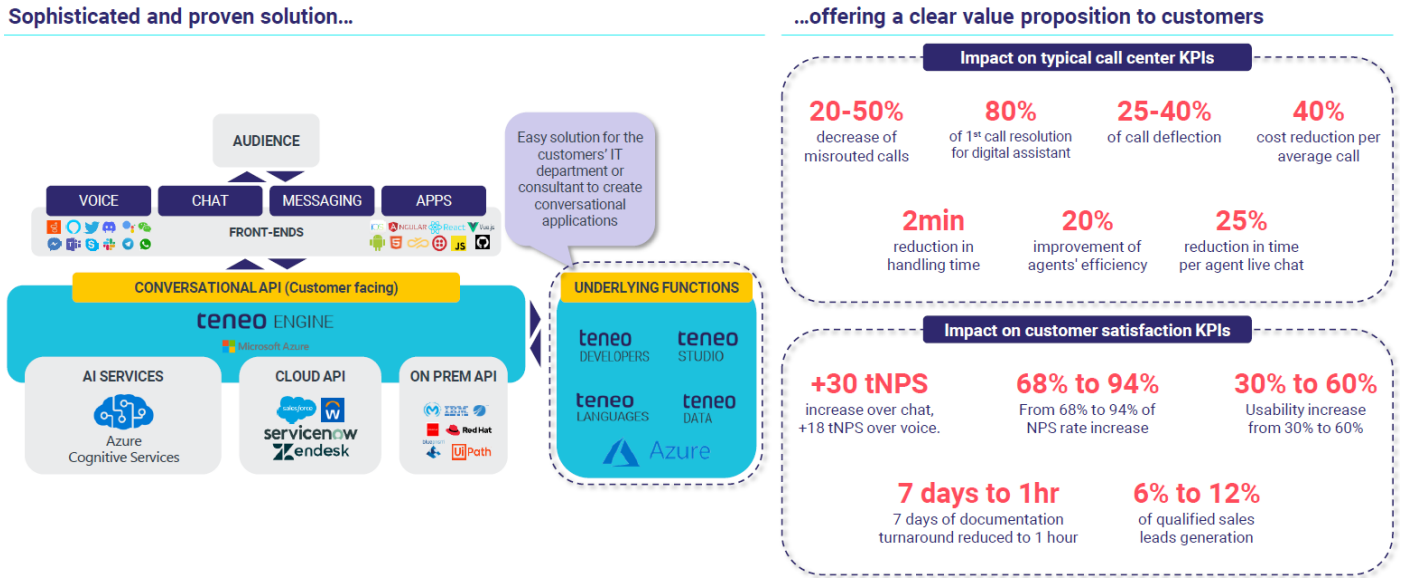


Source: Company data

Teneo

At the core of Artificial Solutions is Teneo, a multi-award-winning conversational AI SaaS platform. There is currently one solution available on Teneo, namely OpenQuestion (more on which below). We assume that Artificial Solutions will launch additional solutions in Teneo over time to cater to new customers and use cases.

Teneo ecosystem

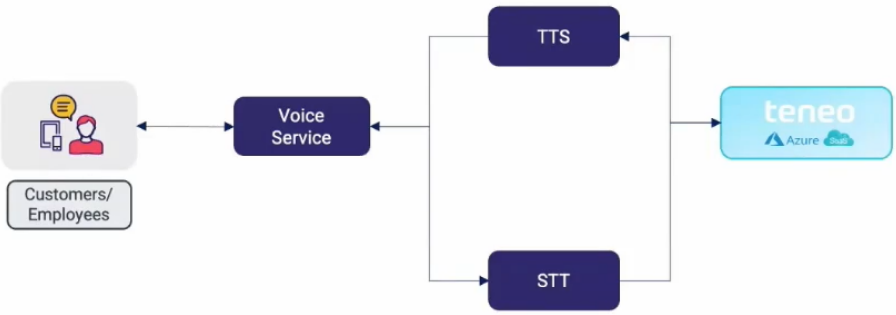


Source: Company data

Teneo has received multiple distinguished technology awards including Alconics Best Intelligent Assistant Innovation in 2016 (LINK), Techies in 2017 (LINK), Stevie in 2019 (LINK), and Metrigy in 2023 (LINK). Also, in 2022, it won Microsoft's Swedish Independent Software Vendor Partner of the Year award (LINK).

The figure below illustrates how Teneo runs in a SaaS setting. The caller is initially connected to a contact centre platform, e.g., Microsoft, Genesys, UJET, Vonage or Amazon Connect. A voice service converts the caller's spoken words into text in a process known as speech-to-text (STT). Teneo's Natural Language Understanding (NLU) engine analyses the text to understand the caller's intent and extracts relevant information. Based on this, Teneo can, e.g., route the caller to the relevant call centre agent or generate a response (voiced back to the caller using a text-to-speech (TTS) process). The more data Teneo builds up, the more queries Teneo will resolve without involving a human. A conversation with a caller will generate about 5-10 API Calls, according to the company, which is Artificial Solutions' main revenue driver.

Teneo in SaaS



Source: Company data

OpenQuestion

In Q1 2023, Artificial Solutions launched OpenQuestion, a voice and conversational IVR (interactive voice response) solution which runs on Teneo. The company has essentially

productized and rebranded its offering, which it has refined together with customers and partners for many years.

OpenQuestion enables enterprises to provide faster and more efficient contact centre services by replacing traditional keypad/keyword navigation with a conversational alternative. Callers are asked about their inquiry, respond in natural language, and are redirected by the solution to the most relevant agent. OpenQuestion is a SaaS-based voice solution that optimizes call routing in contact centres and reduces operating costs for enterprises. As OpenQuestion replaces keypad navigation (which a majority of large enterprises use) with a Natural Language Interface, the customer experience is also enhanced (as seen in a use case below).

OpenQuestion can be deployed in 90 days and reduces call misrouting by 90% compared to traditional keypad navigation. By implementing this, contact centres can realize an average saving of 8% of minutes spent on the phone. Once implemented the solution can through Teneo be enhanced with automations. E.g., at AT&T full support calls regarding home internet and Wi-Fi are managed 300,000 times a month without human intervention.

Strong value proposition…

First, Teneo is the most scalable platform in the conversational AI space seen to customer references and API Call volumes. The platform is commercially adapted to large enterprises, meaning it is easy to maintain and develop further. E.g., Teneo is available in 85+ languages and multiple channels.

Second, it reduces call centre costs. Contact centre automation and sophistication enables enterprises to reduce their contact centre headcount, and/or refocus its workforce on high-value tasks. According to the company, a fully automated conversation in Teneo costs enterprises SEK 0.4 on average, versus SEK 12 for a human-led conversation.

Third, it is data and GDPR compliant. Teneo enables its customers to own their user interaction data, and complies with the strictest data protection regulations, including GDPR. Teneo can be implemented with data encryption where the key is owned by the organization that implemented Teneo and thus gives it control over its own data. Moreover, it received an ISO 27001 certification in Q4 2022, which gives Artificial Solutions an improved ability to enter agreements in the healthcare and financial sectors.

Fourth, higher caller satisfaction. A customer journey could, e.g., begin with an enterprise seeking to replace its tone controlled IVR (e.g., press one for billings, two for repairs, and so on) with a conversational IVR (e.g., describe in one sentence what you need help with). This means the caller is immediately transferred to the right operator.

Last, patented and frequently cited. Artificial Solutions has foundational patents within NLI (Natural Language Interaction) and NLP (Natural Language Processing), which are frequently cited by other leading conversational AI companies, including Apple, Nuance, Google and IBM. Artificial Solutions has significantly more forward citations than its average software peer (305 versus 33). Forward citations show that new patents consider the importance of a basic patent in the field.

…Illustrated in Swisscom use case

Swisscom identified a problem that it had to transfer a large number of calls from one agent queue to another. To solve this, it launched a conversational IVR in 2021, where it asks the user to explain in a sentence the call purpose. With NLP and NLU, the solution transfers the caller to the right agent queue. Within three weeks, Swisscom ramped this solution up to cover 100% of the call load. It immediately started performing 21% better than keypad navigation, and the transactional net promoter score increased by 18 points.

Business model

In Q4 2020, Artificial Solutions introduced Teneo through a SaaS business and delivery model, resulting in a “land-and-expand” revenue model for Artificial Solutions. Customers who were added before 2021 can continue using Teneo traditionally in their own servers, resulting in upfront license payments.

In the SaaS model, revenue recognition takes place upon the consumption of the product. Teneo generates the following revenue streams:

- Recurring subscription revenue from Teneo Studio based on number of seats (i.e., number of users/developers with access to Teneo).
- Recurring API Call revenue generated in Teneo Engine based on API Call volumes (i.e., Teneo usage).
- Recurring Teneo Data revenue based on API Call volumes.
- Non-recurring revenue based on training and expert services.

Once Artificial Solutions wins a customer contract, the customer starts developing a conversational AI application in Teneo. This gives rise to subscription revenue from seats, referring to the number of developers working on the project. Once the application goes live (e.g., a chatbot), and users start interacting with it, Artificial Solutions starts receiving API Call and Data revenue, referring to the volumes being processed. Moreover, the customer could also demand expert services to scale its application. It typically takes 6-18 months for a customer to scale its API Call volumes to meaningful levels. Over time, management expects API Call volumes and Data to account for the majority of revenues.

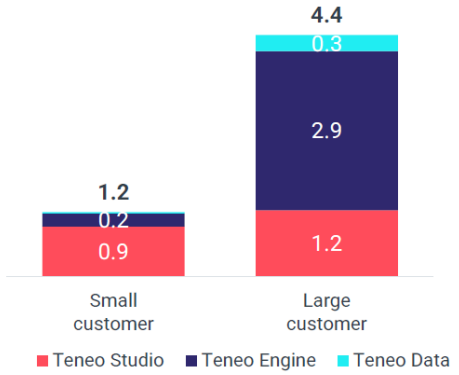
Business model

REVENUE MODEL WITH HIGH OPERATING LEVERAGE

| SMALL & LARGE CUSTOMER CASES

Subscription revenues from accessing Teneo Studio provides basis in the new model coupled with volume linked user revenues (#API calls)

ARR – Small & Large Customer MSEK



Revenue model to leverage scalability of Teneo

Revenue stream	Subscription (Studio)	API calls (Engine)	Data	Training & expert services
Source				
Price	EUR 9,200 /mo for 5 seats	0.008 USD per API Call[1]	Per MB	5-15 days
Type	Recurring	Recurring	Recurring	Non-recurring

Studio
Powerful graphical interface for to develop the conversational AI solution

Data
Learning from customers' conversations to enhance solutions

Engine
"AI brains" bringing the solutions to life

Source: Company data

Customers

Ideal customers are large consumer-facing enterprises with significant call centre operations (defined as more than 500 people working at the call centre). Artificial Solutions currently has about 20 customers. Looking ahead, the company plans to invest in sales and marketing, and expects to win a small number of large enterprise customers each year.

The main challenges to winning new customers and growing with its existing customers include old-fashioned IT systems in need of modernizing, and a lack of conversational AI designers, especially in Europe.

AT&T

AT&T is an American multinational telecommunications company that ranks as the third largest in the US. AT&T provides telephony, video, data and internet services to businesses, government agencies and individuals. AT&T currently has five implementations of Artificial Solutions' technology, focusing on customer service relating to broadband. Together with Microsoft, Artificial Solutions aims to expand the implementation of its services with AT&T.

Telefónica O2 Deutschland

Telefónica SA is one of the world's largest telecommunications companies. Telefónica's subsidiary Telefónica Móviles is the world's fourth largest mobile phone operator and has a

strong position in the mobile markets in South America and in the Spanish domestic market. The company currently cooperates with O2 Telefonica in Germany but sees potential in expanding the relationship with O2 Telefónica in Spain. O2 Telefonica is also one of the largest telecom providers in Germany with 44 million customers. The company's system currently receives all calls to the switchboard which is more than one million per month. This currently constitutes the largest implementation of this type of technology in the world.

Artificial Solutions stated in the Q4 2022 report that Telefonica O2 passed 1m calls per month after less than 1.5 years of implementing the solution. This means more than 5m API Call volumes per month.

Swisscom

Swisscom AG is a telecommunications provider in Switzerland. According to its own published data, Swisscom has a market share of 56% for mobile, 50% for broadband and 37% for TV telecommunications in Switzerland. Swisscom has implemented the company's virtual assistant in a wide range of different channels. A large part of this platform is related to the functions of the TV box, where customers use the company's technology for voice commands and questions. Furthermore, Swisscom has one million incoming phone calls per month. When Swisscom measures its transaction NPS (transactional net promoter score), the result is an average of 18 points higher when the bot answers customer calls, proving that the company's technology means both cost savings and higher customer satisfaction. The company estimates that the main reason for this increase in customer satisfaction is that the bot picks up the call in seconds rather than the customer having to wait for several minutes or hours.

Undisclosed global software company

An undisclosed global software firm, which previously used the company's bot in its online store has now deployed a Teneo-based solution on its main switchboard as well. Through the company's encryption technology, the software provider has also been able to obtain approval to implement the system in over 136 countries, which was expected to be implemented in the first quarter of 2023, according to the 2023 rights issue prospectus.

The National Health Service (NHS) England

The NHS, one of the world's largest healthcare organizations has recently implemented a solution where it answers the UK's equivalent of 1177 and determines, via natural language, which region the call should be answered by.

Management commentary states that the healthcare provider processes more than 500m patient contacts each year and that Teneo could manage about 20% of that over time (based on similar implementations). This means more than 100m patient contacts, which in turn equates to more than 500m API Calls. Potential ARR from this customer alone could be north of SEK 40m (assuming an ARR of SEK 0.08 per API Call).

Customers

"Our customer enquiry hotline will be considerably more productive thanks to human spoken interaction with our systems. Our voice-controlled hotline system improves the customer experience by assigning enquiries quickly and accurately, maximizing the valuable resources of our hotline agents."

swisscom

Christoph Aeschlimann
CEO Swisscom

"Conversational AI has improved Customer Recovery rates by 15% vs the previous base line, using the same tools that were already available to human care agents. It avoids shipping field technicians to houses."

AT&T

Raj Raheja
Product owner virtual assistant AT&T Digital at AT&T

"A project like this doesn't just come to life from nothing. There needs to be a vision from product marketing and to senior management because you need to get buy in from multiple stakeholders. Innovation is not free, so you need to invest in technology and in your team in order to execute on your vision and plan for the future"

O2

Sarah Rojewski
Manager of AI and Automation, Telefónica Germany

"Every website visitor is a potential customer. Therefore, we need to ensure that both our cars and our brand values shine through by delivering an exciting and engaging user experience."

