Norrhydro

Extensive report

11/5/2024

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Inderes corporate customer

This report is a summary translation of the report “NorrDigi out of the starting blocks” published on 10/17/2024 at 8:15 pm EEST.

NorrDigi out of the starting blocks

The long-term demand prospects for Norrhydro's hydraulic cylinder business are good, and the outlook for NorrDigi products is very promising. The technical risks of the NorrDigi products are already very low and the commercial launch has started under the impetus of Volvo CE. The start-up has been delayed compared to our previous estimates, which has led to a significant reduction in our earnings forecasts for 2025-2026. However, the stock's justified long-term upside is very substantial, which is why we maintain our Accumulate recommendation. Our target price remains unchanged at EUR 2.10, as our forecast changes are only a one-year shift, while Norrhydro's risk profile has been lowered.

NorrDigi's customer base is expanding nicely

Volvo CE has been pleased with the results of extensive testing of the NorrDigi MCC multi-chamber cylinder and has already started the commercial launch of the technology. Norrhydro has also announced new customer wins for NorrDigi MCC, including a US drilling rig operator and a global material handling equipment manufacturer, which we believe to be Kalmar. These three customers alone will keep Norrhydro's NorrDigi team busy in the coming years, and we expect NorrDigi revenue to reach 10 MEUR in 2027.

We continue to forecast strong growth despite a one-year shift

Our revenue forecasts for Norrhydro for 2024-2027 still include three components: 1) hydraulic cylinder sales from existing customers (growth of around +3% p.a.); 2) hydraulic cylinder sales to new customers already in the preliminary stages or in various stages of negotiation (contribution to Group growth of around 3-4 percentage points); and 3) NorrDigi sales (contribution to Group growth of 6 percentage points). Overall, we expect Norrhydro's 2027 revenue to reach 48 MEUR and 2024-2027 growth to be +12% p.a. However, following the postponement of the commercial launch of NorrDigi compared to our previous estimates, our revenue forecast for 2025-2027 has been reduced by 9-16%, which corresponds to a shift of about one year.

Rapid earnings growth if volume uptick materializes

The growth of the NorrDigi business, which will still be loss-making at EBITDA level in 2024-2026, and the increase in the revenue share from zero to 22% in 2027, as well as the positive profitability through volumes, will significantly increase Norrhydro's profitability. The EBITDA margin of the conventional cylinder business will also increase thanks to the efficiency measures taken and the operating leverage. We expect the Group's EBITDA margin to increase from 6.0% in 2024 to 12.4% in 2027. As a result of this shift, our margin projections for 2025-2026 have been reduced by 2.5-2.9 percentage points, but only by 0.4 percentage points for 2027.

Long-term upside potential is significant

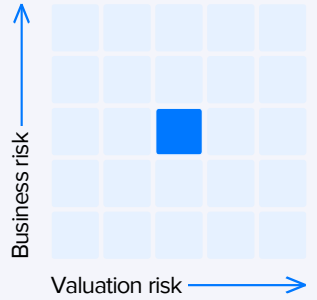
The suitability of both the peer pricing and total revenue model for Norrhydro is still weak due to the company's early stage of development. In the SOTP calculation, the value per share is EUR 2.3-2.9, with the average of the figures indicating an upside of just under 50%. The DCF model points out to even greater potential (+60-70%). However, a lot of positive news flow and good earnings performance is still needed to realize the full potential of the share price, especially with regard to NorrDigi. Therefore, our target price reflects a situation where less than 40% of the upside between the current price and the fair value has been realized.

Recommendation

Accumulate
(was Accumulate)

EUR 2.10
(was EUR 2.10)

Share price:
1.72



Key figures

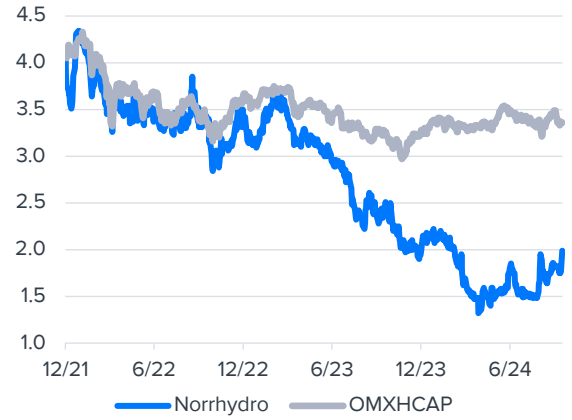
	2023	2024e	2025e	2026e
Revenue	30.4	28.3	33.7	40.1
growth-%	2%	-7%	19%	19%
EBIT adj.	1.1	0.3	0.6	2.2
EBIT-% adj.	3.5 %	0.9 %	1.9 %	5.5 %
Net Income	-1.4	-0.9	-0.5	1.2
EPS (adj.)	-0.01	-0.08	-0.04	0.10
Dividend	0.00	0.00	0.00	0.03
P/E (adj.)	neg.	neg.	neg.	16.7
P/B	2.5	2.3	2.4	1.8
Dividend yield-%	0.0 %	0.0 %	0.0 %	1.9 %
EV/EBIT (adj.)	30.5	>100	45.8	12.5
EV/EBITDA	29.4	17.0	13.8	7.3
EV/S	1.1	1.0	0.9	0.7

Source: Inderes

Guidance (Unchanged)

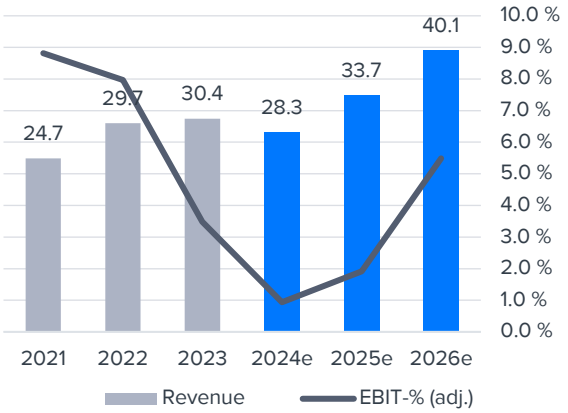
Norrhydro Group's revenue for 2024 is forecast to decrase from 2023 revenue(30.4 MEUR) and EBITDA to be better than in 2023 (3.5 % of revenue).

Share price



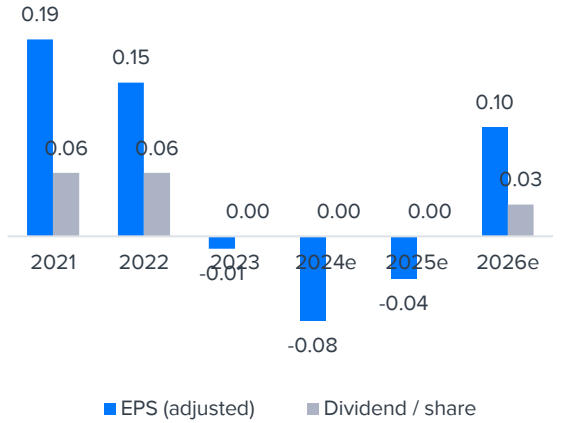
Source: Millistream Market Data AB

Revenue and EBIT-%



Source: Inderes

EPS and dividend



Source: Inderes

Value drivers

- Impressive customer list and close, long-term customer relationships
- Operating model based on partnerships
- Fairly stable basic business in hydraulic cylinders
- NorrDigi creates significant growth potential

Risk factors

- Cyclicality of main customer industries
- Large individual customer risks
- NorrDigi does not meet growth and profitability expectations.
- The balance sheet is under pressure

Valuation	2024e	2025e	2026e
Share price	1.72	1.72	1.72
Number of shares, millions	11.0	11.0	11.7
Market cap	19	19	19
EV	29	30	27
P/E (adj.)	neg.	neg.	16.7
P/E	neg.	neg.	17.3
P/B	2.3	2.4	1.8
P/S	0.7	0.6	0.5
EV/Sales	1.0	0.9	0.7
EV/EBITDA	17.0	13.8	7.3
EV/EBIT (adj.)	>100	45.8	12.5
Payout ratio (%)	0.0 %	0.0 %	30.1 %
Dividend yield-%	0.0 %	0.0 %	1.9 %

Source: Inderes

Contents

Norrhydro in brief

Norrhydro designs, manufactures and delivers high-performance hydraulic cylinders for mobile equipment like forest machines, excavators, mining machines and material handling machines. The company's customers are leading companies in their respective industries. Most of the production is subcontracted and the company's own production plant is located in Rovaniemi. In the future, Norrhydro's business will be strongly supported by the company's development of the digital multi-chamber cylinder NorrDigi MCC and the electromechanical actuator NorrDigi EMA.

1985
Year of establishment

2009
Development of NorrDigi technology begins

2025e
Commercial launch of NorrDigi MCC on Volvo excavators starts

25.2 MEUR (-20% y/y)
Revenue H2'23-H1'24

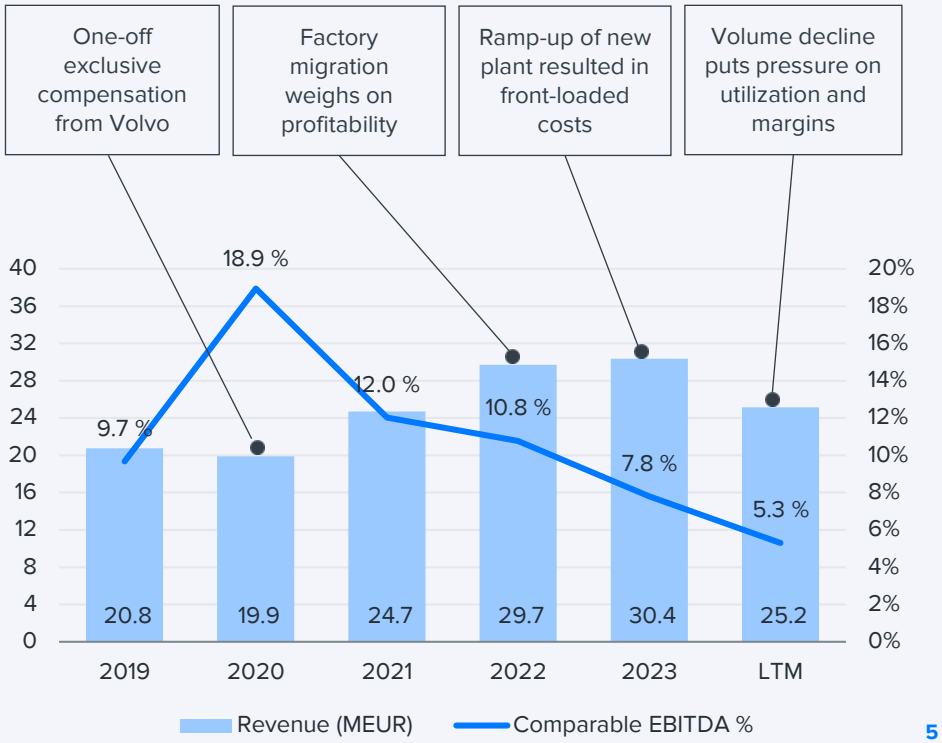
1.3 MEUR (5.3% of revenue)
Adjusted EBITDA H2'23-H1'24

160
Headcount 6/2024

Main products

Conventional hydraulic cylinders

NorrDigi MCC cylinders



Company description and business model 1/4

Significant hydraulics supplier for heavy machinery

Norrhydro is an established hydraulic cylinder manufacturer founded in 1985. The company designs, manufactures and delivers high-performance hydraulic cylinders for mobile equipment like forest machines, civil engineering machines, mining machines, material handling machines and the shipping industry.

In working machinery, hydraulic cylinders are used for lifting, lowering, pressing, pushing, pulling and locking movements. The basic structure of hydraulic cylinders is simple and can consist of a cylinder liner, a piston and a piston rod. However, Norrhydro specializes in high-quality, tailored, energy-efficient hydraulic cylinders for mobile machinery operated in the most demanding conditions.

In the future, Norrhydro's growth will be supported by the development of a digital multi-chamber cylinder (NorrDigi MCC) and an electromechanical linear actuator (NorrDigi EMA). These can be used to partially replace conventional hydraulic cylinders, providing significant cost and other benefits to the customer.

In-house manufacturing focuses on assembly

Norrhydro's hydraulic cylinders are manufactured in the company's new factory in Rovaniemi, Finland, which has a production area of around 7,500 m2. The factory is set up primarily for final assembly and testing. We estimate that there are currently 100-110 people employed in production, a small proportion of whom are contractors. At the Rovaniemi factory, Norrhydro produces prototypes and small series of components in addition to final assembly. According to Norrhydro, subcontracting of individual components and small series would be slow and expensive, whereas longer series are cheaper when subcontracted. In total, Norrhydro has between 200 and 300 active - in other words, revenue-generating - titles in production. However, according to the company, 80% of its revenue comes from fewer than 100 titles. The number of active titles is on a steady upward trend.

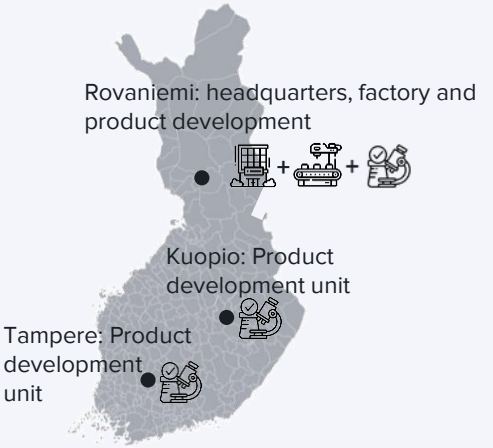
Norrhydro's own production steps are 1) pipe cutting and washing and component selection; 2) rough facing; 3) turning of the piston rod and piston thread; 4) welding of the piston rod and cylinder base; 5) assembly (incl. seal installation) and testing; 6) painting and surface treatment; 7) packing and delivery / warehousing. Factory machines (e.g. CNC lathes and work machines, as well as the robotic welding and surface treatment lines) are modern. The ERP system used at Norrhydro is Visma L7.

The new factory brought a clear increase in capacity

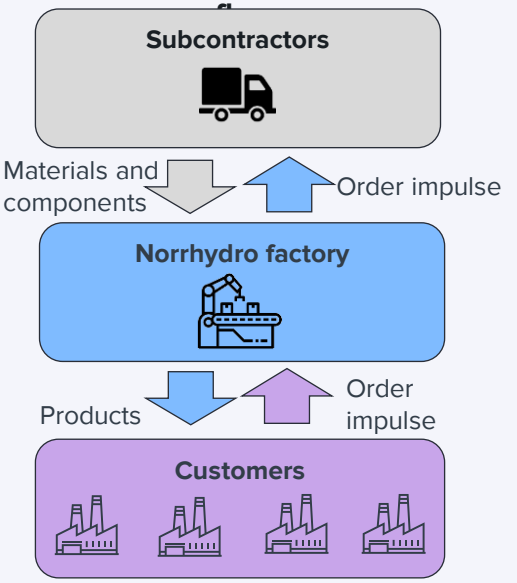
Between 2021 and 2022, Norrhydro built a new factory in Rovaniemi, less than a mile from the old one. Compared to the old factory, the production area has increased by about 90%. The factory is on the city's rented land and the building is owned by OP Real Estate Asset Management Ltd. Norrhydro's current lease runs until 2036 and renewing it at the appropriate time will not be a problem. The investment in the building itself was around 11 MEUR.

Most of Norrhydro's machinery was transferred to the new factory. The additional investments in machinery required for the relocation amounted to more than 6 MEUR, the largest being a highly automated painting line (1.5 MEUR) and a friction welding machine (1.3 MEUR). The most active ramp-up phase of the new plant took place in the fall of 2022.

Norrhydro's sites



Material and information



Source: Norrhydro, modified by Inderes

Company description and business model 2/4

The production capacity of conventional hydraulic cylinders is now about 70,000-75,000 units per year, which is 40-50% more than in the old factory. According to Norrhydro, the capacity of the current factory could be increased up to 120,000 units. According to the company, however, capacity per unit is not the most important factor; the average price per cylinder also plays a role. More complex cylinders are more expensive and slower to produce, but of course the price is higher. Typical selling prices for conventional hydraulic cylinders are 500-700 EUR/unit.

According to Norrhydro, the production flow in the new plant is much more efficient and the same production volume can be achieved with significantly fewer people. Lead times have been reduced by 15-20% compared to the old factory. The quality of production has steadily improved and is said to be "on track". The commissioning of the new machines has taken a little longer than expected, but according to Norrhydro all customer deliveries have gone according to plan.

The share of subcontracting is still growing

The Rovaniemi factory operates in two shifts, five days a week. According to Norrhydro, it is possible and more economical to increase capacity in the future by investing in machinery alone, without increasing the number of shifts.

Norrhydro has outsourced a lot of component production in recent years, and this trend will continue. All components for volume production are outsourced, and small batches of complete cylinders can be outsourced if required. We believe that outsourced component and sub-assembly manufacturing is well over 50%. Norrhydro has not named its main subcontractors, but they are “well-known engineering companies and wholesalers”. In total, there are more than 100 subcontractors and the network is global. The number has decreased in recent years, mainly as a result of the reduction of smaller suppliers, as Norrhydro has concentrated its procurement, especially in the machinery sector.

According to Norrhydro, the availability of subcontracted materials and components has improved since 2023. Efforts have been made to reduce the company's own inventories, which had risen to unnecessarily high levels as a result of the factory relocation. However, the availability of sensors is still tight and delivery times are long, 3-5 months, while Norrhydro sells its own products with a delivery time of only 1-2 months. There are also limitations on the availability of the ball screws required for EMA (which convert rotary motion into linear motion).

Integrated supply chain

Norrhydro's customer deliveries are mainly made to strategic partner customers’ factories in the Nordic countries. These include, e.g., Ponsse’s factory in Vieremä, Sandvik’s factory in Tampere, Kongsberg Maritime’s factories in Rauma and Kokkola, and HMF’s factory in Højbjerg in Denmark. Norrhydro receives up-to-date demand forecasts from these customers to plan its own operations and subcontracting. An integrated supply chain ensures availability of critical materials and components. Quality and security of supply are Norrhydro's key performance indicators, and the company is on track to meet its targets.

Key operational figures 2023

- > 100 subcontractors
- Manufacturing outsourcing rate > 50%
- 200-300 active product titles
- Around 50 larger customers,
  - of which 10-15 OEM partners
- Exports 32% of revenue
- Aftermarket (wear and spare parts) 10-15% of revenue

Source: Norrhydro

Company description and business model 3/4

Finland accounted for 68% of revenue in 2023 (2022: 64%), and the majority of customer shipments were domestic rail and truck transportation. Although the share of exports has decreased in 2023, their share of Norrhydro's total revenue has grown rapidly (13% in 2019). This is why the share of maritime freight in transport has also increased. Normally the customer pays for the freight, so Norrhydro's risk in this respect is low.

Strong partner customers

At the heart of Norrhydro's customer base are the manufacturers of forest machines, excavators, pile-drivers, rock drilling machines and cargo handling machines. The company's main customers are the most significant global companies in their respective industries and in many cases the customer relationships have lasted for many years or decades.

Norrhydro has a partnership model with its main customers where it is involved already in the customer's product development phase and the cooperation continues until the end of the product's life cycle. This operating method commits the customer and its management. All products supplied by Norrhydro to its customers are tailored. This also maintains a high threshold for switching suppliers, even though normally Norrhydro is not the customer's only cylinder supplier. In the cooperation Norrhydro's task is product design (where the customer specifies the requirements, materials used and documentation required for the product) and, naturally, the product manufacturing. The duration of supply contracts is generally 2-5 years.

