

# BETOLAR

10/06/2025 07:00 EEST

This is a translated version of the "Panokset ovat uudessa teknologiassa" report, published on 10/06/2025



Tommi Saarinen  
+358 400530573  
tommi.saarinen@inderes.fi

INDERES CORPORATE CUSTOMER

# EXTENSIVE REPORT



# The stakes are in new technology

*The progress of the investment story of Betolar, which focuses on replacing cement and utilizing industrial side streams, has clearly fallen short of expectations during its stock market journey so far. The core of the story is proving Betolar's new method on an industrial scale, where success is critical, also considering the financing needs looming in the near future. Despite the high potential, risks related to the start-up of the business and the availability of financing turn the risk/reward ratio weak. Therefore, we reiterate our Reduce recommendation but revise our target price to EUR 1.3.*

## Aiming for value creation with circular economy principles

Betolar is an early-stage material technology company that aims to find valuable uses for industrial waste streams and reduce emissions by replacing traditional cement with alternative materials. Betolar was founded in 2016 to solve the emission problem of cement use with its geopolymers technology, which enables the utilization of industrial side streams as a binder in concrete instead of cement. In recent years, the company has focused its limited resources on advancing commercialization in the mining industry, as this customer segment both produces large waste streams and consumes significant amounts of cement. The commercialization of the solution has been slower and more difficult than the company expected, reflecting which, financial targets have been cut and postponed several times. The investment case currently centers on a new method that enhances the utilization of metal industry side streams. Betolar states that this method enables them to recover valuable metals that previously ended up as waste and use the remaining material to replace cement. The method's value proposition and a large market create high value creation potential, but Betolar still faces a challenge that has proven difficult: proving the solution's viability in industrial and commercial use.

## Commercialization of the new method requires additional funding

We estimate that the first significant revenues from the new method will at the earliest be generated in 2027, as the design and manufacturing of the industrial equipment required by the method, along with its integration into the customer's production processes, will make the start of production slow. Thus, our estimates for the coming years rely on the commercial phase progressing in the mining segment, where Betolar already has commercial products. Towards the end of the decade, we expect the new method to move into the commercial phase, which will bring a new revenue growth spurt. In addition to operational risks, Betolar carries a financing risk, as our estimates assume the company will find additional financing of around 10 MEUR in 2026-2028. Concrete advances in commercialization during the current year would also be very important from the perspective of securing financing, as the terms and availability of financing are highly dependent on commercial progress. We believe Betolar's main owner is committed to the development of the company, so the risk related to the continuity of the company is limited despite the tightening balance sheet situation.

## A high risk level warrants caution regarding the stock

Due to Betolar's early development phase, the predictability of the business is very low and the risks associated with estimates are high. Based on our estimates expecting fast growth, Betolar's EV/S multiples (22x-7x) are higher than for the peers as a whole. Our DCF model, which focuses on long-term potential, reaches EUR 1.3. However, options and financing needs put upward pressure on the number of shares in the model, which we believe limits the expected return. Stretched valuation combined with high business, financial, and estimate risks keeps the risk/reward ratio subdued in our books.

## Recommendation

**Reduce**  
(was Reduce)

**Target price:**  
**EUR 1.30**  
(was EUR 1.20)

**Share price:**  
EUR 1.25

## Business risk



## Valuation risk



	2024	2025e	2026e	2027e
Revenue	0.8	1.3	5.2	9.3
growth-%	48%	73%	295%	78%
EBIT adj.	-8.0	-5.5	-3.8	-2.3
EBIT-% adj.			-73%	-24.6 %
Net Income	-7.7	-5.6	-4.2	-2.8
EPS (adj.)	-0.36	-0.26	-0.20	-0.13
P/E (adj.)	neg.	neg.	neg.	neg.
P/B	1.7	10.5	neg.	neg.
Dividend yield-%	0.0 %	0.0 %	0.0 %	0.0 %
EV/EBIT (adj.)	neg.	neg.	neg.	neg.
EV/EBITDA	neg.	neg.	neg.	neg.
EV/S	13.9	21.6	6.6	4.2

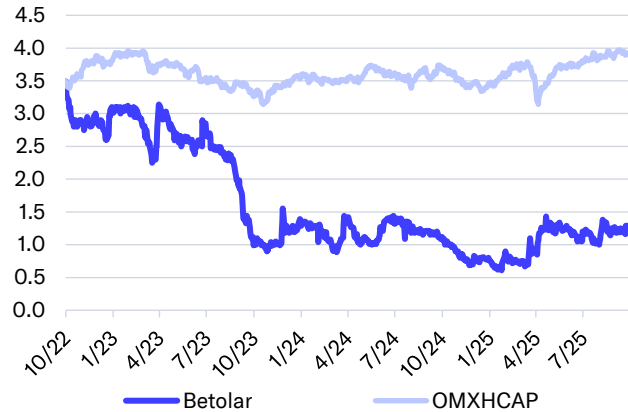
Source: Inderes

## Guidance

(Unchanged)

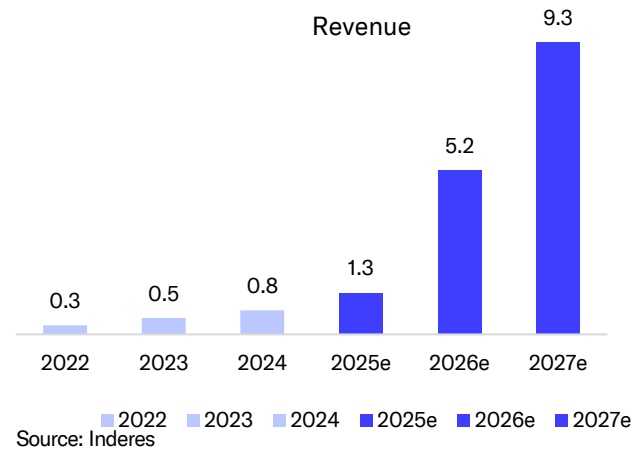
Revenue for 2025 is expected to increase compared to the previous year.

## Share price

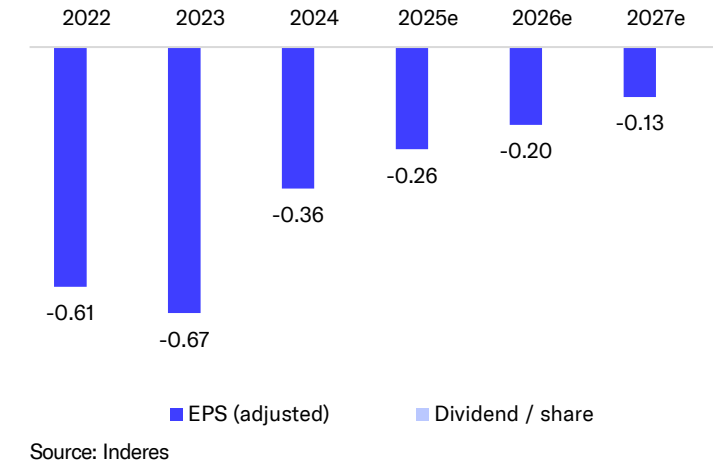


Source: Millistream Market Data AB

## Revenue



## EPS and dividend



## Value drivers

- High market potential
- Green transition is shaking up the otherwise conservative industry
- Betolar offers a green transition solution for the emission-intensive sector
- Inherently scalable business model

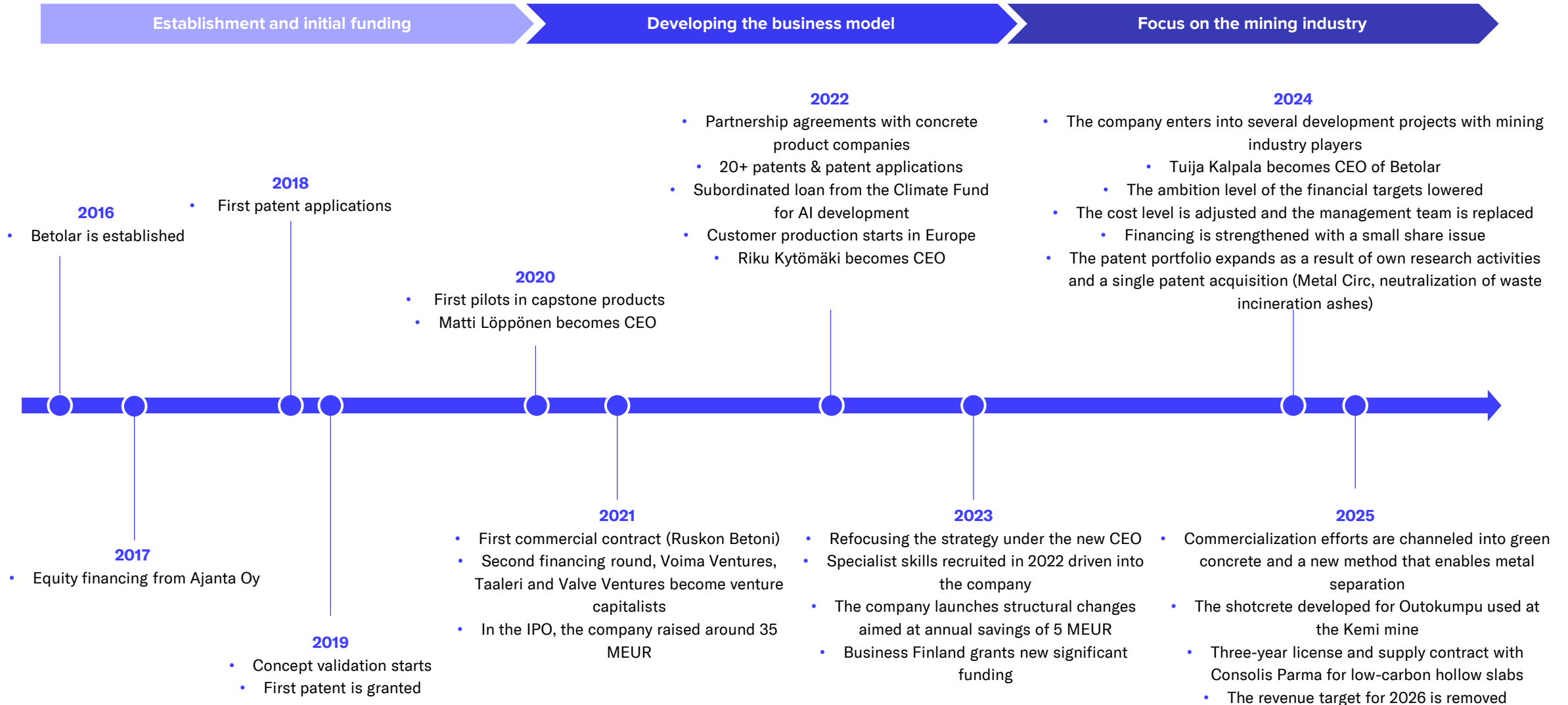
## Risk factors

- Commercialization of the business is still at an early stage
- The company will be cash negative for several more years and the business will scale up years from now
- Betolar needs additional funding
- More competitive technologies may seek to enter the market
- We estimate that business scalability requires the success of the AI project

Valuation	2025e	2026e	2027e
Share price	1.25	1.25	1.25
Number of shares, millions	21.6	21.6	22.0
Market cap	27	27	28
EV	28	34	39
P/E (adj.)	neg.	neg.	neg.
P/E	neg.	neg.	neg.
P/B	10.5	neg.	neg.
P/S	20.5	5.2	3.0
EV/Sales	21.6	6.6	4.2
EV/EBITDA	neg.	neg.	neg.
EV/EBIT (adj.)	neg.	neg.	neg.
Payout ratio (%)	0.0 %	0.0 %	0.0 %
Dividend yield-%	0.0 %	0.0 %	0.0 %

Source: Inderes

# Betolar timeline



# Company description and business model 1/9

## Technology is commercialized in many ways

Betolar, which was listed in 2021, is a Finnish, early-stage material technology company that aims to find productive uses for industrial side streams and reduce carbon dioxide emissions with cement-replacing solutions. The breakthrough in commercialization is currently being sought through three avenues.

1. Technology expertise is sold as a research service to parties generating side streams
2. Offering low-carbon cement-replacing solutions to mining and construction companies that use concrete
3. A new method suitable for metal separation and the production of environmentally friendly cement is being marketed to potential partners

The sale of research services is a capital-light and straightforward way to commercialize and concretize Betolar's technological expertise for the customer. Betolar currently offers the Betolar SidePrime service, which maps out the utilization possibilities for the customer's industrial side stream, and the Betolar Optimize service, which optimizes the concrete recipe of concrete users.

Production technology for a cement-replacing binder that reduces carbon dioxide emissions is sold under the Geoprime brand to companies manufacturing concrete products. Betolar provides manufacturers with the recipe and certain ingredients needed for manufacturing, and Betolar invoices customers based on production volume. Betolar's business model initially relied more heavily on this model, but the challenges of commercialization and the benefits of alternative commercialization models have led the company to broaden its approach. Among other things,

the expansion into the mining industry has required consideration of alternative commercialization models; the low-carbon shotcrete developed as a project for Outokumpu is an example of this.

The company currently sees great potential in the new technology that enables metal separation and green cement production. Granulated blast-furnace slag (GBFS), a by-product of metal refining, has traditionally been used as a basic ingredient in environmentally friendly concrete. Due to the good properties of the material, the price of granulated blast-furnace slag (GBFS) has risen to a high level, which is one reason for the high production cost of environmentally friendly concrete. Betolar has been trying to solve this problem since the company was founded, and the company says it has recently achieved a breakthrough. The new method is based on utilizing previously unexploited slag and tailings from the metal industry. The method creates value by recovering precious metals remaining in the slag and, at the same time, converting the slag into a usable material as a substitute for cement. Betolar reports that it has succeeded in separating chromium and nickel from slag more efficiently than before, and research into other slags is ongoing. Nickel and chromium-containing slag is generated in large quantities, especially in stainless steel production, which makes companies operating in this field obvious potential customers or partners. As an industry requiring a large production scale, steel companies are typically large, which means that the revenue potential of a single customer is high. Finland's only stainless steel producer is Outokumpu, for whom Betolar has previously carried out development projects.

## BETOLAR



A materials technology company founded in Kannonkoski in 2016 specializing in the circular economy



Betolar is developing a substitute for cement that utilizes industrial side streams, which enables significant emission reductions in the concrete value chain



In 2024, the company employed an average of 43 employees.



The company targets a scalable business model with license-based pricing and by developing a digital tool that automates the optimization of concrete binder dosing.



Betolar has conducted pilots with some 60 different potential customers, but there is no significant revenue yet



As a result of Betolar's R&D work, the company has been granted several patents



Betolar is targeting positive operating cash flow by the end of 2026 and revenue of 1000 MEUR by 2033

# Company description and business model 2/9

## Betolar is an early-stage technology company

We feel Betolar's business model is that of a technology company whose core business is developing new materials technologies and selling and marketing them. Thus, Betolar does not produce cement or concrete itself, but offers its customers the opportunity to manufacture these products by selling them development projects and licenses to use the technology, including technical support and certain ingredients required for production. This enables growth with reasonable capital needs in an industry where the capital requirements for manufacturing companies are typically high.

We feel that Betolar is a reformer of a traditional and conservative industry (incl. regulation). In order to promote the green transition of the entire industry, Betolar supports its customers in selling and marketing the product further along the value chain.

## There are a host of customers and partners

In the early stages of commercialization, the Geoprime concept has been used to make products that are less demanding or less regulated, such as paving stones and concrete pipes. However, the updated strategy aims to shift the focus toward more demanding products, such as load-bearing structures and concrete utilized in mines. However, we feel Betolar is still in a strategic phase where the company must prove to its customers and investors that its concept and business model are commercially viable.

We estimate that measured by revenue the size of the customer companies in Betolar's concrete segment will initially be in the range of 10-200 MEUR. In load-bearing

structures and mining concrete, which are at the heart of the strategy, customers can be significantly larger players, which naturally also increases Betolar's potential for customer-specific sales. We think this makes sense, considering that commercialization has proven more difficult than expected among customers in the (small) concrete product segment in 2022-2023. In the mining sector, the management of side streams may also become easier, as many mines generate materials that can be utilized as side streams.

For example, Consolis Parma that has developed more environmentally friendly hollow core slab products based on the Geoprime concept in cooperation with Betolar in 2022, is part of the Consolis Group that globally generates revenue of around one billion. By convincing individual country organizations of these types of groups Betolar could in principle also have access to large customers. In 2025, the hollow-core slabs developed were moved to production, and Betolar signed a three-year license and supply agreement with Consolis Parma for the use of the Geoprime solution in the manufacture of hollow-core slabs in Finland. The agreement also includes a right of first refusal and exclusivity for other Consolis Group companies in 17 different countries. In our view, expanding within the Consolis Group is inherently easier if and when there are good references from another subsidiary of the same group company.

According to the prospectus, Betolar's potential customer base includes more than 450 customers in Europe and Asia. These included manufacturers of concrete products and mining companies. When adding the services offered to companies producing side streams,

## Customer segments

Concrete products	<b>Applications:</b> Paving stones, concrete barriers, bases for EV charging stations <b>Several customers</b> in production phase <b>Potential</b> is limited due to moderate volumes (revenue/customer)
Construction elements (load-bearing structures)	<b>Applications:</b> Hollow-core slabs, frame elements, pillars and beams <b>Customers</b> Commercial contract with Consolis Parma <b>Potential</b> is high due to the large volume of construction
Mining	<b>Applications:</b> Paste filling, sprayed concreting and stabilization <b>Customers</b> Applications developed for Outokumpu have been deployed <b>Potential</b> is high due to the high use of concrete in mines
Waste upcycling	<b>Applications:</b> Side stream research offered to side stream producers <b>Customers</b> 17 side-stream studies carried out <b>Potential</b> is based on the findings of the research and can be significant



# Company description and business model 3/9

we estimate that the number of potential customers has increased. The significant number of potential customers provides a broad base for seeking a commercial breakthrough and creates a large addressable market, which, however, should not be overly enthusiastic about before clear commercialization progress.