Michal Reicht
Product owner of chatbot Laura

Source: Company data

Strategy

Artificial Solutions intends to use its industry-leading references and strong technical platform to grow its market share in industries where it already has a robust footprint, including telecoms, finance and retail. It expects to grow with existing customers and secure a small number of strategic customers each year through its direct sales channel and partner network.

A clear go-to-market focus: large enterprises in the US and Europe

Artificial Solutions focuses primarily on global large companies where Teneo can differentiate itself through its commercially adapted functionality and ability to build solutions that communicate in a human way and gives the customer ownership and complete control over their call data.

Its geographic focus is primarily limited to the US and Europe to ensure that there are sufficient resources to effectively manage relevant accounts. In the Q4 2022 earnings call, management stated that the US now accounts for about half of Artificial Solutions' business, and EMEA for the other half. The US is the world's largest market for this sort of software, according to the CEO, which supports the go-to-market strategy.

A strategy based on organic growth…

Artificial Solutions has already secured contracts with high-profile customers in important sectors including telecoms, retail, finance, and business processes in healthcare. Existing customers generate an average ARR of approximately SEK 2m, but management estimates that it is currently only penetrating 5-10% of the long-term volume potential. It assesses that several existing customers could, in some years, generate an ARR of SEK 20-40m. This expected growth is underpinned by existing customers using Teneo-solutions across new markets and new channels.

…And a robust partner network

Artificial Solutions has developed a partner network with global system integrators and digital agencies that have chosen Teneo as the key platform for selling commercial conversational AI to their customers. As a result, Artificial Solutions has international sales channels that enable better access to top management at potential customers. In addition, service resources and scalable implementation capabilities are provided as well as valuable credibility to further expand these sales channels.

Artificial Solutions focuses on high-margin software and usage-based revenues, and its partners focus on service. Partners are thus responsible for delivering the services to implement and maintain Teneo-solutions.

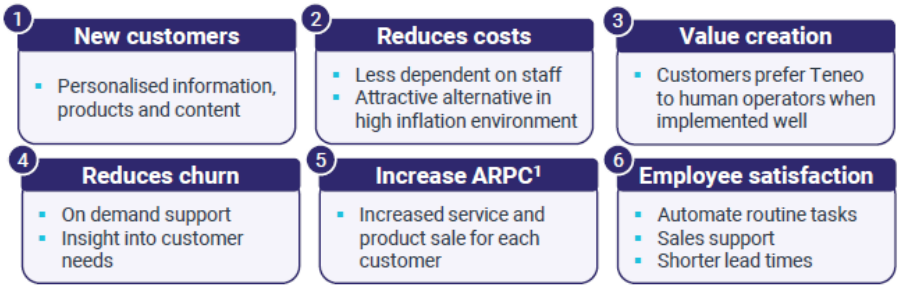
Market overview

Artificial Solutions stands well-positioned to benefit from I) ongoing investments into contact centre automation, II) its partnership with Microsoft, and III) its market leadership. On the latter point, we estimate that Artificial Solutions captured 10-15% of the world's automated call centre interactions in 2022, despite only having about 20 customers.

Conversational AI at contact centres

According to Gartner, the number of contact centre agents globally was about 17m in 2022. Large consumer-facing enterprises mention lack of staff, high labour costs, and old IT systems as challenges for efficient contact centres.

Key drivers for implementation



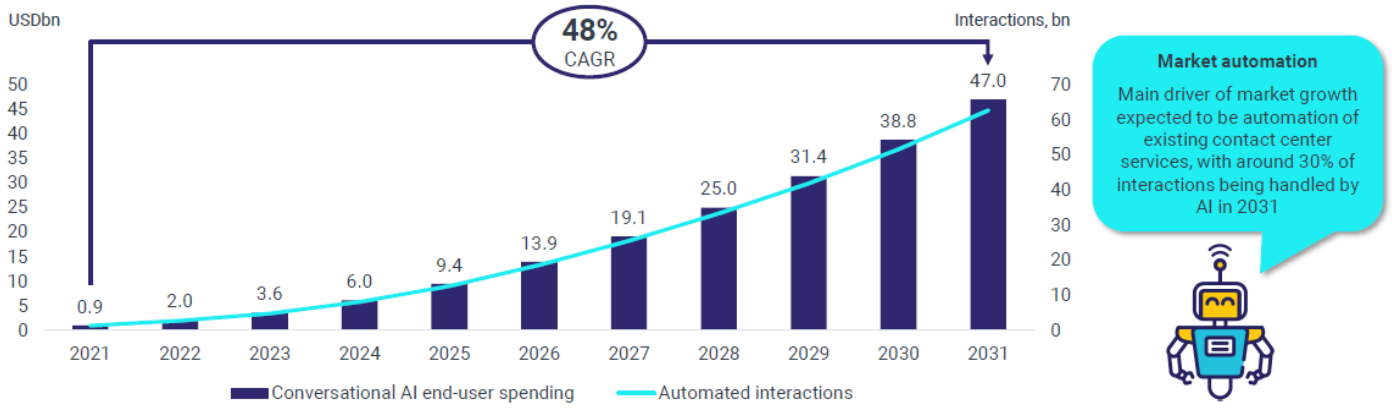
Source: Company data

Conversational AI can automate entire or large parts of customer interactions. Predictable tasks account for up to 33% of the interaction time, leaving less time for human contact centre agents to focus on high-value tasks.

Conversational AI is changing the contact centre market rapidly. By 2026, Gartner expects that ~10% of agent interactions will be completely automated. Should this scenario happen, Gartner expects the conversational AI contact centre market to grow at a 48% CAGR in 2021-31. The market was supposedly worth approximately USD 1bn/2bn in 2021/2022, but is set to generate revenues of USD 47bn by 2031.

Gartner estimates that the conversational AI market generated revenues of USD 2bn in 2022, based on 2-3bn automated interactions. Artificial Solutions reported annualized SaaS API Call volumes of 166m in year-end 2022. Assuming non-SaaS customers generated similar API Call volumes, Artificial Solutions captured a 10-15% market share. It is extremely remarkable that Artificial Solutions' customers (about 20 in total) generate 10-15% of the world's automated call centre interactions. This portrays Teneo's scalability, and leading position in the market.

Conversational AI market-size



Source: Company data, Gartner

Software at contact centres

The global contact centre software market was valued at USD 29.5bn in 2021 and is expected to reach USD 165bn by 2030, growing at a 21% CAGR in 2022-30. The increasing demand for quick and personalized customer service has led to a significant shift in the way companies manage their customer interactions. This shift has resulted in increased adoption of cloud-based contact centre solutions that can efficiently manage all aspects related to call routing, recording, customer interaction, satisfaction, and inquiry management. The market for contact centre software is expected to continue to grow as companies seek to improve customer experiences, acquire new customers, and retain existing ones. Additionally, the use of automation technologies, including AI-based chatbots and robot process automation (RPA), is becoming increasingly popular as companies aim to reduce the time taken to respond to routine customer inquiries and focus on more complex issues. These trends indicate a growing focus on customer-centric strategies and technology-driven solutions to help companies stay competitive in the current business environment.

Betting big on Microsoft

Since 2021, Artificial Solutions has a close partnership with Microsoft. First, Teneo became available in the Microsoft Azure Marketplace. Second, Artificial Solutions launched LUIS^Teneo (LUIS to the power of Teneo), a SaaS-based development suite and bot engine using Microsoft LUIS (Language Understanding Intelligent Service, a cloud-based NLP service). Third, it entered an IP Co-Sell Incentivized Partnership with Microsoft, meaning that Microsoft's sales team can promote Teneo to the 1,700+ enterprise clients using Microsoft Azure and LUIS. Last, it won Microsoft's Swedish Independent Software Vendor Partner of the Year award (LINK) in 2022.

Teneo is integrated into the Microsoft Azure ecosystem

All leading cloud providers (Amazon Web Services (AWS), Google Cloud, and Microsoft Azure) offer conversational AI services, on which customers can build and develop applications. The cloud providers' platforms are built in a similar structure. At the bottom there is a machine learning layer. Then, there is a layer connecting machine learning to a contact centre or messaging centre. Then, there is an intelligence layer, and finally there is a customer-facing service at the top.

Our understanding is that Microsoft has long pursued a solution that is similar to Teneo (but far less scalable), called Microsoft Composer or Azure Bot Services, which it recently has decided to more or less retire, making it an open-source project available to the public. This turn of events plays into the hands of Artificial Solutions, which can replace Microsoft's legacy solution, as illustrated below. Teneo fits with the cognitive services below and the customer-focused services at the top of Microsoft's ecosystem.

Teneo's contribution to Microsoft's ecosystem

Source: Company data

Azure is winning the cloud race

Microsoft Azure is the world's second largest cloud provider with a market share of ~23% at year-end 2022, only trailing AWS which has a ~32% market share, according to Statista (LINK). However, Microsoft Azure is growing at a much faster rate than AWS, according to data from FactSet. Azure revenues grew 45% in 2022, and are expected to grow at a 25%+ CAGR in 2022-25. AWS revenues grew 29% in 2022, and are expected to grow at a 17% CAGR in 2022-25. Generally speaking, Microsoft has a best-in-class reputation in data management and privacy. This, together with extensive media coverage on the back of OpenAI/ChatGPT, has likely contributed to Microsoft Azure becoming a preferred enterprise partner. Artificial Solutions' bet to partner with Microsoft and integrate with Azure appears to already be paying dividends.

OpenAI/ChatGPT

OpenAI is an AI research laboratory consisting of researchers and engineers who are focused on creating safe and beneficial AI. The organization was founded in 2015 by several high-profile tech leaders, including Elon Musk, Sam Altman, Greg Brockman, Ilya Sutskever, and John Schulman. OpenAI is known for its cutting-edge research in various fields of AI, including machine learning, natural language processing, computer vision, and robotics.

One of OpenAI's most notable achievements is the development of the GPT (Generative Pre-trained Transformer) family of language models, which are among the most advanced natural language processing models in the world. These models are trained on vast amounts of text data, allowing them to generate human-like responses to text prompts and perform a variety of language tasks, such as text completion, translation, summarization, and conversation.

ChatGPT is one of the language models in the GPT family, specifically designed for conversational applications. ChatGPT is a large-scale neural network that can understand and generate natural language responses to user inputs, allowing it to engage in human-like conversations with users. ChatGPT has been used in a wide range of applications, including customer service chatbots, virtual assistants, and language learning tools.

OpenAI has a close partnership with Microsoft's cloud computing service Azure. In 2019/2021, Microsoft invested USD 1bn/3bn in OpenAI, which gave Microsoft the exclusive right to provide cloud computing services to OpenAI. Microsoft has invested another USD 10bn in 2023. The terms are such that Microsoft will get 75% of OpenAI's profits until it recoups its investment, after which it will own 49% of the company.

Microsoft has announced plans to deploy OpenAI's models across its consumer and enterprise products. E.g., it launched a new AI-powered Bing search engine and Edge browser on 7 Feb 2023. Over time, Microsoft will likely integrate chatbot and AI tools to enhance its Office suite, including Word, Excel and PowerPoint.

How should we think about OpenAI/ChatGPT disrupting Teneo?

First and foremost, OpenAI/ChatGPT has received extensive media coverage, raising awareness for conversational AI. According to Reuters, ChatGPT is estimated to have reached 100m monthly active users in January 2023, two months after launch, which makes it the fastest-growing consumer application ever. Senior executives at large enterprises will increasingly have to start thinking about implementing this technology, which could potentially shorten sales cycles and increase adoption for Teneo.

Second, Microsoft and Artificial Solutions have a close partnership, and our understanding, based on management commentary, is that Artificial Solutions is a key part in Microsoft's conversational AI development team. Artificial Solutions has been involved in developing and training multiple projects from Microsoft, including GPT. Moreover, Artificial Solutions has access to the GPT language model, which it uses to train and improve its offering.

Third, ChatGPT and Teneo address completely different market needs. ChatGPT is primarily a language generation model, while Teneo is a language understanding model. Teneo works with very precise tasks. It understands language and acts thereafter. Teneo uses ChatGPT to train its models, and generate some of the text outputs when it responds to a customer.

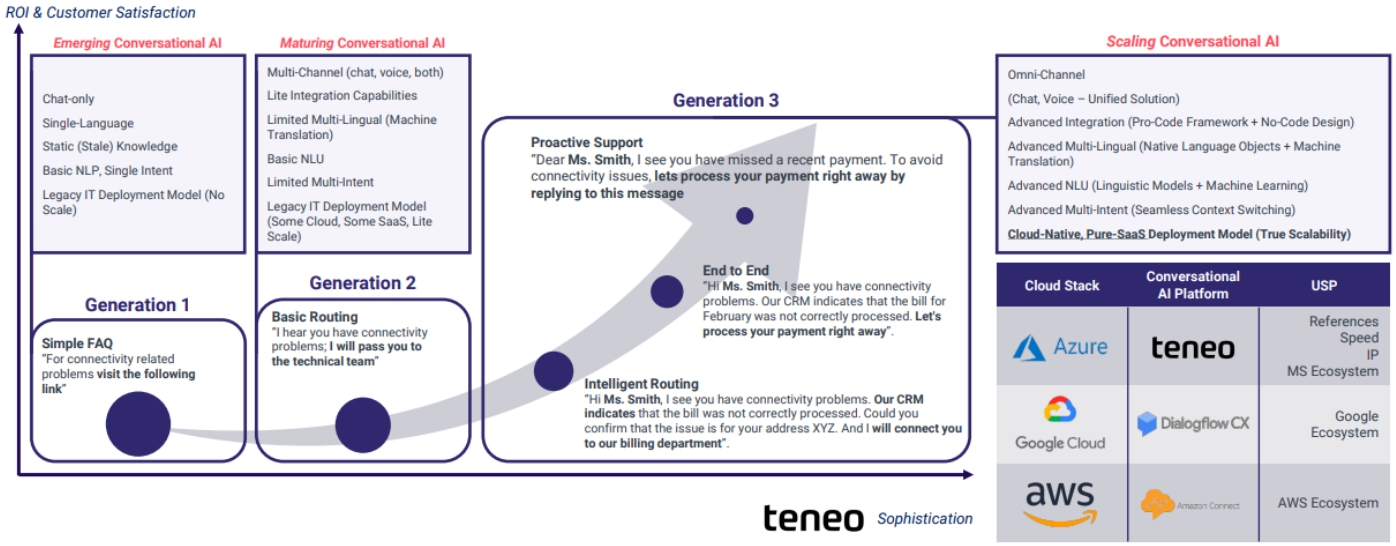
Last, and tying into the previous argument, multiple sources point to ChatGPT limitations including lack of common sense, lack of emotional intelligence and hallucinations, which makes it unfit for using in contact centres. Moreover, ChatGPT can be regarded as an "uncontrolled AI", which likely creates some hesitation for most enterprises. While ChatGPT

and similar solutions could automate some basic contact centre tasks, we believe it is far away from disrupting Teneo's offering.