Norrhydro has 10-15 OEM or partner customers for hydraulic cylinders, and the total number of major customers is about 50. The company has not experienced any significant customer losses. In contrast, Norrhydro has actually directed some of its smaller customers to other cylinder manufacturers. New customers are also being added all the time and we understand that in the last year there have been 5-6 new customers in conventional cylinders.

Customers are leaders in their industries

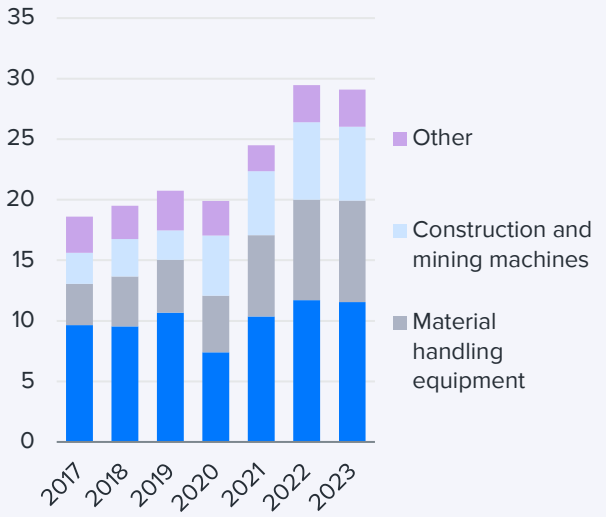
Norrhydro's main customers for conventional hydraulic cylinders are forest machinery manufacturer Ponsse (parent company 2023 revenue 654 MEUR), piling equipment manufacturer Junttan (2023 revenue 46 MEUR), material handling equipment manufacturer Mantsinen Group (104 MEUR), rock drilling equipment manufacturer Sandvik Mining and Construction (1,586 MEUR), and Danish crane manufacturer HMF Group (141 MEUR). Other well-known customer names include Cargotec Oyj, Kalmar Finland Oy, Metso Finland Oy (aggregates) and Kongsberg Maritime Finland Oy.

Revenue mix has balanced in recent years

Norrhydro announced the breakdown of its 2020 revenue by customer sector in its 2021 IPO, but no further updates have been provided. The adjacent chart shows the breakdown of revenue by customer industry for various years, based on both published data and our own estimates. In recent years, the revenue structure has become more balanced among the three main customer segments.

The company has a significant dependence on Ponsse, estimated at around 25%. We estimate that Norrhydro has 2-3 other customers that represent some 10% of the company's revenue. Overall, Norrhydro's dependence on individual customers remains significant, but the dependence on Ponsse has decreased from almost 50% in recent years, as sales to other customers and industries have grown faster.

Hydraulic cylinder revenue by customer group, MEUR



Norrhydro's customers

PONSSE
junttan respecting ground
MANTSINEN
SANDVIK
HMF
KONGSBERG
CARGOTEC
Metso

Source: Norrhydro, Inderes' estimates

Company description and business model 4/4

Norrhydro's customer industries are cyclical in nature, which raises Norrhydro's risk profile. On the other hand, there are many customer industries and they partly balance each other's cycles.

Aftermarket operations focus on spare parts

Norrhydro does not have a separate service organization for its aftermarket operations. The service business is at the heart of OEM customers' business and Norrhydro's role is to support this business with reliable spare part deliveries. Spare parts and other aftermarket activities are estimated to account for 10-15% of Norrhydro's revenue.

Flexibility of cost structure is medium

In Norrhydro's income statement, material and supply costs constitute the largest cost item (2017-2023 median = 49% of revenue). The figure is relatively low for an engineering company despite the significant share of subcontracting and indicates the low level of processing of purchased components. The second largest cost item is personnel costs (2017-2023 median = 29% of revenue). Personnel costs, on the other hand, represent a relatively high percentage of revenue. This figure is partly driven by the high share of temporary agency workers (7% of all employees in 2023), as the cost per employee of temporary workers is generally higher than that of permanent workers. Other operating expenses as a percentage of revenue (13-14%) are average, and depreciation and amortization (3-4%) slightly above average. Going forward, we expect the main drivers of profitability to be product mix, in particular the share of NorrDigi products in revenue, and factory capacity utilization.

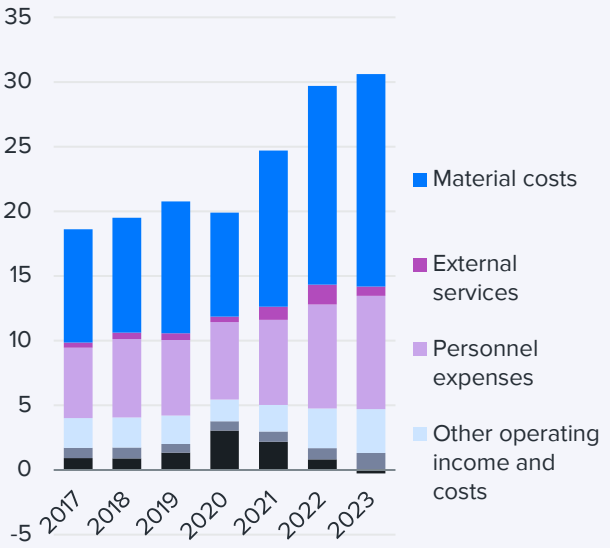
Assuming that 1) all personnel costs, excluding the share of temporary agency labor, 2) about 85% of other operating expenses, and 3) all depreciation is fixed in the short term, fixed costs account for about 40% of Norrhydro's total expenses. The figure is average when compared to other engineering companies. In 2024-2025, the share will be temporarily higher, as we estimate that NorrDigi will incur an additional annual cost burden of 1-2 MEUR in personnel, IT, premises and marketing before volumes in this business start to grow.

Cash flows at a reasonable level

Norrhydro's balance sheet structure is quite light in terms of tangible assets (21% of revenue and 26% of balance sheet in 2023), but the capitalized product development costs in intangible assets are considerable compared to the balance sheet as a whole. At the end of 2023, the amount was 5.66 MEUR, representing 22% of the balance sheet. These costs relate in particular to the NorrDigi technology and will be amortized over 10 years, starting with the commercialization of this business. Norrhydro's net working capital is only 13% of revenue at the median level between 2017 and 2023, well below the peer group and therefore not a significant burden on the balance sheet.

Norrhydro's cash flow generation is also healthy. Good capital management is reflected in the fact that cumulative operating cash flow for 2017-2023 is 82% of cumulative EBITDA.

Revenue breakdown into expense items and profit, EUR million



Source: Norrhydro

Progress and importance of NorrDigi 1/4

Digitally controlled multi-chamber hydraulic cylinder

Norrhydro has been developing the NorrDigi MCC technology in collaboration with research institutes (especially Tampere University of Technology) and partners (primarily Volvo Construction Equipment) since 2009. The technology is based on a multi-chamber, digitally controlled hydraulic cylinder with 16 area combinations. Unlike conventional double-chamber cylinders, where one chamber pushes and the other pulls, the digitally controlled hydraulic cylinder uses four chambers that can be controlled in 16 area combinations, depending on the load required by the task of the working machinery. According to Norrhydro, the system can be compared to a 16-speed linear automatic transmission.

Multi-chamber cylinders themselves are not new technology, but NorrDigi MCC combines them with advanced electronic control systems. The algorithms and computational speed of the control software allow immediate response for more accurate power generation in hydraulic systems. At the same time, only a small part of the energy that would be required by a conventional hydraulic system for corresponding machine movement or function is used. NorrDigi MCC is promised to improve the efficiency of the system so much that a large part of the current hydraulic system of the machine can be abandoned or reduced. For example, the machine no longer needs a master valve system (which was the heart of a conventional hydraulic system), large hydraulic pump capacity or cooling of the hydraulic system. In this way, the NorrDigi MCC consumes less energy and allows the size of the machine motor to be reduced. Based on experience, NorrDigi MCC does not differ from conventional hydraulic cylinders in terms of durability and serviceability.

Many benefits available and the feedback is positive

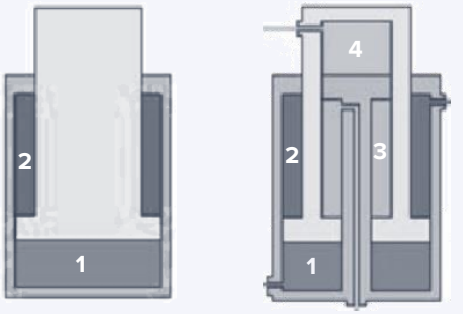
In summary, the advantages of NorrDigi MCC compared to conventional hydraulic cylinders are as follows:

- The 4-chamber hydraulic cylinders allow 16 levels of energy feeding according to the actual demand, compared to the 4 levels of conventional cylinders;
- A motion management system using pressure and position sensors optimizes energy consumption;
- NorrDigi MCC stores the energy generated during machine operation in separate accumulators, from where it can be reused

NorrDigi MCC achieved a 6-12% increase in productivity, a 50% fuel saving and a 50% reduction in CO2 emissions in Volvo CE tests in the spring of 2024, using a 30-ton Volvo EC300E excavator. Norrhydro also reports on its website that the NorrDigi MCC pressure tanks store 80% of the energy used, which largely explains the savings described above. The Norrdigi MCC has also been used for field tests with Tampereen Infra Oy on real construction sites during the winter and spring of 2024. According to Norrhydro, feedback on the technology has been good, although there is still room for improvement.

There has been some discussion about getting excavator operators used to electric steering instead of the hydraulic steering that has been the most common. Norrhydro says electronic control is becoming more common on excavators (e.g. Caterpillar), although he admits it takes some getting used to. However, Norrhydro emphasizes that NorrDigi MCC allows the driver to make precise settings for how the machine responds to steering commands.

Cylinder types



Conventional two-chamber cylinder

Multi-chamber cylinder

Benefits of NorrDigi MCC cylinders in working machinery

+ Flexibility and infinitely variable energy delivery as needed
+ Optimizing energy consumption and energy recovery allow significant fuel savings
+ Significant emission reductions
+ Possibility to reduce or eliminate the current hydraulic system of the machine
+ Possibility to reduce machine engine size

Source: Norrhydro

Progress and importance of NorrDigi 2/4

According to the company, test operators of NorrDigi MCC excavators have been satisfied with the control during both loading and more precise work phases.

Volvo is strongly committed to NorrDigi MCC

Volvo CE has been contractually and actively involved in the development of NorrDigi MCC since 2015. Volvo has financed part of the construction of a prototype machine and has been particularly involved in maturing the technology in 2017-2019 with a stake of about EUR 850,000. Volvo also paid for the 2020-2022 product development phase, which we estimate to be around 1.5 MEUR. This amount is recorded in Norrhydro's revenue. In addition, Volvo has paid Norrhydro for a fixed-term exclusivity and usage right to the technology to become the first excavator manufacturer to enter the market with NorrDigi technology. Volvo CE's confidence in Norrhydro is demonstrated by the fact that Volvo has also outsourced the optimization of the steering movements of the NorrDigi MCC excavators to Norrhydro.

Volvo's exclusivity applies to tracked excavators and extends until the commercialization of the NorrDigi MCC system. Commercialization will begin with 30-ton Volvo EC300 E Norrdigi MCC Hybrid excavators. Volvo manufactures the basic models of these excavators at its factory in South Korea, from where they are shipped to CEES in Sweden. CEES is a Volvo-owned specialty machinery company that will install the NorrDigi MCC hydraulic system on these excavators. NorrDigi MCC will be optional on all excavators of this model, although it is not standard on all machines.

Volvo starts commercialization of NorrDigi MCC in Finland

Volvo has already started the commercial launch of excavators equipped with the NorrDigi MCC, and the demonstration took place at the FinnMetko fair in August. Sales will be handled by Volvo CE Finland, Volvo's official dealer network, and Norrhydro welcomes the fact that the launch will take place in Finland to gain customer experience. After Finland, the launch will take place in Sweden and then continue according to demand and capacity. All in all, this is a soft launch for NorrDigi MCC, as the total Finnish market for 30-ton excavators is a few dozen units per year.

Development of NorrDigi MCC

NorrDigi technology research project with TUT

NorrDigi simulations with Volvo CE

Test results of savings generated by NorrDigi in Volvo's excavator are announced

Prototype development and testing for two new customers

Sales to Volvo CE heavy machinery begin

Commercial volumes for several customers

2009 | 2011 | 2014 | 2015 | 2017 | 2020 | 2021 | 2022 | 2023 | 2024e | 2025e-

Product development

Idea, specifications, concept development

Construction and further development of a prototype machine

Testing for a serial manufactured machine

Serial production starts

Volvo collaboration

VOLVO NorrDigi development partnership

VOLVO NorrDigi development agreement of several years

Other customers

New energy and load handling equipment customers

Progress and importance of NorrDigi 3/4

New customers taken on as resources permit

Norrhydro has also announced new customer contracts for NorrDigi MCC during 2024. In the spring of 2024, Norrhydro made a test delivery of a complete drill pipe lifting system for an oil rig to a US rig operator. In addition to the MCC, the delivery included a charging kit, pressure batteries, control unit and software. According to Norrhydro, the customer was so impressed with the functionality and durability of the system that the first serial order is expected before the end of 2024.

Norrhydro has also announced that it is testing the NorrDigi MCC on a 16-ton material handling equipment. Based on Norrhydro's old customer relationships, we believe it is Kalmar and its 16-ton forklift. Norrhydro stated that the energy saving targets were well met in the tests. As we understand that this is an electric forklift (with a very expensive battery pack), the possibility offered by NorrDigi MCC to halve the size of the battery pack is very attractive to the customer. However, the commercial launch of the NorrDigi MCC electric forklift is not expected to take place for another year.

Due to capacity constraints, Norrhydro's goal is to bring the three current MCC projects to commercialization or otherwise to a mature stage before embarking on further major development projects. However, development capacity may become available fairly soon as Volvo's MCC project is in the commercialization phase and the MCC applications for both the drill pipe hoist and the forklift are close to technical completion.

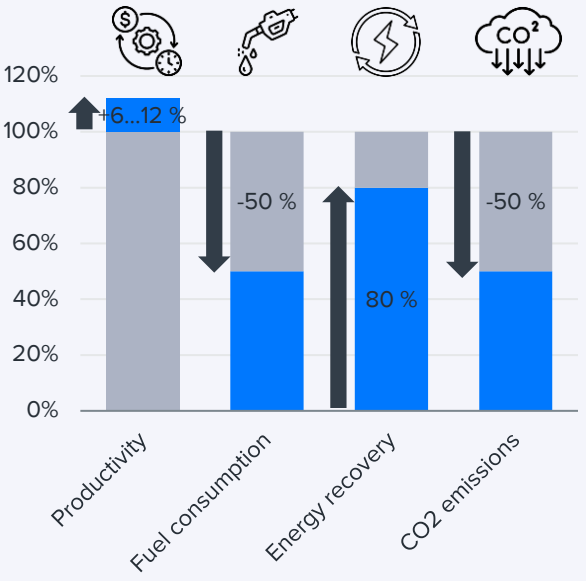
MCC manufacturing is no different from other cylinders

NorrDigi MCC cylinder manufacturing is quite easy for Norrhydro to organize. The MCC has many of the same or similar components as conventional hydraulic cylinders. The differences lie in the different types of blocks, the greater number of valves and sensors in the different chambers of the cylinder, and the energy recovery in the accumulators. MCC cylinders are assembled by the same people as conventional cylinders. The dimensions of MCC cylinders delivered vary according to the customer and the machinery, but the basic concept remains the same. Norrhydro emphasizes the role of subcontractors in the manufacture of MCC cylinders, and its own role focuses on design, assembly and testing.

The MCC has a short payback period

The price of NorrDigi cylinders is around EUR 9,000-10,000 per cylinder, which means that the price of a normal delivery, i.e., 4 cylinders per machine, is about EUR 36,000-40,000 to the customer. The cost is thus manifold than that of conventional hydraulic cylinders of around EUR 6,000 per machine (EUR 1,500 per cylinder). The higher cost is counterbalanced by even greater savings, as illustrated in the adjacent graph. Based on the illustrative "excavator profit and loss account" presented earlier by Volvo CE, the payback period for the MCC investment was only about one year. However, in the early stages of the MCC's commercial launch, the price will be higher due to the short production runs, with an estimated payback period of 3-4 years. Even this is a very attractive level. Norrhydro has also indicated that if a customer uses an MCC-equipped machine in two shifts, the payback period is also halved.

Impact of NorrDigi MCC on excavator performance



Source: Volvo CE, Norrhydro, edited by Inderes

Progress and importance of NorrDigi 4/4

NorrDigi EMA spreading its wings

Since the acquisition of Motiomax Oy at the end of 2021, Norrhydro has actively invested in the development of electromechanical actuators (at Norrhydro branded NorrDigi EMA). Electromechanical actuators can replace mobile cylinders, especially in applications and machines with low power requirements and variable duty cycles. Potential applications include material handling equipment (e.g., forklifts), where the advantages of an electromechanical actuator over a hydraulic cylinder include improved efficiency and the ability to recover energy, precision of motion, oil-free operation, and lower noise levels. In 2023, Norrhydro signed a NorrDigi EMA development cooperation agreement with a "global manufacturer of material handling machinery". Based on Norrhydro's old Cargotec customer relationship, we believe this is Hiab. We believe that Hiab is preparing for a long-term conversion of all its cranes from hydraulic to all-electric. Currently, NorrDigi EMA's crane application is in the product development phase and we do not expect a commercial launch within the next 12 months. However, NorrDigi EMA received its first announced commercial order in July 2024, when Norrhydro agreed to supply the Finnish company Avant Wood with NorrDigi EMA for woodworking equipment (heating and pressing) as part of Avant's TMTM wood processing plant.

NorrDigi EMA's competitive advantages are in software and comprehensive deliveries

As with multichamber cylinders, there are numerous manufacturers of electromechanical actuators. However, according to Norrhydro, these are mostly hardware manufacturers whose products often lack advanced software and intelligence. Norrhydro's strengths in EMA equipment include design and application expertise and the ability to deliver a complete solution that includes not only the EMA electric cylinder, but also the electric motor, control unit and logic, electrical solutions, wiring and monitoring. However, Norrhydro sees NorrDigi EMA as competing more with conventional cylinder manufacturers than with other EMA manufacturers.

The unit prices of NorrDigi EMA are in the same range as NorrDigi MCC. The price depends partly on the size of the electric motor and is typically between EUR 4,000 and 20,000 per cylinder. However, for heavier industrial applications, such as the Avant Wood delivery mentioned above, the price is higher.

The NorrDigi technology is highly protected

NorrDigi's technology has been patented from the start and first patents were applied for in 2009. Since then, many additional patents have been applied for, notably in 2015, 2017, 2019, 2022 and 2023. The first NorrDigi patents will expire in 2029. Overall, we find NorrDigi's patent protection to be good.