## Initial focus on Europe and Asia

Betolar’s commercial customers are currently located mainly in Europe and Asia. The company has not limited itself to a specific target market, but potential customers are sought based on “green demand” and availability of side streams. We consider this justified, as a technology company typically has global business operations and does not need to build a larger organization in every country, at least before proceeding to the commercial phase. In addition, due to the early development stage, the possibility of breakthroughs must be explored with a broad radar.

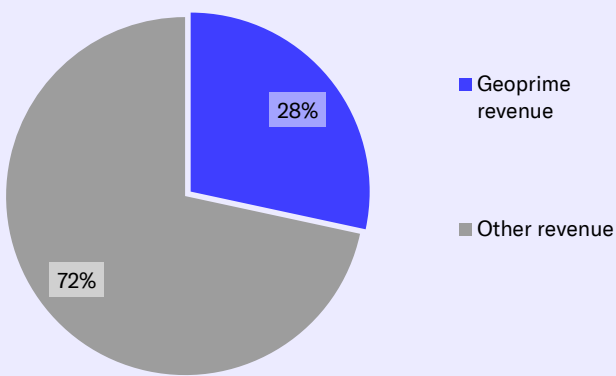
We estimate that green demand is strongest in Europe, while the availability of side streams is best in Asia and especially in China. Expansion to North America could take place through global customer relationships, which would not necessarily increase Betolar's fixed cost structure as much as expansion merely through new customer acquisition. There may be good side streams in the mining sector globally, and the most potential area here is, at least initially, Europe and even Finland and the other Nordic countries, which are at the forefront of spreading green values and requirements.

## Geoprime revenue is generated from licenses and chemicals

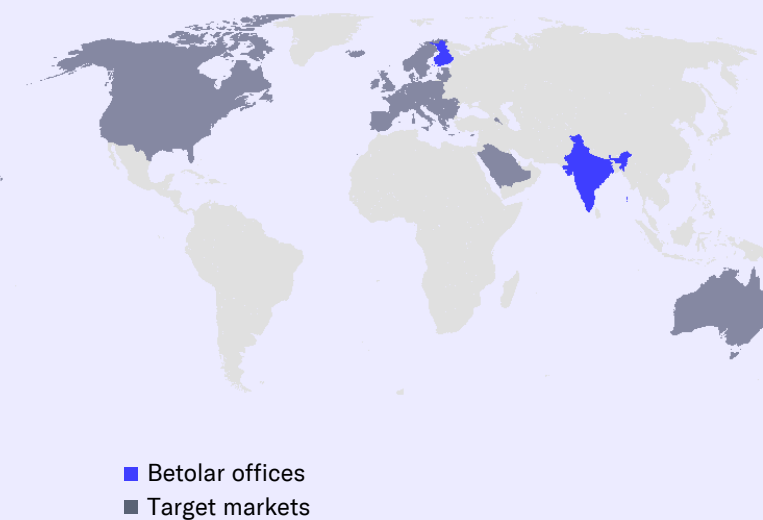
Although the focus has shifted from actual concrete product companies towards the mining and steel industry, Betolar's goal is still to create a business model based on license-based invoicing. However, with commercialization in its early stages, the low risk and good visibility of license-based revenue cannot yet be enjoyed. In the coming years, we expect revenue to consist largely of projects through which Betolar aims to demonstrate its capabilities to customers. So far, 28% of the company's cumulative revenue of around 1.7 MEUR has come from material and license fees related to the Geoprime concept, while the remainder has come from fees related to customer piloting and research service projects. In our opinion, this reflects the challenges of commercializing the Geoprime concept and the company's initial focus on pilot projects and research projects.

We estimate that Betolar primarily seeks long-term contracts that set preconditions for revenue flows. However, even long contracts do not in themselves guarantee Betolar's future revenue and we believe that the license component is also largely tied to the customer's production volume, which naturally is determined by the end demand for applications by builders and real estate developers and ultimately by consumers. License components can also include a fixed element, the share of which we estimate to also be small in contracts signed in the initial stages of commercialization.

Revenue structure 2022-Q2'25



Betolar's target markets



# Company description and business model 4/9

End demand may vary based on seasons (i.e., the annual cycle in construction), but in the bigger picture the trajectory of demand is defined by the desire and ability of concrete end-users to pay a somewhat higher price for a more environmentally friendly product. In addition, demand is also heavily driven by regulation, which is likely to increase the price of CO2 emissions in the future and cause additional costs, e.g., in the production of industrial waste.

Especially regarding the new metal separation method, the business model is still taking shape. The method needs to be closely integrated into the steel industry's refining process, which sets certain constraints for potential commercialization models. Steel companies are large in size, and the significance of a single delivery is substantial for Betolar, which is why we think it would be logical to proceed with a cooperation model with a single potential customer. Considering the significant investment required from the customer, we believe that Betolar's commercial negotiating position will be challenging at the beginning. This is likely to strengthen only once the method proves to be profitable on an industrial scale.

### The gross margin of revenue items and their values in the eyes of investors differ clearly

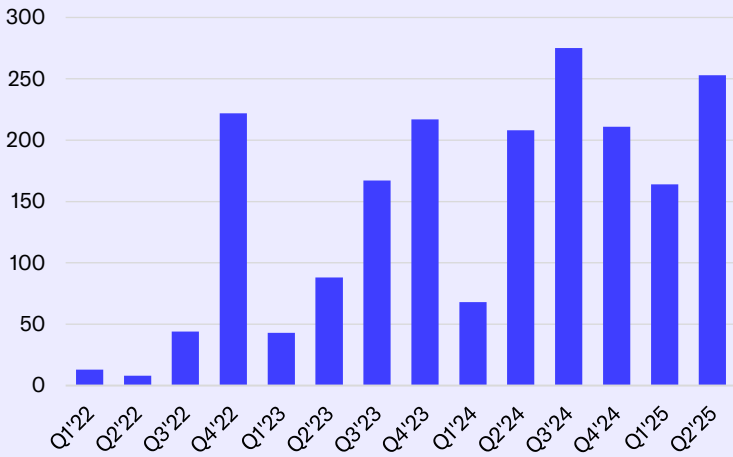
Betolar has planned that license-based revenue would cover costs related to the development of the company's technology as well as consulting work in the customer interface concerning, e.g., dosing and production optimization. In these cases, Betolar naturally must help its customers, because the customers' expertise in the partly

demanding materials technology field would not otherwise enable implementation of Betolar's concept

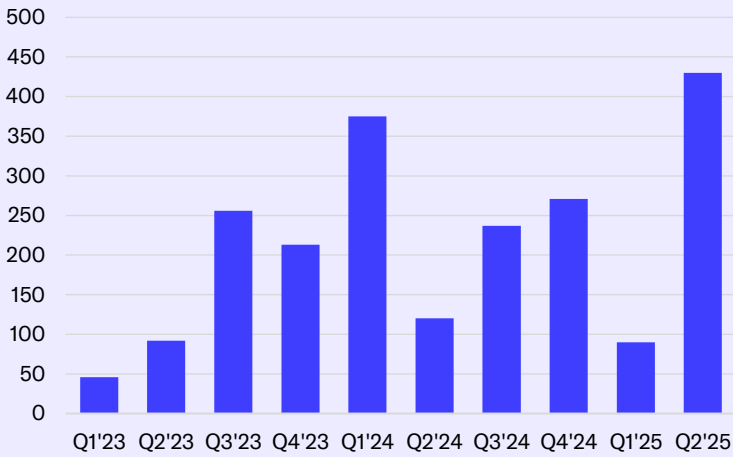
Selling additional licenses does not naturally cause the company any variable costs from direct purchases, so the sales margin of the revenue stream is very high. Instead, Betolar has to purchase the other ingredients (activator chemicals) required in the Geoprime recipe from the chemical industry, which is why the gross profit margin % of material revenue is substantially lower than that of license sales. The gross margin of pilot and development fees may vary significantly, e.g., in terms of the project's side stream needs and its processing, but generally we expect it to be quite good given the people-driven nature of the business.

License and material sales would be predictable and continuous revenue items once the normal commercial phase is reached, whereas early-stage piloting and research fees are one-off project-based sales. Due to gross margins and continuity, the value of Betolar's potential revenue streams in investors' eyes is very different (license > materials and service), but due to limited cumulative sales, in our view, the analysis of the structure primarily indicates the early development phase of the business. Similarly, a significant share of Betolar's personnel costs and other operating expenses are related to underlying factors of license sales, such as R&D and customer support. In the long run, due to the high gross margin potential and fixed cost structure, Betolar's business model is, in principle, scalable as long as Betolar is able to keep the share of license sales high enough. However, we stress that commercial proof of the concept and business model is still ongoing.

Revenue development (TEUR)



Received orders (TEUR)





# Company description and business model 5/9

## Licenses play a key role in the long-term business model

In the longer term, we expect Betolar to avoid agreements that do not include a licensing component. We believe that some of the first customers in the concrete product segment have been granted regional and time-limited exclusive rights to the Geoprime concept. Exclusive rights would limit Betolar's commercial potential, as the markets, especially for the manufacturing of load-bearing structures or concrete products, are local and fragmented, and strict exclusive rights could narrow Betolar's market size.

We believe that committing to the license is not a disproportionately risky decision from the customer's viewpoint as the license is volume-based and not fixed-priced. This should make sales somewhat easier even though we suspect that invoicing for two separate components is not the easiest solution from the customer's viewpoint. In the long run, we assume that the customer's value from Betolar comes especially from the expertise in materials technology, and not from the simple chemicals that are sourced fairly easily from the chemical industry. Thus, we believe that placing the focus of invoicing on licenses is possible, but not easy.

Achieving the targeted profitability in the long term also requires that Betolar as a whole achieves a critical volume mass as we believe the scale affects the company's unit costs and its power to negotiate commercial terms with its customers.

The threshold for starting concrete products based on Geoprime should be reasonable, as the investments required to implement the Geoprime concept are small. In terms of product features, Betolar's solution does not fundamentally differ from concrete made from traditional cement, but in load-bearing structures, cement usage requirements based on building standards pose a certain obstacle for the company. In the mining sector, the adoption of environmentally friendly concrete, in our view, requires somewhat larger investments, and especially the initiation of a new metal separation method necessitates substantial investments of tens of millions of euros. Large initial investments, in our view, make selling more challenging, but on the other hand, even progressing with a single customer to industrial implementation could be a commercially significant step forward for Betolar.

## A suitable side stream is a key component of the solution

We believe the potential of Betolar's business model relies on the Geoprime concept working with several industrial side streams. The use of these side streams should be based on new innovations, since charging high margins for a well-known and low value added application (i.e. using blast-furnace slag) is not realistic in our view. We also believe that this is a major challenge for the business model. The creation of new environmentally-friendly and price-competitive technologies is a demanding and competitive playing field.

Some of the mentioned side streams are global and some local. Their available volumes, current use and prices also vary significantly. However, in the big picture, we expect regulations to tighten the processing requirements for

industrial side streams and limit the possibility of exporting side streams to landfills (incl. stricter environmental permit requirements), especially in Europe. Thus an increasing number of side streams will gradually become a bigger cost problem for industry, so the supply side of side stream raw materials should in principle develop favorably for Betolar, as long as the volume of potential side flows continue increasing. The pace of legislative change is, however, slow, nor has concrete support from legislative changes been received in recent years.

## Steel industry slags function as cement substitutes

We believe, the key to long-term cost competitiveness of the Geoprime concept is optimization of side streams in terms of prices, price differences and availability as our view is that most of the costs of Betolar's solution are generated from the side stream (incl. its logistics). For example, in blended cement the demand for common GGBFS and fly ash and highish market prices in Europe have made the use of new side streams more attractive.

In the geographic market of Betolar's customers, the side stream must be available at a suitably low price for the customer relationship to make sense for Betolar. Thus, we believe the local price and availability of blast-furnace slag makes some customers more attractive than others. Innovations to exploit new side streams could change the situation quickly. In addition, long-term sustainable commercialization requires that the availability of the side stream must be secured and that the said side stream must yield sufficiently good properties in concrete.

# Company description and business model 6/9

At the core of Betolar's strategy and development work from the outset has been the identification and development of alternative new binders (other than blast furnace slag). The company announced in early 2025 that it had succeeded in this goal and identified new usable slags that can replace traditional cement on a significant scale. In our understanding, these slags are largely generated in the steel industry's processing operations. However, to utilize the new slags, we believe that Betolar still needs to address key challenges. The most significant of these, in our view, is the high temperature required by the method, which Betolar has planned to utilize directly from the steel industry's refining process. When formed, the slags are at the high temperature required by Betolar's method, but utilizing the thermal energy requires further processing of the slag practically immediately after its formation. Achieving this, in our view, requires seamless cooperation with slag producers, as well as convincing steel companies to change their production processes. Alternatively, Betolar would have to produce the high temperature required by the process itself, which would, due to costs, impair the economic viability of the method.

### AI platform plays a key role in achieving goals

As stated, as part of the Geoprime license, Betolar offers its customer continuous side stream research, customer support and recipe development. Thus far, these are mainly manual expert work that requires a trained workforce as well as customer-specific or side stream based customization. Therefore, successful development of Betolar's AI-based platform is key to achieving the

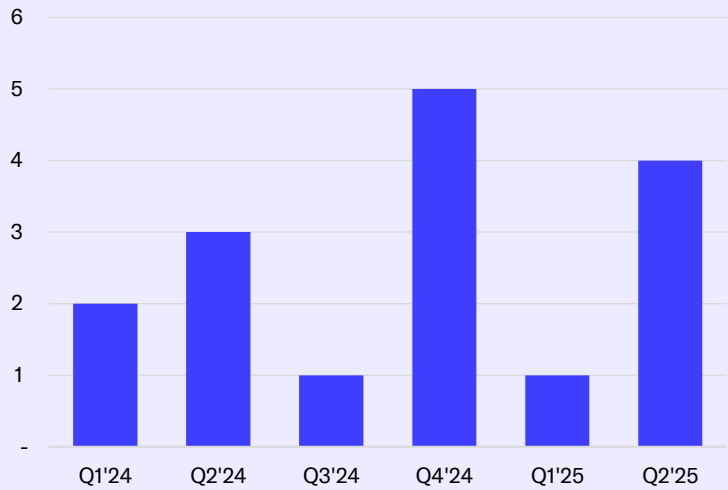
scalability and target profitability of the business model. Betolar has also actively continued to develop AI, although in the fall 2023 savings program, extensive external consultancy purchases were reduced and replaced with the company's own resources.

### From pilots to research service projects

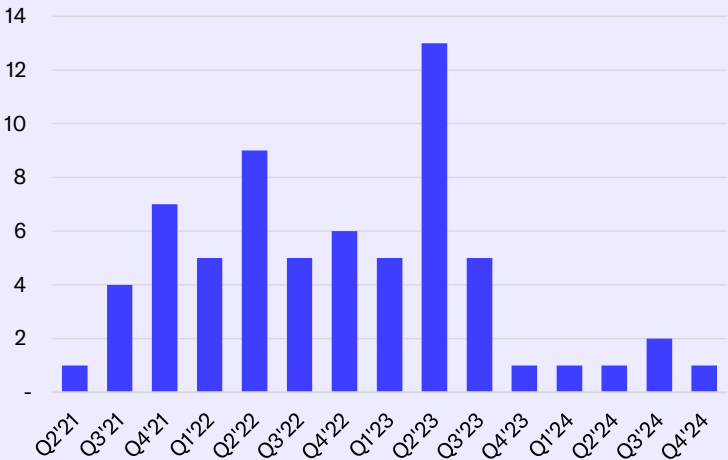
Betolar conducted industrial pilots at a rapid pace during 2022 and 2023. These were mainly carried out for concrete product companies, including paving stone, building block, and element manufacturers. The purpose of the pilots was to demonstrate the functionality of the Geoprime solution to customer companies, after which Betolar aimed to conclude commercial agreements.

In total, Betolar has had just under 70 reported pilot customers. However, commercial progress with concrete product companies has been weak, which, in our view, is due to weak demand from the end-customers of concrete product companies. The rise in the price of blast furnace slag has weakened the competitiveness of Geoprime concrete compared to traditional concrete, and commercialization in the concrete product segment has remained in the starting blocks from the perspective of revenue generation. With slow commercial progress, Betolar has directed its resources towards larger customers and the mining industry, where sustainable business themes have been emphasized in recent years and the potential of individual customers is significant. As a result, Betolar significantly reduced the implementation of pilots for concrete product manufacturers.

Number of research service projects



Number of pilots



# Company description and business model 7/9

We believe the conducted pilots have not been completely wasted, as through them Betolar has accumulated a database on various concrete compositions and binders (cement substitute), enabling the operation of its AI tool. Should Betolar succeed in improving the competitiveness of its solution, existing customer and cooperation relationships would also provide a good sales channel.

Instead of pilot projects, Betolar began to carry out research service projects for larger customers, for which the customer company pays a fee. Research service projects have included development projects focused on both concrete recipes and the utilization of side streams. We are not talking about particularly large revenue streams in research service projects, and we estimate the price of the service to have been from tens of thousands of euros up to a maximum of 0.2 MEUR.

## Investments in research and product development

Research and development is a critical part of a technology company's business model. Betolar significantly increased its investments in this sector in the early stages of commercialization. Given the company's nature, research began with relatively early-stage basic research, and the company also collaborates with universities at the early stage of the research chain.

As a result of the extensive cost-saving programs implemented, other operating expenses in particular have been cut. These included development work carried out by external consultants, which the company has sought to transfer to internal operations. However, we consider it clear that Betolar's resources for development work have significantly diminished due to the cost-saving measures. In our view, development work has increasingly been shifted

to customer-funded research service projects, which can also generate innovations critical for Betolar's business.