Competitive landscape

The market for conversational AI is fragmented, and can be divided into three categories based on technical sophistication.

Market landscape (1/2)



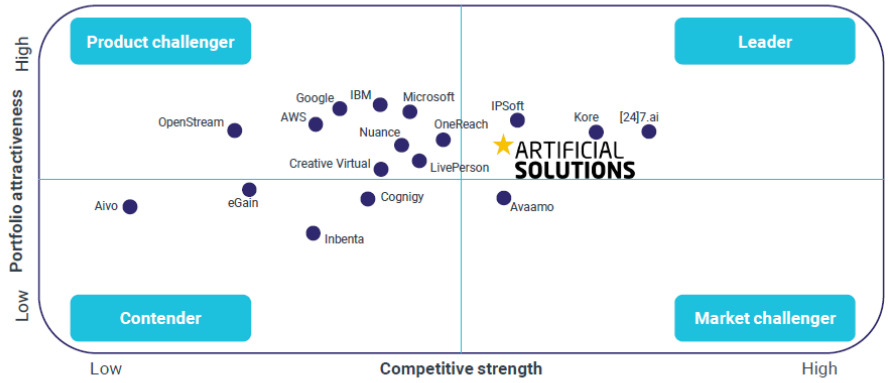
Source: Company data, Gartner

First generation

First generation conversational AI solutions are characterized by the fact that they only allow text-based dialogues and that they have a static knowledge database and are built for only one primary language. These solutions are usually called chatbots and are the ones you can see on many websites today. They can answer questions that are documented on the organization's website. The chatbot looks for a keyword in the text and presents the most relevant information. According to management, 90% of the companies that claim to work with conversational AI can be found here. Companies such as Boost.ai, Solvvy, Ebbot are examples of providers in this segment, as well as Microsoft's Power Virtual Agent. These solutions are typically inexpensive and implemented in the organization's data centre and built and integrated by the vendor.

Market landscape (2/2)

Intelligent Automation – Solutions and Services Conversational AI, US



Commentary

- Artificial Solutions has been recognised both by Gartner and ISG Research for its market leading position and offering
- E.g. according to the ISG report Artificial Solutions has a highly attractive product and service offering and a very strong market and competitive position inside the Conversational AI market. Artificial Solutions fulfils all requirements for successful market cultivation while ensuring innovative strength and stability

Source: Company data, Gartner, ISG Research

Second generation

During the 2010s, suppliers emerged that could handle multiple channels and integrate with underlying knowledge sources that could be dynamic, handle multiple languages with machine translation and partially sell the software as a service instead of an on-site implementation. Here we see today, for example, Google DialogFlow CX, Cognigy, Amelia and Omilia as examples.

Third generation

In 2020, when the volume of customer interactions in the digital environment increased dramatically, many organizations began to review their entire platform for customer interactions. Some of the most important areas became omnichannel (i.e., that a conversation can, for example, start on chat and end on the phone), advanced integrations, advanced models for training that combine linguistic models with machine learning and that the application was built for the cloud from the start. Advanced integrations mean that the platform is connected to the customer's various business systems and that the platform can switch between different channels for communication.

In the segment Artificial Solutions addresses, competition is mainly between Google, Amazon and Microsoft. Rasa, Cognigy and Kore.ai have all raised capital to rebuild their platform to these requirements but the three large cloud providers have solutions today. Amazon and Google market their own platforms, while Microsoft works with Artificial Solutions as its independent software vendor. Official references in this segment are few and consist almost exclusively of Artificial Solutions' customers. Artificial Solutions' relatively few customers account for 10-15% of the world's automated contact centre interactions.

Financial review and estimates

Artificial Solutions announced financial targets in its Q3 2022 report, which it aims to reach by I) growing with existing customers, II) transitioning non-SaaS customers to SaaS, and III) contracting a small number of strategically important new customers each year. Reaching these targets implies growing fast while keeping costs relatively under control. We believe Artificial Solutions has laid a solid foundation to do this, and our forecast reflects a scenario where the company meets its targets. We expect ARR to grow at a 59% CAGR in 2022-25E, and the adj. EBITDA margin to appreciate from -117% in 2022 to +6% in 2025E.

Financial targets

Artificial Solutions announced the following financial targets in its Q3 2022 report:

- More than 1bn API calls at an annualized run rate during 2024.
- More than SEK 200m in ARR during 2025.
- Positive cash flow from operations during 2024.
- Long-term EBITA margin exceeding 30% in a mature state.

API

SaaS API Call volumes amounted to 15.8m in January 2023, growing 343% y/y and 14% m/m. This equates to an annual run-rate of 189m API Calls. Moreover, we estimate that legacy customers generate non-SaaS API Call volumes of around 150m annually. The implied growth rates, assuming Artificial Solutions reaches its target at the end of 2024, are the following:

- Compounded annual growth rate: ~72%
- Compounded quarterly growth rate: ~14%
- Compounded monthly growth rate: 4.8%

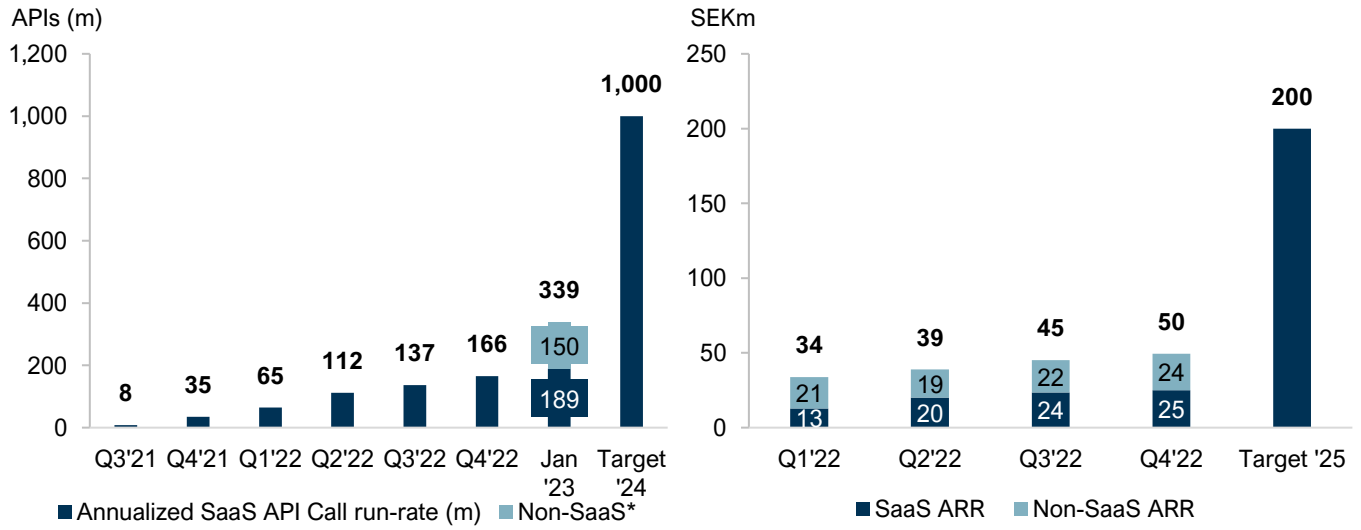
Artificial Solutions does not report API Call volumes from non-SaaS customers, stating that there is no direct link between these volumes and usage revenues. However, it stated that non-SaaS API Call volumes grew by 5% y/y in 2022. Based on disclosed agreements, we estimate that non-SaaS API Call volumes amount to ~150m at an annualized run rate.

ARR

Artificial Solutions' ARR amounted to SEK 50m in Q4 2022. This is more or less split evenly between SaaS and non-SaaS customers. The implied growth rates, assuming it reaches its target at the end of 2025, are the following:

- Compounded annual growth rate: ~59%
- Compounded quarterly growth rate: ~12%
- Compounded monthly growth rate: 4.0%

SaaS and non-SaaS API Calls (annualized run-rate) in millions (LH chart), ARR breakdown in Q1 2022 to Q4 2022, and 2025 target (RH chart)



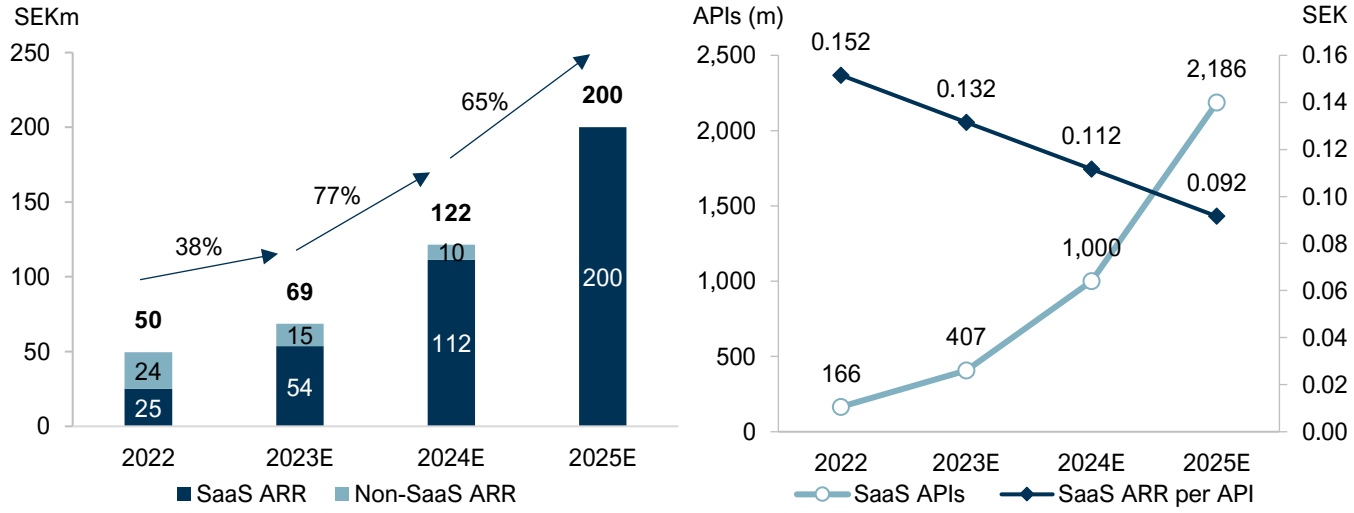
*Source: Company data, *PAS estimate*

ARR model

We expect to see that all of Artificial Solutions' legacy (non-SaaS) customers will transition to SaaS over the forecast period, as seen in the LH chart below. Thus, we focus primarily on SaaS ARR and its main drivers.

Our ARR growth projection is based on a combination of significant API Call volume growth, and falling earnings per API Call. In December 2022, Artificial Solutions generated approximately a SaaS ARR of SEK 0.15 per SaaS API Call. We expect the company's earnings per API Call to converge towards SEK 0.08, which management considers to be a floor. Our API Call volume and earnings projections imply that Artificial Solutions first meets its 2024 API Call target, and then in 2025 ARR target.

ARR forecast (LH chart), API Call and earnings per API Call forecast (RH chart)

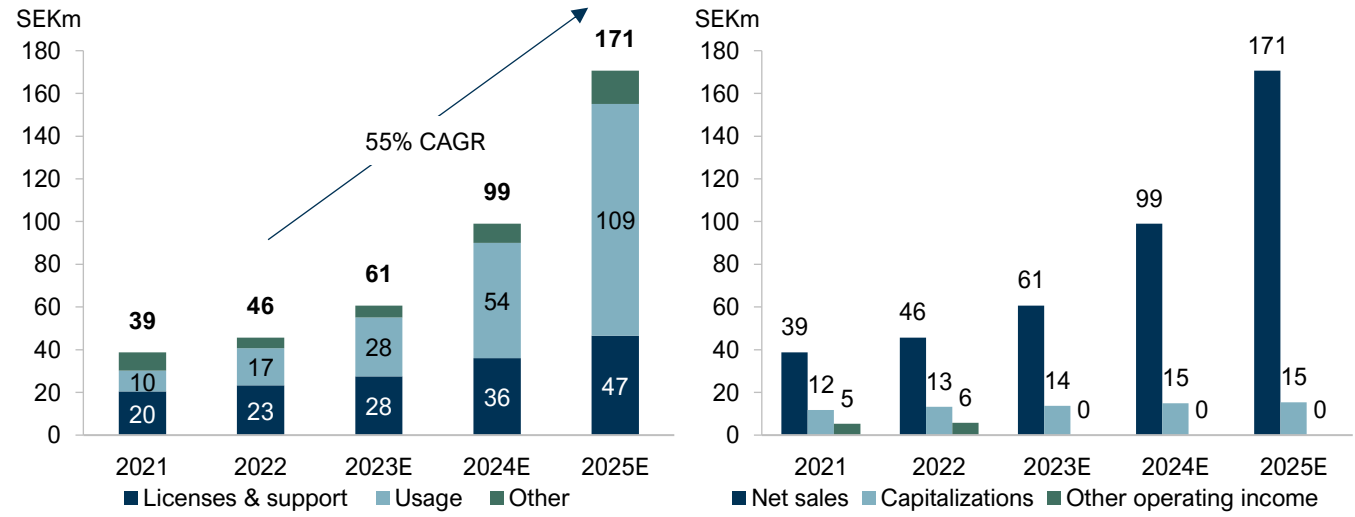


Source: Company data, Pareto Securities

Net sales and other operating income

Artificial Solutions reports net sales from licenses & support, usage, and other. It considers licenses & support + usage as recurring net sales. Our recurring net sales formula is essentially a function of ARR. FY 2023 recurring net sales is approximately equal to ((ARR in Dec '22 + ARR in Dec '23E)/2). We expect net sales to grow at a 55% CAGR in 2022-25E, primarily driven by usage, which correlates closely with API Call volumes.