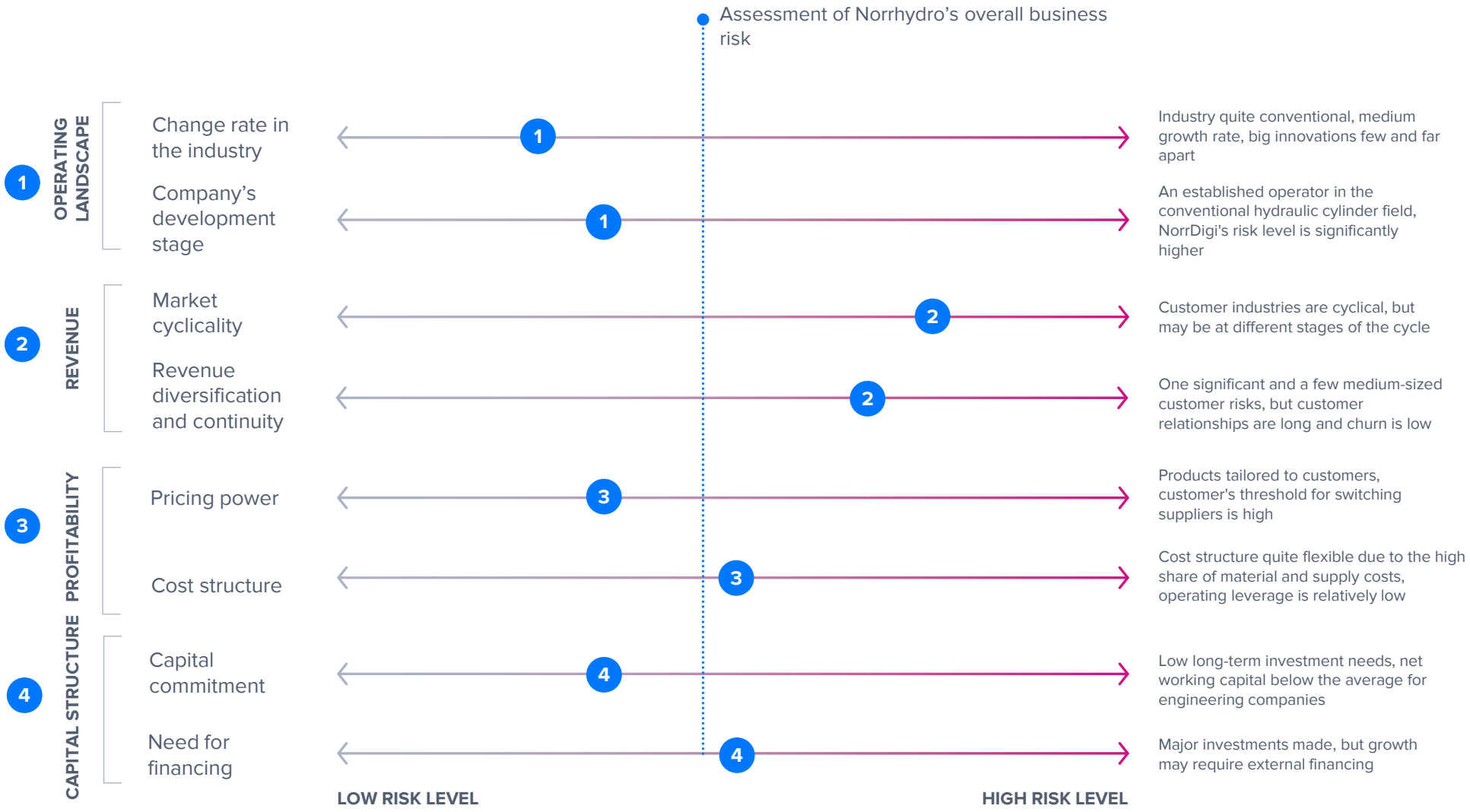
If competitors were to copy NorrDigi in a way that would violate patents, Norrhydro believes that the companies could not market their products in Western countries. Norrhydro estimates that the NorrDigi control software has a headstart of at least 3-4 years. Competition with similar valve control as in NorrDigi is not expected and copying would be difficult. As Volvo CE is a major player in NorrDigi's customer base, its public presence at NorrDigi has further raised the threshold for entering the market with a copied product.

The benefits of the NorrDigi EMA cylinder for industrial systems and mobile machinery

+ Energy savings / longer operating hours
+ Improved operational safety and lower noise levels
+ Easier to control and more accurate movements
+ Improved eco-friendliness and cleanliness
+ Simpler design, easier maintainability and interchangeability
+ Lower life cycle costs

Source: Norrhydro

Risk profile of the business model



Source: Inderes

Investment profile 1/3

From a conventional subcontractor to a growth company

Without the NorrDigi offering, Norrhydro would be a conventional mechanical engineering subcontractor with a long history, established position and customer base, as well as reasonable profitability. Growth has been good for the sector, even over the COVID pandemic period (2018-2023 CAGR = 8%).

With NorrDigi and its considerable global potential, Norrhydro has transformed itself from an investor's perspective into a growth company with a technology that is clearly differentiated from its competitors. NorrDigi's product development phase has been successful, so we feel investors no longer bear a relevant product development risk in Norrhydro. Going forward, investors will focus on NorrDigi's 1) commercial launch success; 2) new customer acquisition; 3) managing growth in terms of delivery, quality and customer service; and 4) profitability. We expect that the materialization of NorrDigi's potential will be clearly the most important value driver for Norrhydro in the next few years.

For the investor, Norrhydro's risk profile is two-fold. The risk profile of the conventional business is reasonable, but there are still significant risks related to the scaling of NorrDigi's sales related to what we described above. Norrhydro's balance sheet was still highly leveraged at the end of H1'24 (net gearing = 104%; adjusted net debt / EBITDA = 6.9x), but with major investments already made and improved earnings, the balance sheet should strengthen quite quickly. In any case, we believe that Norrhydro will continue to require a reasonable degree of risk tolerance and patience from investors, as we estimate that NorrDigi's potential will take until 2025-2028 to realize. In both the short and medium term, investors' returns come primarily from changes in valuation.

Potential

In our opinion, Norrhydro's main positive value drivers are:

- **Growth of NorrDigi.** Now that the NorrDigi technology has proven its technical superiority and has won its first major customers (Volvo and the US rig operator at MCC and Avant Wood at EMA), while other customers are in the prototype phase, the commercialization that has already started opens up a significant potential in the global market for hydraulic cylinders of more than 8,000 MEUR. NorrDigi should also increase Norrhydro's relative profitability in the long term.
- **Strong technological expertise.** In addition to NorrDigi, Norrhydro's expertise is demonstrated by the fact that most of its products are customer-specifically tailored specialty cylinders used in mobile equipment manufactured by demanding customers, often operated under difficult conditions.
- **Impressive customer list and good, long-term customer relationships.** Norrhydro's strategic partner customers are global suppliers operating in different customer industries, with whom the company has been working for many years. Close cooperation in the early stages of product development ensures customer retention, and Norrhydro's partner customers are also a strong reference for new customer acquisition.
- **Operating model based on partnerships.** In addition to product development with customers, Norrhydro is closely involved in research and development with the TUT Department of Intelligent Hydraulics and Automation, which is the largest hydraulics research institute in the Nordic countries and one of the world's leading ones. The cooperation enables significant accumulation of expertise for Norrhydro while keeping development costs under control. In manufacturing, Norrhydro strongly relies on subcontracting and strategic partners, which increases the company's cost flexibility.
- In August 2024, Norrhydro announced that it was seeking one or more **strategic partners** to support the company's global marketing and customer support activities. However, the process has only just begun.
- **Growth through acquisitions**. The hydraulic cylinders industry is fragmented and Norrhydro can act as a consolidator in the industry, at least in a small scale. Norrhydro is evaluating potential acquisition targets to create 1) new customer relationships; 2) cross-selling opportunities through NorrDigi; and 3) cost synergies in product development, manufacturing, IT and HR.
- **Becoming an acquisition target.** NorrDigi makes Norrhydro an interesting acquisition target for either an industrial buyer or a venture capitalist.

Investment profile 2/3

Risks

We believe Norrhydro's key risks for investors are:

- **NorrDigi does not meet growth and profitability expectations.** Norrhydro's own objective for NorrDigi's new customer acquisition and progress are ambitious, but there is a risk that customers' renewal cycle of products that is slow as a whole, slow adaptation of launched product models to NorrDigi or a principled reluctance to change hydraulics suppliers will significantly slow down NorrDigi's progress. It is also possible that NorrDigi does not meet the profitability targets due to, e.g., reasons related to production, customers or competing technologies.
- **Large individual customer risks.** We estimate that Norrhydro's largest single customer represented 25% of revenue in 2023 and the next two largest customers represented around 10% each. At least the first-mentioned customer risk is very significant, because even if the customer is not lost, the customer's cyclical fluctuations, possible production problems, etc. are disproportionately reflected in Norrhydro's own operations.
- **Risks related to intellectual property rights (IPR).** Norrhydro's most valuable intangible asset, i.e., the NorrDigi technology, is well patented, but in some countries patent rights legislation is insufficient and/or enforcement is weak, which causes the risk of illegal copying of the technology or at least getting stuck in long lasting patent disputes in various courts.
- **The balance sheet position remains tight.** The balance sheet ratios on the previous page are on the weak side and prevent access to normal bank financing. This is also reflected in the three-year 1.5 MEUR convertible bond with a coupon of 10% that Norrhydro issued at the end of 2023. Norrhydro's other loans also have financial covenants with a next review date of December 31, 2024. We do not believe that a potential breach of the covenants would result in the termination of the loans, but it would further increase the cost of financing.
- **The liquidity of the stock is low.** From October 2023 to September 2024, the liquidity of Norrhydro's share was low at 13%. This is causing some institutional investors to shy away from the stock, as it is challenging to buy and sell in bulk.

Positive value drivers

- NorrDig's risk profile has been reduced and new customers have been won
- Close, lasting relationships with prestigious and demanding clients
- Partnering diversifies risk, improves cost flexibility, and accelerates international expansion

Negative value drivers

- Dependency on individual customers
- The balance sheet position remains risky
- The liquidity of the stock is low

Investment profile 3/3

1. **Significant growth potential created by NorrDigi**
2. **Global, industry-leading customers**
3. **Operating model based on partnerships**
4. **Not all of NorrDigi's goals will necessarily be achieved**
5. **Customer sectors are cyclical and individual customer risks high**

Potential

- NorrDigi creates a significant opportunity for improving growth and profitability
- Global, industry-leading customers with whom the company has long-term relationships
- A partnership approach builds capabilities and resources while limiting risks
- The company can act as a consolidator in its field or become an acquisition target

Risks

- There are still risks related to the commercialization of NorrDigi
- Norrhydro's demand is driven by machine demand in customer industries, which is cyclical
- Individual customer risks remain significant
- The balance sheet position is risky

Source: Inderes

Strategy and financial targets 1/2

Partnerships at the strategic core

The core elements of Norrhydro's strategy are:

- **Revenue growth organically and through selected acquisitions.** The numeric growth targets are discussed below. The new factory in Rovaniemi provides good conditions for organic growth.
- **Expansion into new geographic markets.** Growth is sought through the commercialization of NorrDigi MCC and NorrDigi EMA in Europe, Asia and North America. New markets for conventional hydraulic cylinders are also being sought, particularly in Scandinavia and Northern and Central Europe.
- **Expansion of technological know-how and production capacity.** Norrhydro's aim is to modernize the mobile machine and equipment industry with its own innovations and to be a technology leader in its field, whose own patented products and product development bring a decisive competitive advantage. The company continues close cooperation with leading OEMs and research institutes. The aim is also to expand technological expertise and production capacity through acquisitions and by investing in the capability of the production plant in Rovaniemi.
- **Expanding and positioning strategic partnerships higher in the customer value chain.** We estimate that more than 70% of Norrhydro's revenue comes from six international/global strategic partner customers with whom the company has worked for up to 30 years. Rather than being a component supplier, Norrhydro aims to be a long-term strategic partner to the customer, a) developing its solutions together with the customer, b) providing service throughout the product life cycle, and c) solving the customer's strategic challenges (e.g. reducing machine emissions with NorrDigi technology). This way Norrhydro is aiming higher in the customer's value chain.
- **Acquiring new strategic partners.** Norrhydro aims to grow globally in NorrDigi products. Marketing and implementing customer projects requires local customer support that a strategic partner can provide. There may also be several strategic partners, depending on their specialization and the geographic and customer segment coverage.

The strategy is based on current strengths

In our opinion, Norrhydro's strategy is realistic, well focused and based on the company's existing undisputed strengths. These include close and long-standing relationships with a number of well-known customers and a high level of technological expertise, of which NorrDigi products are the best example. It is also positive that Norrhydro is limiting its own technical and commercial risk by relying heavily on partnerships for product development and, in the future, marketing. Through joint product development, Norrhydro has the opportunity to further engage the customer and improve its position in the customer's value chain. The strategic partner sought for marketing and customer support would ideally be a select manufacturer of complementary products with global reach. According to Norrhydro, there are dozens of potential partners, but the evaluation process has only just begun.

It is implicit in the strategy that the conventional hydraulic cylinder business,

Key strategy elements

- Focus on customers' machines and equipment in hard and demanding use
- Strengthening technology leadership
- Expansion of existing strategic partnerships and acquisition of new ones
- Growth and internationalization, especially through NorrDigi products

Strengths and weaknesses of the strategy

+ Realism and a clear focus
+ Growth in digital solutions, where the competitive advantage is clear
+ Strengthening technology leadership
+ Reliance on partnerships, which limits risks
− Required resources for growth still open

Strategy and financial targets 2/2

which provides Norrhydro with a stable revenue and cash flow, will form the basis on which the more ambitious plans for NorrDigi products can be built.

We feel that the strategy could also take a stand on the resources required for implementation and their adequacy. The main risks continue to relate to the commercialization of NorrDigi.

Financial targets

Norrhydro's financial targets by 2028 are:

- Revenue > 70 MEUR,
- EBITDA margin > 16%;
- Average annual growth rate 10 % (CAGR) in the cylinder business in 2020-2028;
- Digital solutions represent 30% of revenue;
- Payout ratio 20-30% of the profit for the financial year

Targets are tough, but realistic

Norrhydro's revenue target is challenging. The target is divided into growth of the conventional cylinder business from 30 MEUR in 2023 to 49 MEUR in 2028 (annual growth rate of 11%) and growth of the digital solutions business from an estimated 0.6 MEUR in 2023 to 21 MEUR in 2028. Despite the COVID pandemic and the loss of the Russian business of Ponsse, an important customer, sales of conventional cylinders grew by +9% p.a. in 2019-2023. Therefore, the revenue growth target for conventional cylinders is not excessive, although it is challenging. NorrDigi's competitive advantages and growth prospects are very promising and we believe that the future growth rate will depend more on the speed of ramp-up among customers, especially Volvo, of production of NorrDigi equipped machines than on end demand. With the ongoing commercialization of NorrDigi MCC and new customer wins, we see NorrDigi's risks decreasing over the past year and believe the technology will reach its growth target between 2024 and 2028.

The 16% EBITDA margin target is also high relative to the 2018-2023 adjusted median (10.3%). However, the development of NorrDigi has weighed on profitability during this period, and compared to the target, the EBITDA margin achieved in 2016 (12.6%) is a better benchmark. Norrhydro has previously estimated that the NorrDigi sales margin would be 10 percentage points higher than for conventional cylinders. On this basis, a group-level EBITDA margin of 16% in 2028 would require an EBITDA margin of 13% for the conventional cylinder business and 23% for NorrDigi when the latter's share of revenue is 30%. An EBITDA margin target of 13% for the conventional cylinder business would be realistic, but an EBITDA margin target of 23% for NorrDigi would be challenging. We will talk this in more detail in the Estimates section.

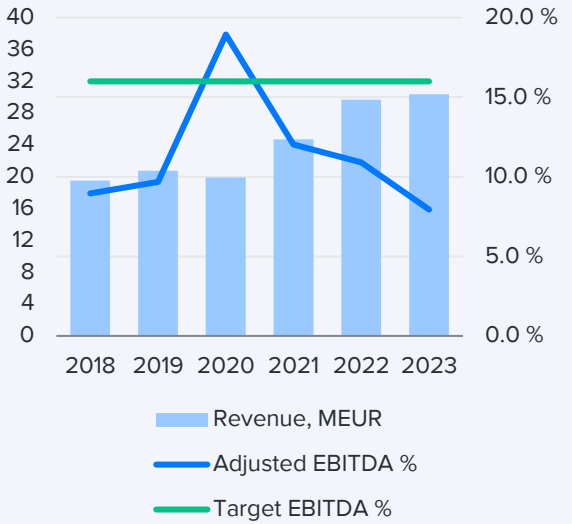
Norrhydro's targeted payout ratio is typically cautious for a growth company, and according to the company, it may also be affected by growth investments, as well as earnings development and outlook. In 2020-2022, when dividends were paid, the payout ratio was 25-41% of adjusted earnings.

Norrhydro has no official objectives related to the balance sheet structure. The company has financial covenants on its loans linked to equity and net debt to EBITDA ratios, the levels of which have not been disclosed. As mentioned above, the balance sheet is currently burdened.

Financial objectives 2028

- Revenue > 70 MEUR,
- EBITDA margin > 16%;
- Average annual growth rate 11 % (CAGR) in the cylinder business in 2020-2028;
- Digital solutions represent 30% of revenue.

Actual profitability vs. targeted level



Source: Norrhydro

Industry and competitive field 1/5

A big and versatile market

The hydraulics market is versatile and distributed across a wide range of product types and customer industries. The most important hydraulic products are hydraulic motors, pumps, valves, transmission components, cylinders, accumulators and filters. Norrhydro's products, hydraulic cylinders, are the most important product group in the entire hydraulic components market, accounting for approximately 35% of the total global market. In the cylinder market, Norrhydro focuses on mobile equipment cylinders, which represent 55-60% of the hydraulic cylinder market and thus 20% of the total hydraulic components market. The remaining 40-45% of the hydraulic cylinder market is made up primarily of industrial and power generation cylinders. The most common estimates for the size of the hydraulic cylinder market are around 15 BNUSD (2023), and the global mobile hydraulic cylinder market is around 8-9 BNUSD.

Several customer industries in hydraulics

Hydraulic components are used in almost all machines that require power transmission enabled by hydraulics, but most in different work equipment. The largest customer industries for Norrhydro's relevant product group, mobile hydraulic cylinders, are material handling equipment, agricultural and forestry machinery, construction and mining machinery, and the automotive industry. The graph below illustrates the distribution.

Norrhydro's cylinder business market is expected to grow by 4-5% annually

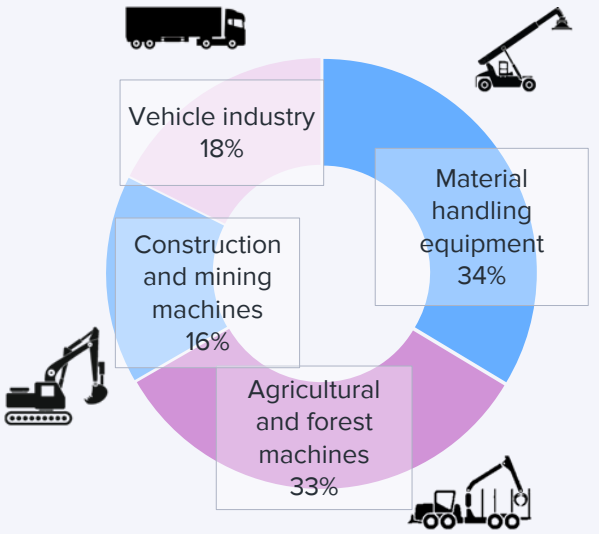
In Norrhydro's main end-customer industries, the growth drivers for hydraulic cylinder demand are:

- **In forestry and agriculture**, demand growth is driven mainly by increasing fleet efficiency requirements, and in the forest machine industry that is important for Norrhydro the driver is the global progress in the mechanization of logging and the cut-to-length method becoming more common.
- **In construction**, population growth, urbanization and increasing mechanization are driving demand in emerging markets. In developed markets, major infrastructure projects, e.g., in the US act as the growth driver. **In the mining industry**, the fundamental drivers of machine demand are the increased demand for battery metals and the declining ore grades, which means increased need for mining per metal ton.
- **In materials handling**, drivers of equipment demand include growth in container traffic, electrification of the equipment fleet, changes in logistics chains due to geopolitics, and labor shortages that are accelerating automation, particularly in developed countries.