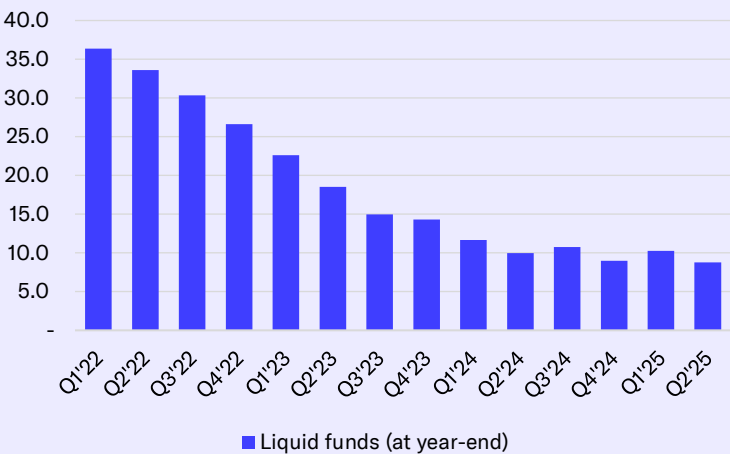
## Business development will require additional funding

Capital raised in the IPO. With the help of the Climate Fund's debt financing and Business Finland's support for material research of side streams, Betolar has built its business model, invested in an innovation center, carried out research and cooperation projects, and recruited personnel. Due to the tightening of the financial markets since the listing and the weakening business environment, Betolar slowed down its growth investments for funding to last longer. In August 2024, Betolar raised net proceeds of 2.2 MEUR in a directed share issue, in which the majority of the shares offered were subscribed by Betolar's main owner Nidoco AB (with a 27.8% ownership stake in Betolar). While financing was strengthened in 2024, we expect the company to seek additional financing channels already in the short term. This is due to the funds required for the further development of the new method.

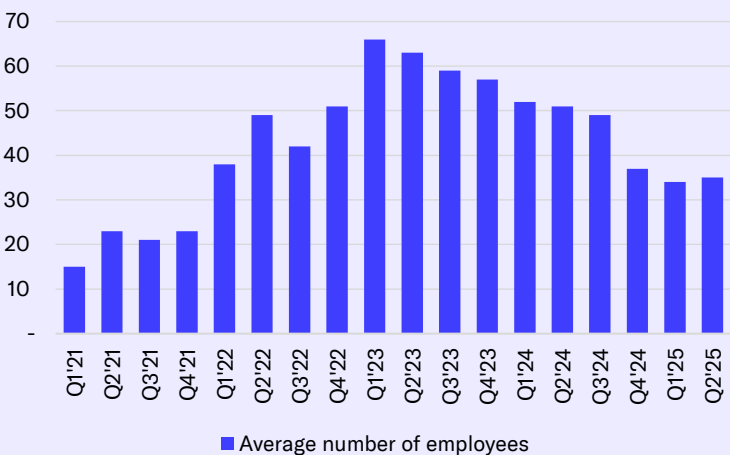
We deem previous cost-saving measures essential, as the current tight financial market situation and Betolar's commercialization track record, which has so far fallen short of expectations, make raising further financing difficult, if not impossible.

Betolar has not directly opened its R&D investments, but we estimate that a significant part the company's personnel and other operating expenses has related to this area as the company is developing its concept. Overall, the cumulative losses of Betolar at EBITDA level have been some 32 MEUR in 2019-2024. In addition, losses also occurred on a small scale in 2016-2018.

Development of cash position (MEUR)



Headcount development



# Company description and business model 8/9

As a whole, we estimate that the losses and investments are roughly just over 40 MEUR level. This illustrates the resource needs required to reach the threshold of the concept's commercialization phase.

## Development work relies on side stream research and AI application

According to our assessment, Betolar's research and development activities are currently focused on the further development of a new metal separation and green concrete method. Consequently, the focus of research activities is narrower compared to the previous extensive research work. Research and development has also been carried out in collaboration with parties producing side streams or concrete users, in which case a portion of the research costs are covered by a partner or a customer. Cooperation and research projects have been carried out with, e.g., Metso (analcime sand), Eesti Energia (fly ash), Consolis Parma (low-carbon hollow-core slabs), and Outokumpu (low-carbon shotcrete).

Betolar developed the digital platform in cooperation with the AI laboratory Silo AI, but the development is currently carried out with Betolar's own resources. The AI platform is intended, for example, to automate concrete recipe-related matters and create tools for customers for production optimization. Development of tools related to production optimization is expected to start gaining more weight once the company collects more data on customer production when volumes grow.

The most concrete signs of the development of the AI tool are the Betolar Sideprime and Betolar Optimize services.

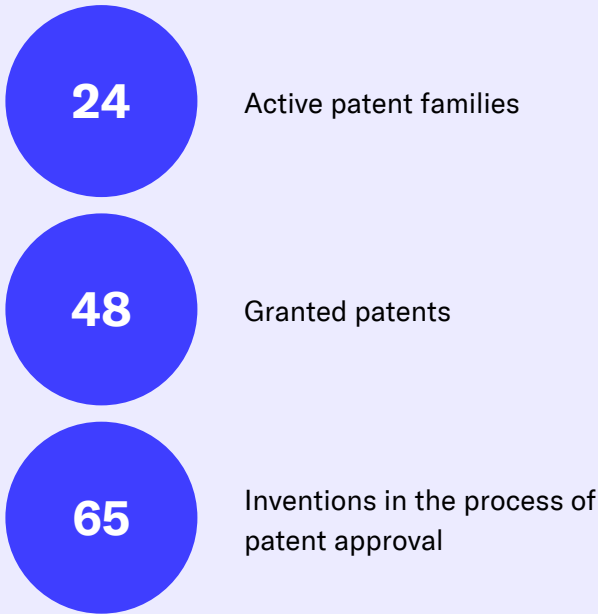
The Betolar Sideprime service utilizes Betolar's AI tool to map the properties and potential utilization possibilities of the customer's side stream. The Betolar Optimize service, in turn, offers customers concrete recipe optimization utilizing Betolar's technological expertise. We consider the sales of research services to be an interesting business model for Betolar due to its capital lightness and good margin profile. At the early 2025 Capital Markets Day, data-driven services were also made one of the three cornerstones of the strategy.

## Intellectual property rights are important to protect

Betolar's business is based on the company's technological expertise, which the company has also sought to protect as far as possible. Betolar received its first patent in 2019, and the company has dozens of patents (~50) and, in our estimate, dozens of active patent applications (~70). Patents have been granted in Finland and are partly international. These cover and protect certain business areas temporarily (in our view, until the 2030s), but Betolar, for example, cannot, in our view, protect the dosing of geopolymers concrete other than as a trade secret. Thus, the termination of the agreement between Betolar and the customer would not, in our understanding, legally prevent the customer from using the existing recipe.

Regarding the new method, patent protection is, in our view, stronger than Betolar's previous solutions, as it is a new method for which Betolar holds patents and has 8 new patent applications.

## Betolar's patent portfolio (H1'25)



*The patents mainly relate to the production of green cement and the separation of minerals from slag*

# Company description and business model 9/9

## A scalable cost structure is the goal

So far, most of Betolar’s costs are related to personnel costs. In addition, a significant share of the costs has so far been related to external experts’ fees, as well as business and administrative development that are recognized as other operating expenses. These cost items are more flexible in the short term than those related to the company’s payroll, but investments are necessary to sustain growth and, in the long run, significant use of external services is naturally also expensive. In addition, due to the company’s high investment rate we do not find a closer inspection of Betolar’s current cost structure very fruitful. Instead, we believe that investors should monitor the growth of the company’s cost structure in particular and how it relates to revenue growth and cash assets.

Betolar began slowing down its growth investments with structural changes at the end of the 2023 financial year, which led to the company conducting extensive change negotiations at the beginning of 2024. As a result of these, Betolar's operating costs have been roughly halved from their H1'23 peak of 7 MEUR. Slowing the pace of spending has, in our view, been necessary given the financial situation and the subdued revenue development. On the other hand, we see a risk that, as the investments slow down the result may also be delayed.

## Capital commitment is moderate in principle

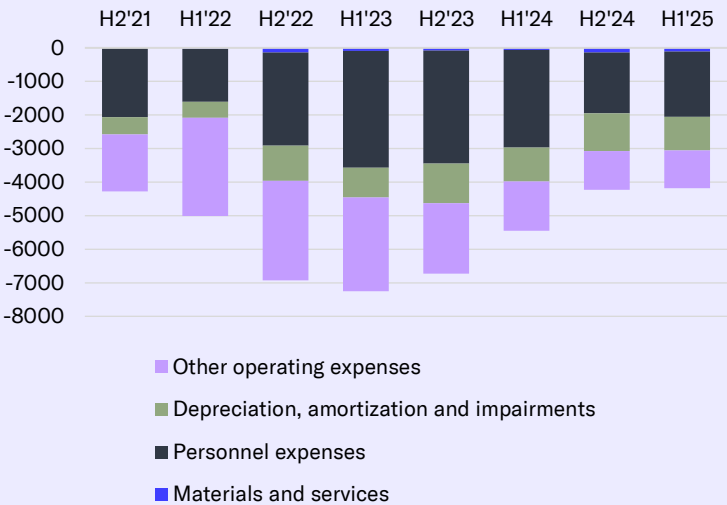
Typically, for a technology company, Betolar records most of its long-term development work as an expense, but the company has also capitalized development costs in its

balance sheet. Tangible investments and lease liabilities under IFRS accounting have been low. As a whole, we believe the company strives to keep its balance sheet light and investments low. Thus, we feel the company has preconditions to achieve a high return on capital if the commercialization is successful and Betolar can achieve profitable growth.

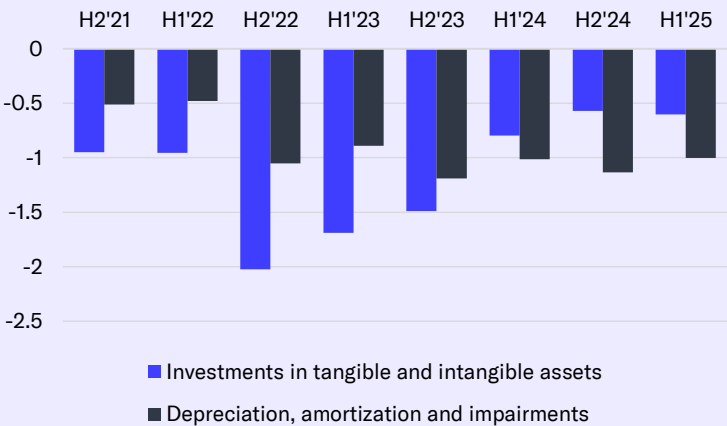
In addition to intangible assets, creating new customer relationships may also require investments. In the future, this could mean, e.g., giving customers favorable terms of payment, which would be visible as an increase in working capital. As a rule, we believe the company should also be able to keep its working capital commitment low, as long as no greater flow-through items from side stream procurement need to pass through the company's balance sheet.

As a whole, we feel the potential capital lightness of Betolar’s business model is very positive for investors, as it allows capital allocation to more profitable targets. However, we stress that the hypothesis can only be confirmed when Betolar has progressed further on the commercial front.

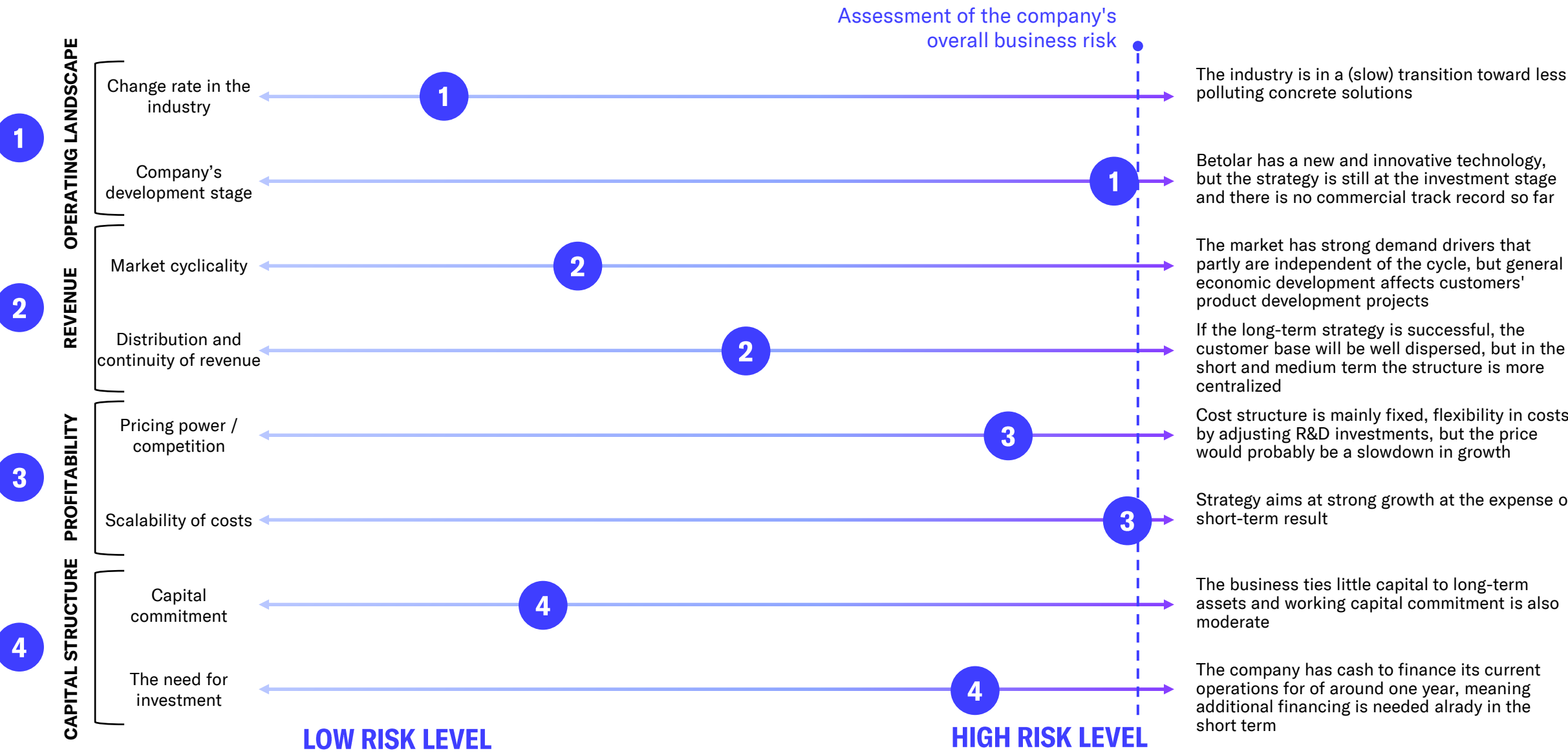
Development of the cost structure (MEUR)



Capitalized investments and depreciation (MEUR)



# Risk profile of the business





# Strategy and financial targets 1/2

## Key strategy drivers

Annual cement production volume **+ 4 bn tons**

Annual CO2 emissions **+ 3 bn tons**  
from cement production

## Drivers supporting the strategy



Climate change



Circular economy



Urbanization



Localization & geopolitical uncertainty

## Strategic focus areas

### UTILIZATION OF INDUSTRIAL BY-PRODUCTS

1. The company researches and productizes industrial side streams, and the Side Prime analytics service helps identify their full potential.

### CEMENT REPLACEMENT SOLUTIONS

2. Geoprime solutions are available to replace cement in the mining and construction industries.

### METAL RECOVERY AND GREEN CEMENT:

3. Methods are commercialized for the recovery of valuable minerals and metals and the production of green cement



According to Inderes' estimate, the implementation of the strategy will require additional funding by 2026 at the latest

## Financial targets



**>0 MEUR**

Operating cash flow by the end of **2026**

**>1,000 MEUR**

Revenue by the end of **2033**

**>30%**

EBITDA-% by the end of **2033**

# Strategy and financial targets 2/2

## Three pillars of strategy

Betolar's vision is to be an enabler of waste-free business, whereas its mission is to create value from industrial side streams and reduce emissions by replacing cement.

Betolar's strategy currently focuses on three closely related technologies and services: the utilization of industrial side streams, cement-replacing solutions, and the development of a method enabling metal recovery and green cement production. Cement-replacing solutions are solutions marketed directly to concrete users, such as Geoprime concrete or shotcrete developed for Outokumpu. The competitiveness of these solutions hinges on the solution's competitiveness in terms of both costs and properties. The other strategic pillars aim to support this competitiveness.

Service projects implemented to utilize industrial side streams aim to find usable materials in Betolar's cement-replacing solutions. While the use of a side stream in concrete production may not be possible, Betolar is prepared to conduct side stream studies for a fee. Finding alternative applications provides significant added value for the customer and supports Betolar's other objectives, even if the material's end-use is not suitable for replacing cement.

The method developed by Betolar for metal separation and green cement production, if successful, enables an improvement in the competitiveness of Betolar's green cement, as Betolar would gain access to a unique binder for concrete. In addition, valuable metals that previously ended up as waste can be recovered from previously useful slags. However, the further development of the

method requires industrial-scale pilot projects and other development work. In addition, a challenge is the integration required by the method into metal processing processes and the substantial investment required. However, the significant value created by the method, according to Betolar's calculations, enables a very rapid investment payback (~1 year), thus the opportunity appears attractive to a large metal refiner.

**Financial targets aim for 2033**

Betolar's short-term goal is to achieve positive operating cash flow by 2026. The target was given in connection with the listing. With the current cost structure, achieving the target would, in our estimation, require revenue of just under 10 MEUR next year. We consider this a demanding target, and we do not expect the company to achieve it.