Net sales by segment (LH chart), other operating income (RH chart)



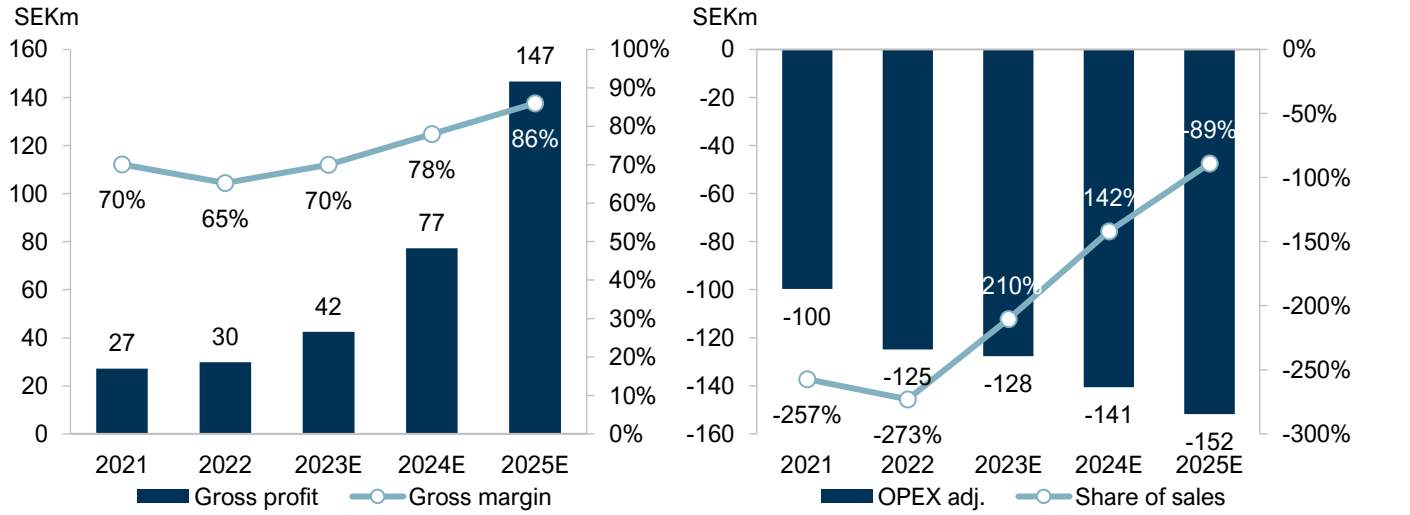
Source: Company data, Pareto Securities

Other operating income amounted to SEK 19m in 2022. Of this, SEK 13m stems from capitalisations for own account and SEK 6m from other operating income, which regards a payment received from the Spanish Tax Authority. We expect absolute capitalisations to grow modestly in the coming years. Capitalisations amounted to 29% of net sales in 2022, which is relatively high, but we expect this to fall to 9% in 2025E.

Gross profit and operating expenses

Artificial Solutions operates an asset-light and scalable business model. However, this is not yet reflected in its gross margin profile. We expect Artificial Solutions' gross margin to appreciate from 65% in 2022 to 86% in 2025E. According to management, the company incurs large upfront costs when setting up new customers, which it has done throughout much of 2022. Once customers start generating significant API Call volumes, the gross margin potential is ~95%. Moreover, we understand that some of Artificial Solutions' commitments with non-SaaS customers has a negative effect on the gross margin. E.g., the company has committed to provide professional services to some of its longest-serving customers. Transitioning these to SaaS should be regarded positively.

Gross profit and gross margin (LH chart), operating expenses (RH chart)



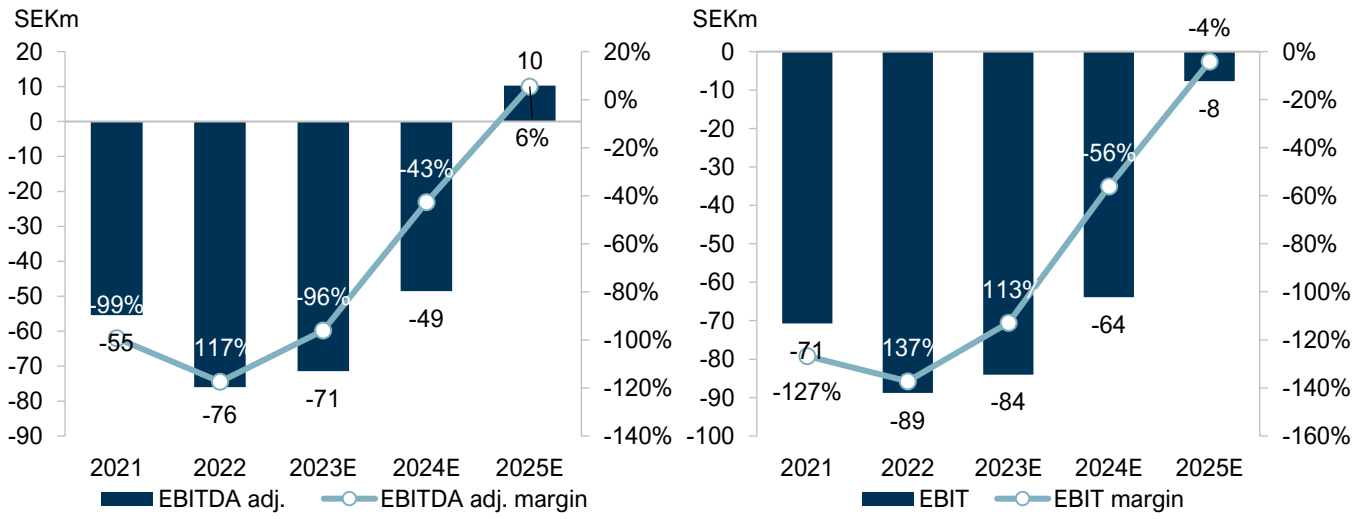
Source: Company data, Pareto Securities

Operating expenses, excluding COGS, D&A, and non-recurring items, amounted to SEK 125m in 2022, which corresponds to 273% of sales. Artificial Solutions slashed its costs by approximately 30% in 2021, and spent 2022 rebuilding its organization to cater to its SaaS offering, which has meant recruiting salespeople and engineers. The company believes it has laid a solid foundation to grow profitably from here, and expects its cost curve to flatten out throughout 2023. This is reflected in our estimates. Essentially, we expect flat OPEX growth in 2023E, and ~10% annually in the years after. By 2025, we expect OPEX as a share of sales to amount to 89%.

EBITDA and EBIT

Artificial Solutions targets positive cash flow from operations during 2024 and long-term EBITA margins north of 30% in a mature state. The key to achieving this is to consolidate the cost structure in 2023 while at the same time delivering significant ARR growth, which we think the company can do. This combination should yield much improved operating margins in the coming years, as seen in the charts below. We expect Artificial Solutions' adj. EBITDA margin to increase from -117% in 2022 to 6% in 2025E, and its EBIT margin to increase from -137% in 2022 to -4% in 2025E.

EBITDA and EBITDA margin (LH chart), EBIT and EBIT margin (RH chart)



Source: Company data, Pareto Securities

Additional P&L considerations

D&A

Artificial Solutions reported D&A of SEK 13m in 2022, equating to 28% of net sales, and the vast majority of this relates to amortization of intangible assets, which in turn largely consists of capitalisations. We expect absolute D&A to increase modestly in the coming years, but to fall sharply as a share of net sales. By 2025, we expect D&A to amount to SEK 18m, corresponding to 11% of net sales.

Net financial items

Artificial Solutions has utilized a credit facility of SEK 250m which runs at a fixed 4% PIK interest, more on which below. We estimate that the company will incur annual non-cash interest expenses of SEK 10-11m in the coming years.

Moreover, we expect that Artificial Solutions may need to raise an additional SEK 50-100m in 2024E before becoming profitable. For modelling purposes, we estimate the company to take a SEK 75m short-term loan in 2024E, which runs at ~10% interest. This should lead to annual cash interest expenses of approximately SEK 8m from 2024E.

Background to the credit facility agreement

In December 2021, the company announced the signing of a 5-year credit facility agreement with Capital Four (as lender) and Nordic Trustee (as agent) of SEK 250m with an annual interest rate of 9.5% (which was temporarily raised to 10% from September 1, 2022) plus STIBOR and with payment in kind (PIK) interest, i.e., the interest costs are added to the loan, and do not result in any cash payments during the term.

The company has utilized the entire credit facility of SEK 250m. The credit facility agreement contains customary provisions and commitments, including financial covenants linked to income and indebtedness. As security for the loan, Capital Four has, among other things, obtained a pledge of all the company's shares in the subsidiary Artificial Solutions Holding ASH AB (see appendix for group structure).

On January 26, 2023, the company entered into an amendment agreement with Capital Four and Nordic Trustee regarding the credit facility agreement. This happened to be in connection with its 2023 rights issue. The amended credit facility agreement means that all accrued interest on the credit facility up to and including the day the amendment agreement enters into force must be written off and that the company must thereafter pay a fixed annual PIK interest of 4% calculated from 1 December 2022, which is due for payment on the maturity date of the credit facility under the original credit facility agreement (December 22, 2026), or in connection with repayment of the credit facility, if earlier than the maturity date.

Under the amendment agreement, Artificial Solutions is obliged to:

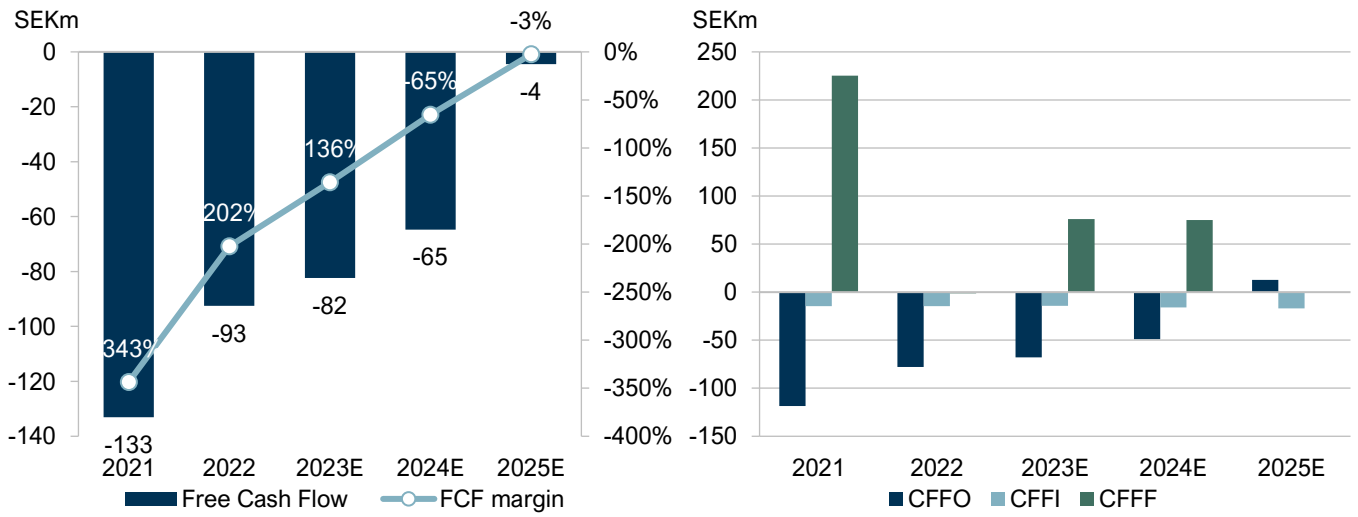
- Maintain a cash balance of at least SEK 30m from 31 March 2025.
- Report net sales of at least SEK 75m in FY 2025, and SEK 90m in subsequent periods.

Cash flow

We expect Artificial Solutions' FCF profile to improve dramatically over the coming years, as illustrated in the charts below. The cash position was approximately SEK 18m in year-end 2022, and Artificial Solutions has carried out a SEK 96m rights issue (gross proceeds) in Q1 2023, more on which below. Based on our forecast, we estimate that Artificial Solutions needs to raise approximately SEK 50-100m in net proceeds in 2024E before becoming profitable.

Subscription revenues are typically invoiced twelve months upfront, which should give rise to attractive working capital dynamics for Artificial Solutions. API Call and Data revenues are instead invoiced quarterly, with 30 days payment terms.

FCF (LH chart), cash flow from operations, investments and financing (RH chart)



Source: Company data, Pareto Securities

Rights issue 2023

Artificial Solutions announced on 20 Feb 2023 that it raised approximately SEK 96m in gross proceeds, which equates to approximately SEK 76m net. The subscription price was SEK 1 per share, which increases the total number of shares from ~7m to ~102m. According to the rights issue prospectus, of the net cash infusion, 35% will go to marketing, 50% will go to R&D, 5% will go to recruiting key personnel, and 10% will go to supporting day-to-day operations' requirements for working capital.

Key financials

Key financials 2021-25E (SEKm)

PROFIT & LOSS	2021	2022	2023E	2024E	2025E	Q1'22	Q2'22	Q3'22	Q4'22	Q1'23E	Q2'23E	Q3'23E	Q4'23E
Net sales	39	46	61	99	171	10	10	12	13	14	14	15	18
Total other operating income	17	19	14	15	15	3	3	3	10	3	3	3	4
Total operating income	**56**	**65**	**74**	**114**	**186**	**13**	**13**	**15**	**23**	**17**	**17**	**19**	**21**
COGS	(12)	(16)	(18)	(22)	(24)	(3)	(3)	(5)	(5)	(4)	(4)	(5)	(5)
Gross profit	**27**	**30**	**42**	**77**	**147**	**7**	**7**	**7**	**8**	**10**	**10**	**11**	**12**
Gross margin	70%	65%	70%	78%	86%	74%	67%	58%	64%	70%	70%	70%	70%
Personnel costs	(71)	(85)	(85)	(94)	(104)	(19)	(22)	(21)	(23)	(23)	(21)	(20)	(20)
Other external costs	(30)	(40)	(43)	(47)	(48)	(10)	(11)	(9)	(10)	(10)	(10)	(11)	(12)
Other operating expenses	(2)	-	-	-	-	-	-	-	-	-	-	-	-
OPEX	(102)	(125)	(128)	(141)	(152)	(29)	(33)	(30)	(33)	(34)	(31)	(31)	(33)
Non-recurring costs(-)/income(+)	(3)	(0)	-	-	-	(1)	(1)	(0)	1	-	-	-	-
OPEX adj.	(100)	(125)	(128)	(141)	(152)	(28)	(32)	(30)	(34)	(34)	(31)	(31)	(33)
EBITDA adj.	**(55)**	**(76)**	**(71)**	**(49)**	**10**	**(18)**	**(22)**	**(20)**	**(16)**	**(21)**	**(18)**	**(17)**	**(16)**
EBITDA adj. margin	-99%	-117%	-96%	-43%	6%	-137%	-167%	-133%	-68%	-120%	-105%	-89%	-76%
EBITDA	(58)	(76)	(71)	(49)	10	(18)	(23)	(20)	(14)	(21)	(18)	(17)	(16)
EBITDA margin	-104%	-118%	-96%	-43%	6%	-141%	-172%	-135%	-62%	-120%	-105%	-89%	-76%
D&A	(13)	(13)	(13)	(15)	(18)	(4)	(3)	(3)	(3)	(3)	(3)	(3)	(4)
EBIT	(71)	(89)	(84)	(64)	(8)	(22)	(26)	(23)	(17)	(23)	(21)	(20)	(20)
EBIT margin	-127%	-137%	-113%	-56%	-4%	-169%	-196%	-153%	-75%	-137%	-122%	-105%	-93%
Net interest	1	4	(11)	(17)	(19)	(4)	11	1	(5)	(3)	(3)	(3)	(3)
Profit before taxes	**(70)**	**(85)**	**(95)**	**(81)**	**(27)**	**(26)**	**(16)**	**(22)**	**(22)**	**(26)**	**(24)**	**(22)**	**(23)**
Taxes	-	(0)	-	-	-	-	-	-	(0)	-	-	-	-
Net profit	**(70)**	**(85)**	**(95)**	**(81)**	**(27)**	**(26)**	**(16)**	**(22)**	**(22)**	**(26)**	**(24)**	**(22)**	**(23)**
Net profit margin	-125%	-132%	-127%	-71%	-14%	-196%	-116%	-144%	-97%	-152%	-138%	-120%	-106%
EPS reported	(12.2)	(13.0)	(0.9)	(0.8)	(0.3)	(3.9)	(2.4)	(3.3)	(3.4)	(0.3)	(0.2)	(0.2)	(0.2)
Net sales by segment													
Licenses & support	20	23	28	36	47	6	6	6	6	6	6	7	8
Usage	10	17	28	54	109	3	4	5	6	6	6	7	8
Other	9	5	6	9	16	1	1	2	1	1	1	1	2
Net sales	**39**	**46**	**61**	**99**	**171**	**10**	**10**	**12**	**13**	**14**	**14**	**15**	**18**
Recurring revenues	30	41	55	90	155	9	9	11	12	12	13	14	16
ARR forecast													
ARR	**-**	**50**	**69**	**122**	**200**	**34**	**39**	**45**	**50**	**50**	**52**	**59**	**69**
Non-SaaS ARR	-	24	15	10	-	21	19	22	24	20	15	15	15
SaaS ARR	9	25	54	112	200	13	20	24	25	30	37	44	54
Monthly SaaS API Calls (m)	3	14	34	83	182	5	9	11	14	17	22	27	34
Annualized SaaS API Call run-rate (m)	35	166	407	1,000	2,186	65	112	137	166	207	260	325	407
SaaS customers	8	12	16	18	20	13	13	13	12	15	16	16	16
SaaS ARR per SaaS customer	1	2	3	6	10	1	2	2	2	2	2	3	3
SaaS ARR per API Call (SEK)	0.27	0.15	0.13	0.11	0.09	0.20	0.18	0.17	0.15	0.15	0.14	0.14	0.13