We estimate that these sectors accounted for 85% of Norrhydro's revenue in 2023. The research institutes' expectations for the development of the market for mobile hydraulic cylinders are therefore roughly in line with the development of the target market for Norrhydro's cylinder business.

According to estimates presented last year (e.g. GMInsights, IMARC Group), the value of the global market for hydraulic cylinders is expected to grow at a CAGR of 4-5% from 2024, with forecasts extending to 2030-2032. Most studies expect the mobile cylinder market to grow at about the same rate as the overall market.

Mobile hydraulic cylinders market



Source: Interact Analysis 2022

Industry and competitive field 2/5

Overall, we believe a compound annual growth rate (CAGR) of 4% is a reasonable estimate for the growth of the mobile cylinder market over our forecast period of 2024-2027. We return to the drivers and distribution of Norrhydro's revenue in the forecast section.

NorrDigi's market potential is considerable, but estimating is challenging

There are few public sources available to estimate the market potential of NorrDigi MCC and its growth. The main potential customer groups are on the heavier side of hydraulic cylinder equipment, i.e. earthmoving equipment, material handling equipment, mining equipment, forestry equipment and marine & offshore equipment. Since NorrDigi MCC will replace conventional hydraulic cylinders, it is logical to assume that their market will grow much faster than the 4-5% p.a. growth of the total hydraulic cylinder market described above. From Norrhydro's strategic goals presented earlier, it can be concluded that the company itself aims for at least 100% p.a. revenue growth for NorrDigi products (MCC and EMA) between 2024 and 2028. However, the low starting figure must be borne in mind.

The market for NorrDigi MCC will take time to develop

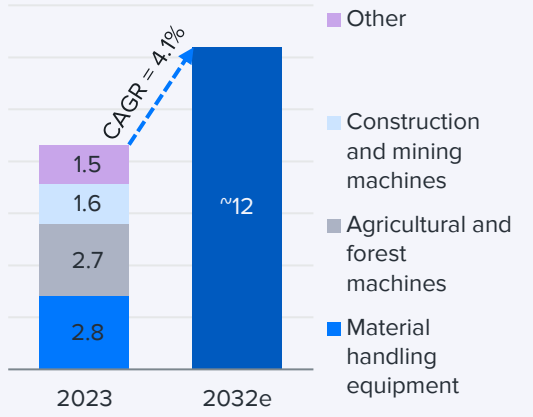
More detailed forecasts for NorrDigi MCC should be made on a manufacturer-by-manufacturer basis, taking into account their machine range, its renewal and suitability for MCC use, as well as their strategic susceptibility to change. Norrhydro maps the field of potential OEM customers for NorrDig in terms of their strategic compatibility and agility. Realizing the potential of the NorrDigi MCC is a long-term process, as the current range of machines cannot be equipped with MCCs due to the significant changes required to the design of the machines. NorrDigi MCC can thus become part of each machine manufacturer's offering only one model or model series at a time as they are renewed, i.e., on average every 5-7 years. According to Norrhydro, interest in the NorrDigi MCC is high, but many potential customers are still waiting for Volvo's NorrDigi MCC products to go into serial production and for their first experiences. However, Norrhydro has indicated that the manufacturer's decision to use the NorrDigi MCC will allow for rapid progress thereafter: For example, Norrhydro could deliver an MCC machine to an earthmoving machine manufacturer in one year, and the manufacturer could launch said MCC machine a year later.

NorrDigi MCC's main target markets are dominated by a few global players, which contributes to NorrDigi MCC's strong market position. In addition, the progressing machine electrification is a clear positive driver for NorrDigi MCC, since battery-powered machines combined with conventional hydraulics would in many cases mean too high energy consumption and NorrDigi MCC is a very promising alternative for solving this problem.

NorrDigi MCC potential for the coming years based on existing customers

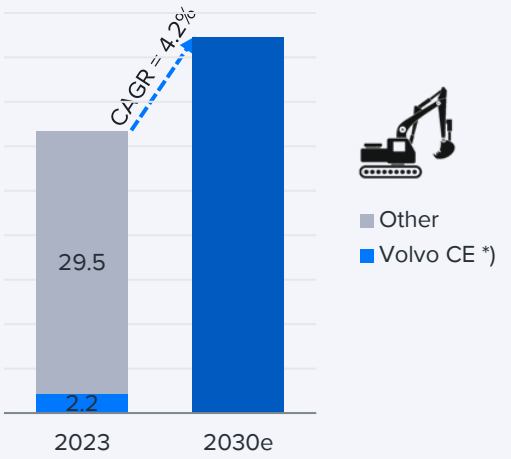
Due to limited resources, Norrhydro is currently focusing on three key customers for the commercialization of MCC, namely Volvo CE, an unnamed cargo handling equipment manufacturer (which we believe to be Kalmar) and an unnamed US oil rig operator. The potential created by these customers is already significant:

Market for mobile hydraulic cylinders 2023-2032e, BNUSD



Source: Interact Analysis, GM Insights, IndustryARC, iMarc Group, Inderes

NorrDigi's primary target market: Tracked excavators 2023-2030e, BNUSD



Source: GII Research; *) = Inderes estimate

Industry and competitive field 3/5

it's our understanding that Volvo CE produces 10,000-15,000 excavators over 20 tons at its factory in South Korea, and we have previously estimated that Kalmar sells 1,200-1,400 medium and heavy forklifts per year. There are approximately 700 active onshore oil rigs in the USA alone, and we know that Norrhydro's customer is one of the major players in the industry. We roughly estimate the sales potential of these three customers for NorrDigi MCC to be 250-500 MEUR by 2030.

EMA market just getting off the ground in Norrhydro's segments

Electromechanical actuators (EMA) can replace conventional mobile cylinders, especially in applications and machines with low power requirements and variable duty cycles. One potential application is in material handling equipment, where the advantages of an electromechanical actuator over a hydraulic cylinder include improved efficiency and accuracy of motion, oil-free operation, and lower noise levels. The market for electromechanical actuators is still at an early stage in Norrhydro's target segments. Estimating the potential is difficult because the entire actuator market can be viewed in terms of power transmission (electric, mechanical, pneumatic, and hydraulic), direction of motion (linear, rotary), and customer industries/applications. No direct estimates of the market size for Norrhydro's electronic linear actuators were available to us. However, Xcellent Insights (9/2023) estimates that the global market for electronic linear actuators will grow from 21 BNUSD in 2022 to 34 BNUSD in 2032 (CAGR = +5.3%).

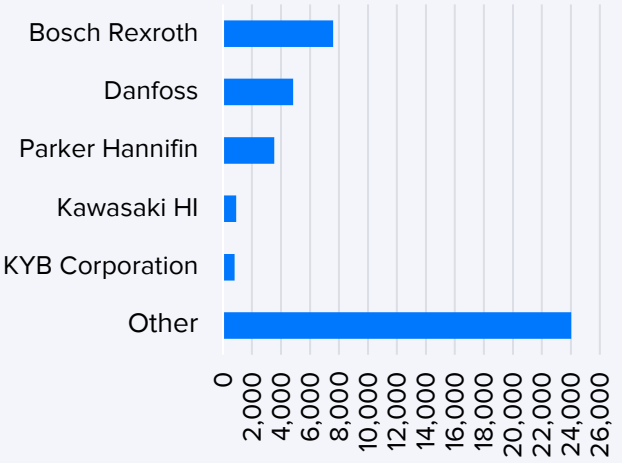
The global hydraulics market is fragmented

The global hydraulics market is quite fragmented, with the top three players controlling 35-40% of the market, but the market is fragmented below them. The market is dominated by Bosch Rexroth of Germany (7.6 BNEUR revenue in 2023), Danfoss of Denmark (4.8 BNEUR), and Parker Hannifin of the United States (3.5 BNEUR). All large operators have a wide product selection (engines, pumps, valves, transmission components, cylinders, accumulators, and filters) and operate globally. Therefore, a comparison with Norrhydro is not very meaningful. Due to the large number of companies active in the sector and the relatively simple technology of basic cylinders, the market is characterized by fierce competition.

In conventional cylinders, competition is regional

Although the customers of Norrhydro's conventional hydraulic cylinders and their factories in the Nordic countries supply their machines globally, competition in hydraulic cylinders is regional by nature. This is due to: 1) the cooperation between the hydraulic cylinder supplier and the machine manufacturer is already close at the product development stage, so the location of the companies close to each other greatly facilitates the interaction; 2) the location close to the customer enables urgent deliveries and quick response to the customer's changing needs, while keeping buffer inventories low; 3) longer delivery distances would make the logistics costs a significant part of the total cost of the cylinder. Thus, the natural market for Norrhydro's conventional hydraulic cylinders in is the Baltic coastal states and competition should be examined from this perspective.

2023 revenue of leading hydraulics suppliers, MEUR



Source: Companies, consultancy companies, Inderes estimates

Industry and competitive field 4/5

The closest competitors for Norrhydro's conventional cylinder business are Finnish and Swedish. The most important are Hydroline Oy, Wipro Infrastructure Engineering Oy (a subsidiary of the Swedish Wipro infrastructure Engineering AB and part of the global Wipro Group), Hydoring Oy, as well as Arcos Hydraulik AB and Stacke Hydraulik AB operating in Sweden. Apart from Wipro Infrastructure Engineering Oy, the companies mentioned above are very similar to Norrhydro in terms of total revenue. Of Wipro's revenue in Finland (60 MEUR in the fiscal year ending 3/2023), an estimated 30 MEUR are hydraulic cylinders and the remainder is mainly tilt cylinders and tilt hydraulic components (Nummi brand). Based on the available figures, Norrhydro was still among the three largest companies in the market for the period 2022-2023.

Not too shabby growth and profitability

The growth of all peer companies for 2018-2022/23 suffered from the COVID pandemic (CAGR = -4%...+8%) and slowed down significantly compared to the past. Norrhydro grew the fastest (CAGR = +8%). The EBITDA margin of the companies in the sector has mostly been 6-11% in recent years, and Norrhydro's ranking on this measure is decent. Hydroline, the market leader in Finland, has experienced poor profitability and has had to both launch two share issues (2021 and 2024) and restructure its credit facilities after breaching covenants. Like Norrhydro, Hydroline's balance sheet is also burdened. At the end of 2023, the net gearing ratio was 140%.

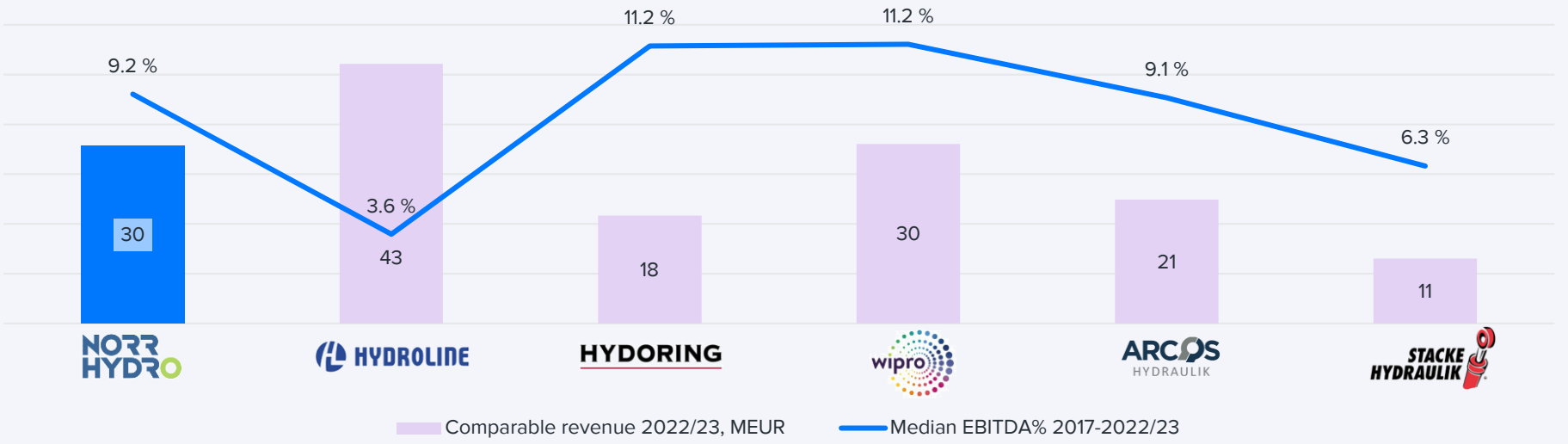
Competition is fairly stable

According to Norrhydro, there have been no significant product launches by competitors recently. Hydroline's growth has been slower than the market, and Hydoring's cylinder sales have grown at the same rate as Norrhydro's. Swedish Arcos is a familiar face in the competition and has benefited somewhat from the weakness of the Swedish krona. There has also been no major M&A activity, with Wipro's acquisitions (Columbus Hydraulics and Mailhot Industries) focused on North America. Norrhydro has reportedly had some contacts with global hydraulics manufacturers for cooperation, but no names or other details have been disclosed.

Quality, reliability and expertise as competitive advantages

In a very diffuse market, it makes no sense to specify Norrhydro's market share and its changes. As a whole, we believe the company has performed well compared to its competitors, both in terms of growth and profitability. Norrhydro has identified quality,

Manufacturers of conventional hydraulic cylinders



Industry and competitive field 5/5

reliability, security of supply and product development expertise with the most demanding customers as its main competitive advantages. It is of course very difficult for an outsider to verify these facts, but Norrhydro's profile towards the most demanding customers is demonstrated by the fact that the average prices of its conventional hydraulic cylinders have historically been 5-10% higher than the average prices of its competitors. However, this premium has recently fallen to 0-5% in a more difficult market. We consider Norrhydro's competitive advantages to be quite permanent and see no immediate threats to the company's market position or profitability in conventional cylinders.

Three tiers of EMA equipment manufacturers

The EMA market is dominated by the conventional players in the hydraulics sector (Bosch Rexroth, Parker Hannifin), for whom this segment is only a small part of the total. The market also includes medium-sized companies specializing in linear actuators (Moog, Ewellix) and small specialized companies such as Norrhydro, Cascade Drives of Sweden and Creative Motion Control of the US. Due to the fragmented nature of the EMA market and the limited information available on the various players, we have not attempted to examine the competitive positions of the various companies in detail.

NorrDigi MCC's competitive position is strong

Competing technologies with NorrDigi MCC are 1) electro-hydraulic actuators; 2) electro-mechanical actuators; and 3) independent metering valves (IMVT). Their characteristics are presented in the table below. Electromechanical systems are not capable of providing the same power density and required maneuverability for heavy machines. Electro-hydraulic systems, on the other hand, help save energy and reduce fuel consumption, but not to the same degree as NorrDigi. IMVTs can also be used to recycle energy, but not in the same quantities as NorrDigi, at a higher cost to the end user. The savings enabled by NorrDigi for the end user were described on page 12.

NorrDigi MCC's closest competitors are Bosch-Rexroth, Parker Hannifin, Moog, Nabtesco, KYB and Husco. However, according to Norrhydro, their products do not achieve the same performance, cost effectiveness and/or energy efficiency as the NorrDigi MCC.

Overall, NorrDigi MCC is a patented and proven solution that is technically, economically and environmentally more competitive than competing systems. Since the NorrDigi MCC also enables a significant reduction in the size of the battery of an electric machine, it also has the potential to be a future-proof solution.

NorrDigi vs. other cylinder technologies

Feature	NorrDigi MCC	Proportional valves	Electro-hydraulic	Electro-mechanical
Productivity increase	+++	+	-	-
Energy savings	+++	+	+	+
Energy recovery	+++	+	+	-
Fuel consumption reduction	+++	+	+	-
Profitability improvement	+++	-	-	++
Manufacturer	Norrhydro	Parker Hannifin, Husco	Bosch-Rexroth, Parker Hannifin, Moog	Bosch-Rexroth, Parker Hannifin, Moog

Source: Norrhydro; world-of-industries.com; machinedesign.com

Financial position 1/2

A strong and increasingly export-driven growth story

During the period 2014-2023, Norrhydro Group's revenue grew at an average annual rate of just under 9%, and didn't decline once during the period, except in the pandemic year 2020. Given the traditionally strong cyclicality of the customer industry (engineering companies) and especially of the subcontractors in the sector, Norrhydro's performance is strong.

The share of direct export sales in Norrhydro's revenue used to be quite small (around 15% between 2016 and 2018), but has increased significantly in recent years, reaching 32% in 2023. Exports to other EU countries grew the fastest, averaging 27% per year between 2018 and 2023, with a 9% decline in 2023. In addition, the sales of Norrhydro's customers in Finland are strongly export-oriented, so overall exports account for a very significant share of Norrhydro's revenue.

Baseline profitability fairly stable, but low

Norrhydro's adjusted EBIT margin in 2013- 2023 was between 3.5% and 15.3%. In assessing profitability, one must consider 1) the R&D investments made by Volvo in the development of NorrDigi in 2017-2019 and the one-off payment in 2020 for exclusive rights and usage right. These are reflected in Norrhydro's revenue, but the amounts could not be disclosed for contractual reasons; 2) EU product development grants and other grants recognized in other operating income (0.214-1.060 MEUR in 2018-2023). In our view, the adjustment of Volvo's R&D investments and grants received from Norrhydro's figures is not justified, as without these amounts the corresponding R&D costs would not have been incurred either. Overall, the cumulative expenses incurred were significantly higher than the amount of grants received, and in only one year (2019) did the amount of grants received exceed the R&D expenses recorded in the income statement. The exclusive compensation from Volvo is more of a one-time payment, but according to Norrhydro, similar payments may continue to come from other NorrDigi customers.

A more detailed analysis of Norrhydro's historical profitability requires a separate analysis of the profitability of the profitable conventional cylinder business and the still loss-making NorrDigi business, for which little information is available. Based on past performance, i.e., in 2013-2016, the typical EBIT margin level for conventional cylinder business is 5-9%.

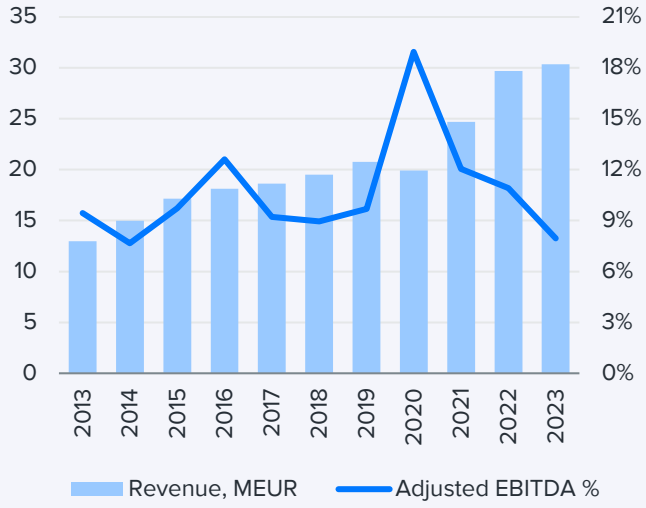
Average repricing cycle 6 months

Like other engineering companies, Norrhydro experienced a significant cost increase (about +20%) between 2021 and 2022 due to market disruptions and higher raw material and component prices. The company's own customer pricing is largely indexed to raw material and component prices, with revisions made twice a year. When component prices rise rapidly, this poses a temporary risk to profitability, but when prices fall, the effect is the opposite.