In its long-term targets, the company aims for 1,000 MEUR in revenue and a 30% EBITDA margin by 2033. We consider the target to be more of a vision considering the early stage of the company and it is based on the global business model and the large achievable market. In our view, achieving the targets would require a global leadership position in green concrete, as well as a strong breakthrough of a capital-light business model. We assess the likelihood of success of this magnitude as low, given the sluggish progress in technology commercialization and previous medium-term targets falling short of Betolar's reach. Therefore, investors should not view the long-term targets as a realistic reference point for the expected future development.

## Operation of the new method

### Raw materials

- 1

**Slag generated in the steel industry process**  
Slag that is difficult to utilize with current technologies
- 2

**Tailing**  
Tailing is a high-volume waste of the mining industry



### Process

**The process utilizes the high temperature of slag generated in metal processing as an energy source**



### End products

- 1

**Green cement**  
Betolar can utilize the binder generated in the process in its other products
- 2

**Precious metals**  
The value created by the method is mainly derived from the recovery of precious metals.

# Market and competitive field 1/5

## Concrete production determines the demand for cement

As a technology, cement has stood the test of time, as cement has been used for construction even before the beginning of the western era, e.g., in ancient Rome, and modern Portland cement was developed in the 19th century. In 2023, global cement production exceeded 4 billion tons, roughly equivalent to a market of just under 400 BNEUR. Cement is primarily used to manufacture concrete. The cement is mixed with water and sand and when dried, these ingredients form concrete. Concrete is the most common building material in the world, so it has a large and well-established user base.

## Market growth is slow

By far the largest cement producer is China, which accounted for roughly half of world cement production (2023). The main applications of cement are residential construction, construction of commercial real estate and infrastructure construction. Thus, the drivers of the cement and concrete industry lie in the global construction industry.

Global cement production growth is driven by urbanization. The growth rate in China where more than half of the world's cement is produced, has, however, slowing down. In Africa and India, cement production is growing more rapidly, but in Europe growth is also slow. According to CEMBUREAU and KPMG, cement production growth was at approximately 2% in the previous decade. In 2022–2023, global cement production has been in decline, reflecting the global construction downturn. However, the market is quite stable overall despite the subdued development in

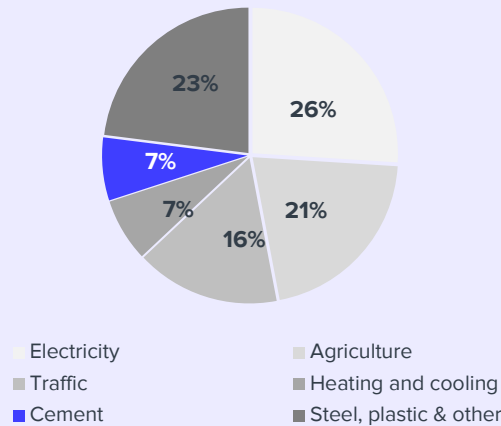
recent years. The concrete and cement markets are huge in size relative to Betolar, so we do not see the lack of top level market growth as a constraint for the company. In addition, the company is positioned in a growth pocket of very low-emission cement.

## The problem with Portland cement is emissions

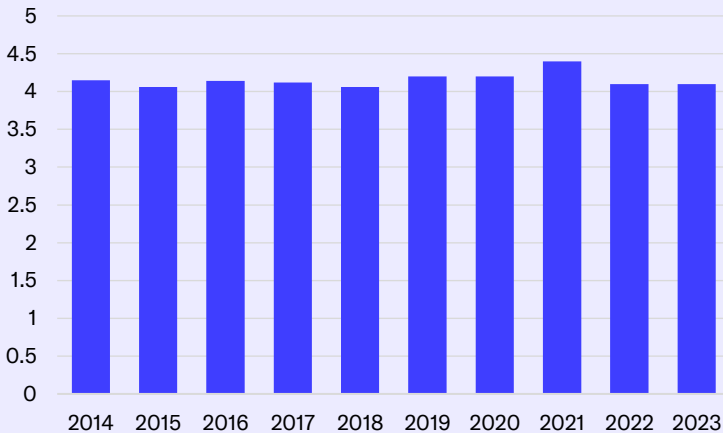
Most cement produced in the world is Portland cement (CEM I/OPC). Portland cement is manufactured by heating a limestone mixture in a kiln, which releases carbon dioxide from the limestone and leaves clinker, the raw material for cement, as the final product. This reaction generates most of the CO2 emissions from the cement manufacturing process. As a whole, the carbon dioxide emissions from cement account for 7-8% of global CO2 emissions, so the sector is a significant source of emissions and innovation in the cement production process plays an important role in reducing global CO2 emissions. In many other carbon-emitting uses, emissions can be eliminated by switching to renewable energy, but in the manufacture of Portland cement the release of carbon dioxide from raw material (limestone) is inevitable even if the energy for the process was produced with renewable energy sources.

No revolutionary innovations have been seen in cement manufacturing since the 1800s, instead, innovations have been small and gradual process improvements. Revolutionary technologies in production technology are slowed down by strict construction standards, which are expensive and slow to pass. The industry is also conservative when it comes to material use.

Global annual CO<sub>2</sub> emissions (~50 billion tons)



Global consumption of cement (billion tons)



# Market and competitive field 2/5

There is no clear consensus on reducing emissions in the industry. There are several alternative potential technologies, but we believe no commercially superior solution has been found. Not all technologies are in direct competition with each other, and it is technically possible to use multiple solutions simultaneously. Betolar's solution is based on binders to replace cement and geopolymers technology. Its biggest challenge in replacement binders is the availability of replacing materials.

A possible compatible with many technologies is carbon capture and storage (CCS) and utilization (CCUS). The biggest weakness of the technology is the comprehensive infrastructure it requires, which means that only large players have the resources to pilot the technology. In addition, new interesting openings have emerged, such as the use of an alternative raw material (e.g. calcium silicate) in the production of Portland cement or developing a completely replacing binder (e.g. organic biocement).

## The market for cement substitutes is growing

In addition to Portland cement, the European cement standard identifies four other lower-emission blended cement types. It is worth noting that there is still no standard for cement-free concrete in the EU or elsewhere. We believe that this is a challenge for Betolar for the time being and that getting a standard would create better conditions for commercialization.

The problem with blended cement has been, e.g., the slow hardening and the availability of obtaining regulatory approvals for construction use. In a market study conducted by KPMG in connection with Betolar's listing, the combined market for Portland cement alternatives was

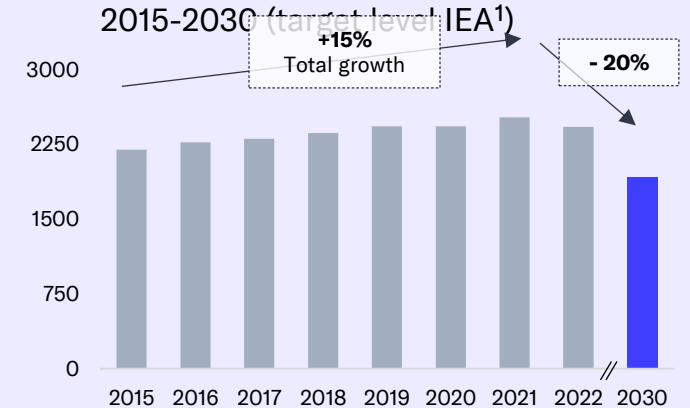
forecast to grow to approximately 1.5 BNEUR by 2026. Taking into account the use of commoditized alternative binders (e.g., blast furnace slag), the estimate is, in our view, clearly understated. By using widely used materials, differentiation and value creation is challenging, but with innovative solutions, it would still be possible to profitably capture markets.

We believe the expected market for this niche segment paints a better picture of Betolar's short-term market potential than the value of the entire cement market. However, in the long run, the playing field is bigger, although the availability of suitable side streams may limit the potential of the overall market to some extent. Compared to Betolar's current size and growth ambitions we feel the size of the market is sufficient for the company and factors that limit growth will for a long time be found elsewhere in the market.

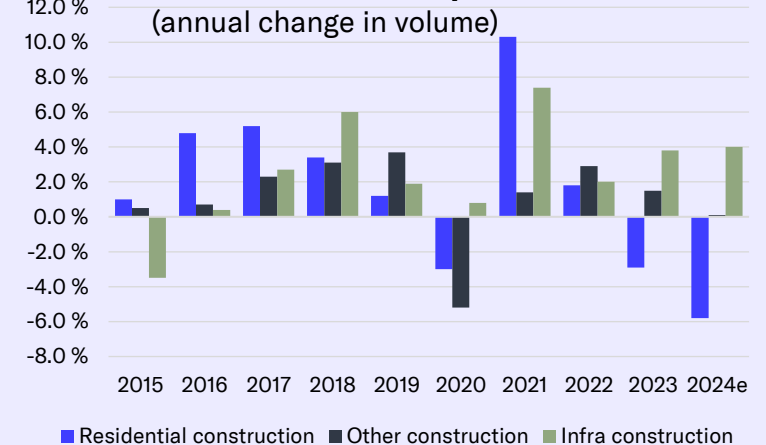
## The new method extends the target market

With Betolar's new method, the target market expands to the recovery of critical metals. The potential value of the method relies especially on the metals to be separated, although the green cement produced in the process is also valuable. For example, the annual market sizes for chromium and nickel are, in our estimation, measured in tens of billions of dollars. Betolar's solution fundamentally improves the utilization of these metals, so the potential market size for the solution itself is, in our estimation, some percentage points (~5%) of the total market. Therefore, a potential market size amounting to billions of dollars is significant relative to Betolar's scale, and not a growth-limiting factor.

## CO2 emissions from cement production



## Development in the volume of construction in Europe



<sup>1</sup>International energy agency

# Market and competitive field 3/5

## The cement market is dominated by global giants

Changes in the cement market have been slow due to extreme capital intensity, market conservatism and centralization. In this mature market, global giants have sought economies of scale by expanding in size and industry integration has advanced. Investments in cement mills are long-term and investment payback periods are very long. Therefore, replacing existing infrastructure with more environmentally friendly and efficient production facilities does not happen overnight.

Cement mills are usually located close to the raw material source due to logistics costs. In the concrete market, the location and availability of raw materials is even more important, as the stem material that makes up about 70% of the volume of concrete must be transported to the production site. This, together with the simple production process of the stem material (sand, crushed stone), means that there are many local concrete producers, while the number of cement producers is small (e.g. Finnsementti is the only cement producer in Finland). We estimate that the low number of competitors in the cement market and the high number of players in the concrete market reflect the strong bargaining power of cement producers in the value chain. Therefore, concrete manufacturers should welcome a player that offers an alternative to cement.

The homogeneity of the end product and the standard production process leave limited possibility for players to differentiate with product characteristics. Thus, we estimate that the role of price has become emphasized in market players' decision-making. Environmental friendliness is one of the few ways for concrete producers

to stand out from the competition. In addition, we believe that cement companies that enjoy economies of scale have limited incentives to bear the technology risk or to shake up the prevailing market situation.

## The technology competition includes large generalists and small specialists

Environmentally friendly solutions are being developed by the largest Western cement and/or concrete producers in the world, as well as new players with disruptive start-up like qualities.

The world's largest listed cement manufacturers include, e.g., Cemex, LafargeHolcim and HeidelbergCement. The large listed players have increasingly started investing in environmentally friendly technologies, which is driven by, e.g., the pressure for responsible business operations stemming from consumers and the capital markets. Large companies have naturally approached the challenge by examining their own production chain and seeking solutions across a wide range of production chain stages and technologies. This approach is logical, as simultaneously developing of several technologies will result in a decentralized technology risk when the winning technology remains unclear. We believe that large players are seeking solutions that do not require too much adaptation or replacement of current valuable production lines.

Young and innovative companies naturally operate with different strategies than large companies. With limited resources and expertise, technology companies in the cement market focus on strictly limited technologies and solutions that could fundamentally shake up cement

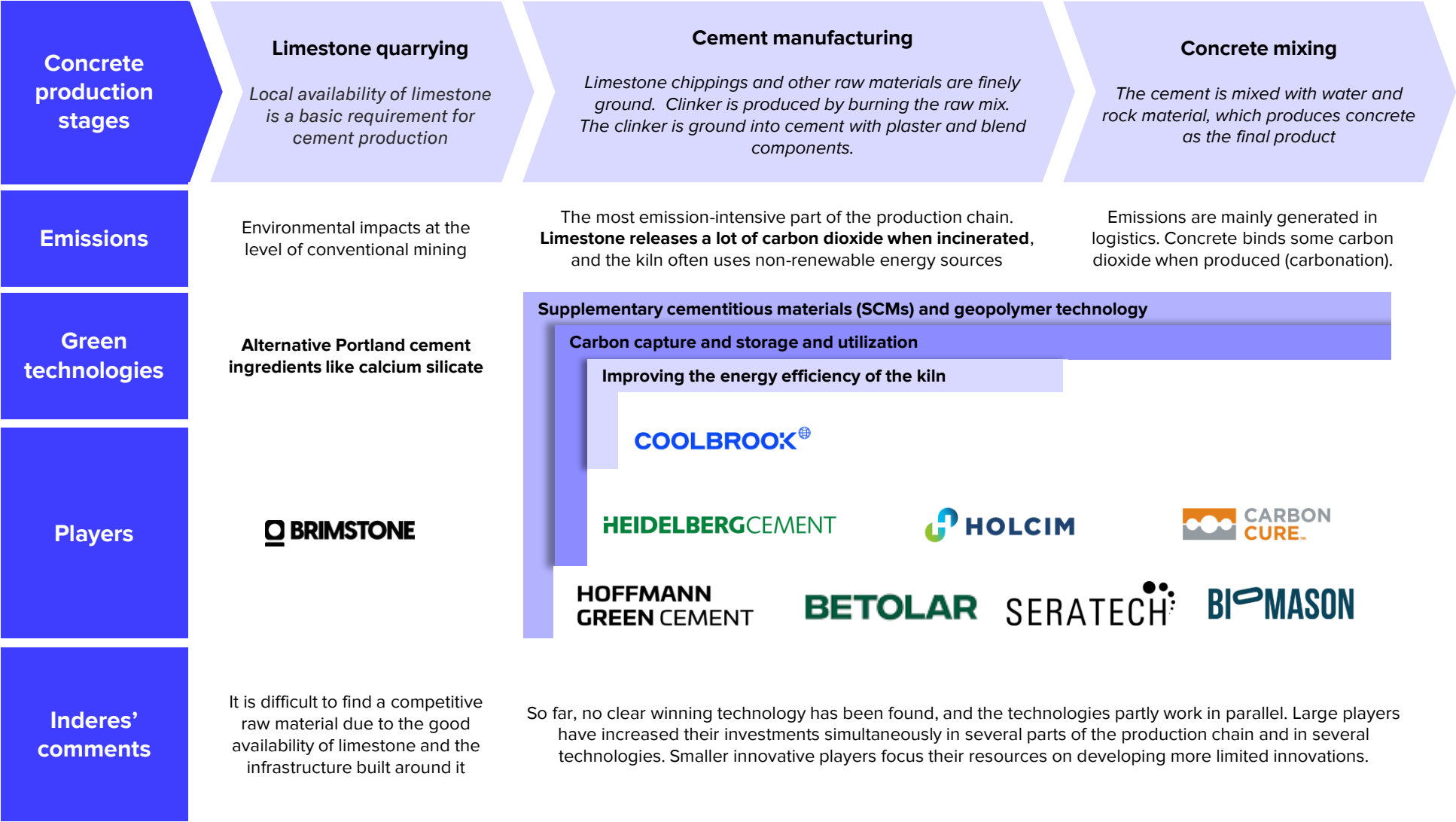
production. The business models of these companies are typically still taking shape, and we are not aware of a profitable new generation cement technology company. However, regulation and emissions trading may change the dynamics in the near future. To date, French Hoffmann Green Cement is, in our view, the most advanced in the commercialization of geopolymers concrete. The company has built several geopolymer concrete production plants, but their production volumes have remained low. Hoffmann has also partly transitioned to a license-based business model, as necessitated by the company's financial situation.

## Betolar's solutions appear competitive on paper

For the time being it is difficult to assess the competitiveness of Betolar's solution compared to competing solution providers given the emerging market and the early development phase of the company. On paper, the potential of Betolar's solutions appears to be competitive with other players thanks to the scale of the emission reductions, AI and digitalization. On the other hand, commercial progress and production volumes have fallen behind the best in the market during the past year.