Source: Company data, Pareto Securities

Valuation

Artificial Solutions currently trades at a 2023E EV/sales multiple of 5.9x, with this falling to 2.6x by 2025E. We believe that Artificial Solutions has laid a solid foundation to deliver on its recently announced financial targets, which includes growing ARR at a 59% CAGR in 2022-25E and reaching positive cash flow from operations during 2024. Should the company reach these targets, we argue that Artificial Solutions qualifies as one of the fastest-growing companies in its peer group, which should merit a premium. We initiate coverage with a Buy recommendation and SEK 2.3 TP based on an equal-weighted multiples-based and DCF valuation. This is equal to 8.2x/5.8x/3.5x 2023E/24E/25E EV/S multiples, implying 130%+ upside.

Multiples-based valuation

C3.ai

C3.ai (C3) is, to our knowledge, one of the only publicly traded pure-play AI companies with capabilities on par with Artificial Solutions. C3 helps organizations accelerate digital transformation initiatives through predictive analytics and machine learning. The company's platform leverages big data and IoT technologies to enable customers to rapidly develop and deploy enterprise-scale AI applications that deliver real-time insights and automation.

C3 trades at a 2023E EV/sales multiple of 5.5x, with this falling to 4.6x by 2025E. Consensus (12 estimates) expects C3 to grow at a 26% CAGR in 2022-25E, and to generate negative EBITDA throughout the forecast period.

Nordic enterprise SaaS companies

Apart from C3, there are no, to our knowledge, public companies which market competing products with a similar value proposition to Artificial Solutions. Thus, we look at enterprise SaaS companies based in the Nordics. These target a broad range of markets but share some similarities regarding software integrations and usage. This group of companies is expected to grow at a median 2022-25 sales CAGR of 17% and generate 2025E EBITDA/EBIT margins of 26/19%. The group trades at a median 2023E EV/sales multiple of 3.4x, with this falling to 2.4x by 2025E. On our forecast, Artificial Solutions currently trades at a 2023E EV/sales multiple of 5.9x, with this falling to 2.6x by 2025E. This equates approximately to a premium of 12-75% in 2023-25E.

Our thoughts on a multiples-based valuation

First, C3 might be the only relevant listed peer, but we think it is too early to introduce a relative valuation based on this considering the size discrepancies between C3 and Artificial Solutions. C3 generated revenue of USD 67m in the three months ended 31 Jan 2023.

Second, Artificial Solutions' net debt position is large in relation to its current market cap and financial profile. This distorts, in our opinion, near-term EV/S multiples, making these look more demanding than the Nordic peer group. Should the company reach its financial targets, we see that EV/S multiples converge toward the median of this group. Moreover, should Artificial Solutions reach its target, we argue that its net sales growth in 2025 (we forecast 72%) is one of the highest in the group, which should merit a premium.

Assuming the company reaches its ARR target in 2025 of SEK 200m, we think it is fair to consider an EV/ARR multiple of 3.5x in 2025, which gives an EV of SEK 700m that year. After discounting this to present value using a 15% WACC (see detailed discussion further down), and adjusting for net debt, we arrive at an equity value of SEK 2.1 per share.

Multiples-based valuation

Target EV/ARR in '25	WACC 19.0%	17.0%	15.0%	13.0%	11.0%
1.5	(0.7)	(0.6)	(0.5)	(0.4)	(0.3)
2.5	0.5	0.6	0.8	0.9	1.1
3.5	1.6	1.8	**2.1**	2.3	2.6
4.5	2.8	3.1	3.4	3.7	4.0
5.5	4.0	4.3	4.6	5.0	5.4

Source: Pareto Securities

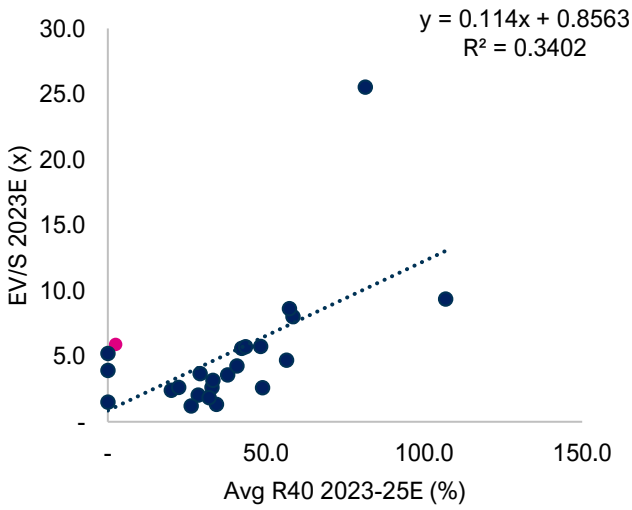
Peer group analysis

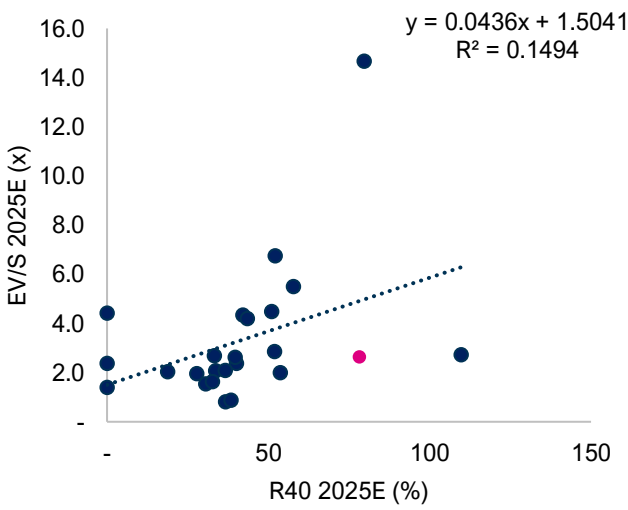
Company	Mkt cap (SEKm)	2022-2025E CAGR %			EV/Sales				EV/EBITDA			
		Sales	EBITDA	EBIT	'22	'23E	'24E	'25E	'22	'23E	'24E	'25E
Artificial Solutions (PAS)	95	55.1	(151.2)	(55.8)	7.5	5.9	4.4	2.6	(4.5)	(5.0)	(8.9)	43.9
SaaS companies												
Addnode	16,143	7.3	5.5	10.9	2.7	2.5	2.3	2.1	20.6	19.3	17.6	16.6
Admicom	2,285	9.6	5.1	2.8	6.9	6.2	5.5	4.8	15.1	16.1	14.4	12.1
Bambuser	644	19.9	na	na	3.0	1.4	1.4	1.3	na	na	na	na
Carasent	1,242	20.9	37.6	66.1	3.0	2.7	2.4	2.1	12.9	13.4	8.2	5.9
Checkin	1,192	75.4	175.2	na	15.9	9.3	5.1	2.7	na	33.9	15.1	8.2
Efecte	758	16.3	na	na	3.0	2.6	2.1	1.9	na	na	30.7	17.6
FormPipe	1,328	10.3	29.9	92.2	2.9	2.6	2.3	2.0	19.2	12.9	9.7	8.4
Fortnox	43,267	30.2	35.9	39.4	33.3	25.1	18.7	14.4	71.9	51.0	36.3	27.4
LeadDesk	701	11.7	32.1	na	2.2	2.1	1.7	1.6	18.6	14.7	10.2	8.1
Lemonsoft	1,751	10.7	14.2	13.3	6.3	5.5	4.9	4.3	20.9	18.6	15.3	12.8
Lime	3,168	13.1	12.1	17.7	6.7	5.8	4.9	4.2	21.5	18.6	16.5	13.8
Nordhealth	1,741	18.2	na	na	3.6	3.3	2.8	2.4	na	na	47.0	14.0
Pagero	2,376	25.6	na	na	4.2	3.5	2.9	2.3	na	na	38.9	13.6
Penneo	463	28.1	na	na	3.7	3.2	2.6	2.1	na	na	na	41.7
Pexip	1,486	8.0	na	na	1.4	1.2	1.1	0.8	na	8.1	6.9	3.6
Safeture	185	29.3	na	na	5.1	3.9	3.0	2.4	na	na	na	na
SignUp	1,654	21.9	60.0	102.0	5.7	4.3	3.4	2.7	58.3	27.9	18.2	12.1
Sikri	999	11.6	32.3	55.0	1.6	1.3	1.1	0.9	10.3	6.6	5.0	3.3
SmartCraft	3,454	15.9	20.7	23.9	10.1	8.3	6.9	5.7	26.2	20.0	16.0	13.1
Upsales	869	27.4	27.1	30.3	6.7	4.8	3.7	2.9	23.9	16.0	12.4	10.5
Vertiseit	670	9.4	45.6	76.5	2.6	1.8	1.7	1.6	23.1	9.8	7.4	6.1
Vitec	21,071	18.7	21.4	23.8	10.9	8.7	7.6	6.8	29.8	23.1	19.7	17.4
Average		**20.0**	**37.0**	**42.6**	**6.4**	**5.0**	**4.0**	**3.3**	**26.6**	**19.4**	**18.2**	**13.3**
Median		**17.2**	**29.9**	**30.3**	**4.0**	**3.4**	**2.9**	**2.4**	**21.2**	**17.3**	**15.3**	**12.4**
Premium (+)/Discount (-)					88%	75%	52%	12%	nm	nm	nm	253%
AI/ML companies												
C3	26,214	25.5	na	(179.3)	9.0	5.5	4.6	4.6	na	na	na	na
Premium (+)/Discount (-)					-18%	8%	-4%	-42%	nm	nm	nm	nm

Source: FactSet, Pareto Securities

We estimate that Artificial Solutions will generate an R40 of ~78% in 2025E (72% sales growth plus 6% EBITDA margin), should the company reach its financial targets. This equates to the third highest in the peer group, only trailing Fortnox and Checkin.

EV/S versus Rule of 40 in 2023E (LH chart) and 2025E (RH chart)





Source: FactSet, Pareto Securities

DCF analysis

Our DCF consists of an explicit forecast period through to 2025, a normalisation period between 2026-2036E and a terminal period. Throughout the explicit forecast period, we expect sales to grow at a 55% CAGR, primarily driven API Call growth. From 2026 through to 2036, we expect falling sales growth until we reach the long-term steady state of 3% (normally we use 2% but with higher expected inflation and a higher risk-free interest rate of 3.5%, we believe that long-term growth of 3% should be sustainable). Last, we expect appreciating operating margins through the normalisation period, eventually reaching steady-state EBITDA/EBIT margins of 30/29%.

DCF valuation 2022-2036E

	Explicit forecast				Normalisation period										
DCF (SEKm)	**2022**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**	**2034E**	**2035E**	**2036E**
Net sales	46	61	99	171	237	321	423	543	676	818	960	1,093	1,204	1,284	1,322
EBITDA	(76)	(71)	(49)	10	25	40	61	89	124	166	213	264	314	360	397
D&A	(13)	(13)	(15)	(18)	(20)	(25)	(29)	(34)	(37)	(39)	(38)	(35)	(30)	(22)	(13)
EBIT	**(89)**	**(84)**	**(64)**	**(8)**	**5**	**15**	**32**	**55**	**87**	**127**	**175**	**229**	**284**	**338**	**383**
Tax on EBIT	0	0	0	0	0	(0)	(1)	(3)	(7)	(13)	(22)	(33)	(47)	(63)	(79)
NOPLAT	**(89)**	**(84)**	**(64)**	**(8)**	**5**	**15**	**30**	**52**	**80**	**114**	**154**	**196**	**238**	**275**	**304**
D&A	13	13	15	18	20	25	29	34	37	39	38	35	30	22	13
Changes in NWC	(13)	3	5	10	0	(0)	(1)	(1)	(1)	(1)	(2)	(2)	(2)	(2)	(2)
Capex	(15)	(14)	(16)	(17)	(20)	(25)	(29)	(34)	(37)	(39)	(38)	(35)	(30)	(22)	(13)
Other adjustments	11	0	(6)	(7)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Free cash flow	**(93)**	**(82)**	**(65)**	**(4)**	**(25)**	**(15)**	**(0)**	**21**	**49**	**83**	**122**	**164**	**206**	**243**	**273**

Source: Company data, Pareto Securities

We discount the future cash flows using a 15% WACC, including a 3.5% risk-free rate, a market risk premium of 4.5%, a small-cap premium of 2.5% and a 1.6 beta. Despite low cost of debt, we believe that company-specific risks motivate a relatively high WACC. Moreover, considering Artificial Solutions share price, we argue that this is currently being priced in by the market.

We are aware that Artificial Solutions' current cost of debt is low (approximately 4%), and will stay that way until the credit facility reaches maturity in December 2026. However, the current cost of debt is, in our opinion, tied to the recent complex rights issue, and should Artificial Solutions raise more debt elsewhere, we expect less attractive conditions apply. Moreover, once the credit facility matures, we assume Artificial Solutions will refinance this at less attractive terms than currently.