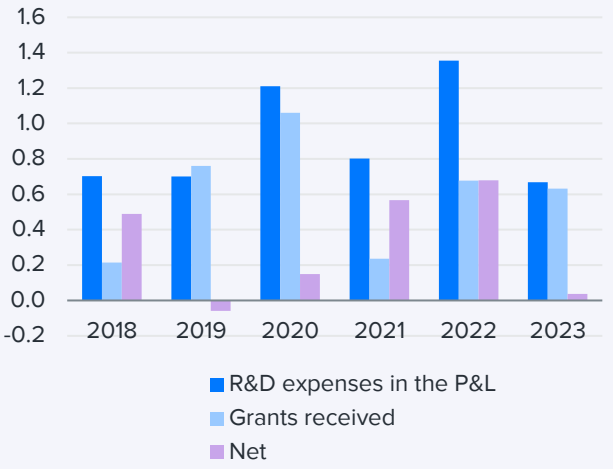
Operating leverage bigger than it first appears

Overall, Norrhydro's profitability is typically relatively low for a subcontractor company, but also relatively stable. Based on the share of fixed costs (approx. 40% of total costs), Norrhydro's operational leverage

Revenue and profitability 2013-2023



R&D expenses, MEUR



Source: Norrhydro

Financial position 2/2

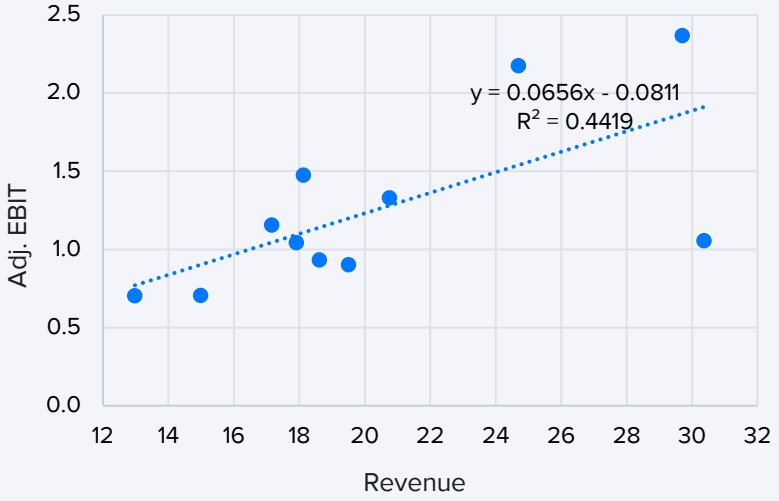
should be quite high, and the change in EBIT should therefore be strong in relation to the change in revenue. This would also make intuitive sense when considering the impact of capacity utilization on the profitability of the Rovaniemi factory. However, the regression of revenue and EBIT calculated from Norrhydro's actual performance history does not support this view, and the operating leverage is low: in the relevant revenue range of 26-44 MEUR, the operating leverage is only 1.0x. However, the coefficient of determination remains low, i.e. only 44%. Our conclusion is that the revenues and costs associated with NorrDigi, as well as the market disruptions related to the pandemic, make it difficult to calculate a meaningful operating leverage for Norrhydro. However, we think it is clear that Norrhydro's practical operating leverage is much higher than the 1.0x mentioned. It follows that volume growth should have a clear positive impact on the relative profitability of both conventional cylinders and NorrDigi products, and thus on the Group as a whole.

The balance sheet is under pressure

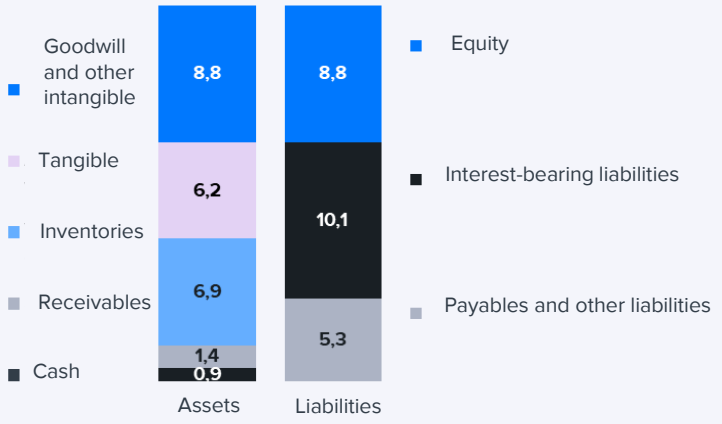
The following factors have weighed on Norrhydro's earnings and/or equity in the period 2022-H1'24: 1) decommissioning of the old plant and start-up of the new one (-1.9 MEUR in total); 2) inventory write-down (-0.9 MEUR) and 3) profit distribution / return of capital (-1.0 MEUR). With the IPO in 2021 (net +7.2 MEUR), the company's equity is still quite strong (8.8 MEUR at the end of H1'24). However, Norrhydro's net debt after 2021 increased from 0.3 MEUR to 9.2 MEUR (H1'24), mainly due to investments (-8.3 MEUR), largely related to the new mill.

Debt and unsatisfactory profitability pushed Norrhydro's liquidity close to crisis levels by the end of 2023. The situation was saved by a 1.5 MEUR convertible bond issued before the turn of the year 2023-2024, with a high coupon of 10%. Nevertheless, even with credit limits, Norrhydro's quick ratio was only at a satisfactory level at the end of 2023 (0.5x) and had not improved much at the end of H1'24 (0.6x). At the end of H1'24, Norrhydro's net gearing was 104% and equity ratio 36%, so cash flow and balance sheet development will remain in the focus of investors for some time to come.

Regression of revenue and operating result 2013-2023 (MEUR)



Balance sheet structure June 30, 2024; MEUR



Source: Norrhydro

Estimates 1/6

Background assumptions of revenue estimate

Due to the imprecise nature of the markets for various types of hydraulic cylinders and electric actuators, we base our revenue forecasts for Norrhydro mainly on the assumed volume development of the company's current and future customers in the product areas where Norrhydro's products are used.

We have divided our Norrhydro revenue estimate into three components:

1. **Conventional hydraulic cylinder customers and products.** The global market for mobile cylinders, already discussed in the *Industry and Competitive Field* section, will grow by around 4% p.a. between 2024 and 2027, providing a loose framework for our forecast. To be consistent with our forecasts for Norrhydro's largest customers, we have estimated their shares of Norrhydro's cylinder revenue and used our own forecasts for Ponsse, MacGregor (Cargotec), Kalmar and Metso Aggregates, as well as consensus forecasts for Sandvik Mining and Rock Solutions, as the basis for our own Norrhydro forecasts. For Norrhydro's other major customers (e.g. Toijala Works, Mantsinen, Junttan and HMF) we have used rough growth forecasts for the industry. As a result of this calculation, we expect Norrhydro's hydraulic cylinder sales to traditional customers to grow at a rather modest average rate of 2.6% p.a. between 2024 and 2027. Growth is slowed by the expected weak performance in 2024 (-12% y/y), but thereafter growth is quite buoyant (5-13% y/y).
2. **New customers for conventional products.** Norrhydro has a number of new customers, either in the ramp-up phase or at various stages of the consultancy process, but of course no further details are given. We estimate that the number of new potential and relevant customers is 4-8. We believe that these are mainly Finnish companies representing industries familiar to Norrhydro (tipping and loading hydraulics, cranes, mining and construction machinery). The new Norrhydro factory creates good preconditions for serving these customers as well. We forecast revenue from new customers for hydraulic cylinders to grow from around 1.5 MEUR in 2024 to 5.0 MEUR in 2027.

   Combined revenue from old and new customers for hydraulic cylinders will grow by 6.3% per year between 2024 and 2027. This is well below the company's own target of 11% p.a. for 2024-2028. When macro views and new customer volumes are uncertain, we believe our caution is warranted.
2. **NorrDigi MCC and EMA**. A typical NorrDigi MCC delivery value per machine is 40 TEUR, consisting of four cylinders plus peripherals such as pressure accumulators, control electronics, sensors, etc. The value of supply of the lifting equipment modules for oil rigs, which are becoming important, is higher than this, i.e. an estimated 60-70 TEUR/tower including batteries. Due to low volumes, NorrDigi's MCC revenue will still be low in 2024 (our estimate <0.5 MEUR), but in 2025 Volvo's MCC deliveries of 30-ton excavators (estimated at 30 units) and MCC deliveries of oil rig crane modules (estimated at 10 units) will increase revenue to 1.8 MEUR. In 2026, these volumes will continue to grow and we forecast that further growth will come from 1) the start of deliveries of Volvo's 40-ton excavators (10 units); 2) the start of deliveries to Kalmar (10 units); and 3) deliveries to new customers for oil rig crane modules (7 units). Overall, we expect MCC revenue to reach 4.7 MEUR in 2026.

   Our MCC revenue projections for 2027 and beyond are still based on the aforementioned customers. Our forecast for MCC revenue in 2027 is 9.8 MEUR, of which Volvo's share is 6.1 MEUR (62%). The latter figure corresponds to about 160 excavators, i.e. the "NorrDigi penetration" in the production of Volvo's targeted EC series hybrid excavators is estimated at about 10%.

   NorrDigi EMA is expected to play a relatively small role in NorrDigi's growth. The clearest customer at the moment is

Estimates 2/6

Avant Wood, for which we estimate deliveries to increase to around 0.4 MEUR in 2027. The timing of the launch of Hiab, which we expect to be the second customer, is uncertain, and the same applies to other potential customers. Forecasting is also complicated by the wide price range of EMA equipment (we estimate it at EUR 4,000-20,000/unit). Overall, we expect EMA revenue to increase from 0.3 MEUR in 2024 to 0.6 MEUR in 2027.

With the growth of NorrDigi MCC and EMA, the share of digital solutions in Norrhydro Group's revenue is expected to increase from an estimated 2% in 2023 to 22% in 2027. This would put the company on track to achieve its goal of 30% digital solutions by 2028.

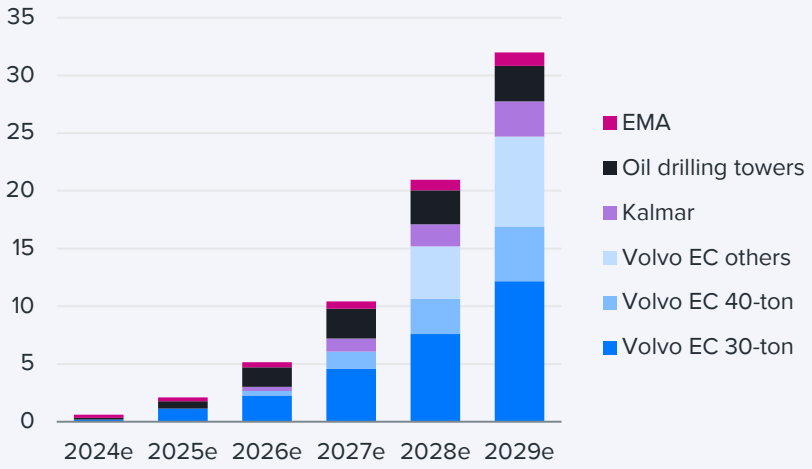
Components of the profitability estimate

Our estimate for the profitability development in 2024-2027 is based on the following factors:

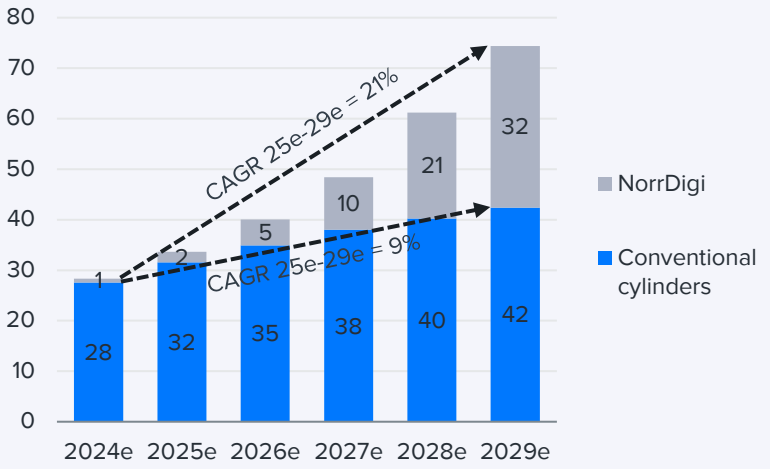
- **Increase in the share of NorrDigi MCC and EMA**. In our forecasts, NorrDigi's implied EBITDA margin level is above 18% in the long term, but this assumes volumes that will not be achieved in our explicit forecast period. Norrhydro will, depending on the situation, apply both cost-based and value-added based pricing in NorrDigi, which naturally gives the company flexibility. Our expectation for NorrDigi's EBITDA margin is below Norrhydro's own implicit target of >20%. This is based on a margin of safety that we believe should be included in NorrDigi's forecasts as long as there is limited evidence of profitability trends in the business. For the sake of clarity, we assume that the profitability of MCC and EMA will be at the same level, although there is likely to be a difference in favor of the former. EMA's share of NorrDigi's revenue will remain relatively small anyway, in our forecasts at 6-9% between 2026 and 2027. At Group level, the share is only 1.1-1.3%.

The improvement in Norrhydro's sales mix, as the EBIT margin of the NorrDigi business moves out of the red and above hydraulic cylinders, will be the main driver of Norrhydro's profitability in the long term. In euro terms and in our explicit forecast period, the EBITs of the hydraulic cylinder business and NorrDigi will improve by almost the same amount.

Breakdown of revenue for NorrDigi MCC and EMA, MEUR



Norrhydro Group revenue breakdown, MEUR



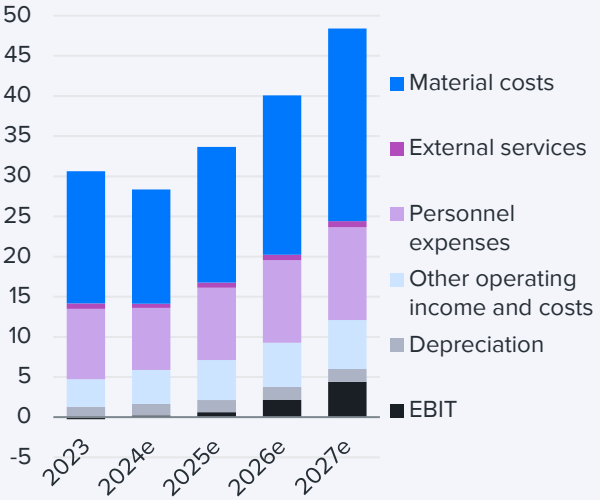
Estimates 3/6

- Our forecasts no longer include **product development grants** recognized in other operating income, which amounted to 928 TEUR in 2022-2023 as the project has ended. We also no longer expect Volvo to make milestone payments when the NorrDigi MCC is ready for production.
- **Materials and supplies** account for 49.5-50.2% of revenue in the forecast period, compared to a median of 48.9% in 2017-2023. The share is slightly higher in 2024-2025 (50.1-50.2%) during the NorrDigi ramp-up, but drops to 49.5% as volumes increase. Overall, however, the share is higher for NorrDigi products than for conventional cylinders.
- The revenue share of **external services** will be 1.6-1.9% between 2024 and 2027. The levels are lower than during the factory migration in 2021-2022 (4.0-5.1%), and also lower than in 2017-2020 (2.1-2.6%), as revenue increases and external manufacturing services are included in material costs.
- **The share of personnel costs** in revenue is declining over the forecast period (2024e: 27.2%; 2027e: 23.9%) compared to 28.8% in 2017-2023. Thanks to NorrDigi products, revenue per employee grows much faster than personnel costs per employee.
- **Other operating expenses** (rent, maintenance, IT, travel & marketing, etc.) as a percentage of revenue initially rise to a high level between 2024 and 2025 (14.8%), but decline to 12.6% in 2027 as volumes increase. The median for 2017-2023 was 13.4%.
- **Depreciation** increases from -1.3 MEUR in 2023 to -1.6 MEUR in 2027 due to increased depreciation of equipment and the start of amortization of NorrDigi's capitalized product development costs (5.7 MEUR at the end of 2023). However, depreciation as a percentage of revenue will decline from 4.3% in 2023 to 3.3% in 2027.
- Although interest rates are on a downward trend, the expensive convertible bond will keep Norrhydro's **cost of debt financing** high between 2024 and 2026 (8.0% to 6.1%), and the average interest rate will not fall to 4.4% until after the convertible bond matures (2026). In addition, a stronger balance sheet should also reduce the margins paid by Norrhydro. In our forecast, Norrhydro will continue to utilize factoring, which will increase financing costs by approximately 0.3 MEUR per year.
- After previous deductible losses, which we estimate to be around -2 MEUR, and further deductible losses in 2024-2025, we forecast the Group's deferred tax rate to be 8% in 2027, rising to a normal level of 20% thereafter.

Investments and financing

The move to the new factory took place in 2022 and the related investments in equipment have been made. Machinery maintenance investments are estimated at 0.8-1.2 MEUR per year in 2024-2027. Investments in intangible rights will amount to 0.4-0.6 MEUR per year. 75-85% of these are product development investments. Overall, we forecast investments of EUR 1.2-1.8 MEUR per year in 2024-2027,

Forecast breakdown into expense items and profit, MEUR



Source: Norrhydro, Inderes' estimates

Estimates 4/6

which corresponds to 3.6-4.4% of revenue. The share is in line with the average of the smaller listed engineering companies.

Norrhydro's net working capital is 8-11% of revenue in 2020-21, before rising to 13% in 2022, related to the plant relocation. In 2023, the share was 12%. We do not expect significant changes in working capital turnover rates and forecast net working capital to be 11-12% of revenue from 2024 onwards.

Norrhydro distributed dividends and capital refunds of EUR 0.06 per share annually in 2020-2022. No dividends were distributed for 2023. Historically, the payout ratio has been volatile. We expect the dividend to resume from 2026 earnings and to be in line with the dividend policy of 24-30% in 2026-2027.

Improving profitability and decreasing investments will keep Norrhydro's cash flow positive even after investments during the forecast period. However, financing the growth will increase the gross interest-bearing debt from 11.0 MEUR in 2023 to 12.4 MEUR in 2025, before the improving profitability will reverse the decrease in gross debt (2027e: 8.7 MEUR). However, we do not expect Norrhydro to be net debt free until 2029.

Estimates for 2024

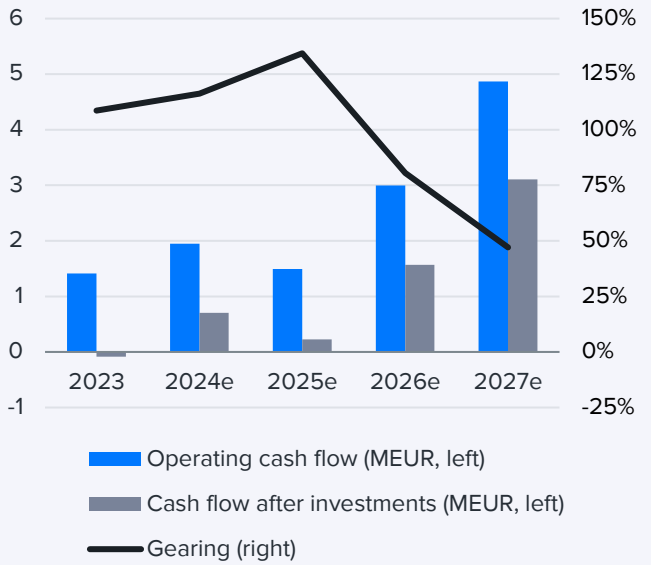
Norrhydro's H1'24 revenue (-28% y/y) reflected the weakened market situation for customers, and the company stated that "the market situation and demand for products was at a really low level during the reporting period, also historically". Norrhydro did not disclose the contribution of NorrDigi products to revenue, but in the spring a complete NorrDigi MCC system was delivered to an oil rig test system for a customer in the USA. However, we believe that NorrDig's contribution to H1 revenue was still only in the range of EUR 150-250 thousand. The Group's EBITDA margin (5.9%) was tolerable and the EBIT margin was also slightly positive. Norrhydro emphasized the importance of the achieved cost savings of around 2 MEUR/year. If revenue had been at the previous year's level of 18 MEUR, EBIT would have been positive by 1.5 MEUR.