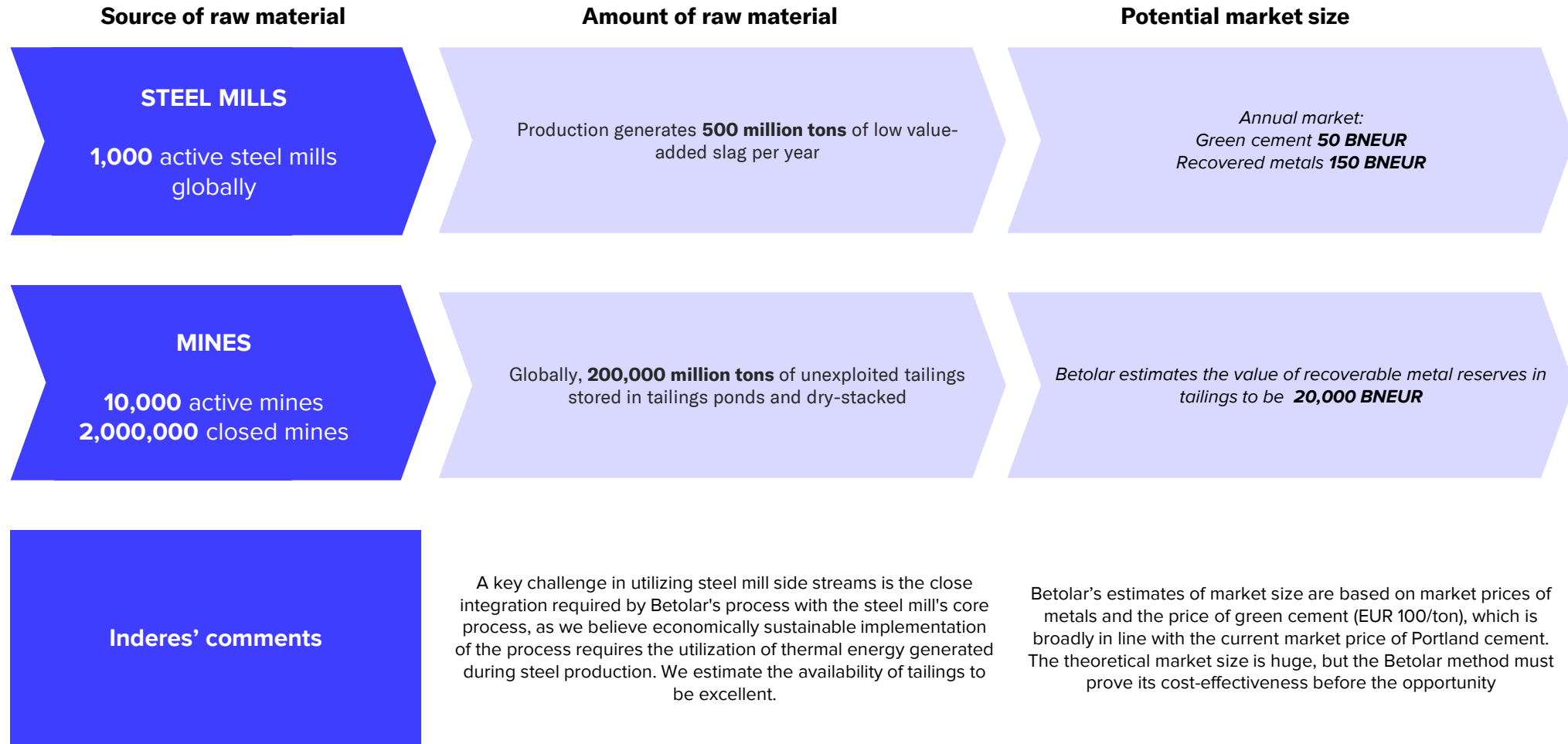
We feel the best indicators for the relative competitiveness of different solutions will be concrete production volume, revenue growth and profitability. These meters indicate the commercial and industrial performance of the solution and we will continue to monitor them in the industry. In terms of competition, it is important to note that in an emerging and fast technological development market, the risk of new and stronger competition is always acute.

# Market and competitive field 4/5: Solutions replacing cement





# Market and competitive field 5/5: Market size of the new production method



# Financial position

## Cash is the biggest asset

In the middle of the financial year 2025, cash (9 MEUR) constituted most of Betolar’s assets. Due to the capital loan drawdown and support payment in Q1’25, the cash position did not significantly weaken during H1. Betolar's cash burn has been around 1 MEUR per month during its listed history, but due to the implemented savings, we estimate the cash burn rate will halve to some 0.5 MEUR per month, and continue to decline depending on revenue development.

The second largest asset item in Betolar's balance sheet is development costs, into which the company has capitalized R&D related personnel costs and other operating expenses to the tune of 3.5 MEUR. In addition, the balance sheet contains around 1.1 MEUR in property, plant and equipment, of which some 0.1 MEUR consisted of right-of-use assets under IFRS16. The balance sheet total at the end of H1’25 was EUR 14.6 million. The balance sheet is very light excluding cash. We believe maintaining a light balance sheet is a key and sensible objective for the company. If business scales successfully, a light balance sheet would support the company’s valuation.

## Subordinated loan covers most of balance sheet liabilities

With cumulative losses of close on 40 MEUR, Betolar's equity fell to 5.2 MEUR at the end of H1’25. The decrease in equity reflects the financing needs the company is facing to continue its business. The subordinated loan from the Climate Fund is recorded in liabilities in Betolar’s balance sheet. The loan terms include, among other things, an interest rate based on the company's credit rating (exact terms not disclosed) and a restriction on dividend payments before the loan principal is repaid. In our assessment, the loan terms are tolerable, and accrued interest will only be paid when the financial situation permits, at the earliest at

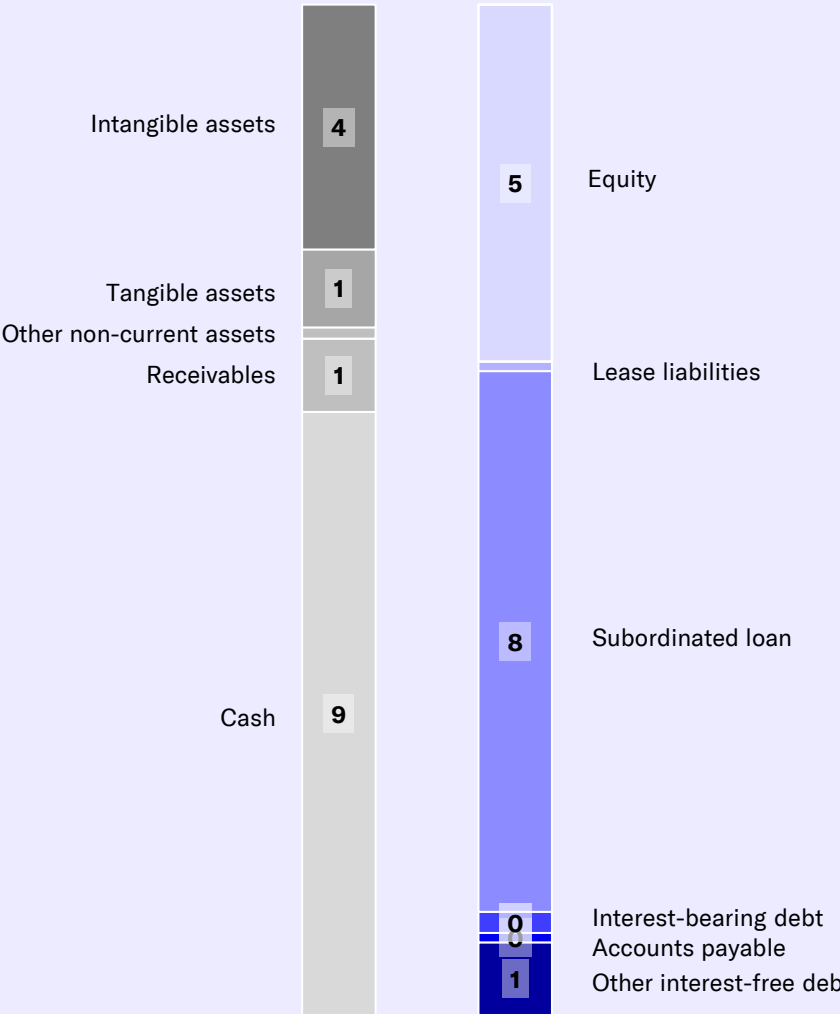
the end of the 2028 fiscal year. Therefore, the interest expenses of the subordinated loan do not burden cash flow, but accumulate to the loan principal over time. By the end of H1’25, the subordinated loan drawn amounted to 7 MEUR, and its book value was 7.8 MEUR.

In light of the balance sheet ratios, Betolar's liquidity situation is moderate, but the approaching need for financing is, in our opinion, evident. We do not think it is sensible to assess conventional indicators at this stage, and we focus on the cash position, how much cash is burned and new financial arrangements based on which the indicators will fluctuate. We expect that the company will allocate all available capital to growth in this decade, so no dividend is expected from Betolar.

## Betolar is considering different financing options

For the current year, we believe the liquidity situation is secured, but with our estimated cash burn rate (0.5 MEUR/month), the cash would run out at the end of 2026. From the perspective of business continuity and planning, we assess the company is seeking to resolve financing issues in good time, so we believe the company is currently actively exploring different financing channels. The amount of financing needed in the coming years is influenced by the revenue growth rate and the investments required for the development of the new method, which are subject to significant uncertainty. However, we estimate the additional financing need for the next few years to be around 10 MEUR. Given the challenging capital market conditions and Betolar's subdued performance, raising this sum is not straightforward in our view. The main owner (investment company Nidoco) capitalized Betolar in last year's directed share issue, and we consider the main owner's commitment to financing the commercialization likely also in the future.

Betolar’s balance sheet H125 (14.6 MEUR)



# Estimates 1/4

## Good growth conditions amid market transformation

Betolar operates in a market with moderate long-term growth but aims to benefit from the largest industry-transforming trend (i.e., emission reduction) and gain market share within large markets. We expect the green revolution in the concrete industry to progress clearly over the current decade, driven both by consumer demand for more environmentally friendly solutions and regulation (incl. an increase in the price of carbon dioxide emissions and the impact on the relative competitiveness of its new solutions). In addition to the concrete industry, Betolar seeks growth in the mining industry value chain. The mining industry, driven by the green transition, is a faster-growing market overall than the concrete industry. The global mining industry market size is also enormous compared to Betolar's scale, and Betolar's demand is not affected by the overall market growth. However, tightening environmental requirements in the mining industry support demand for Betolar's services.

As said, Betolar is still an early-stage growth company that is only building a commercial basis for its business. Betolar's growth relies both on increasing the number of commercial customers in different geographical areas and on increasing customer-specific sales. Due to the nature of the business in a commercialization phase, the company's history, or even the market history does not provide support for estimates.

Therefore, our growth forecasts are based on several assumptions, which involve significant uncertainty. The assumptions concern both revenue and required growth investments (incl. income statement and balance sheet). In connection with the valuation, we outline a clearly more positive and more negative scenario, in addition to the base scenario included in our forecasts.

## Key estimate drivers

We forecast Betolar's revenue as a single item, as we expect the core of the business to be based on recurring license invoicing, whereas we expect current project revenue to play a minor role. However, our revenue estimate includes assumptions about the change in customer volume and annual invoicing per customer. We also stress that the differences between customers are likely to be large and that an average approach to customers is a huge generalization.

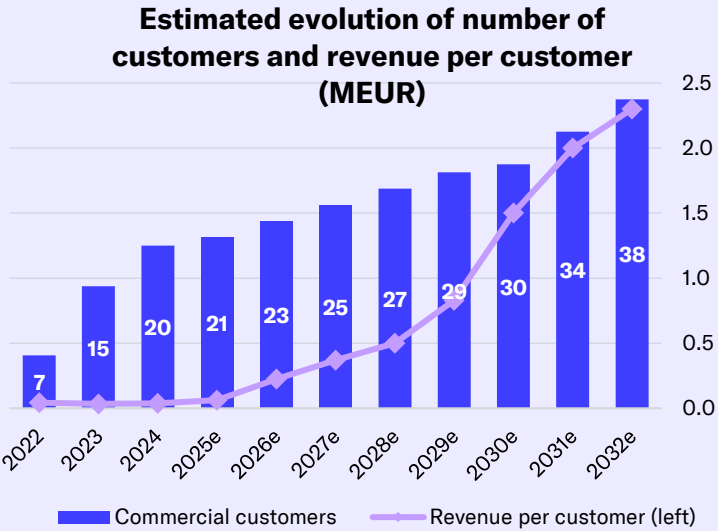
We assessed Betolar's profitability potential by estimating the future distribution of revenue into high-margin licenses and lower-margin items. Further down the income statement, we forecast headcount and average salary development, as well as the ratio of other costs to revenue. Predictability is particularly low regarding the revenue structure, but in our view, the achieved gross margin percentage and its trend also provide some indication of the sales mix and its development, at least as the revenue level grows. Depreciation development is based on our estimates of the level of product development capitalization and the rate at which they are depreciated.

## Key assumptions underlying the estimates

In the early stages of the commercialization phase, Betolar announced new customers in connection with new market openings. In the concrete product segment, we estimate Betolar has reached just under 20 customers, but the average billing per customer has remained at a low level (~10 TEUR). Betolar's increasingly focused strategy on the mining and metal industry, in our view, increases the potential size of a single customer while limiting the number of potential customers.

## Drivers for income statement estimates

Estimate	Key parameters
Revenue	<ul style="list-style-type: none"><li>Number of customers won</li><li>Development of customer-specific invoicing</li></ul>
Costs	<ul style="list-style-type: none"><li>Gross margin % (sales mix)</li><li>Number of personnel</li><li>Personnel costs per person</li><li>Other operating expenses relative to revenue</li><li>Development of R&amp;D capitalization</li></ul>



# Estimates 2/4

Our long-term forecasts are based on roughly 40 customers and 2-3 MEUR in revenue per customer. The large size of a single customer account reflects the critical importance of mining and metal industry customers for long-term forecasts.

Over the next 5 years, we expect license-based revenue to remain in a smaller role, as we believe Betolar needs to convince customer companies of the benefits of its solution. To this end, attractively priced projects are carried out for customer companies, with margins that are still lower than the potential of a recurring business model. In the longer term, we expect margins to strengthen as Betolar's solution gains a more established position and the weight of revenue shifts more strongly towards a recurring billing model.

We estimate Betolar will achieve revenue growth in the coming years with the help of the business model framework built in recent years, but as growth commences, we estimate that additional recruitment needs will be fairly immediate. In the longer term, stronger growth in revenue and customer numbers will, in our view, require strong additional recruitments and likely the establishment of certain local offices (India, Central Europe).

We expect average wages to grow gradually, as the company needs to recruit specialized expertise, the demand for which, in our view, will keep salaries growing over time. We believe that the internationalization of the personnel and dispersion also to lower wage level countries will act as a balancing driver but we do not expect this to fully prevent wage inflation. In the long term, however, personnel costs are a cost item that should scale clearly if Betolar succeeds in developing its business model. The

company aimed for 250 employees in 2025 in connection with its IPO, which reflects significant recruitment needs as revenue growth commences, and also the pace of commercialization falling short of expectations.

## Our forecasts incorporate the cost structure of a technology company

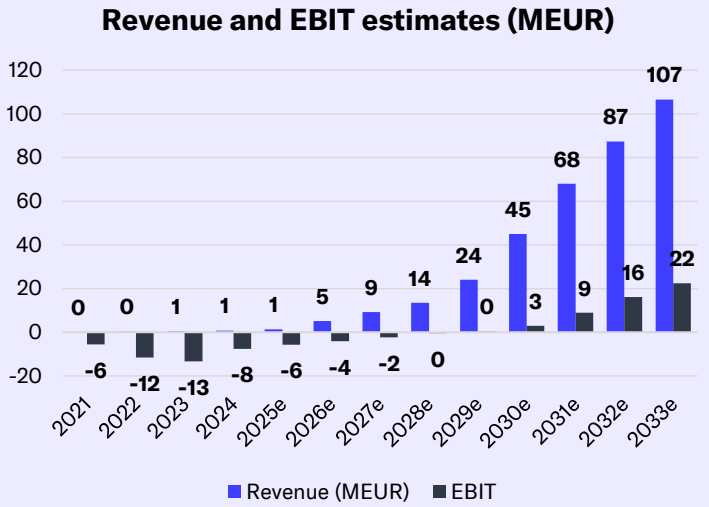
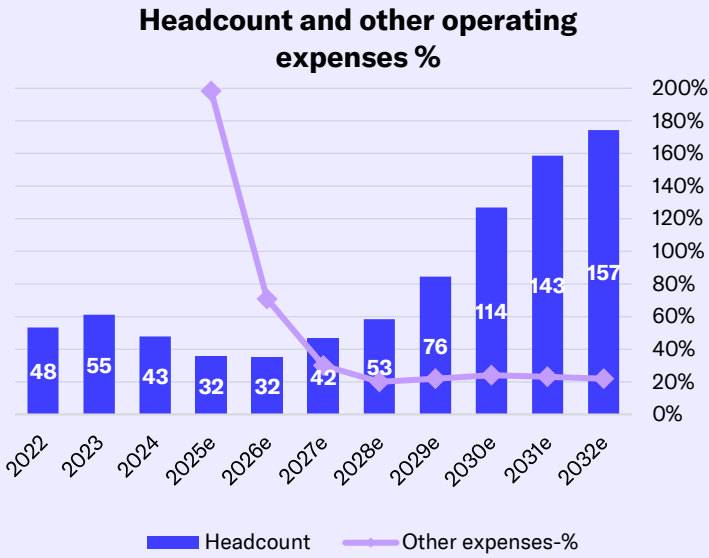
Betolar has significantly reduced other operating expenses in recent years (60% from peak levels). A significant portion of this has included costs related to the development of the business model, including the development of a data bank utilized by the AI tool.

Considering Betolar's profile as a technology company, we expect other operating expenses to settle at around 20% of revenue in the long term, as research and development, protecting technology from copying, and procurement and logistics operations require investments in other operating expenses in addition to personnel.

In our forecasts, Betolar's investments mainly consist of R&D capitalizations, as we do not expect the company to make any fixed investments. Overall, we expect investments to settle at slightly less than 5–6% of revenue in the medium term. We expect, the intangible depreciation resulting from capitalization to be 5-6% of revenue in both the medium and long term, so we estimate that Betolar's EBIT margin will be this much lower than the EBITDA margin.

## Growth in revenue forecasts

In terms of long-term potential, in our view, Betolar's most significant current development is a new metal separation and green cement manufacturing method. Significant revenue from the method is expected to materialize, in our view, at the earliest in 2027.



\*Betolar does not publish the number of customers

# Estimates 3/4

Further development of the method together with an industrial partner could accelerate revenue development through compensation paid for research work, but so far, we have not included this kind of commercialization model in our forecasts. Therefore, our revenue forecasts for 2025 and 2026 are based on mining industry customers and research services, for which Betolar has ready commercial solutions. Small concrete product customer accounts play a small role in our forecast, as commercial progress in this segment has been slow to date.