We expect that the credit facility is worth approximately SEK 300-310m once it matures in December 2026 (this includes all accrued interest). Should the company refinance this at, e.g., 8% interest, annual cash interest expenses amount to SEK 24-25m. On top of this, we estimate that the company will take a SEK 50-100m loan in 2024E, which also should result in cash interest expenses. This is accounted for in our DCF analysis and is reflected in the other adjustments line item above.

DCF summary

Valuation summary		DCF Input	
DCF value (2023-25E)	-144 SEKm	Sales CAGR 2022-25E	55.1%
DCF value (2026-36E)	247 SEKm	Sales CAGR 2025-36E	20.5%
Terminal value	394 SEKm	Steady state EBITDA margin	30.0%
Enterprise value	**497 SEKm**	Terminal growth	3.0%
		Tax rate (%)	20.6%
Net debt Q4'22	246 SEKm	Risk premium (%)	7.0%
Equity value	251 SEKm	Risk Free Rate (%)	3.5%
NOSH	102 m	Levered beta	1.6
Equity value per share	**2.5 SEK**	**WACC (%)**	**15.0%**

Source: Pareto Securities

Our DCF model indicates an enterprise value of approximately SEK 500m. After adjusting for net debt, we arrive at an equity value of approximately SEK 250m, which corresponds to SEK 2.5 per share.

Risk factors

High leverage and negative FCF

Artificial Solutions has utilized a SEK 250m credit facility, which is due for repayment in December 2026. The credit facility agreement contains customary provisions and commitments, including financial covenants linked to income and indebtedness. As security for the loan, Capital Four has, among other things, obtained a pledge of all the company's shares in the subsidiary Artificial Solutions Holding ASH AB (see appendix for group structure). Artificial Solutions is obliged to:

- Maintain a cash balance of at least SEK 30m from 31 March 2025.
- Report net sales of at least SEK 75m in FY 2025, and SEK 90m in subsequent periods.

Losing existing customers and dependencies on partners

Artificial Solutions has relatively few but large customers – losing a major one could have a major negative impact on its revenue and profitability. The company has both direct and indirect customers. When the customer is indirect, Artificial Solutions is dependent on sales partners who manage the relationship with the customer.

Affected by actual and perceived vulnerabilities in its services and security systems

Artificial Solutions may be subject to attempted and threatened breaches of its communications platform, software, network or data security by third parties and attempts by third parties to exploit other security vulnerabilities. Individuals attempting to circumvent the security of Artificial Solutions' information technology may also launch targeted or coordinated attacks using new methods. In addition, security risks may arise through mistakes made by employees or through other means of unauthorized access to Artificial Solutions' internal systems or data, or Artificial Solutions' customer data. These threats may result in breaches of Artificial Solutions' network or data security, disruptions to Artificial Solutions' services, solutions and internal systems, disruptions to Artificial Solutions' operations, damage to Artificial Solutions' competitive position by compromising confidential information or trade secrets, or damage to Artificial Solutions' operations on another way.

ESG considerations

Environmental

Artificial Solutions' conversational AI technology can potentially reduce carbon emissions by I) enabling virtual interactions, reducing the need for in-person meetings or travel, and II) helping customers move from on-premises installations to cloud deployments. The company can reduce carbon emissions by 80%+ by deploying in cloud vs. localized.

Social

Artificial Solutions' can enhance accessibility and inclusion by enabling more natural and intuitive interactions with technology, benefitting people with disabilities, seniors, and non-native speakers. Moreover, some use cases (e.g., Swisscom) show that general transaction NPS scores increase after deploying Teneo. The company also focuses on ethical considerations such as data privacy and protection. It has implemented security measures and data privacy controls to protect user data and comply with relevant regulations, including GDPR and ISO certifications.

The company has a diverse workforce which includes 27 nationalities, 23 languages and 36% women. Artificial Solutions has 38% women in management, and targets to reach 50% as soon as possible. It has already 50% women in its BoD.

Governance

The company adheres to data privacy controls and regulations, as mentioned above. Moreover, we understand that Artificial Solutions already follows the Corporate Governance Code as a company listed on the main market on the Stockholm Stock Exchange, which currently is not a requirement for First North companies.

Appendix 1: Management and BoD

Management

Per Ottosson – CEO (2020)

- MSc in finance from the Stockholm School of Economics. 25+ years of experience from senior leadership positions in the software industry, most recently as CRO of IPsoft.
- Holdings: 14,387 shares and 200,000 warrants (TO 2021/2024).

Fredrik Törgren – CFO (2020)

- MBA from the Stockholm School of Economics. 20+ years of experience from leading positions in the TMT sector, most recently as CFO of PE-backed Inteno Group.
- Holdings: 19,000 shares, 100,000 warrants (TO 2019/2024), 60,000 warrants (TO 2020/2025) and 150,000 warrants (TO 2021/2024).

Marie Angselius-Schönbeck – Chief Impact and Corporate Communications Officer (2021)

- BSc from Lund University. 20+ years from leading communication roles, most recently as Global Head of Communication at Amelia.
- Holdings: 3,709 shares, and 150,000 warrants (TO 2021/2024).

Andreas Wieweg – CTO (2003)

- Computer science and mathematics at Stockholm University. Has led the company's development of Teneo.
- Holdings: 4,944 shares, 54,580 warrants (TO 2019/2024), 77,500 warrants (TO 2020/2025) and 150,000 warrants (TO 2021/2024).

Daniel Eriksson – Chief Innovation and Customer Success Officer (2020)

- Dual MSc from the Royal Institute of Technology and the Stockholm School of Economics. 15+ years in leading roles in the TMT sector, most recently at IPsoft.
- Holdings: 5,320 shares, and 150,000 warrants (TO 2021/2024).

Board of Directors

Åsa Hedin – Chairman (2019)

- MSc in biophysics. 30+ years in leading roles in medtech/tech companies, including CEO of Elekta Instrument. Currently a Board professional.
- Holdings: 7,001 shares and 37,342 warrants (TO 2020/2025).

Johan A. Gustavsson – Member (2001)

- MBA from the Stockholm School of Economics. Co-founder of Artificial Solutions and currently Chairman of Aros Bostadsutveckling, and Vencom, among others.
- Holdings: 198,893 shares and 22,406 warrants (TO 2020/2025).

Vesna Lindkvist – Member (2021)

- MSs in computer science from the Royal Institute of Technology. Experience from positions at Valtech and Education First, and currently CTO of Kivra.
- Holdings: None.

Paul St. John – Member (2022)

- BSc from Emory University. Previously VP of Global Sales at Github, and similar positions at Alfresco, Riverbed Technology and EMC.
- Holdings: 115,000 warrants (TO 2021/2024).

Appendix 2: Owner structure

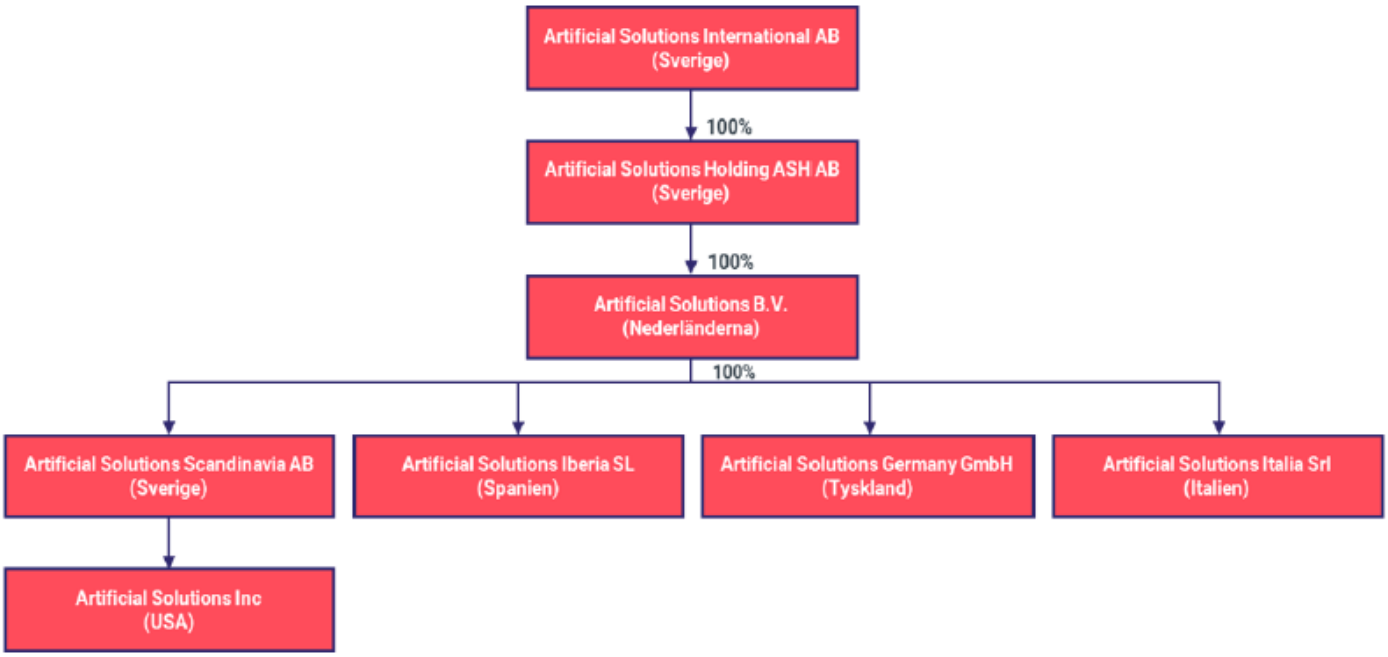
Owner structure

	Name	Capital (%)	Votes (%)
1	Sven Härgestam	11.2%	11.2%
2	SEB-Stiftelsen	11.0%	11.0%
3	Theodor Jeansson Jr.	5.9%	5.9%
4	Avanza Pension	4.9%	4.9%
5	Provider Investment	3.9%	3.9%
6	Ulf Johansson	3.7%	3.7%
7	Staffan Bohman	3.5%	3.5%
8	Sunhold B.V.	2.9%	2.9%
9	Niclas Nyström	2.6%	2.6%
10	AB Possessor	2.2%	2.2%
11	Johan A. Gustavsson	2.2%	2.2%
12	AB Couronne	2.1%	2.1%
13	Carl Rosvall	1.7%	1.7%
14	Anders Carlsson	1.5%	1.5%
15	Peter Thelin	1.3%	1.3%
16	Hans Johnsen	1.2%	1.2%
17	Riskornet AB	1.0%	1.0%
18	Robert Boman	1.0%	1.0%
19	Stevce Mojanovski	0.9%	0.9%
20	Kanizara Capital Ltd	0.9%	0.9%
	Others	34.3%	34.3%
	Total	100.0%	100.0%

Source: Modular Finance as of 13 April 2023

Appendix 3: Holding structure

Holding structure



Source: Company data

PROFIT & LOSS (fiscal year) (SEKm)	2018	2019	2020	2021	2022	2023e	2024e	2025e
Revenues	**45**	**49**	**54**	**39**	**46**	**61**	**99**	**171**
Growth Revenues	+chg	9.4%	9.4%	(27.8%)	18.0%	32.7%	63.3%	72.3%
EBITDA	**(95)**	**(135)**	**(86)**	**(58)**	**(76)**	**(71)**	**(49)**	**10**
Depreciation & amortisation	(24)	(12)	(12)	(13)	(13)	(13)	(15)	(18)
EBIT	**(119)**	**(146)**	**(98)**	**(71)**	**(89)**	**(84)**	**(64)**	**(8)**
EBIT adjusted	(119)	(146)	(98)	(68)	(89)	(84)	(64)	(8)
Net interest	(27)	(36)	(57)	1	4	(11)	(17)	(19)
Other financial items	-	-	-	-	-	-	-	-
Profit before taxes	**(146)**	**(182)**	**(154)**	**(70)**	**(85)**	**(95)**	**(81)**	**(27)**
Taxes	-	-	(0)	-	(0)	-	-	-
Minority interest	-	-	-	-	-	-	-	-
Net profit	**(146)**	**(182)**	**(154)**	**(70)**	**(85)**	**(95)**	**(81)**	**(27)**
EPS reported	(14.32)	(9.33)	(33.07)	(12.20)	(12.98)	(0.92)	(0.79)	(0.26)
EPS adjusted	**(14.32)**	**(9.33)**	**(33.07)**	**(11.72)**	**(12.95)**	**(0.92)**	**(0.79)**	**(0.26)**
Growth EPS adjusted		+chg	-chg	+chg	-chg	+chg	+chg	+chg
DPS	-	-	-	-	-	-	-	-

BALANCE SHEET (SEKm)	2018	2019	2020	2021	2022	2023e	2024e	2025e
Tangible non current assets	-	-	1	1	1	1	2	2
Other non-current assets	-	-	33	30	34	35	35	34
Other current assets	-	-	23	26	36	42	50	60
Cash & equivalents	-	-	20	112	18	12	22	18
Total assets	**-**	**-**	**77**	**168**	**89**	**91**	**108**	**113**
Total equity	-	-	(173)	(119)	(234)	(252)	(333)	(360)
Interest-bearing non-current debt	-	-	116	238	264	275	286	297
Interest-bearing current debt	-	-	70	-	-	-	75	75
Other Debt	-	-	64	50	59	69	81	101
Total liabilites & equity	**-**	**-**	**77**	**168**	**89**	**91**	**108**	**113**

CASH FLOW (SEKm)	2018	2019	2020	2021	2022	2023e	2024e	2025e
Cash earnings	(110)	(129)	(109)	(96)	(82)	(71)	(54)	3
Change in working capital	(12)	(15)	33	(23)	4	3	5	10
Cash flow from investments	(13)	(14)	(10)	(15)	(15)	(14)	(16)	(17)
Cash flow from financing	177	116	102	225	(1)	76	75	-
Net cash flow	42	(42)	16	92	(94)	(6)	10	(4)

VALUATION (SEKm)	2018	2019	2020	2021	2022	2023e	2024e	2025e
Share price (SEK end)	**80.9**	**21.7**	**40.9**	**21.5**	**0.79**	**0.93**	**0.93**	**0.93**
Number of shares end period	14	25	4	7	7	102	102	102
Net interest bearing debt	-	-	166	126	246	263	339	355
Enterprise value	**1,149**	**536**	**349**	**267**	**251**	**358**	**434**	**450**
EV/Sales	25.6	10.9	6.5	6.9	5.5	5.9	4.4	2.6
EV/EBITDA	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**43.9**
EV/EBIT	-	-	-	-	-	-	-	-
EV/EBIT adjusted	-	-	-	-	-	-	-	-
P/E reported	-	-	-	-	-	-	-	-
P/E adjusted	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
P/B	-	-	-	-	-	-	-	-