Norrhydro's balance sheet remained under pressure and gearing at the end of H1'24 was 104%. However, Norrhydro stressed that the liquidity is sufficient to cover the needs of H2'24.

In its H1'24 report, Norrhydro guided that revenue in 2024 will decrease from the 2023 level (30.4 MEUR), but the EBITDA margin will improve from 2023 (3.5%). Norrhydro said of the market that "the worst seems to be behind us, but the recovery seems to be very slow". However, customer destocking had come to an end. Demand for NorrDigi continued to be strong in H1'24 and this is expected to have a positive impact on H2'24. As mentioned above, sales of NorrDigi MCC for Volvo CE machinery will start during H2'24, and the first serial production order from an oil rig customer is also expected during 2024.

The components of our revenue forecast for 2024 (28.3 MEUR; -7% y/y) have already been presented above. The forecast assumes strong growth in H2'24 (+26% y/y), but the normalization of the customer situation, the NorrDigi MCC deliveries and a very weak comparative period lend credibility to our growth forecast. Our expectation for the full year 2024 for NorrDigi products is 0.8 MEUR (+20% y/y), but there are strong indications that the growth curve will steepen in the future.

Balance sheet enters a strengthening trend



Source: Norrhydro; Inderes' estimates

Estimates 5/6

For the full year 2024, we expect EBITDA of 1.7 MEUR, resulting in a margin of 6.0%, well above the lower end of the guidance range of 3.5%. Given the strong revenue growth, our EBITDA margin expectation for H2'24 (5.8%) is conservative compared to an adjusted 4.6% for H2'23. However, we maintain a risk margin on the success of the rollout of NorrDigi products. Below EBITDA, depreciation and amortization as a percentage of revenue is increasing due to the low level of revenue, weighing on the full-year EBIT (0.2 MEUR; marg. 0.9%). In our forecast, net financing expenses for 2024 are -1.1 MEUR and the corporate tax rate is zero.

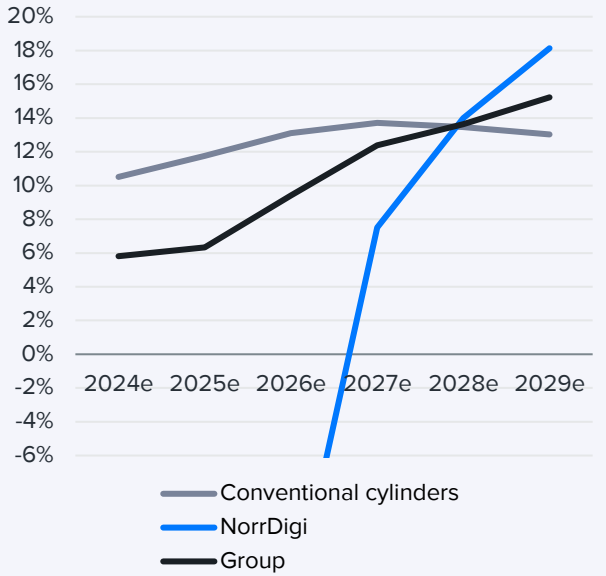
Our forecast for 2024 adjusted earnings per share is EUR -0.08 (2023 act. EUR -0.01) and we do not expect a dividend payment/return of capital.

Estimates for 2025-2027

If the above assumptions materialize, Norrhydro's growth, profitability and balance sheet position will develop as follows in 2024-2027:

- **Revenue** will grow in line with the components outlined above (2025: +19 % y/y; 2026:. +19 % y/y and 2027: +21% y/y). Conventional cylinder customers account for 34%, new cylinder customers 17%, and NorrDigi products 48% of the growth between 2025 and 2027.
- **EBITDA** increases from 2.3 MEUR in 2025 (margin 6.9%) to 6.2 MEUR in 2027 (margin 12.8%). In turn, adjusted EBIT will increase from 0.6 MEUR in 2025 (margin 1.9%) to 4.5 MEUR in 2027 (margin 9.2%). NorrDigi products account for 46% of the euro improvement in EBIT. An EBIT margin of 9-10% is already a good level for an engineering company and especially for a subcontractor. To achieve this, NorrDigi's growth must be as strong as expected and no competing products must enter the market during this period to drive down prices.
- **Profit before taxes, net profit and earnings per share** improve at a very fast pace between 2025 and 2027, but the rate cannot be calculated given the negative baseline in 2024. The rapid growth in adjusted earnings is driven by NorrDigi's strong growth and a turnaround in profitability from a loss (2024e-2026e) to a clear profit (2027e).
- **Operating cash flow** is clearly positive throughout the forecast period (1.9-5.0 MEUR in 2024-2027). Moderate investment needs also keep the cash flow after investments positive (0.4-3.3 MEUR).
- **Return on capital** is increasing rapidly due to improved profitability and low capital expenditures. Return on investment (ROI) will improve from 1% in 2024 to 21% in 2027. Pre-NorrDigi benchmarks include 2019 (13%) and 2021 (15%).
- **Equity ratio and gearing**. The timing of Norrhydro's factory investments was not ideal cyclically, resulting in a net gearing of 104% at the end of H1'24. The equity ratio was reasonable at 36%. However, thanks to the expected strong cash flow, net gearing will decline rapidly over the forecast period (2027e: 47%) and the equity ratio will also improve (2027e: 43%).

Illustration of Norrhydro's adjusted EBITDA margin



Source: Inderes' estimates

Estimates 6/6

Comparison with the company's own objectives

As mentioned in the strategy section, Norrhydro targets revenue of more than 70 MEUR and an EBITDA margin of >16% in 2028. Our own corresponding forecasts are 61 MEUR and 13.7%. As a result, our revenue forecast is 13% below and our EBITDA margin forecast is 2.3 percentage points below the company's target. However, in our own forecasts, NorrDigi's share of revenue will be 34% by 2028, above the company's target of 30%, so we think it likely that the profitability we expect from NorrDigi will be below the company's targets. These targets have not been made public.

There is still a lot of uncertainty in our forecasts for the Group with regard to the success of new customer acquisition in conventional cylinders and the growth rate and profitability of NorrDigi. But it is also very possible to exceed our expectations.

Long-term estimates

We believe NorrDigi will still accelerate Norrhydro's growth in 2028-2032 (CAGR = +15%), even though revenue growth will slow down clearly toward the end of the period. Our terminal growth rate assumption is +2.5% p.a. We expect the Group's EBITDA margin to decline slightly after 2029 (15.2%) as the technology matures and competition intensifies. Our margin expectation at the terminal is 10.5%. To prevent balance sheet over-capitalization, we have set the payout ratio at 60-80% for 2028-2032.

NorrDigi forecasts delayed by one year

We have significantly lowered our forecasts for 2024-2026. The main reason for the change in the revenue growth forecast is the shift in the start of serial production of NorrDigi products from 2024 to 2025, which was only confirmed after the H1'24 report, and this change accounts for about 75% of the decrease in our revenue forecast. Our new forecast for 2027 for NorrDigi is quite close to our previous forecast for 2026. In addition to the volume forecast cuts, we have taken a more cautious stance on the relative profitability of NorrDigi products, as visibility is understandably still low. As a result, the earnings leverage in our 2025 forecast change, for example, is high (around 4x).

Estimate revisions	2024e	2024e	Change	2025e	2025e	Change	2026e	2026e	Change
MEUR / EUR	Old	New	%	Old	New	%	Old	New	%
Revenue	27.7	28.3	2%	37.0	33.7	-9%	47.2	40.1	-15%
EBITDA	1.6	1.7	7%	3.4	2.1	-38%	5.6	3.8	-33%
EBIT (exc. NRIs)	0.3	0.3	2%	1.8	0.6	-65%	3.9	2.2	-44%
EBIT	0.2	0.2	-7%	1.8	0.6	-66%	3.9	2.2	-45%
PTP	-0.9	-0.9	-8%	0.7	-0.5	-165%	3.0	1.2	-61%
EPS (excl. NRIs)	-0.08	-0.08	-6%	0.07	-0.04	-156%	0.26	0.10	-60%

Source: Inderes

Income statement

Income statement	2021	2022	H1'23	H2'23	2023	H1'24	H2'24e	2024e	2025e	2026e	2027e
Revenue	**24.7**	**29.7**	**18.3**	**12.0**	**30.4**	**13.1**	**15.2**	**28.3**	**33.7**	**40.1**	**48.4**
EBITDA	**3.0**	**1.7**	**1.4**	**-0.3**	**1.1**	**0.8**	**0.9**	**1.7**	**2.1**	**3.8**	**6.0**
Depreciation	-0.8	-0.9	-0.7	-0.7	-1.4	-0.7	-0.8	-1.5	-1.5	-1.6	-1.6
EBIT (excl. NRI)	**2.2**	**2.4**	**1.1**	**-0.1**	**1.1**	**0.1**	**0.1**	**0.3**	**0.6**	**2.2**	**4.5**
EBIT	**2.2**	**0.8**	**0.7**	**-1.0**	**-0.3**	**0.1**	**0.1**	**0.2**	**0.6**	**2.2**	**4.4**
Net financial items	-1.8	-0.6	-0.5	-0.6	-1.2	-0.5	-0.6	-1.1	-1.1	-1.0	-0.7
PTP	**0.4**	**0.2**	**0.2**	**-1.6**	**-1.4**	**-0.4**	**-0.5**	**-0.9**	**-0.5**	**1.2**	**3.7**
Taxes	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
Net earnings	**0.4**	**0.0**	**0.1**	**-1.6**	**-1.4**	**-0.4**	**-0.5**	**-0.9**	**-0.5**	**1.2**	**3.4**
EPS (adj.)	**0.19**	**0.15**	**0.05**	**-0.06**	**-0.01**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	**0.10**	**0.29**
EPS (rep.)	**0.04**	**0.00**	**0.01**	**-0.14**	**-0.13**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	**0.10**	**0.29**

Key figures	2021	2022	H1'23	H2'23	2023	H1'24	H2'24e	2024e	2025e	2026e	2027e
Revenue growth-%	24.0 %	20.3 %	10.3 %	-8.0 %	2.2 %	-28.4 %	26.5 %	-6.7 %	18.8 %	19.1 %	20.8 %
Adjusted EBIT growth-%		8.8 %	-12.7 %	-107.5 %	-55.4 %	-88.8 %	-272.0 %	-74.9 %	142.8 %	240.8 %	102.9 %
EBITDA-%	12.0 %	5.7 %	7.5 %	-2.2 %	3.6 %	5.9 %	6.0 %	6.0 %	6.3 %	9.4 %	12.4 %
Adjusted EBIT-%	8.8 %	8.0 %	6.2 %	-0.7 %	3.5 %	1.0 %	0.9 %	0.9 %	1.9 %	5.5 %	9.2 %
Net earnings-%	1.4 %	0.1 %	0.7 %	-13.1 %	-4.8 %	-3.4 %	-3.1 %	-3.3 %	-1.4 %	2.9 %	7.0 %

Source: Inderes

Balance sheet

Assets	2023	2024e	2025e	2026e	2027e
Non-current assets	**14.9**	**14.6**	**14.4**	**14.2**	**14.4**
Goodwill	0.3	0.3	0.3	0.2	0.2
Intangible assets	8.0	7.9	7.8	7.8	7.8
Tangible assets	6.5	6.4	6.3	6.2	6.4
Other investments	0.0	0.0	0.0	0.0	0.0
Deferred tax assets	0.0	0.0	0.0	0.0	0.0
Current assets	**10.5**	**10.5**	**12.5**	**14.8**	**17.7**
Inventories	8.0	7.4	8.8	10.4	12.3
Other current assets	0.0	0.0	0.0	0.0	0.0
Receivables	1.2	1.4	1.7	2.0	2.4
Cash and equivalents	1.4	1.7	2.0	2.4	2.9
Balance sheet total	**25.4**	**25.1**	**26.8**	**29.0**	**32.0**

Source: Inderes

Liabilities & equity	2023	2024e	2025e	2026e	2027e
Equity	**8.9**	**8.3**	**7.9**	**10.5**	**13.6**
Share capital	4.3	4.3	4.3	4.3	4.3
Retained earnings	-5.4	-6.3	-6.8	-5.6	-2.6
Hybrid bonds	0.0	0.0	0.0	0.0	0.0
Other equity	10.0	10.4	10.4	11.9	11.9
Non-current liabilities	**7.3**	**7.5**	**5.0**	**5.0**	**5.0**
Deferred tax liabilities	0.0	0.0	0.0	0.0	0.0
Provisions	0.0	0.0	0.0	0.0	0.0
Interest bearing debt	5.9	6.0	5.0	5.0	5.0
Convertibles	1.4	1.5	0.0	0.0	0.0
Other long term liabilities	0.0	0.0	0.0	0.0	0.0
Current liabilities	**9.2**	**9.3**	**14.0**	**13.5**	**13.5**
Interest bearing debt	3.8	3.9	7.6	5.9	4.3
Payables	5.5	5.4	6.4	7.6	9.2
Other current liabilities	0.0	0.0	0.0	0.0	0.0
Balance sheet total	**25.4**	**25.1**	**26.8**	**29.0**	**32.0**

Valuation and recommendation 1/7

Two models are still needed

We believe that Norrhydro's two businesses should be valued in different ways in the market. The pricing of the more mature conventional hydraulic cylinder business is based on earnings and earnings growth, allowing the business to be priced using earnings multiples for the next several years (e.g., adjusted EV/EBITDA, EV/EBIT, and P/E). These multiples can be compared with other listed hydraulics operators as well as Norrhydro's listed customers whose business drivers correlate well with Norrhydro's drivers.

The NorrDigi business is difficult to price as there is still no evidence of growth and profitability. However, the business risk has decreased over the past year with the commercial launch led by Volvo CE and new customer wins. For the next few years, NorrDigi is best valued on an EV/S basis, and for later years also on an EV/EBITDA basis, with valuation risks naturally increasing in parallel. In contrast to previous years, we no longer believe that looking at the development costs embedded in NorrDigi is a meaningful way to value the business once commercialization has begun. Due to the development phase of NorrDigi, the applicability of traditional peer pricing and related earnings-based valuation factors to the whole Norrhydro group is not yet good.

Regardless of the valuation method, the risk profile of Norrhydro is increased by the company's small size, high dependence on individual customers and the share's relatively low liquidity, which we discussed in the Investment Profile section. A higher level of risk means a lower acceptable level of valuation.

We prefer the sum of the parts model for the company

Due to the dual nature of Norrhydro's business, the risk-adjusted return model we usually prefer is not a very good tool for valuing the Group. The same issues apply to some extent to the Group-level DCF model, so we use these models more for reference purposes. In our view, the best valuation approach for Norrhydro is the sum-of-the-parts model, where the conventional hydraulic cylinder business is valued on the basis of both actual and near-term performance, while the NorrDigi business is valued on the basis of its longer-term potential and expected growth rate.

Evaluating the performance of the sum-of-the-parts model also presents its own challenges, as NorrDigi's figures, and in particular its profitability, are unlikely to be reported separately in the coming years. As our forecasts for NorrDigi don't have any future checkpoints, the associated forecast risk is considerable and this increases the required return on Norrhydro's shares.

Norrhydro's valuation methods

Hydraulic cylinder business

- Traditional valuation multiples relative to peers, with a focus on 2025

NorrDigi

- 2025-2026 EV/S
- 2027-2028 EV/EBITDA

Norrhydro Group

- Cash flow model (as reference)

Valuation and recommendation 2/7

Factors affecting the valuation of hydraulic cylinder business

We believe that the following factors have a positive (+) and negative (-) impact on the valuation of Norrhydro's conventional cylinder business:

+ **Strong and expanding customer reference list.** Norrhydro's customers are demanding, often global leaders in their industries. Their trust in Norrhydro and their long-standing customer relationships with the company reflect the technical quality of the products and their confidence in Norrhydro's sustainability and ability to deliver.
+ **Customer committing partnership model.** The partnership model covering the entire life cycle of the product used with key customers commits the customer and raises the threshold of switching suppliers while lowering Norrhydro's risk profile.
+ **Compelling performance history.** Norrhydro has a long history of steadily growing revenue (excluding the COVID year 2020). The company's cost structure is also quite flexible, which for a subcontractor serving cyclical industries has resulted in a fairly stable base operating profitability.
− **Customer industries are cyclical.** Although the cycles of Norrhydro's customer industries balance each other out to some degree, general demand depends on global economic cycles.
− **Dependence on individual customers is significant.** Norrhydro's largest single customer represented an estimated 25% of revenue in 2023 and the next two largest customers represented around 10% each. Even if large customers are not lost, their cyclical fluctuations and potential production problems are disproportionately reflected in Norrhydro's own operations.

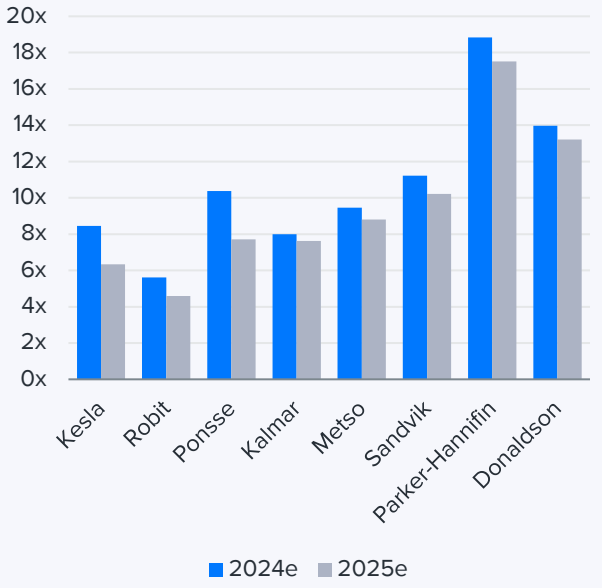
Acceptable valuation level for the hydraulic cylinder business

We have compiled a list of Norrhydro's peer companies from the following three groups:

1. Smallish Finnish listed engineering companies (Kesla, Robit)
2. Norrhydro customers (Ponsse, Kalmar, Cargotec, Metso, Sandvik and Kongsberg)
3. Hydraulics industry players, mostly conglomerates (Enerpac, Interpump, Parker Hannifin, Donaldson and SMC Corp.)

In our valuation, we focus on the EV/EBITDA multiple, which is a key pricing multiple for the sector and is well suited to Norrhydro. We feel EV/EBIT and P/E multiples are less suitable, since the development of NorrDigi products, accounting for development costs and development grants from various sources and in the future blur the overall picture of the profitability of the conventional cylinder business.

EV/EBITDA of selected peers



Source: Reuters / Inderes

Valuation and recommendation 3/7

Per our estimates presented earlier, Norrhydro's adjusted EBITDA for the conventional cylinder business is 3.7 MEUR in 2025. The 2025 EV/EBITDA multiple for the peer group above is at a median level of 10x. Based on the discount factors presented above, and in particular the much smaller size of Norrhydro, we set the acceptable discount rate for Norrhydro's conventional cylinder business EV/EBITDA at -30% relative to the peer group median. With the resulting EV/EBITDA multiple of 7x, the enterprise value of Norrhydro's conventional cylinder business is 24-28 MEUR with an average value of 26 MEUR. The value has increased from the 22 MEUR presented in our H1'24 commentary due to the increase in the lower limit of the range. This, in turn, was influenced by the reduction in the weight of the 2024 forecast. Our updated estimate is still cautious, as in our projections EBITDA in the conventional hydraulic cylinder business will continue to grow rapidly for some years after 2025 (2025-2027 CAGR = +18%).