H1'25's revenue increased from the comparison period to 0.4 MEUR (H1'24 0.3 MEUR), but was nevertheless below the H2'24 level of 0.5 MEUR. Betolar has recorded new orders at a rate of 0.5 MEUR/6 months since H2'23, and this pace continued throughout H1'25. We expect orders and deliveries to accelerate during the rest of the year. Reflecting this, we expect revenue to grow to 0.9 MEUR in H2, supported by solutions for the mining industry. Therefore, we expect the full fiscal year 2025 revenue to double from the comparison period to 1.3 MEUR. Thanks to a reduced cost structure, we expect losses to continue shrinking, and the 2025 EBITDA to settle at -3.6 MEUR. Our EBITDA forecast is supported by 1.3 MEUR in support payments attributable to the financial year. With the negative EBITDA and investments, we expect the cash balance to be close to 7 MEUR at the end of the financial year.

In 2026, we expect mining industry customers to enable a revenue growth spurt, and revenue to grow to a good 5 MEUR. In our view, the revenue level is not sufficient for Betolar to achieve its short-term target, which requires positive operating cash flow from next year. Accelerating growth, in our view, also requires the successful implementation of financing arrangements, as otherwise

Betolar would be forced to continue with a cost-cutting policy. This, in turn, would, in our view, already more clearly start to weaken the company's service capability, which would make achieving growth more difficult. We expect EBITDA to settle at -2.3 MEUR next year. In our expectations, the cost structure will develop somewhat steadily from 2025, and the gross margin will be below its long-term potential at about 60% in the early stages of commercialization.

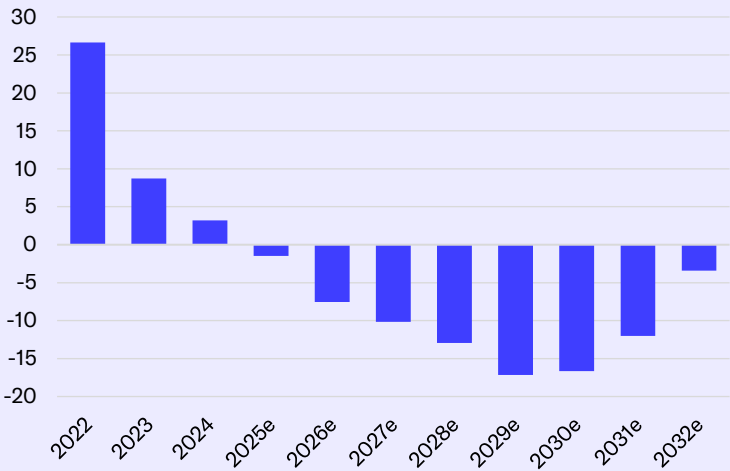
### Financing costs will rise in the coming years

Betolar has raised a 7 MEUR capital loan from the Climate Fund, whose interest rate we estimate to be at 5-6% in the coming years. Interest on the capital loan is recognized in the income statement, even though the interest will not have a cash flow impact in the coming years (the interest is capitalized). Similarly, Betolar has in recent years received a 3-4% interest income on its ample cash, which is on a downward trend as reference rates fall and the cash balance diminishes. As a result of these factors, we expect net financing expenses to be 0.0 MEUR this year and -0.4 MEUR next year.

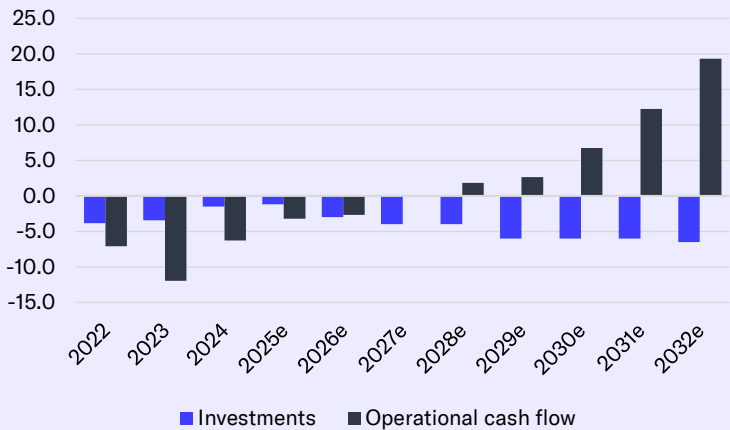
### Cash flow will strengthen towards the end of the decade

In our 2027 forecast, Betolar's new method will advance to the commercial phase, which will help revenue exceed 9 MEUR. With revenue growth, we expect Betolar to be forced to strengthen the company's resources, which will be reflected as an increase in the cost structure (personnel expenses and other operating expenses). As revenue continues to grow, we expect that the cost structure will continue to grow more slowly than revenue, which supports profitability in the longer term.

Net cash<sup>1</sup> (MEUR)



Cash flow from operating activities and investments (MEUR)\*



\*Cash and cash equivalents - interest-bearing liabilities



# Estimates 4/4

We estimate the gross margin to improve, reflecting the increasing share of licenses. Revenue growth is supported by the advancement of metal separation and green cement manufacturing methods to industrial use. In 2027-2028 our EBITDA estimates are -0.8 MEUR and 0.6 MEUR. In our forecasts, Betolar will achieve a neutral operational cash flow in 2028. In our forecasts, the company's additional financing need for the implementation of the current strategy would be some 10 MEUR, of which a part could be financed with debt as revenue starts to grow. We expect the company to apply for a majority of the funding on equity-basis, as debt financing is not necessarily available on reasonable terms for an early-stage company. Due to the prevailing subdued financial market conditions and the slow pace of Betolar's commercialization, we estimate that finding a new equity financier may be challenging. Therefore, we estimate that the financing of the strategy's implementation will largely be on the shoulders of the main owner Nidoco in the coming years. Considering Nidoco's investment strategy's long time horizon, significant resources, and Betolar's position as a strategic holding for its owner, we consider it likely that Betolar's principal owner will also finance the strategy's implementation in the coming years.

## Scalability at the turn of the decade

For the years 2029–2033, we expect Betolar's growth to continue with regulation supporting green construction solutions. Growth is especially driven by growth in customer-specific invoicing and the number of customers. At the end of the forecast period, according to our baseline scenario, the company will have just over 40 customers, with a focus on the mining and metals

industry, which represents around 10% of the potential customer base identified at the time of the IPO. Average invoicing rises gradually in our estimates to around 2-3 MEUR. Our 2033 revenue estimate is good 100 MEUR, which is clearly below the company's over 1 BNEUR target. Given the enormous scale of the market and the anticipated disruption, the target cannot be deemed impossible, but we view its achievement as highly unlikely. Visibility for the latter half of the next decade is nonexistent in all regards, and the margin of error is large.

For the years 2026-2032, we estimate the company's cost structure growth to continue, but reflecting a business model that scales slower than revenue. In our forecast, Betolar will reach an EBITDA margin of around 30% in 2033, which is in line with the company's target level (30%). We consider strong profitability possible despite lower-than-expected revenue, but it requires successful AI and digitalization development, and consequently, a business model that relies heavily on licenses. In 2033, the company's gross margin is 70% in our estimates, personnel expenses are about 20% and other operating expenses about 20% relative to revenue.

## Stabilization of growth and profitability in our model

After 2033, in our model, Betolar's growth gradually saturates to 2.5% and the EBIT margin gradually declines to 20%. In practice, however, the company's market is not saturated at this stage, but we feel investors should not even try to look further because events in this time window only have limited importance for investors who invest in Betolar now considering the typical investment horizon. Survival of the present-form Betolar (i.e. successful commercialization) for more than a decade is not certain either.

## Option schemes increase the number of shares

Betolar has several ongoing option schemes (options 2019, 2021, 2022, 2023, 2025). The subscription prices of options vary between EUR 0.64 to 5.96 per share, depending on the scheme, and are on average EUR 2.8 per share. Subscription periods vary in key employee incentive schemes based on the date of issue. Although precise information on all option programs is not available, we estimate that the majority of the options have vested and the remaining option programs will vest by 2027. The total outstanding options amount to some 2.4 million shares, which corresponds to around 10% share relative to the company's current share count. For the majority of the options, the exercise price currently significantly exceeds the share price, which makes it likely that a large portion of the options will remain unexercised. The progress of commercialization according to our forecasts and a favorable share price development could change the situation.

We consider the size of the option schemes reasonable relative to the nature of the company's business. We note, however, that further commitment of key personnel may still be necessary, and thus further dilution may occur in coming years. Changes in the terms of option schemes are not unheard of either.

As we expect rather strong operational development from Betolar, we have expected part of the options to be converted into shares as they mature. Consequently, Betolar's number of shares in our forecasts will increase by 1.5 million by the end of the decade, and equity according to the subscription prices of the options.



# Estimate revisions

## Estimate revisions

- We cut our cost structure estimates, as we understand the company continues to achieve significant savings by cutting administrative staff
- This had a slight positive impact on our earnings estimates for this and next year
- Although these are administrative tasks, we simultaneously decreased our revenue estimates for next year slightly, as we suspect our estimated average headcount of 32 employees will begin to limit Betolar's delivery capacity
- We made minor downward revisions to our financial expense estimates for the coming years after lowering our estimate for the interest rate on Betolar's subordinated loan
- In our forecasts, Betolar's business will remain clearly loss-making over the next few years, and we expect equity to fall close to zero next year This underlines that the need for financing is already quite acute, even though the cash reserves are sufficient to maintain the company for around one year

## Operational earnings drivers

- Our short-term forecasts are based on the progress of commercialization among mining industry players and research service projects
- Next year, we estimate that no major additional investments will be needed in the cost structure, which means that the progress of commercialization would clearly support profitability
- In the longer term, growth requires an increase in the cost structure and a step-up in investments
- We expect the new metal separation method to support revenue from 2027 onwards
- Focusing on the commercialization of the metal separation method may slow down commercial progress in other projects, given Betolar's limited resources
- Betolar aims for positive operating cash flow by 2026, which, in our view, would require higher revenue than our forecast for that year

Estimate revisions	2025e	2025	Change	2026e	2026e	Change	2027e	2027e	Change
MEUR / EUR	Old	New	%	Old	New	%	Old	New	%
Revenue	1.3	1.3	0%	6.0	5.2	-13%	9.3	9.3	0%
EBITDA	-3.8	-3.6	5%	-2.6	-2.3	10%	-0.9	-0.8	6%
EBIT (exc. NRIs)	-5.7	-5.5	3%	-4.1	-3.8	7%	-2.3	-2.3	2%
EBIT	-5.7	-5.5	3%	-4.1	-3.8	7%	-2.3	-2.3	2%
EPS (excl. NRIs)	-0.26	-0.26	2%	-0.21	-0.20	6%	-0.13	-0.13	2%
DPS	0.00	0.00		0.00	0.00		0.00	0.00	

Source: Inderes

# Income statement

Income statement	2022	2023	H1'24	H2'24	2024	H1'25	H2'25e	2025e	2026e	2027e	2028e
Revenue	0.3	0.5	0.3	0.5	0.8	0.4	0.9	1.3	5.2	9.3	13.5
EBITDA	-10.0	-11.2	-3.6	-2.2	-5.8	-2.1	-1.5	-3.6	-2.3	-0.8	0.7
Depreciation	-1.5	-2.1	-1.0	-1.1	-2.1	-1.0	-0.9	-1.9	-1.5	-1.5	-1.6
EBIT	-11.5	-13.3	-4.7	-3.3	-8.0	-3.1	-2.4	-5.5	-3.8	-2.3	-0.9
Net financial items	-0.4	0.1	0.1	0.1	0.2	0.1	-0.1	0.0	-0.4	-0.5	-0.7
PTP	-11.9	-13.2	-4.6	-3.2	-7.8	-3.1	-2.5	-5.6	-4.2	-2.8	-1.7
Taxes	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Net earnings	-11.8	-13.2	-4.6	-3.2	-7.7	-3.1	-2.5	-5.6	-4.2	-2.8	-1.7
EPS (adj.)	-0.61	-0.67	-0.21	-0.15	-0.36	-0.14	-0.12	-0.26	-0.20	-0.13	-0.07
EPS (rep.)	-0.61	-0.67	-0.21	-0.15	-0.36	-0.14	-0.12	-0.26	-0.20	-0.13	-0.07

Key figures	2022	2023	H1'24	H2'24	2024	H1'25	H2'25e	2025e	2026e	2027e	2028e
Revenue growth-%						51.1 %	85.2 %	72.8 %	294.8 %	77.9 %	45.9 %
Adjusted EBIT growth-%						-33.0 %	-27.0 %	-30.5 %	-31.2 %	-40.3 %	-59.2 %
EBITDA-%								-275.7 %	-45.1 %	-8.7 %	4.9 %
Adjusted EBIT-%									-73.2 %	-24.6 %	-6.9 %
Net earnings-%									-81.6 %	-30.1 %	-12.4 %

Source: Inderes

Full-year earnings per share are calculated using the number of shares at year-end.

# Balance sheet

Assets	2023	2024	2025e	2026e	2027e
<b>Non-current assets</b>	<b>6.0</b>	<b>5.4</b>	<b>4.7</b>	<b>6.2</b>	<b>8.7</b>
Goodwill	0.0	0.0	0.0	0.0	0.0
Intangible assets	4.3	3.8	2.9	2.9	2.9
Tangible assets	1.5	1.2	1.4	3.0	5.6
Associated companies	0.2	0.2	0.2	0.2	0.2
Other investments	0.0	0.0	0.0	0.0	0.0
Other non-current assets	0.1	0.1	0.1	0.1	0.1
Deferred tax assets	0.0	0.0	0.0	0.0	0.0
<b>Current assets</b>	<b>15.2</b>	<b>9.7</b>	<b>7.7</b>	<b>2.6</b>	<b>3.3</b>
Inventories	0.0	0.0	0.1	0.2	0.4
Other current assets	0.7	0.6	0.7	0.7	0.7
Receivables	0.2	0.1	0.1	0.5	0.9
Cash and equivalents	14.3	9.0	6.9	1.2	1.4
<b>Balance sheet total</b>	<b>21.2</b>	<b>15.1</b>	<b>12.3</b>	<b>8.8</b>	<b>12.1</b>

Source: Inderes

Liabilities & equity	2023	2024	2025e	2026e	2027e
<b>Equity</b>	<b>13.8</b>	<b>8.1</b>	<b>2.6</b>	<b>-1.7</b>	<b>-2.7</b>
Share capital	0.1	0.1	0.1	0.1	0.1
Retained earnings	-31.5	-39.3	-44.9	-49.1	-51.9
Hybrid bonds	0.0	0.0	0.0	0.0	0.0
Revaluation reserve	0.0	0.0	0.0	0.0	0.0
Other equity	45.2	47.4	47.4	47.4	49.2
Minorities	0.0	0.0	0.0	0.0	0.0
<b>Non-current liabilities</b>	<b>5.4</b>	<b>5.5</b>	<b>8.1</b>	<b>8.6</b>	<b>11.6</b>
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	5.4	5.5	8.1	8.6	11.6
Convertibles	0.0	0.0	0.0	0.0	0.0
Other long term liabilities	0.0	0.0	0.0	0.0	0.0
<b>Current liabilities</b>	<b>2.0</b>	<b>1.4</b>	<b>1.7</b>	<b>1.9</b>	<b>3.2</b>
Interest bearing debt	0.2	0.3	0.2	0.2	1.3
Payables	0.4	0.2	0.1	0.3	0.5
Other current liabilities	1.4	1.0	1.4	1.4	1.4
<b>Balance sheet total</b>	<b>21.2</b>	<b>15.1</b>	<b>12.3</b>	<b>8.8</b>	<b>12.1</b>

# Valuation and recommendation 1/4

## Early stage company valuation has a high degree of uncertainty

Betolar's medium-term investment case is built on the breakthrough of environmentally friendly concrete in the mining industry and the new metal separation and green cement manufacturing methods working on an industrial scale. In general, the operating environment for new technology adoption has become more challenging compared to the zero-interest rate environment of 2020-2021. Higher funding costs and acute crises, such as war in Europe, have reduced attention to the climate crisis. However, no winning technology to solve the climate problem caused by cement has emerged so far.

As a result of the changed circumstances and the slower-than-expected progress in commercialization, our and the market expectations have declined significantly, which has also been reflected in the company's valuation levels. We believe rising interest rates, slower-than-expected revenue growth, and dwindling cash have turned investors' attention more to short-term development. As a result, we expect the share price to be driven more strongly by short-term developments and news flow, while a confirmation of the growth outlook and an improvement in the financial situation could shift the focus back to the longer term.

Our approach to Betolar's valuation has remained unchanged throughout the company's history on the stock exchange. In our opinion, it is essential in Betolar's valuation to assess 1) the value creation potential of its business, 2) its likelihood of achieving the potential, and 3) the investors' readiness to price this. As expected, Betolar's valuation, and in particular its accepted market price, has been sensitive to the market situation. We estimate that this will

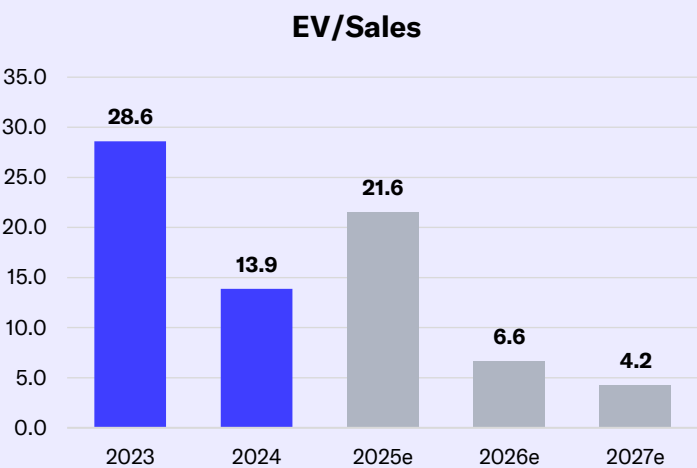
continue to be the case, as the readiness of investors to price companies, especially on the basis of their long-term potential, can vary significantly, depending on, e.g., interest rate levels and investors' general willingness to take risks.