FINANCIAL ANALYSIS	2018	2019	2020	2021	2022	2023e	2024e	2025e
ROE adjusted (%)	-	-	-	-	-	-	-	-
Dividend yield (%)	-	-	-	-	-	-	-	-
EBITDA margin (%)	-	-	-	-	-	-	-	6.0
EBIT margin (%)	-	-	-	-	-	-	-	-
EBIT margin adj(%)	-	-	-	-	-	-	-	-
NIBD/EBITDA	-	-	(1.94)	(2.16)	(3.22)	(3.68)	(6.98)	34.64

PROFIT & LOSS (fiscal year) (SEKm)	1Q'22	2Q'22	3Q'22	4Q'22	1Q'23e	2Q'23e	3Q'23e	4Q'23e
Revenues	**10**	**10**	**12**	**13**	**14**	**14**	**15**	**18**
EBITDA	**(18)**	**(23)**	**(20)**	**(14)**	**(21)**	**(18)**	**(17)**	**(16)**
Depreciation & amortisation	(4)	(3)	(3)	(3)	(3)	(3)	(3)	(4)
EBIT	**(22)**	**(26)**	**(23)**	**(17)**	**(23)**	**(21)**	**(20)**	**(20)**
Net interest	(4)	11	1	(5)	(3)	(3)	(3)	(3)
Other financial items	-	-	-	-	-	-	-	-
Profit before taxes	**(26)**	**(16)**	**(22)**	**(22)**	**(26)**	**(24)**	**(22)**	**(23)**
Taxes	-	-	-	(0)	-	-	-	-
Minority interest	-	-	-	-	-	-	-	-
Net profit	**(26)**	**(16)**	**(22)**	**(22)**	**(26)**	**(24)**	**(22)**	**(23)**
EPS reported	(3.92)	(2.36)	(3.29)	(3.41)	(0.26)	(0.23)	(0.22)	(0.22)
EPS adjusted	**(3.84)**	**(2.25)**	**(3.24)**	**(3.61)**	**(0.26)**	**(0.23)**	**(0.22)**	**(0.22)**
DPS	-	-	-	-	-	-	-	-

BALANCE SHEET (SEKm)	1Q'22	2Q'22	3Q'22	4Q'22	1Q'23e	2Q'23e	3Q'23e	4Q'23e
Tangible non current assets	1	1	1	1	1	1	1	1
Other non-current assets	30	31	32	34	34	35	35	35
Other current assets	21	24	24	36	35	37	39	42
Cash & equivalents	84	64	39	18	76	54	33	12
Total assets	**136**	**120**	**96**	**89**	**146**	**127**	**109**	**91**
Total equity	(148)	(179)	(210)	(234)	(184)	(207)	(230)	(252)
Interest-bearing non-current debt	242	249	257	264	266	269	272	275
Interest-bearing current debt	-	-	-	-	-	-	-	-
Other Debt	42	50	48	59	63	65	67	69
Total liabilites & equity	**136**	**120**	**96**	**89**	**146**	**127**	**109**	**91**

CASH FLOW (SEKm)	1Q'22	2Q'22	3Q'22	4Q'22	1Q'23e	2Q'23e	3Q'23e	4Q'23e
Cash earnings	(23)	(20)	(19)	(19)	(21)	(18)	(17)	(16)
Change in working capital	(2)	3	(2)	5	6	(1)	(1)	(1)
Cash flow from investments	(3)	(3)	(3)	(5)	(4)	(3)	(4)	(4)
Cash flow from financing	-	-	-	(1)	76	-	-	-
Net cash flow	(28)	(21)	(25)	(21)	58	(22)	(21)	(22)

VALUATION (SEKm)	1Q'22	2Q'22	3Q'22	4Q'22	1Q'23e	2Q'23e	3Q'23e	4Q'23e
Share price (SEK end)	**15.3**	**10.1**	**2.43**	**0.79**	**0.90**	**0.93**	**0.93**	**0.93**
Number of shares end period	7	7	7	7	102	102	102	102
Net interest bearing debt	157	185	218	246	190	215	238	263
P/E reported	-	-	-	-	-	-	-	-
P/E adjusted	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
P/B	-	-	-	-	-	-	-	-

FINANCIAL ANALYSIS	1Q'22	2Q'22	3Q'22	4Q'22	1Q'23e	2Q'23e	3Q'23e	4Q'23e
Dividend yield (%)	-	-	-	-	-	-	-	-
EBITDA margin (%)	-	-	-	-	-	-	-	-
EBIT margin (%)	-	-	-	-	-	-	-	-
NIBD/EBITDA	(1.80)	(2.12)	(2.29)	(2.65)	(2.68)	(2.97)	(3.20)	(3.17)
EBITDA/Net interest	-	-	11.21	20.53	16.86	-	-	-

Disclaimer and legal disclosures

Origin of the publication or report
This publication or report originates from Pareto Securities AS, reg. no. 956 632 374 (Norway), Pareto Securities AS, Frankfurt branch, reg. no. DE 320 965 513 / HR B 109177 (Germany) or Pareto Securities AB, reg. no. 556206-8956 (Sweden) (together the Group Companies or the "Pareto Securities Group") acting through their common unit Pareto Securities Research. The Group Companies are supervised by the Financial Supervisory Authority of their respective home countries.

Content of the publication or report
This publication or report has been prepared solely by Pareto Securities Research.

Opinions or suggestions from Pareto Securities Research may deviate from recommendations or opinions presented by other departments or companies in the Pareto Securities Group. The reason may typically be the result of differing time horizons, methodologies, contexts or other factors.

Sponsored research
Please note that if this report is labelled as "sponsored research" on the front page, Pareto Securities has entered into an agreement with the company about the preparation of research reports and receives compensation from the company for this service. Sponsored research is prepared by the Research Department of Pareto Securities without any instruction rights by the company. Sponsored research is however commissioned for and paid by the company and such material is considered by Pareto Securities to qualify as an acceptable minor non-monetary benefit according to the EU MiFID II Directive.

Basis and methods for assessment
Opinions and price targets are based on one or more methods of valuation, for instance cash flow analysis, use of multiples, behavioral technical analyses of underlying market movements in combination with considerations of the market situation and the time horizon. Key assumptions of forecasts, price targets and projections in research cited or reproduced appear in the research material from the named sources. The date of publication appears from the research material cited or reproduced. Opinions and estimates may be updated in subsequent versions of the publication or report, provided that the relevant company/issuer is treated anew in such later versions of the publication or report.

Pareto Securities Research may provide credit research with more specific price targets based on different valuation methods, including the analysis of key credit ratios and other factors describing the securities creditworthiness, peer group analysis of securities with similar creditworthiness and different DCF-valuations. All descriptions of loan agreement structures and loan agreement features are obtained from sources which Pareto Securities Research believes to be reliable, but Pareto Securities Research does not represent or warrant their accuracy. Be aware that investors should go through the specific complete loan agreement before investing in any bonds and not base an investment decision based solely on information contained in this publication or report.

Pareto Securities Research has no fixed schedule for updating publications or reports.

Unless otherwise stated on the first page, the publication or report has not been reviewed by the issuer before dissemination. In instances where all or part of a report is presented to the issuer prior to publication, the purpose is to ensure that facts are correct.

Validity of the publication or report
All opinions and estimates in this publication or report are, regardless of source, given in good faith and may only be valid as of the stated date of this publication or report and are subject to change without notice.

No individual investment or tax advice
The publication or report is intended only to provide general and preliminary information to investors and shall not be construed as the basis for any investment decision. This publication or report has been prepared by Pareto Securities Research as general information for private use of investors to whom the publication or report has been distributed, but it is not intended as a personal recommendation of particular financial instruments or strategies and thus it does not provide individually tailored investment advice, and does not take into account the individual investor's particular financial situation, existing holdings or liabilities, investment knowledge and experience, investment objective and horizon or risk profile and preferences. The investor must particularly ensure the suitability of an investment as regards his/her financial and fiscal situation and investment objectives. The investor bears the risk of losses in connection with an investment.

Before acting on any information in this publication or report, we recommend consulting your financial advisor.

The information contained in this publication or report does not constitute advice on the tax consequences of making any particular investment decision. Each investor shall make his/her own appraisal of the tax and other financial merits of his/her investment.

Sources
This publication or report may be based on or contain information, such as opinions, recommendations, estimates, price targets and valuations which emanate from Pareto Securities Research' analysts or representatives, publicly available information, information from other units or companies in the Group Companies, or other named sources.

To the extent this publication or report is based on or contains information emanating from other sources ("Other Sources") than Pareto Securities Research ("External Information"), Pareto Securities Research has deemed the Other Sources to be reliable but neither the companies in the Pareto Securities Group, others associated or affiliated with said companies nor any other person, guarantee the accuracy, adequacy or completeness of the External Information.

Ratings
Equity ratings:

"Buy"	Pareto Securities Research expects this financial instrument's total return to exceed 10% over the next 12 months
"Hold"	Pareto Securities Research expects this financial instrument's total return to be between -10% and 10% over the next 12 months
"Sell"	Pareto Securities Research expects this financial instrument's total return to be negative by more than 10% over the next 12 months

Analysts Certification
The research analyst(s) whose name(s) appear on research reports prepared by Pareto Securities Research certify that: (i) all of the views expressed in the research report accurately reflect their personal views about the subject security or issuer, and (ii) no part of the research analysts' compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analysts in research reports that are prepared by Pareto Securities Research.

The research analysts whose names appears on research reports prepared by Pareto Securities Research received compensation that is based upon various factors including Pareto Securities' total revenues, a portion of which are generated by Pareto Securities' investment banking activities.

Limitation of liability
Pareto Securities Group or other associated and affiliated companies assume no liability as regards to any investment, divestment or retention decision taken by the investor on the basis of this publication or report. In no event will entities of the Pareto Securities Group or other associated and affiliated companies be liable for direct, indirect or incidental, special or consequential damages resulting from the information in this publication or report.

Neither the information nor any opinion which may be expressed herein constitutes a solicitation by Pareto Securities Research of purchase or sale of any securities nor does it constitute a solicitation to any person in any jurisdiction where solicitation would be unlawful. All information contained in this research report has been compiled from sources believed to be reliable. However, no representation or warranty, express or implied, is made with respect to the completeness or accuracy of its contents, and it is not to be relied upon as authoritative.

Risk information
The risk of investing in certain financial instruments, including those mentioned in this document, is generally high, as their market value is exposed to a lot of different factors such as the operational and financial conditions of the relevant company, growth prospects, change in interest rates, the economic and political environment, foreign exchange rates, shifts in market sentiments etc. Where an investment or security is denominated in a different currency to the investor's currency of reference, changes in rates of exchange may have an adverse effect on the value, price or income of or from that investment to the investor. Past performance is not a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. When investing in individual shares, the investor may lose all or part of the investments.

Conflicts of interest
Companies in the Pareto Securities Group, affiliates or staff of companies in the Pareto Securities Group, may perform services for, solicit business from, make a market in, hold long or short positions in, or otherwise be interested in the investments (including derivatives) of any company mentioned in the publication or report.
In addition Pareto Securities Group, or affiliates, may from time to time have a broking, advisory or other relationship with a company which is the subject of or referred to in the relevant Research, including acting as that company's official or sponsoring broker and providing investment banking or other financial services. It is the policy of Pareto to seek to act as corporate adviser or broker to some of the companies which are covered by Pareto Securities Research. Accordingly companies covered in any Research may be the subject of marketing initiatives by the Investment Banking Department.

To limit possible conflicts of interest and counter the abuse of inside knowledge, the analysts of Pareto Securities Research are subject to internal rules on sound ethical conduct, the management of inside information, handling of unpublished research material, contact with other units of the Group Companies and personal account dealing. The internal rules have been prepared in accordance with applicable legislation and relevant industry standards. The object of the internal rules is for example to ensure that no analyst will abuse or cause others to abuse confidential information. It is the policy of Pareto Securities Research that no link exists between revenues from capital markets activities and individual analyst remuneration. The Group Companies are members of national stockbrokers' associations in each of the countries in which the Group Companies have their head offices. Internal rules have been developed in accordance with recommendations issued by the stockbrokers associations. This material has been prepared following the Pareto Securities Conflict of Interest Policy.

The guidelines in the policy include rules and measures aimed at achieving a sufficient degree of independence between various departments, business areas and sub-business areas within the Pareto Securities Group in order to, as far as possible, avoid conflicts of interest from arising between such departments, business areas and sub-business areas as well as their customers. One purpose of such measures is to restrict the flow of information between certain business areas and sub-business areas within the Pareto Securities Group, where conflicts of interest may arise and to safeguard the impartialness of the employees. For example, the Investment Banking departments and certain other departments included in the Pareto Securities Group are surrounded by arrangements, so-called Chinese Walls, to restrict the flows of sensitive information from such departments. The internal guidelines also include, without limitation, rules aimed at securing the impartialness of, e.g., analysts working in the Pareto Securities Research departments, restrictions with regard to the remuneration paid to such analysts, requirements with respect to the independence of analysts from other departments within the Pareto Securities Group rules concerning contacts with covered companies and rules concerning personal account trading carried out by analysts.

Distribution restriction
The securities referred to in this publication or report may not be eligible for sale in some jurisdictions and persons into whose possession this document comes should inform themselves about and observe any such restrictions. This publication or report is not intended for and must not be distributed to private customers in the US, or retail clients in the United Kingdom, as defined by the Financial Conduct Authority (FCA).

This research is only intended for and may only be distributed to institutional investors in the United States and U.S entities seeking more information about any of the issuers or securities discussed in this report should contact Pareto Securities Inc. at 150 East 52nd Street, New York, NY 10022, Tel. 212 829 4200.

Pareto Securities Inc. is a broker-dealer registered with the U.S. Securities and Exchange Commission and is a member of FINRA &SIPC. U.S. To the extent required by applicable U.S. laws and regulations, Pareto Securities Inc. accepts responsibility for the contents of this publication. Investment products provided by or through Pareto Securities Inc. or Pareto Securities Research are not FDIC insured, may lose value and are not guaranteed by Pareto Securities Inc. or Pareto Securities Research. Investing in non-U.S. securities may entail certain risks. This document does not constitute or form part of any offer for sale or subscription, nor shall it or any part of it form the basis of or be relied on in connection with any contract or commitment whatsoever. The securities of non-U.S. issuers may not be registered with or subject to SEC reporting and other requirements. The information available about non-U.S. companies may be limited, and non-U.S. companies are generally not subject to the same uniform auditing and reporting standards as U.S. companies. Market rules, conventions and practices may differ from U.S. markets, adding to transaction costs or causing delays in the purchase or sale of securities. Securities of some non-U.S. companies may not be as liquid as securities of comparable U.S. companies. Fluctuations in the values of national currencies, as well as the potential for governmental restrictions on currency movements, can significantly erode principal and investment returns.