Factors affecting NorrDigi's valuation

We believe that the following factors have a positive (+) and negative (-) impact on NorrDigi's valuation:

+ **Potential market is very large and only just beginning to emerge.** For these reasons, the business opportunity offered by NorrDigi is significant and the positive evidence from the technology so far supports the expected value calculations of the company .
+ **Technology has already proved its functionality.** NorrDigi MCC has passed the key tests set by its main partner Volvo CE, meaning that the technology has delivered on its key promises. Volvo CE's commercial launch of the NorrDigi MCC in the fall of 2024 already supports the perception of very low technology risk. This credibility has been further supported by a test of a drill pipe hoist equipped with the NorrDigi MCC by an American oil rig operator. The tests have been very successful and have led to a technology representation agreement with Aberdeen Dynamics in the US oil and gas market.
+ **NorrDigi promotes green values.** The considerable fuel consumption and emission reductions enabled by the technology will significantly improve the competitiveness of the product compared to the old technology.
+ **Strategic partners would accelerate growth.** Norrhydro has recently started looking for strategic partners to provide the local customer support necessary for NorrDigi's international growth. Successful partner selection would free Norrhydro from the growth constraints imposed by its own resources. However, this growth path is still in its infancy.
- **NorrDigi's positive impact on the bottom line will only become visible in the distant future.** As shown in the forecast section, NorrDigi will only have a positive impact on Norrhydro's EBITDA from 2027 onwards. The timing of the performance effect far into the future lowers the acceptable valuation.

Pros and cons of NorrDigi's valuation

+ The potential market is very large and is only beginning to emerge
+ The technology has been proven and a commercial launch is underway.
+ Promotes green values
+ Partnering would accelerate international growth

– Will only show properly in the figures far in the future
– Predictability is generally low, and NorrDigi's results are unlikely to be reported separately any time soon.

Valuation and recommendation 4/7

- **Predictability is low.** For new customers, NorrDigi's forecasts should be prepared separately for each of them, taking into account their equipment or machine fleet and its renewal. The future profitability of NorrDigi is even more uncertain than revenue. The open question is whether pricing will be more cost or value-added. Low predictability reduces NorrDigi's acceptable valuation.

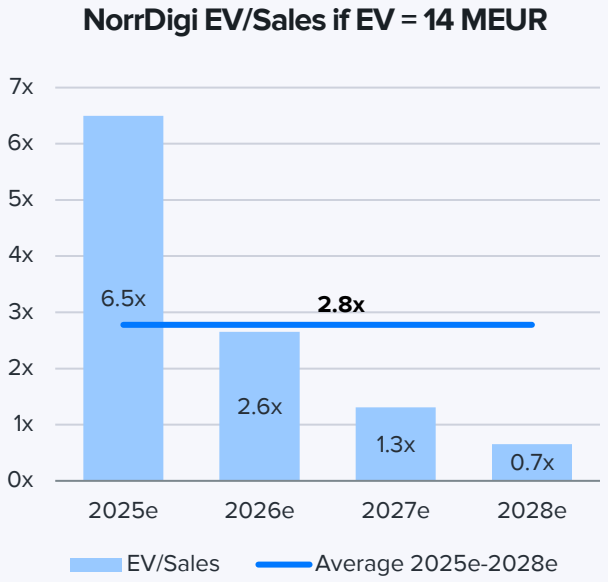
NorrDigi's approved valuation level

NorrDigi's future profitability is even more uncertain than its revenue, and with the commercial launch of NorrDigi already underway, we no longer consider the amount of money spent developing the technology to be a meaningful basis for valuation. At this stage, we believe that EV/S multiples based on revenue forecasts for the next few years and EV/EBITDA multiples based on profitability forecasts for later years, discounted to the present, are the most appropriate methodologies.

Using an EV/S-based on projections for the next few years, we believe that NorrDigi should be valued as a fast-growing start-up. According to Microcap.co, a typical EV/S multiple for a start-up company that is expected to grow only ~10% per year is 1x-5x. For a company that is expected to grow 30-40% per year, the multiple would be 6x-10x and for a company that is expected to grow really fast, i.e. 300-400% per year, the multiple would be 10x-20x. In our view, NorrDigi should be valued at around 6x-7x EV/S relative to the forecast 2025 revenue (2.1 MEUR), taking into account the expected rapid growth in 2026e-2030e (CAGR = +81%) and the valuation drivers mentioned above. This multiple gives NorrDigi debt-free value of 13-15 MEUR.

With the 2025 revenue forecast, EV/S would therefore be quite high, but by 2026 it already drops to 2.6x and from then on to between 0.7x-1.3x. Relative to the expected combination of growth and profitability, the multiples are low, but despite the positive development in the past year and the news flow, there is still a lot of uncertainty about NorrDigi's growth rate and future profitability. Therefore, we believe that there is still significant upside for investors in NorrDigi if our forecasts are met or exceeded.

As we do not expect NorrDigi to be EBITDA positive until 2027, appropriate EV/EBITDA multiples need to be sought further out. Consensus projections beyond 2025 for the entire peer group are not yet properly available, so we have constructed the multiples based on the median peer group multiple in 2025 (9.9x). Applying a modest discount of -10% due to the growth potential, we arrive at 8.9x. Setting the latter at Norrhydro's 12.5% WACC results in EV/EBITDA multiples of 7.0x for 2027 and 6.3x for 2028. Using an average multiple for 2027-2028 (6.7x) and our projected average



Source: Inderes

Valuation and recommendation 5/7

EBITDA for NorrDigi in these years (1.9 MEUR), the end result is an enterprise value of 12-13 MEUR for NorrDigi. A summary of the enterprise value calculated for NorrDigi using these methods is attached.

Our estimate of NorrDigi's average debt-free present value of 13 MEUR has increased by around 20% from the 11 MEUR we presented in our extensive report (May 2023) and also in our latest H1'24 update. The upturn is driven by a significant reduction in technical risks, the start of commercialization and new customer wins in both MCC and EMA.

SOTP indicates 25-31 MEUR in equity value

When the components of the sum of the parts are combined, we get a debt-free value of the Norrhydro Group of about 35-42 MEUR. In the model, we have used our forecast for the Group's net debt as of December 31, 2025 (10.6 MEUR). At the end of H1'24, the Group had a net debt of 9.2 MEUR, so the debt assumption of the model should be conservative enough. Taking into account net debt, Norrhydro's equity value finally amounts to 25-31 MEUR. The value per share is EUR 2.3-2.9. The average value (EUR 2.6) is almost 50% above the current share price.

Suitability of Group peer valuation is not good

Relative valuation using Group figures works poorly for Norrhydro, as there are no similar peers with significant new technology in the early stages of commercialization. NorrDigi's positive impact on the Group's results will not be fully visible until 2027.

However, there are no relevant 2027 consensus forecasts for conventional peers.

Poor suitability of the total return model

Estimating the total expected return on a Norrhydro share (the upside potential based on earnings growth in the coming years and the change in valuation multiples plus the dividend yield) involves the same problem as the multiples-based peer valuation approach. NorrDigi's performance will not be properly reflected in the Group's figures until 2027, but no relevant peer multiples are available for that year. At the same time, the Norrhydro Group's own earnings forecasts are subject to considerable uncertainty, as it remains difficult to estimate NorrDigi's growth rate and profitability.

However, we have made a rough calculation of the expected total return on Norrhydro's shares based on 2026 earnings forecasts and estimated valuation multiples. We have applied the same discount/adjustment factors to the multiples as in our SOTP calculation above. Due to the high discount factor, the expected total return is negative for the P/E, EV/EBITDA and EV/EBIT models. The problem with the total return model in the case of Norrhydro is the shortness of the forward-looking observation period or the outcome-based nature of the model , in which case NorrDigi appears in the model only as a profit burden and not as a profit-enhancing component.

Norrhydro's sum-of-the-parts model

MEUR	Lower	Average	Upper
a) Hydraulic cylinder business	24	26	28
- NorrDigi EV/S-based	13	14	15
- NorrDigi EV/EBITDA-based	11	12	14
b) NorrDigi aggregate	12	13	14
Norrhydro EV total (a+b)	35	39	42
Net liabilities before 12/31/2025	-11	-11	-11
Fair value per share, EUR	**2.3**	**2.6**	**2.9**
Potential to closing price	**31 %**	**48 %**	**66 %**

Norrhydro's key figures

Valuation	2024e	2025e	2026e
Share price	1.72	1.72	1.72
Number of shares, millions	11.0	11.0	11.7
Market cap	19	19	19
EV	29	30	27
P/E (adj.)	neg.	neg.	16.7
P/E	neg.	neg.	17.3
P/B	2.3	2.4	1.8
P/S	0.7	0.6	0.5
EV/Sales	1.0	0.9	0.7
EV/EBITDA	17.0	13.8	7.3
EV/EBIT (adj.)	>100	45.8	12.5
Payout ratio (%)	0.0 %	0.0 %	30.1 %
Dividend yield-%	0.0 %	0.0 %	1.9 %

Source: Inderes

Valuation and recommendation 6/7

Therefore, in our opinion, the suitability of the total return model for the valuation of Norrhydro is still weak in the current situation.

DCF valuation of the Norrhydro Group

The use of a cash flow model in the valuation of Norrhydro Group is difficult because the company has two businesses with very different risk profiles, whose shares in the total will change significantly during the forecast period. Therefore, setting a required return is challenging. In addition, the DCF model is sensitive to terminal period estimates, and especially our long-term NorrDigi estimate is still very uncertain. However, we also give weight to the DCF value in our analysis as it captures NorrDigi's medium- and long-term potential better than many other methods.

As mentioned in the Estimates section, we expect terminal revenue growth of 2.5% and an EBITDA margin of 10.5%. The weighted average cost of capital (WACC) we use in the DCF model is 12.5%, elevated by a liquidity premium of 1.50% for the stock. Cost of equity is 14.7%. Both figures are based on a 2.5% risk-free interest and a 4.75% market risk premium.

The DCF model gives Norrhydro an equity value of 32 MEUR and an individual share value of EUR 2.9, with a significant upside of 60-70%. A more detailed calculation can be found in the appendices. Also included are the sensitivity calculations of the DCF model to changes in the required return and the terminal EBIT margin level.

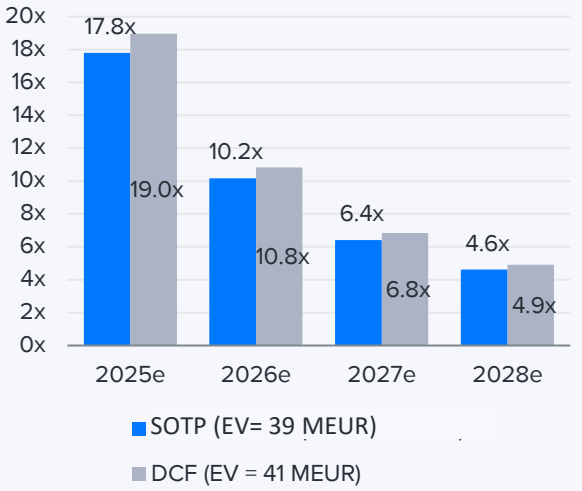
The importance of convertible bonds and options

The 1.5 MEUR convertible bond issued by Norrhydro in the end of 2023 is convertible into shares at any time prior to maturity on December 31, 2026. The notional conversion price is EUR 2.083 per share, which means that the conversion is currently not profitable (out-of-the-money option). Norrhydro has the right to prepay the loan during 2026. For reasons of prudence, we assume that this right will not be exercised and that the loan will be fully exchanged for a total of 720,000 Norrhydro shares at the end of 2026. This implies a dilution of 6.1% from 2027.

The key personnel of Norrhydro have option rights in the company for a total of 71,000 shares. The exercise price of all options is EUR 0.10 per share, i.e., they are clearly in-the-money options. The options are valid until December 31, 2025, but their exercisability depends on the fulfilment of Norrhydro's strategic objectives (growth, profitability and share of digital solutions). In addition, Norrhydro has a share bonus program of 159,500 shares for key employees that runs until 2026 and is also based on the achievement of strategic goals.

As the total number of options and bonus shares is small (dilution of up to 2.0%) and their exercise is uncertain, we have not included the corresponding dilution in the calculation of earnings per share.

Norrhydro's EV/EBITDA at current sum-of-the-parts and DCF values



Source: Inderes

Valuation and recommendation 7/7

In a neutral scenario, the share value is EUR 2.7

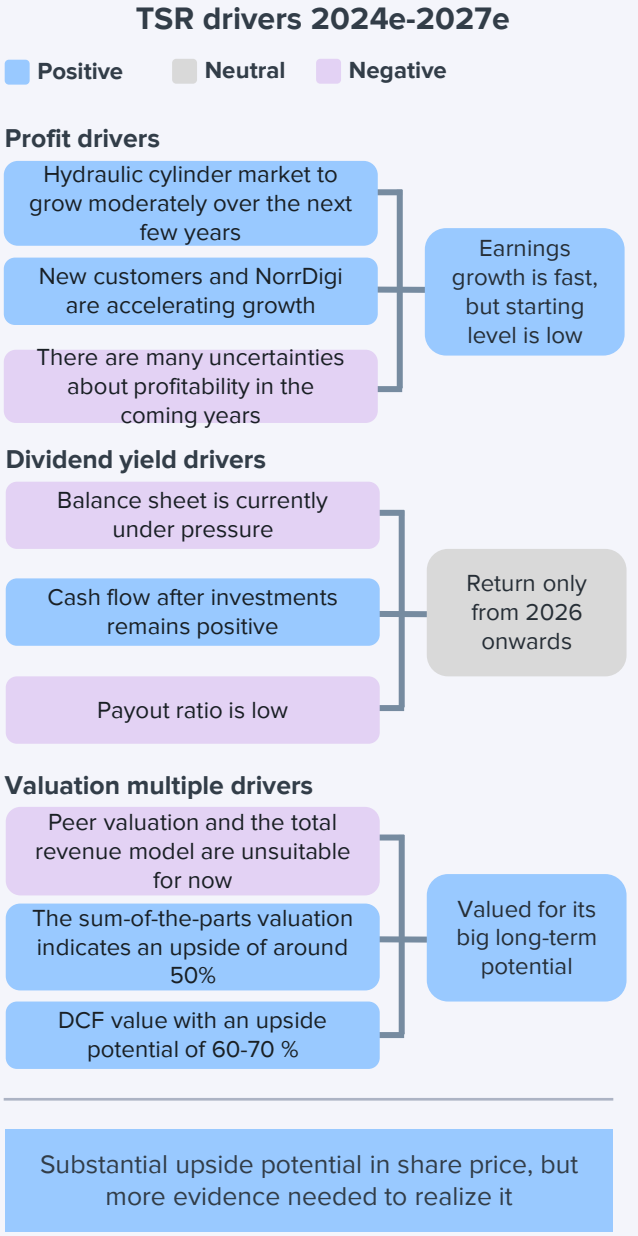
Based on the sum-of-the-parts and cash flow models, the current fair value of Norrhydro's shares is EUR 2.3-2.9, or EUR 2.7 on a weighted average basis. In a very negative scenario, NorrDigi would fail commercially and therefore become worthless, with Norrhydro's share value based solely on the value of the conventional hydraulic cylinder business (at a minimum level of around EUR 1.4 per share). We consider this risk to be low. If NorrDigi's commercial success again exceeds our current expectations, e.g. due to strong new customer acquisition and successful partnerships, the justified value of the share, or at least the upper end of the range, would increase significantly.

Investment view

In our previous extensive report published in May 2023, we presented the following list of potential positive drivers for the stock: 1) successful completion of the final phases of the Rovaniemi factory ramp-up on time and on budget; 2) successful acquisition of new customers for conventional hydraulic cylinders; 3) conversion of NorrDigi customer potential into orders; and 4) start of NorrDigi production at Volvo on time (2024) and in meaningful volumes. Apart from the last point, we think the drivers have materialized quite well and the schedule for the NorrDigi MCC preparation for Volvo is now clear, although later than we originally expected.

Although NorrDigi's commercialization is delayed compared to our previous estimate, and this is reflected in our 2025-2026 forecast revisions discussed above, we believe that NorrDigi's risk profile has been significantly reduced. Patience is still required from Norrhydro shareholders, but the fundamental valuation of the stock is favorable and we expect more positive NorrDigi news in 6-12 months to support the share price. However, as we do not expect these drivers to fully address the undervaluation and as earnings proof is still needed, we maintain our Accumulate recommendation for the share.

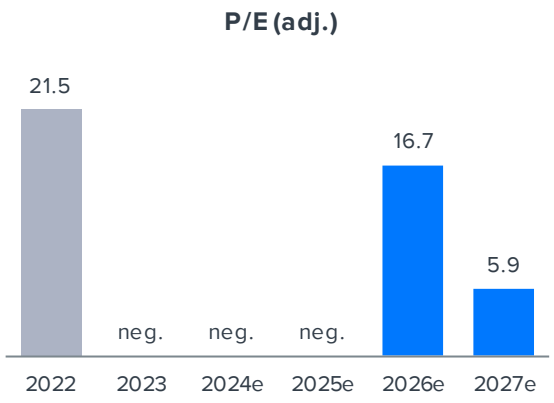
In view of the fact that our forecasts almost exclusively assume a delay of around one year and the lower risk profile, we maintain our previous target price of EUR 2.10 per share. The target price corresponds to a situation where less than 40% of the upside between the current price (around EUR 1.7) and the above-mentioned fair value (around EUR 2.7) has been realized. Given the long horizon of Norrhydro's investment story, we believe this assumption is conservative enough. For reference, at our target price, Norrhydro's EV/EBITDA multiple for 2026 would be around 8x, i.e. the discount to the estimated median of the peer group would be only 5-10%. However, we have previously noted the limitations of peer valuation based solely on multiples over the next few years. Norrhydro's valuation multiples are trending sharply lower after 2026, but there is understandably a lot of uncertainty surrounding earnings forecasts for those years.