## Current valuation does not require world domination

If Betolar's solution makes a successful breakthrough in Europe, and the license-based business model works, the company's growth outlook would be both strengthened and confirmed. We estimate that this would create considerable shareholder value compared to the enterprise value of around 28 MEUR we predict by the end of 2025, even if the earnings development and cash flows do not necessarily turn positive in the medium term. Moreover, with the company's value low in absolute terms, a decent performance no longer requires conquering multiple continents. A rough outline of the bar set by the valuation can be sought from 2030. If Betolar achieved revenue of 70 MEUR in 2030 with an EBIT margin of 10% (EBIT 7 MEUR), and the growth outlook thereafter was moderate, the company could be valued with a moderate 12x EV/EBIT multiple. This would correspond to approximately tripling the enterprise value from the current level, which would mean an annual return of close to 20% for shareholders, reaching the level of our high required return (considering the negative impact of our estimated financing need of around 10 MEUR in the coming years). Although the calculation makes a drastic generalization, we believe it reflects the scale of expectations loaded into the stock. Of the assumptions, the freezing of the growth path, especially when EBIT reaches 7 MEUR, is unlikely to be true. The annual return would also be very unevenly distributed between the years (2025-2030) in the scenario.

Valuation	2025e	2026e	2027e
Share price	1.25	1.25	1.25
Number of shares, millions	21.6	21.6	22.0
Market cap	27	27	28
EV	28	34	39
P/E (adj.)	neg.	neg.	neg.
P/E	neg.	neg.	neg.
P/B	10.5	neg.	neg.
P/S	20.5	5.2	3.0
EV/Sales	21.6	6.6	4.2
EV/EBITDA	neg.	neg.	neg.
EV/EBIT (adj.)	neg.	neg.	neg.
Payout ratio (%)	0.0 %	0.0 %	0.0 %
Dividend yield-%	0.0 %	0.0 %	0.0 %

Source: Inderes



# Valuation and recommendation 2/4

The share price would rise in anticipation of growth and reflecting a decrease in the risk level if the outlook for the growth path became clearer. In a negative scenario, where commercialization fails or is too slow, the risk of significant capital destruction is still real, as the company has no fixed assets (it is difficult to value the IPR portfolio with current data) or other hard support for valuation. In addition, the company will inevitably face the need for additional funding, which will keep the risk of dilution for existing shareholders high. Therefore, the range of scenarios is very large.

## Return consists of changes in value

Betolar will be a cash-consuming growth company for years in our estimates, so the expected return on the stock consists of changes in the value of the stock in the foreseeable future, and no dividends are expected. The terms of the loan granted by the Climate Fund also prohibit dividend payment before the loan is repaid.

We consider the likelihood of Betolar ending up as an acquisition target to be quite low, as the company's business model is still forming. A positive short-term scenario would be the sale of the patent portfolio to an industrial buyer. However, this is a very speculative scenario, and a separate valuation of the Betolar patent portfolio is very difficult.

## Required return high due to the risk level

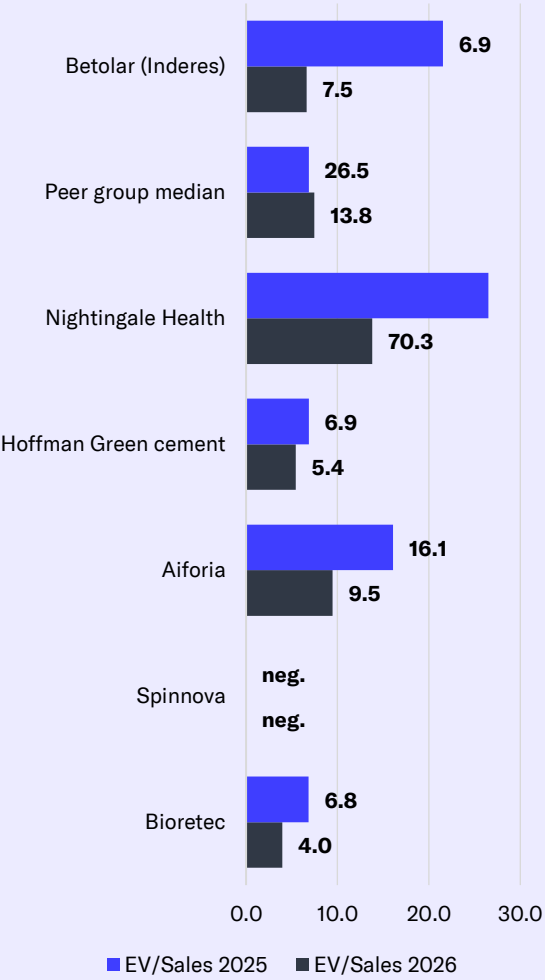
Considering the high dispersion of Betolar's possible future scenarios, the company's risk profile is very high in the eyes of investors (cf. risk category 5/ 5). We believe that to offset the high risks (incl. the fairly positive scenario

especially in the long term) the required return must be set high so that the return potential is sufficient to compensate for the risk. In addition to the DCF model, we apply the required return in Betolar's valuation when assessing the current value of the company's potential market cap in the next few years. The valuation of Betolar is also highly sensitive to changes in the required return and other underlying assumptions, as shown by the sensitivity analysis we present in the DCF model.

The required return is a subjective variable and it will change, driven by the company's development and external factors. In principle, we estimate that Betolar's risk level and corresponding downward pressure on the required return can be created by, e.g., growth, new commercial contracts, attractive cooperation projects, falling interest rates, investors' increased willingness to take risks, slower cash-flow reduction than expected, or the raising of affordable funding. Similarly, the risk level is raised by opposite factors, e.g., slower growth than our expectations, burning cash faster than expected, rising interest rates, and a decrease in investors' risk appetite.

Considering Betolar's risk level, we have set the cost of equity at 19.7% and the weighted average cost of capital, which takes into account the slight long-term debt leverage, at 18.3%. We believe that these levels are in line with current market return requirements for high-risk investment targets. The levels are roughly double that of Inderes' overall coverage (i.e. most of Nasdaq Helsinki), reflecting the share's risk profile that is well above that of an average listed company.

Revenue-based valuation of the peer group



# Valuation and recommendation 3/4

## Short-term revenue-based valuation is high like for peers

Due to Betolar's early development stage, the revenue ratio for this year is very high in absolute terms at 22x. Based on our forecast of revenue growth, the goodwill-based EV/S ratio falls to 7x in 2026, which we consider a neutral level once revenue growth takes off properly. In 2025-2026, revenue includes project-based service sales, which limits the acceptable revenue-based valuation. Therefore, we consider the overall near-term revenue-based valuation to be tight considering the risks. Betolar's 2025 revenue multiple is clearly higher than the multiple of our peer group, while with our 2026 estimates, the revenue multiple is roughly at the peer group's level. The peer group reflects the valuation of early-stage companies on the stock market and, due to sectoral deviations, the peer group is not a particularly relevant benchmark for Betolar. However, peer analysis supports our assessment of the stock's high valuation.

## Determining value through scenarios

We have examined the value development by the end of 2026 and 2030 using three scenarios. The neutral scenarios are in line with our estimates. In our scenarios for 2026 and 2027, we apply EV/S multiples of 3x-5x and 2x-4x, respectively, which we believe consider the combination of rapid revenue growth and negative cash flow. In the scenarios we examined, the high scenario exceeds our estimate by 50%, and correspondingly, the low scenario falls short of our estimate by 50%. For 2026, with our required return and estimates, we arrive at a present value for Betolar's share of around EUR 0.5 per share, with a range of around EUR 0.1–1.2. Thus, the valuation picture

looks stretched until the end of 2026, considering the current share price.

On the back of longer-term development and an examination based on 2030, our baseline scenario and required return result in a present value of around EUR 2.2 per share. The longer-term scenario naturally gives a more positive picture of the valuation, but the dispersion between the scenarios is large, and the forecast risks increase when estimating further into the future.

## Using DCF model to outline long-term value creation potential

At the current stage of the company's development, the DCF model's assumptions contain significant uncertainty and its considerable positive cash flows are focused on a time a decade or so down the road. Thus, we feel it does not form a clear supporting point for short-term valuation, and the short term is driven mostly by the ratio between the company's growth rate and growth investments, as well as progress in commercializing the Geoprime solution.

Our DCF model is based on the company's current number of shares, although we expect that the company will need additional equity financing to carry out the growth investments required by our estimates (i.e., we expect the number of shares to increase). The increase in the number of shares in a share issue is around 40% if the financing need for the next funding round is around 10 MEUR, as we estimate, and the subscription price is around the current market price. We consider a directed share issue at a range of EUR 1–1.3 favorable for all shareholders, even though the dilution of ownership limits the return potential of the stock in more positive scenarios.

## Estimated future valuation ranges

2026e, MEUR	Low	Estimate	High
Revenue	3.3	5.20	7.8
EV/S, 2026e	3.0x	4.0x	5.0x
EV	9.9	20.8	39

Net debt	7.5	7.5	7.5
Market cap	2.4	13.3	31.5

Per share	0.1	0.6	1.5
Discounted to present	0.1	0.5	1.2

2030e, MEUR	Low	Estimate	High
Revenue	23	45	68
EV/S, 2030e	2.0x	3.0x	4.0x
EV	46	135	272

Net debt	19.6	19.6	19.6
Market cap	26.4	115.4	252.4

Per share	1.2	5.3	11.7
Discounted to present	0.5	2.2	4.9

## Increase in number of shares (%) in the event of a share issue

Capital raised (MEUR)	Share subscription price (EUR)					
	0.9	1	1.1	1.2	1.3	1.4
5	26%	23%	21%	19%	18%	17%
7.5	39%	35%	32%	29%	27%	25%
10	52%	46%	42%	39%	36%	33%
12.5	64%	58%	53%	48%	45%	41%
15	77%	70%	63%	58%	53%	50%



# Valuation and recommendation 4/4

We do not consider a rights issue a sensible financing channel given its significant costs. However, we cannot estimate the price and form of funding needed, which is why we have used the company's current number of shares in the model for the time being. We have used a sensitivity analysis to outline the amount of required capital and potential increase in the number of shares at different share prices. Options have also not been included in the number of shares in the DCF model, but we would consider exercising them likely, especially in the positive scenarios.

Our DCF model gives an equity value of 27 MEUR, or EUR 1.3 per share, which gives a slightly positive valuation signal. The stock is priced only slightly below the value of our DCF calculation (upside of around 4% from the current share price). Thus, we believe the stock currently trades on its long-term potential despite short-term challenges.

## Valuation summary

Betolar's valuation must be built on exceptionally uncertain assumptions, even if we can determine the right level for the valuation with the help of peers and the DCF model. In our opinion, the fair value of Betolar's share is around EUR 0.5-2.5 based on current assumptions. At the bottom end, we believe that the market would not have confidence in the viability of the company's business model. However, even at the bottom end, the stock has no clear support levels, so there is a risk of substantial capital loss. On the other hand, at the top end, the expectations are higher, and we find the risk/reward ratio negative.

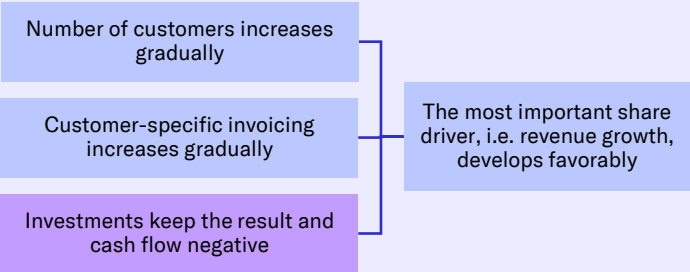
Based on Betolar's current valuation, the market is, in our view, very skeptical about the company achieving its financial targets (2033 revenue over 1,000 MEUR and EBITDA-% 30%). Considering the company's current development phase, its track record of achieving targets, and the scale of these targets, we do not believe it is unreasonable to demand concrete evidence. At current valuations, the bar is clearly lower than the company's own targets, and achieving profitability even as a regional player would be sufficient in our view to deliver a satisfactory outcome for shareholders from current share levels. However, this still depends on the level of investment needed to get commercialization off the ground.

Betolar has invested in and built its capabilities during its four years as a listed company, but despite ambitious long-term financial targets, no concrete indications of commercialization progress in the form of revenue have been seen. The outlook for the timing of the revenue increase is also still unclear. Betolar's new technology brings a new twist to the investment story, but there are no clear steps for commercialization so far. The stretched short-term valuation and high business, financial, and estimate risk keep the risk/reward ratio subdued in our books, despite significant potential. Reflecting this overall picture, we reiterate our Reduce recommendation for Betolar and revise our target price to EUR 1.3.

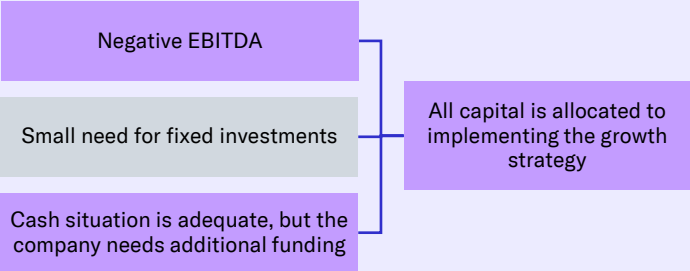
## Total shareholder return drivers 2025e-2028e

Positive Neutral Negative

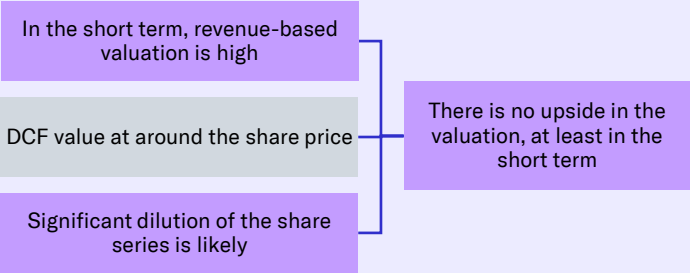
### Profit drivers



### Dividend yield drivers



### Valuation multiple drivers



Expected return does not rise above the high required return, especially in the next 12 months

# Valuation table

Valuation	2022	2023	2024	2025e	2026e	2027e	2028e
Share price	3.05	1.20	0.64	1.25	1.25	1.25	1.25
Number of shares, millions	19.5	19.6	21.6	21.6	21.6	22.0	22.7
Market cap	60	23	14	27	27	28	28
EV	36	15	11	28	34	39	44
P/E (adj.)	neg.	neg.	neg.	neg.	neg.	neg.	neg.
P/E	neg.	neg.	neg.	neg.	neg.	neg.	neg.
P/B	2.2	1.7	1.7	10.5	neg.	neg.	neg.
P/S	>100	45.5	18.1	20.5	5.2	3.0	2.1
EV/Sales	>100	28.6	13.9	21.6	6.6	4.2	3.3
EV/EBITDA	neg.	neg.	neg.	neg.	neg.	neg.	66.7
EV/EBIT (adj.)	neg.	neg.	neg.	neg.	neg.	neg.	neg.
Payout ratio (%)	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Dividend yield-%	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

Source: Inderes

The market cap and enterprise value in the table consider the expected change in the number of shares and net debt for the forecast years.

# Peer group valuation

Peer group valuation Company	Market cap MEUR	EV MEUR	Revenue growth		EV/S		P/B
			2025e	2026e	2025e	2026e	2025e
Biorettec	47	36	22%	73%	6.8	4.0	8.0
Spinnova	31	-2	-96%	-50%	-18.9	-37.8	0.8
Aiforia	86	80	43%	70%	16.1	9.5	6.3
Hoffman Green cement	74	94	4%	27%	6.9	5.4	1.1
Solar Foods	135	141				70.3	7.9
Nightingale Health	146	124	67%	12%	26.5	13.8	2.7
<b>Betolar (Inderes)</b>	<b>27</b>	<b>28</b>	<b>73%</b>	<b>295%</b>	<b>21.6</b>	<b>6.6</b>	<b>10.5</b>
<b>Average</b>	<b>86.4</b>	<b>78.7</b>	<b>8%</b>	<b>26%</b>	<b>7.5</b>	<b>10.9</b>	<b>4.5</b>
<b>Median</b>	<b>79.6</b>	<b>87.0</b>	<b>22%</b>	<b>27%</b>	<b>6.9</b>	<b>7.5</b>	<b>4.5</b>
<b>Diff-% to median</b>	<b>-66%</b>	<b>-67%</b>	<b>231%</b>	<b>992%</b>	<b>213%</b>	<b>-11%</b>	<b>134%</b>