Pareto Securities Research may have material conflicts of interest related to the production or distribution of this research report which, with regard to Pareto Securities Research, are disclosed herein.

Distribution in Singapore
Pareto Securities Pte Ltd holds a Capital Markets Services License is an exempt financial advisor under Financial Advisers Act, Chapter 110 ("FAA") of Singapore and a subsidiary of Pareto Securities AS.

This report is directed solely to persons who qualify as "accredited investors", "expert investors" and "institutional investors" as defined in section 4A(1) Securities and Futures Act, Chapter 289 ("SFA") of Singapore. This report is intended for general circulation amongst such investors and does not take into account the specific investment objectives, financial situation or particular needs of any particular person. You should seek advice from a financial adviser regarding the suitability of any product referred to in this report, taking into account your specific financial objectives, financial situation or particular needs before making a commitment to purchase any such product. Please contact Pareto Securities Pte Ltd, 16 Collyer Quay, # 27-02 Income at Raffles, Singapore 049318, at +65 6408 9800 in matters arising from, or in connection with this report.

Additional provisions on Recommendations distributed in the Canada
Canadian recipients of this research report are advised that this research report is not, and under no circumstances is it to be construed as an offer to sell or a solicitation of or an offer to buy any securities that may be described herein. This research report is not, and under no circumstances is it to be construed as, a prospectus, offering memorandum, advertisement or a public offering in Canada of such securities. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon this research report or the merits of any securities described or discussed herein and any representation to the contrary is an offence. Any securities described or discussed within this research report may only be distributed in Canada in accordance with applicable provincial and territorial securities laws. Any offer or sale in Canada of the securities described or discussed herein will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. Under no circumstances is the information contained herein to be construed as investment advice in any province or territory of Canada nor should it be construed as being tailored to the needs of the recipient. Canadian recipients are advised that Pareto Securities AS, its affiliates and its authorized agents are not responsible for, nor do they accept, any liability whatsoever for any direct or consequential loss arising from any use of this research report or the information contained herein.

Distribution in United Kingdom
This publication is issued for the benefit of persons who qualify as eligible counterparties or professional clients and should be made available only to such persons and is exempt from the restriction on financial promotion in s21 of the Financial Services and Markets Act 2000 in reliance on provision in the FPO.

Appendix A

Disclosure requirements in accordance with Commission Delegated Regulation (EU) 2016/958 and the FINRA Rule 2241

The below list shows companies where Pareto Securities AS - together with affiliated companies and/or persons – owns a net long position of the shares exceeding 0,5 % of the total issued share capital in any company where a recommendation has been produced or distributed by Pareto Securities AS.

Companies	No. of shares	Holdings in %
Bonheur	239,220	0.56%
Huddly	1,188,823	0.56%
Pareto Bank	14,732,232	21.09%
Pexip Holding	732,095	0.70%
Sparebank 1 Nord-Norge	5,012,452	4.99%
Sparebank 1 SMN	2,800,224	2.16%
Sparebank 1 SR-Bank	2,406,375	0.94%
SpareBank 1 Østfold Akershus	1,237,140	9.99%
SpareBank 1 Østlandet	5,772,206	5.44%
Sparebanken Møre	566,833	1.15%
Sparebanken Sør	333,149	0.80%
Sparebanken Vest	7,801,795	7.11%
NEXT Biometrics	700,000	0.76%
SpareBank 1 Sørøst-Norge	2,746,539	4.35%

Pareto Securities AS may hold financial instruments in companies where a recommendation has been produced or distributed by Pareto Securities AS in connection with rendering investment services, including Market Making.

Please find below an overview of material interests in shares held by employees in Pareto Securities AS, in companies where a recommendation has been produced or distributed by Pareto Securities AS. "By material interest" means holdings exceeding a value of NOK 50 000.

Company	Analyst holdings*	Total holdings
Adevinta	0	950
Aker ASA	500	2,288
Aker BP	0	9,713
Aker Horizons	0	170,767
Aker Solutions	0	1,388
AMSC ASA	0	3,600
Aprila Bank ASA	0	22,675
AURELIUS Equity Opportunities	0	500
Austevoll Seafood	0	3,548
Awilco LNG	0	30,000
Belships	0	40,000
BioInvent	0	15,000
Bonheur	0	30,350
Borregaard ASA	0	518
Bouvet	0	980
BW Energy	0	94,381
BW Offshore	0	4,900
Cool Company	0	5,000
DNB	0	33,084
DNO	0	71,391
Edda Wind	0	5,000
Elkem	0	29,520
Elmera Group ASA	0	37,305
Embracer Group	0	8,600
Equinor	0	1,616
Europris	0	17,745
Flex LNG	0	895
Frontline	0	8,000
Gaming Innovation Group	0	25,000
Gjensidige Forsikring	519	1,960
Grieg Seafood	0	13,491
Hafnia Ltd.	0	125,220
Huddly	0	1,188,823
HydrogenPro	0	34,922
International Petroleum Corp	0	5,511
Kahoot	0	36,118
Kambi Group plc	0	430
Kitron	0	2,314
Komplett ASA	0	21,754
Komplett Bank	0	153,800
Kongsberg Gruppen	0	500
Leabank	0	16,355
Lerøy Seafood Group	0	38,951
Mediaand Games Invest	0	5,000
Meltwater	0	24,000
Mowi	0	2,742
Multitude	0	2,443
NEXT Biometrics	0	700,000
NorAm Drilling	0	6,883
NORBIT ASA	0	1,706
Nordic Semiconductor	0	12,305
Noreco	0	1,000
Norsk Hydro	0	80,711
Norske Skog	0	83,449
Odfjell Drilling	0	2,081
Okeanis Eco Tankers	0	290
Orkla	0	8,526
Panoro Energy	0	14,733
Pareto Bank	0	761,886
PetroTal	0	74,000
Pexip Holding	0	732,095
Protector Forsikring	0	7,300
PyrumInnovations	0	100
Quantafuel	0	23,665
REC Silicon	0	32,539
SalMar	0	3,724
Sandnes Sparebank	0	2,500
Scatec	0	20,129
Seadrill Ltd	0	10,300
SignUp Software	0	1,264
Solstad Offshore	0	107,500
Sparebank 1 Nord-Norge	725	6,775
Sparebank 1 SMN	0	9,421
Sparebank 1 SR-Bank	0	8,545
SpareBank 1 Østlandet	1,100	11,100
Sparebanken Møre	0	1,080
Sparebanken Sør	0	15,840
Sparebanken Vest	0	3,494
Stolt-Nielsen	0	3,800
Storebrand	100	3,110
Storytel	0	5,390
Subsea 7	0	21,470
Teekay Tankers	0	208
Telenor	0	3,004
TGS	0	10,830
Transocean	0	10,000
Valaris	0	3,000
Vestas Wind Systems	0	1,235
Vow	0	3,281
Vår Energi	0	82,479
Webstep	0	2,000
Wilh. Wilhelmsen Holding	0	229
Yara	0	16,014
Zaptec	0	6,200
AAC Clyde Space	0	52,700

This overview is updated monthly (last updated 16.03.2023).

*Analyst holdings refers to positions held by the Pareto Securities AS analyst covering the company.

Appendix B

Disclosure requirements in accordance with Article 6(1)(c)(iii) of Commission Delegated Regulation (EU) 2016/958

Overview over issuers of financial instruments where Pareto Securities AS have prepared or distributed investment recommendation, where Pareto Securities AS have been lead manager/co-lead manager or have rendered publicly known not immaterial investment banking services over the previous 12 months:

Add Energy
Aker Clean Hydrogen
Aker Offshore Wind
Akershus Energi Varme AS
Alva Industries AS
American Shipping Company
B2Holding AS
Bekk og Strøm AS, SV Vattenkraft AB
Benchmark Holdings
Biolnvent
Bluewater Holding
Borr Drilling
Brooge Petroleum and Gas
BW LPG
Cabonline Group Holding AB
Cadeler
CCS Finansiering AS
CERAFILTEC
Cloudberry Clean Energy
COOL Company
DNO
Dolphin Drilling
EdR Certified Origin Physical Gold Plc
Endur ASA
First Camp Group
Floatel International
Hafnia Ltd.
Hafslund Eco
Hospitality Invest
House of Control
HydrogenPro
Ice Group
Idavang A/S
Island Green Power Ltd
KMC Properties
Komplett Bank
Kraft Bank
Kron AS
Kruse Smith
Kvitebjørn Energi AS
Magnora
Maha Energy
Memmo Family
Mime Petroleum
Multitude SE
Nor Am Drilling
Nordic Unmanned
Noreco
Norlandia Health & Care Group
Norse Atlantic
Norske Skog
Northern Ocean
Okea AS
Pandion Energy
Pareto Bank
PGS
PHM Group Holding Holding
Polight ASA
Proximar Seafood
Pryme
PulPac AB
Qred Holding
Salmon Evolution
Scala Eiendom
Schletter International B.V
Seacrest Petroleo Bermuda Limited
Shamaran Petroleum
Skandia GreenPower
Standard Supply AS
Tierklinik Hofheim GbR
Tise AS
Trønderenergi AS
Vantage Drilling International
Vestby Logistikk Holding
Viking Venture 27 AS
Viking Venture 28 AS
Waldorf Production Ltd.
Waste Plastic Upcycling
Wattif EV
Ørn Software

This overview is updated monthly (this overview is for the period 01.03.2022 – 28.02.2023).

Appendix C

Disclosure requirements pursuant to the Norwegian Securities Trading Regulation § 3-11 (4)

Distribution of recommendations

Recommendation	% distribution
Buy	72%
Hold	24%
Sell	4%

Distribution of recommendations (transactions*)

Recommendation	% distribution
Buy	91%
Hold	9%
Sell	0%

* Companies under coverage with which Pareto Securities Group has on-going or completed public services in the previous 12 months

This overview is updated monthly (last updated 16.03.2023).

Appendix D

This section applies to research reports prepared by Pareto Securities AB.

Disclosure of positions in financial instruments
The beneficial holding of the Pareto Group is 1 % or more of the total share capital of the following companies included in Pareto Securities AB's research coverage universe: None

The Pareto Group has material holdings of other financial instruments than shares issued by the following companies included in Pareto Securities AB's research coverage universe: None

Disclosure of assignments and mandates
Overview over issuers of financial instruments where Pareto Securities AB has prepared or distributed investment recommendation, where Pareto Securities AB has been lead manager or co-lead manager or has rendered publicly known not immaterial investment banking services over the previous twelve months:

ADDvise Group AB
Adtraction Group AB
Artificial Solutions International AB
Azelio AB
Biovica International AB
Boule Diagnostics AB
Cibus Nordic Real Estate AB
Cinis Fertilizer AB
Egetis Therapeutics AB
Hanza AB
Hexicon AB
Linkfire A/S
Mentice AB
Media & Games Invest plc
NGEx Minerals Ltd
Renewcell AB
Sedana Medical
SignUp Software AB
Xbrane Biopharma AB
VEF AB
Vicore Pharma Holding AB

Members of the Pareto Group provide market making or other liquidity providing services to the following companies included in Pareto Securities AB's research coverage universe:

Implantica
Linkfire
Media & Games Invest plc.
Mentice AB
Modelon AB
Sedana Medical
Signup Software
VEF

Members of the Pareto Group have entered into agreements concerning the inclusion of the company in question in Pareto Securities AB's research coverage universe with the following companies: None

Member of the Pareto Group is providing Business Management services to the following companies:

Aarhus Rssidentials
Backaheden Fastighets AB
Bonäsudden Holding AB (publ)
Borglanda Fastighets AB
Bosjö Fastigheter AB
Fleming Properties AB
Hallsell Property Invest AB
Halmslätten Fastighets AB (publ)
Korsängen Fastighets AB (publ)
Krona Public Real Estate AB
Logistri Fastighets AB
Mälaråsen AB
One Publicus Fastighets AB
Origa Care AB (publ)
Preservium Property AB

Members of the Pareto Group have entered into agreements concerning the inclusion of the company in question in Pareto Securities AB's research coverage universe with the following companies: None

This overview is updated monthly (last updated 11.04.2023).

Appendix E

Disclosure requirements in accordance with Article 6(1)(c)(i) of Commission Delegated Regulation (EU) 2016/958

Designated Sponsor
Pareto Securities acts as a designated sponsor for the following companies, including the provision of bid and ask offers. Therefore, we regularly possess shares of the company in our proprietary trading books. Pareto Securities receives a commission from the company for the provision of the designated sponsor services.

2G Energy AG
ad pepper media International N.V.
Biotest AG
Biotest AG Pfd.
Corestate Capital Holding S.A.
Daldrup & Söhne AG
DEMIRE AG
DF Deutsche Forfait AG
epigenomics AG
Foris AG
GERRY WEBER International AG
Gesco AG
GFT Technologies SE
Gigaset AG
Heidelberg Pharma AG
INTERSHOP Communications AG
IVU Traffic AG
Kontron AG
Leifheit AG
Logwin AG
manz AG
MAX Automation SE
Merkur Privatbank AG
Meta Wolf AG
MLP SE
MPC Container Ships ASA
Muehlhahn AG
Mutares SE & Co. KGaA
OVB Holding AG
ProCredit Holding AG
Progress-Werk Oberkirch AG
Pryme B.V.
PSI AG
Pyrum Innovations AG
Salmones Camanchaca S.A.
Seven Principles AG
SHOP APOTHEKE EUROPE N.V.
SMT Scharf AG
Surteco AG
Syzygy AG
TTL Beteiligungs- und Grundbesitz AG
Uzin Utz SE
VERIANOS SE
Viscom AG
WPU - Waste Plastic Upcycling AS

Appendix F

Disclosure requirements in accordance with Article 6(1)(c)(iv) of Commission Delegated Regulation (EU) 2016/958

Sponsored Research
Pareto Securities has entered into an agreement with these companies about the preparation of research reports and – in return - receives compensation.

2G Energy AG
BayWa AG
BB Biotech AG
Biotest AG
Biotest AG Pfd.
Cliq Digital AG
Daldrup & Söhne AG
Dermapharm Holding SE
Enapter AG
epigenomics AG
Expres2ion Biotech Holding AB
GERRY WEBER International AG
Gesco AG
GFT Technologies SE
Gigaset AG
Heidelberg Pharma AG
Hypoport SE
INTERSHOP Communications AG
Kontron AG
Leifheit AG
Logwin AG
MAX Automation SE
Merkur Privatbank AG
MLP SE
Mutares SE & Co. KGaA
Mynaric AG
OHB SE
ProCredit Holding AG
Progress-Werk Oberkirch AG
PSI AG
Siegfried Holding AG
SMT Scharf AG
Surteco AG
Syzygy AG
Viscom AG

This overview is updated monthly (last updated 16.03.2023).