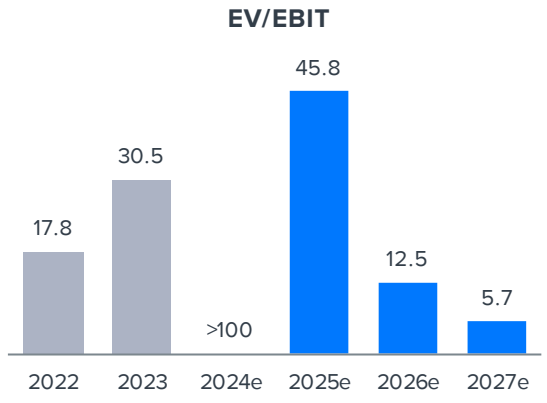


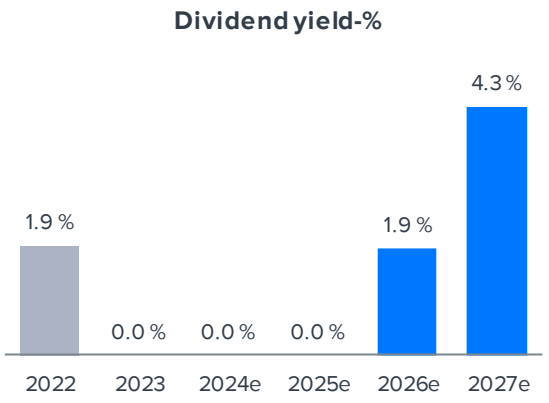
Valuation table

Valuation	2019	2020	2021	2022	2023	2024e	2025e	2026e	2027e
Share price			4.32	3.13	2.07	**1.72**	**1.72**	**1.72**	**1.72**
Number of shares, millions	8.24	8.24	8.46	10.9	10.9	**11.0**	**11.0**	**11.7**	**11.7**
Market cap			47	34	23	**19**	**19**	**19**	**19**
EV	8.4	4.7	47	42	32	**29**	**30**	**27**	**25**
P/E (adj.)	0.0	0.0	23.2	21.5	neg.	**neg.**	**neg.**	**16.7**	**5.9**
P/E	0.0	0.0	>100	>100	neg.	**neg.**	**neg.**	**17.3**	**6.0**
P/B	0.0	0.0	4.2	3.2	2.5	**2.3**	**2.4**	**1.8**	**1.4**
P/S	0.0	0.0	1.9	1.1	0.7	**0.7**	**0.6**	**0.5**	**0.4**
EV/Sales	0.4	0.2	1.9	1.4	1.1	**1.0**	**0.9**	**0.7**	**0.5**
EV/EBITDA	4.2	1.2	15.9	19.7	29.4	**17.0**	**13.8**	**7.3**	**4.2**
EV/EBIT (adj.)	6.3	1.5	21.8	17.8	30.5	**>100**	**45.8**	**12.5**	**5.7**
Payout ratio (%)	30.7 %	25.1 %	185.1 %	1521.2 %	0.0 %	**0.0 %**	**0.0 %**	**30.1 %**	**24.3 %**
Dividend yield-%			1.4 %	1.9 %	0.0 %	**0.0 %**	**0.0 %**	**1.9 %**	**4.3 %**

Source: Inderes







Peer group valuation

Peer group valuation	Market cap	EV	EV/EBIT		EV/EBITDA		EV/S		P/E		Dividend yield-%		P/B
Company	**MEUR**	**MEUR**	**2024e**	**2025e**	**2024e**	**2025e**	**2024e**	**2025e**	**2024e**	**2025e**	**2024e**	**2025e**	**2024e**
Kesla Oyj	13	25	25.4	12.7	8.5	6.3	0.6	0.5	26.7	10.4	1.9	4.3	1.0
Robit Plc	34	51	10.1	7.2	5.6	4.6	0.5	0.5	11.4	8.0	3.1	5.0	0.7
Ponsse Oyj	613	662	22.4	12.6	10.4	7.7	0.9	0.9	54.3	16.3	2.1	3.0	1.9
Kalmar	1808	2054	11.0	9.7	8.0	7.6	1.2	1.2	12.4	11.7	3.8	4.1	2.6
Cargotec Corp	3210	3221	11.1	11.1	9.3	9.4	1.2	1.3	14.8	15.2	2.8	3.1	2.7
Metso Corp	7590	8630	11.5	10.4	9.5	8.8	1.7	1.6	14.4	13.1	3.7	4.3	2.9
Sandvik AB	23755	28186	15.1	13.0	11.2	10.2	2.6	2.5	18.5	15.4	2.6	2.9	2.9
Kongsberg Gruppen ASA	16795	16611	31.5	26.5	25.6	22.0	4.1	3.6	39.0	32.8	1.3	1.5	10.8
Enerpac Tool Group Corp	2149	2174	18.6	15.5	15.8	13.7	4.0	3.7	24.6	19.8			4.6
Interpump Group SpA	4434	4960	13.6	12.6	10.3	9.6	2.4	2.2	18.0	16.4	0.8	0.8	2.3
Parker-Hannifin Corp	75393	84720	22.0	19.6	18.8	17.5	4.7	4.5	25.7	23.8	0.9	1.0	6.8
Donaldson Company Inc	8117	8397	16.8	15.7	14.0	13.2	2.5	2.5	21.9	20.4	1.4	1.5	5.6
SMC Corp	26041	22520	15.0	12.9	15.2	13.7	4.7	4.4	23.0	21.4	1.4	1.6	2.2
Norrhydro (Inderes)	**19**	**29**	**107.9**	**45.8**	**17.0**	**13.8**	**1.0**	**0.9**	**-21.6**	**-43.1**	**0.0**	**0.0**	**2.3**
Average			**17.1**	**13.7**	**12.7**	**11.3**	**2.6**	**2.4**	**23.4**	**17.6**	**2.1**	**2.7**	**3.5**
Median			**15.0**	**12.8**	**10.8**	**9.9**	**2.5**	**2.3**	**22.4**	**16.3**	**1.9**	**2.9**	**2.6**
Diff-% to median			***618%***	***259%***	***57%***	***40%***	***-59%***	***-63%***	***-196%***	***-364%***	***-100%***	***-100%***	***-13%***

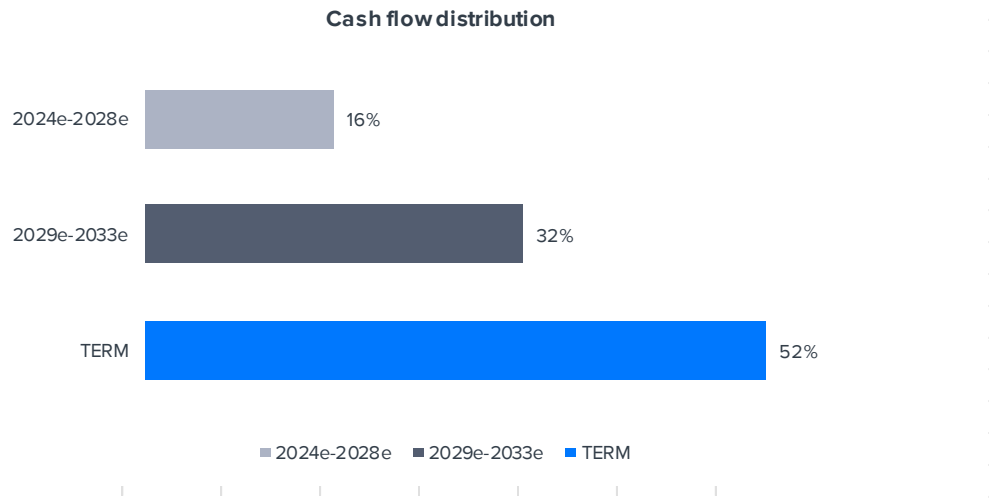
Source: Refinitiv / Inderes

DCF calculation

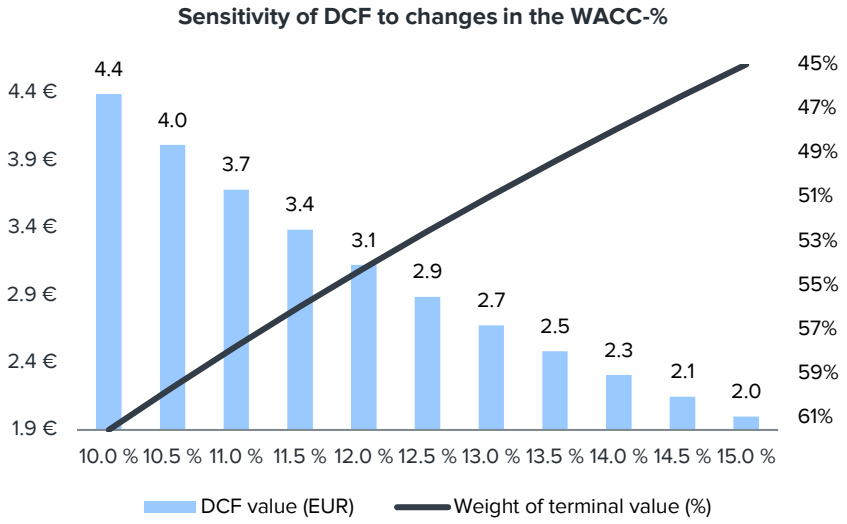
DCF model	2023	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	TERM
Revenue growth-%	2.2 %	-6.7 %	18.8 %	19.1 %	20.8 %	26.4 %	21.6 %	15.6 %	9.5 %	3.5 %	2.5 %	2.5 %
EBIT-%	-0.8 %	0.8 %	1.8 %	5.4 %	9.1 %	10.9 %	12.9 %	11.4 %	10.0 %	8.6 %	8.6 %	8.6 %
EBIT (operating profit)	**-0.3**	**0.2**	**0.6**	**2.2**	**4.4**	**6.7**	**9.6**	**9.8**	**9.4**	**8.3**	**8.5**	
+ Depreciation	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8	1.8	1.9	1.9	
- Paid taxes	0.0	0.0	0.0	0.0	-0.3	-1.2	-1.8	-1.8	-1.7	-1.5	-1.6	
- Tax, financial expenses	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
- Change in working capital	0.3	0.3	-0.6	-0.8	-0.8	-1.2	-1.5	-1.3	-0.9	-0.4	-0.3	
Operating cash flow	**1.4**	**1.9**	**1.5**	**3.0**	**4.9**	**5.8**	**8.0**	**8.4**	**8.5**	**8.2**	**8.5**	
- Gross CAPEX	-1.5	-1.2	-1.3	-1.4	-1.8	-2.0	-2.2	-2.2	-2.3	-2.3	-2.4	
Free operating cash flow	**-0.1**	**0.7**	**0.2**	**1.6**	**3.1**	**3.9**	**5.8**	**6.2**	**6.2**	**5.9**	**6.2**	
FCFF	-0.1	0.7	0.2	1.6	3.1	3.9	5.8	6.2	6.2	5.9	6.2	63.4
Discounted FCFF		**0.7**	**0.2**	**1.2**	**2.1**	**2.4**	**3.2**	**3.0**	**2.7**	**2.3**	**2.1**	**21.7**
Sum of FCFF present value		41.5	40.8	40.6	39.4	37.2	34.9	31.7	28.7	26.0	23.8	21.7
Enterprise value DCF		**41.5**										
- Interest bearing debt		-11.0										
+ Cash and cash equivalents		1.4										
-Dividend/capital return		0.0										
Equity value DCF		**31.8**										
Equity value DCF per share		**2.9**										

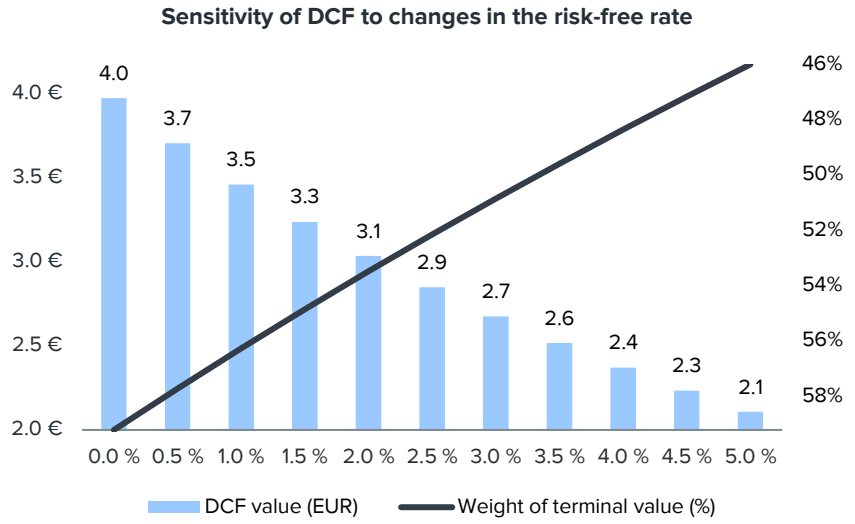
WACC	
Tax-% (WACC)	20.0 %
Target debt ratio (D/(D+E)	20.0 %
Cost of debt	4.4 %
Equity Beta	2.25
Market risk premium	4.75%
Liquidity premium	1.50%
Risk free interest rate	2.5 %
Cost of equity	**14.7 %**
Weighted average cost of capital (WACC)	**12.5 %**

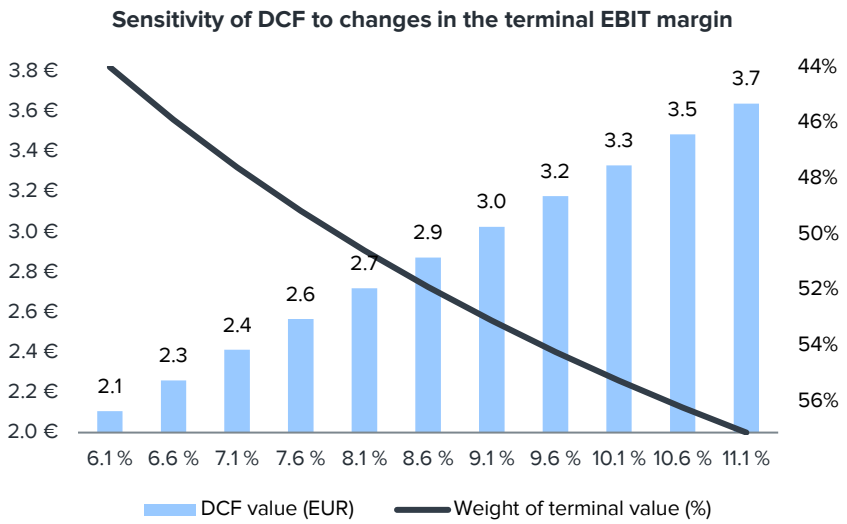
Source: Inderes

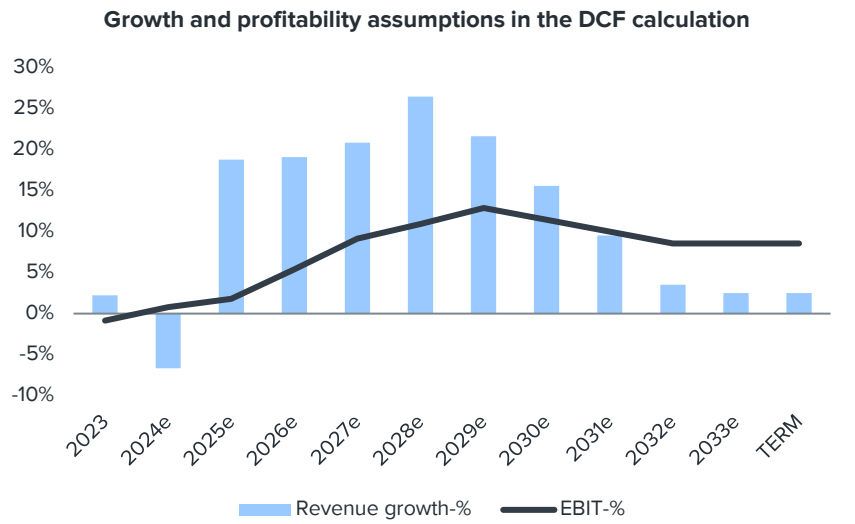


DCF sensitivity calculations and key assumptions in graphs









Source: Inderes. Note that the weight of the terminal value (%) is shown on an inverse scale for clarity.

Summary

Income statement	2021	2022	2023	2024e	2025e
Revenue	24.7	29.7	30.4	**28.3**	**33.7**
EBITDA	3.0	1.7	1.1	**1.7**	**2.1**
EBIT	2.2	0.8	-0.3	**0.2**	**0.6**
PTP	0.4	0.2	-1.4	**-0.9**	**-0.5**
Net Income	0.4	0.0	-1.4	**-0.9**	**-0.5**
Extraordinary items	0.0	-1.5	-1.3	**0.0**	**0.0**

Balance sheet	2021	2022	2023	2024e	2025e
Balance sheet total	22.7	27.9	25.4	**25.1**	**26.8**
Equity capital	11.3	10.7	8.9	**8.3**	**7.9**
Goodwill	0.4	0.4	0.3	**0.3**	**0.3**
Net debt	0.3	8.0	9.6	**9.7**	**10.6**

Cash flow	2021	2022	2023	2024e	2025e
EBITDA	3.0	1.7	1.1	**1.7**	**2.1**
Change in working capital	-1.0	-1.3	0.3	**0.3**	**-0.6**
Operating cash flow	1.9	0.1	1.4	**1.9**	**1.5**
CAPEX	-2.2	-6.6	-1.5	**-1.2**	**-1.3**
Free cash flow	7.7	-6.5	-0.1	**0.7**	**0.2**

Per share data	2021	2022	2023	2024e	2025e
EPS (reported)	0.04	0.00	-0.13	**-0.08**	**-0.04**
EPS (adj.)	0.19	0.15	-0.01	**-0.08**	**-0.04**
OCF / share	0.22	0.01	0.13	**0.18**	**0.14**
FCF / share	0.91	-0.60	-0.01	**0.06**	**0.02**
Book value / share	1.34	0.98	0.81	**0.76**	**0.71**
Dividend / share	0.06	0.06	0.00	**0.00**	**0.00**

Growth and profitability	2021	2022	2023	2024e	2025e
Revenue growth-%	24%	20%	2%	**-7%**	**19%**
EBITDA growth-%	-21%	-43%	-35%	**54%**	**26%**
EBIT (adj.) growth-%	-28%	9%	-55%	**-75%**	**143%**
EPS (adj.) growth-%	-22%	-22%	-108%	**579%**	**-50%**
EBITDA-%	12.0 %	5.7 %	3.6 %	**6.0 %**	**6.3 %**
EBIT (adj.)-%	8.8 %	8.0 %	3.5 %	**0.9 %**	**1.9 %**
EBIT-%	8.8 %	2.8 %	-0.8 %	**0.8 %**	**1.8 %**
ROE-%	4.4 %	0.4 %	-14.8 %	**-10.7 %**	**-6.0 %**
ROI-%	14.6 %	4.8 %	-1.2 %	**1.2 %**	**3.1 %**
Equity ratio	50.7 %	38.3 %	35.0 %	**33.2 %**	**29.3 %**
Gearing	2.6 %	74.7 %	108.6 %	**116.3 %**	**134.4 %**

Valuation multiples	2021	2022	2023	2024e	2025e
EV/S		**1.4**	**1.1**	**1.0**	**0.9**
EV/EBITDA		**19.7**	**29.4**	**17.0**	**13.8**
EV/EBIT (adj.)		**17.8**	**30.5**	**>100**	**45.8**
P/E (adj.)		**21.5**	**neg.**	**neg.**	**neg.**
P/B		**3.2**	**2.5**	**2.3**	**2.4**
Dividend-%		**1.9 %**	**0.0 %**	**0.0 %**	**0.0 %**

Source: Inderes

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Sell	The 12-month risk-adjusted expected shareholder return of the share is very weak

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Recommendation history (>12 mo)

Date	Recommendation	Target	Share price
12/2/2021	Sell	3.60 €	4.14 €
12/16/2021	Reduce	3.60 €	3.58 €
12/23/2021	Reduce	3.85 €	4.20 €
2/14/2022	Reduce	4.00 €	3.76 €
4/21/2022	Reduce	4.10 €	3.77 €
8/19/2022	Reduce	4.10 €	3.85 €
11/14/2022	Accumulate	3.70 €	3.19 €
2/20/2022	Accumulate	3.90 €	3.49 €
5/31/2023	Reduce	3.20 €	3.02 €
8/8/2023	Accumulate	2.60 €	2.22 €
8/14/2023	Accumulate	2.80 €	2.53 €
1/10/2024	Accumulate	2.50 €	2.20 €
2/25/2024	Reduce	1.80 €	1.75 €
7/30/2024	Reduce	1.60 €	1.55 €
8/2/2024	Accumulate	2.10 €	1.80 €
10/18/2024	Accumulate	2.10 €	1.74 €

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