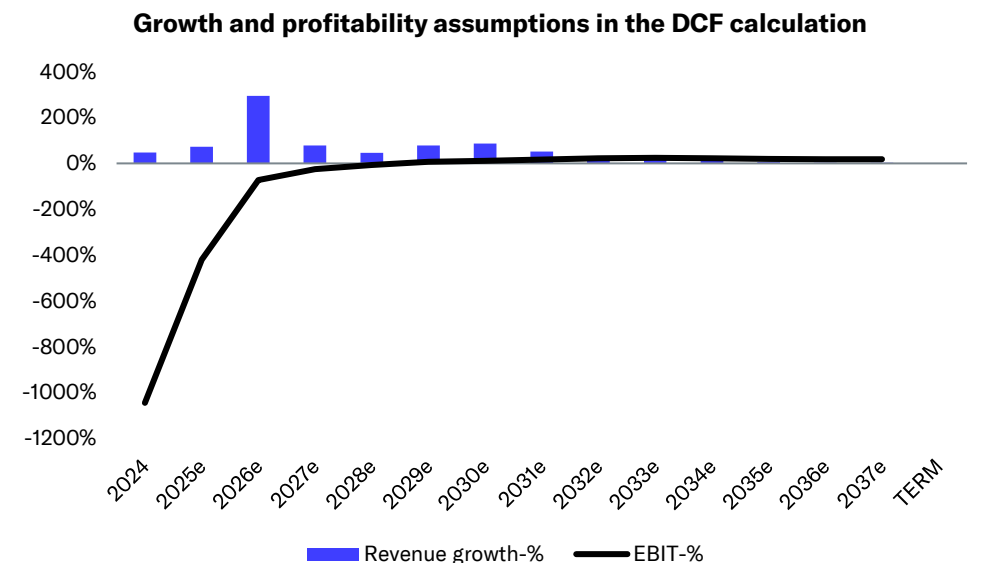
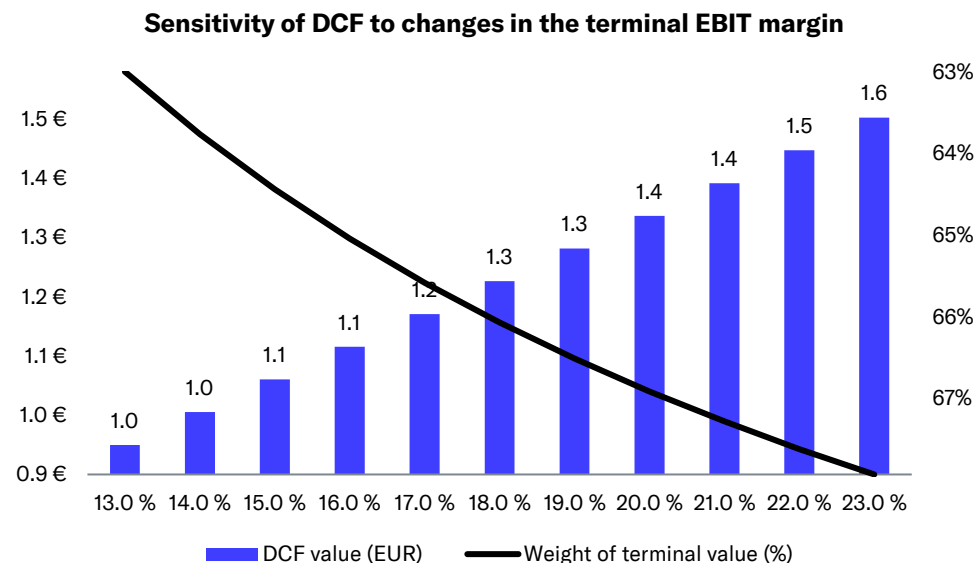
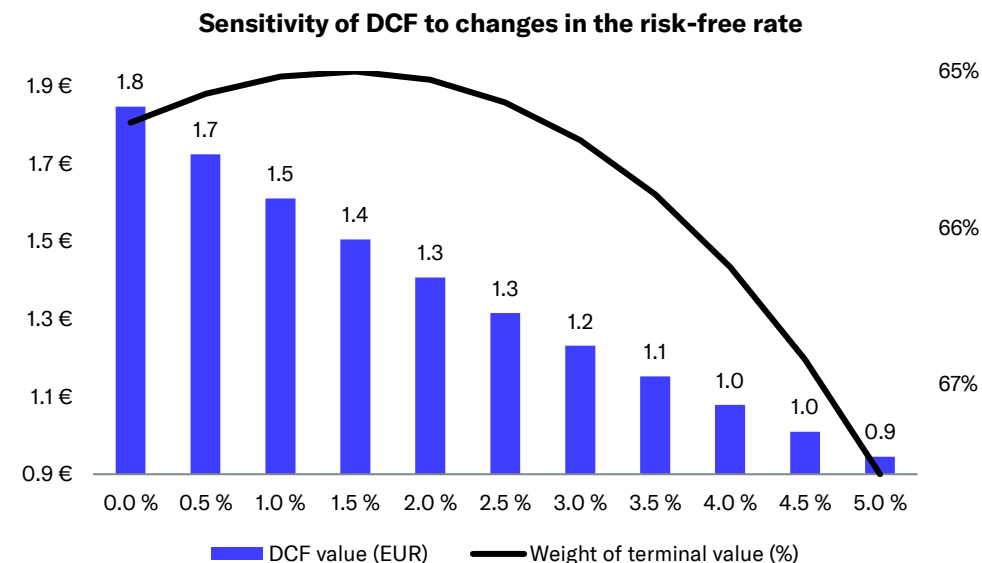
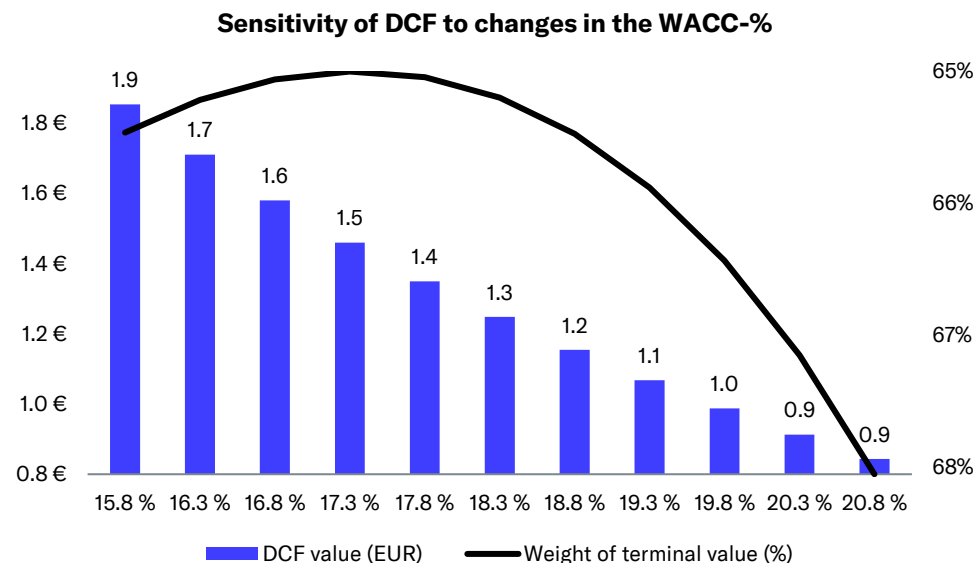
Source: Refinitiv / Inderes

# DCF-calculation

DCF model	2024	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e
Revenue growth-%	48%	73%	295%	78%	46%	78%	87%	51%	29%	20%	15%	5%	3%	2.5 %
EBIT-%	-1045%	-420%	-73%	-25%	-7%	7%	11%	17%	22%	24%	22%	19%	18%	18%
EBIT (operating profit)	-8.0	-5.5	-3.8	-2.3	-0.9	1.7	5.1	11.7	19.3	25.5	26.5	24.1	23.5	24.1
+ Depreciation	2.1	1.9	1.5	1.5	1.6	2.3	3.5	4.3	4.9	5.3	5.9	6.2	6.5	6.4
- Paid taxes	0.1	0.0	0.0	0.0	0.0	0.0	-0.4	-2.1	-3.7	-4.9	-5.1	-4.6	-4.4	-4.6
- Tax, financial expenses	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3
+ Tax, financial income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
- Change in working capital	-0.5	0.2	-0.3	-0.4	-0.3	-0.9	-1.7	-1.8	-1.5	-1.4	-1.3	-0.5	-0.3	-0.3
Operating cash flow	-6.3	-3.4	-2.7	-1.2	0.3	3.1	6.4	11.8	18.8	24.3	25.8	25.0	25.0	25.4
+ Change in other long-term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Gross CAPEX	-1.5	-1.2	-3.0	-4.0	-4.0	-6.0	-6.0	-6.0	-6.5	-7.0	-7.3	-7.4	-6.0	-6.4
Free operating cash flow	-7.8	-4.6	-5.7	-5.2	-3.7	-2.9	0.4	5.8	12.3	17.3	18.5	17.6	19.0	19.1
+/- Other	2.2	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FCFF	-5.6	-4.1	-5.2	-4.7	-3.2	-2.4	0.4	5.8	12.3	17.3	18.5	17.6	19.0	19.1
Discounted FCFF		-3.9	-4.2	-3.2	-1.8	-1.2	0.2	2.1	3.7	4.4	3.9	3.2	2.9	2.5
Sum of FCFF present value		24.3	28.2	32.4	35.6	37.5	38.6	38.5	36.4	32.8	28.4	24.4	21.3	18.4
Enterprise value DCF		24.3												
- Interest bearing debt		-5.8												
+ Cash and cash equivalents		9.0												
-Minorities		0.0												
-Dividend/capital return		0.0												
Equity value DCF		27.5												
Equity value DCF per share		1.3												
Cash flow distribution														
WACC														
Tax-% (WACC)		20.0 %												
Target debt ratio (D/(D+E))		10.0 %												
Cost of debt		6.5 %												
Equity Beta		3.20												
Market risk premium		4.75%												
Liquidity premium		2.00%												
Risk free interest rate		2.5 %												
Cost of equity		19.7 %												
Weighted average cost of capital (WACC)		18.3 %												
Source: Inderes														

2025e-2029e 2030e-2037e TERM

# DCF sensitivity calculations and key assumptions in graphs



Source: Inderes. NB! The terminal value weight (%) is presented on a reverse scale for clarity.

# Summary

Income statement	2022	2023	2024	2025e	2026e	Per share data	2022	2023	2024	2025e	2026e
Revenue	0.3	0.5	0.8	1.3	5.2	EPS (reported)	-0.61	-0.67	-0.36	-0.26	-0.20
EBITDA	-10.0	-11.2	-5.8	-3.6	-2.3	EPS (adj.)	-0.61	-0.67	-0.36	-0.26	-0.20
EBIT	-11.5	-13.3	-8.0	-5.5	-3.8	OCF / share	-0.36	-0.61	-0.29	-0.16	-0.12
PTP	-11.9	-13.2	-7.8	-5.6	-4.2	FCF / share	-0.56	-0.78	-0.26	-0.19	-0.24
Net Income	-11.8	-13.2	-7.7	-5.6	-4.2	Book value / share	1.36	0.70	0.38	0.12	-0.08
Extraordinary items	0.0	0.0	0.0	0.0	0.0	Dividend / share	0.00	0.00	0.00	0.00	0.00
Balance sheet	2022	2023	2024	2025e	2026e	Growth and profitability	2022	2023	2024	2025e	2026e
Balance sheet total	31.9	21.2	15.1	12.3	8.8	Revenue growth-%	2770%	79%	48%	73%	295%
Equity capital	26.6	13.8	8.1	2.6	-1.7	EBITDA growth-%	109%	12%	-48%	-38%	-35%
Goodwill	0.0	0.0	0.0	0.0	0.0	EBIT (adj.) growth-%	109%	15%	-40%	-31%	-31%
Net debt	-23.6	-8.7	-3.2	1.4	7.5	EPS (adj.) growth-%	186%	11%	-47%	-28%	-24%
Cash flow	2022	2023	2024	2025e	2026e	EBITDA-%					-45.1 %
EBITDA	-10.0	-11.2	-5.8	-3.6	-2.3	EBIT (adj.)-%					-73.2 %
Change in working capital	1.0	-0.8	-0.5	0.2	-0.3	EBIT-%					-73.2 %
Operating cash flow	-7.1	-11.9	-6.3	-3.4	-2.7	ROE-%	-36.4 %	-65.4 %	-70.5 %	-104.2 %	-965.6 %
CAPEX	-3.9	-3.4	-1.5	-1.2	-3.0	ROI-%	-33.7 %	-53.7 %	-47.2 %	-43.7 %	-41.8 %
Free cash flow	-11.0	-15.4	-5.6	-4.1	-5.2	Equity ratio	83.2 %	64.9 %	54.1 %	20.8 %	-19.2 %
Valuation multiples	2022	2023	2024	2025e	2026e	Gearing	-88.8 %	-63.2 %	-39.5 %	55.7 %	-448.3 %
EV/S	>100	28.6	13.9	21.6	6.6						
EV/EBITDA	neg.	neg.	neg.	neg.	neg.						
EV/EBIT (adj.)	neg.	neg.	neg.	neg.	neg.						
P/E (adj.)	neg.	neg.	neg.	neg.	neg.						
P/B	2.2	1.7	1.7	10.5	neg.						
Dividend-%	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %						

Source: Inderes

The market cap and enterprise value in the table consider the expected change in the number of shares and net debt for the forecast years. Per-share figures are calculated using the number of shares at year-end.



# Disclaimer and recommendation history

The information presented in Inderes reports is obtained from several different public sources that Inderes considers to be reliable. Inderes aims to use reliable and comprehensive information, but Inderes does not guarantee the accuracy of the presented information. Any opinions, estimates and forecasts represent the views of the authors. Inderes is not responsible for the content or accuracy of the presented information. Inderes and its employees are also not responsible for the financial outcomes of investment decisions made based on the reports or any direct or indirect damage caused by the use of the information. The information used in producing the reports may change quickly. Inderes makes no commitment to announcing any potential changes to the presented information and opinions.

The reports produced by Inderes are intended for informational use only. The reports should not be construed as offers or advice to buy, sell or subscribe investment products. Customers should also understand that past performance is not a guarantee of future results. When making investment decisions, customers must base their decisions on their own research and their estimates of the factors that influence the value of the investment and take into account their objectives and financial position and use advisors as necessary. Customers are responsible for their investment decisions and their financial outcomes.

Reports produced by Inderes may not be edited, copied or made available to others in their entirety, or in part, without Inderes' written consent. No part of this report, or the report as a whole, shall be transferred or shared in any form to the United States, Canada or Japan or the citizens of the aforementioned countries. The legislation of other countries may also lay down restrictions pertaining to the distribution of the information contained in this report. Any individuals who may be subject to such restrictions must take said restrictions into account.

Inderes issues target prices for the shares it follows. The recommendation methodology used by Inderes is based on the share's 12-month expected total shareholder return (including the share price and dividends) and takes into account Inderes' view of the risk associated with the expected returns. The recommendation policy consists of four tiers: Sell, Reduce, Accumulate and Buy. As a rule, Inderes' investment recommendations and target prices are reviewed at least 2–4 times per year in connection with the companies' interim reports, but the recommendations and target prices may also be changed at other times depending on the market conditions. The issued recommendations and target prices do not guarantee that the share price will develop in line with the estimate. Inderes primarily uses the following valuation methods in determining target prices and recommendations: Cash flow analysis (DCF), valuation multiples, peer group analysis and sum of parts analysis. The valuation methods and target price criteria used are always company-specific and they may vary significantly depending on the company and (or) industry.

Inderes' recommendation policy is based on the following distribution relative to the 12-month risk-adjusted expected total shareholder return.

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

The assessment of the 12-month risk-adjusted expected total shareholder return based on the above-mentioned definitions is company-specific and subjective. Consequently, similar 12-month expected total shareholder returns between different shares may result in different recommendations, and the recommendations and 12-month expected total shareholder returns between different shares should not be compared with each other. The counterpart of the expected total shareholder return is Inderes' view of the risk taken by the investor, which varies considerably between companies and scenarios. Thus, a high expected total shareholder return does not necessarily lead to positive performance when the risks are exceptionally high and, correspondingly, a low expected total shareholder return does not necessarily lead to a negative recommendation if Inderes considers the risks to be moderate.

The analysts who produce Inderes' research and Inderes employees cannot have 1) shareholdings that exceed the threshold of significant financial gain or 2) shareholdings exceeding 1% in any company subject to Inderes' research activities. Inderes Oyj can only own shares in the target companies it follows to the extent shown in the company's model portfolio investing real funds. All of Inderes Oyj's shareholdings are presented in itemised form in the model portfolio. Inderes Oyj does not have other shareholdings in the target companies analysed. The remuneration of the analysts who produce the analysis are not directly or indirectly linked to the issued recommendation or views. Inderes Oyj does not have investment bank operations.

Inderes or its partners whose customer relationships may have a financial impact on Inderes may, in their business operations, seek assignments with various issuers with respect to services provided by Inderes or its partners. Thus, Inderes may be in a direct or indirect contractual relationship with an issuer that is the subject of research activities. Inderes and its partners may provide investor relations services to issuers. The aim of such services is to improve communication between the company and the capital markets. These services include the organisation of investor events, advisory services related to investor relations and the production of investor research reports.

More information about research disclaimers can be found at [www.inderes.fi/research-disclaimer](http://www.inderes.fi/research-disclaimer).

Inderes has made an agreement with the issuer and target of this report, which entails compiling a research report.

## Recommendation history (>12 mo)

Date	Recommendation	Target	Share price
11/3/2022	Reduce	3.00 €	2.86 €
1/16/2023	Reduce	3.00 €	3.07 €
2/15/2023	Reduce	3.00 €	2.98 €
8/25/2023	Reduce	2.20 €	2.31 €
9/27/2023	Reduce	1.20 €	1.28 €
11/6/2023	Reduce	1.10 €	0.97 €
2/16/2024	Reduce	1.10 €	1.20 €
4/22/2024	Sell	1.00 €	1.16 €
5/2/2024	Reduce	1.00 €	1.05 €
8/27/2024	Sell	1.00 €	1.20 €
8/29/2024	Sell	1.00 €	1.19 €
11/4/2024	Reduce	1.00 €	0.90 €
2/6/2025	Reduce	0.90 €	0.85 €
4/28/2025	Reduce	1.20 €	1.38 €
7/21/2025	Reduce	1.20 €	1.18 €
10/6/2025	Reduce	1.30 €	1.25 €



# CONNECTING INVESTORS AND COMPANIES.

Inderes connects investors and listed companies.

We serve over 400 Nordic listed companies that want to better serve investors. The Inderes community is home to over 70,000 active investors.

We provide listed companies with solutions that enable seamless and effective investor relations. The Inderes service is built on four cornerstones for high-quality investor relations: Equity Research, Events, IR Software, and Annual General Meetings (AGM).

Inderes operates in Finland, Sweden, Norway, and Denmark and is listed on the Nasdaq First North Growth Market.

Inderes was created by investors, for investors.

## **Inderes Ab**

Vattugatan 17, 5tr  
Stockholm  
+46 8 411 43 80

## **Inderes Oyj**

Porkkalankatu 5  
00180 Helsinki  
+358 10 219 4690

**inderes.se**

**inderes.fi**

**inde  
res.**