Spinnova

Initiation of coverage

31.5.2024 9.12 EEST

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✓ Inderes corporate customer

This report is a summary translation of the report "Arpa on heitetty" published on 31.5.2024 at 8:30

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Alea iacta est

We initiate the coverage of Spinnova with accumulate recommendation and EUR 2.00 target price. Spinnova has been held back in recent years by changes in the operating environment and also by internal challenges in last years. The company updated its strategy and business model this spring to be much simpler and based solely on the sale of fiber production technology. In the coming years, Spinnova must prove the techno-economic competitiveness of its concept and create the conditions for the technology to enter the mass market in textile fibers. The company's positive cash flow is a long way off at best, but with a large target market and a capital-light and scalable business model, the stock's upside potential could be huge once commercialization gets underway. Despite the high risk level, we believe the stock already has a positive long-term expected value.

Commercialization will continue with a strategy based on technology sales

Listed in 2021, Spinnova's innovation is a production technology that uses mostly cellulose-based material to produce fibers in a very environmentally friendly way, for example for the apparel industry. The strengths of the fibers are not only their environmental performance but also their natural and soft (i.e. cotton-like) feel, while the main challenges are the still high investment and production costs of the technology and, consequently, the still too high price of the fibers for the mass market. After the updates in spring 2024, Spinnova's strategy and business model will be based on technology sales (incl. projects, royalties and services), as the strategy covering a broader part of the value chain at the time of the IPO became unfeasible due to higher interest rates, among other reasons. Spinnova should be able to demonstrate the techno-economic competitiveness of its technological concept in the coming years, with the progress of the letter of intent with Suzano for a plant of around 20,000 tons playing a key role. In addition, the company should be able to significantly reduce the CAPEX and OPEX associated with the technology through R&D work, which in turn would lower the price point of the fiber and expand the addressable market. Success in these areas would allow the company to enter a scalable growth phase in the 2030s.

The next few years will be loss-making, and scalable growth will not come until the 2030s

Spinnova does not have any revenue targets, but the company aims to achieve positive EBIT by 2028-2030 and EBIT of more than 100 MEUR between 2034 and 2036. In addition, Spinnova intends to continue commercialization with its current cash position (61 MEUR at the end of 2023). The forecastability of Spinnova is still weak. In the positive scenario of our forecasts, commercialization will proceed roughly in line with the company's volume targets. The low revenue will keep the company in the red until 2028, and the business will not begin to scale until the 2030s, when several and larger technology projects will be delivered at the same time. According to our projections, the company's financing needs for the coming years are covered by the current cash position and the share is not threatened by dilution in the near future. However, the tightest cash situation will take place in 2028-2029.

We believe pricing is beginning to look cautiously attractive to long-term risk investors

We have forked the return potential of the stock through near term EV/S for the next few years, DCF and long-term expected return scenarios. Based on overall picture of valuation, we see the stock's return potential as cautiously attractive from the current share price level (e.g. DCF-value some 2 €/share). However, we emphasize that investing in the company requires patience and a high tolerance for risk, as there is still a long way to go in terms of time and hurdles to overcome to reach the scalable growth stage enabled by the business model and market size.

Recommendation

Accumulate
(prev. -)

2,00 EUR
(prev. EUR)

Share price:
1.61 EUR

Business risk

Valuation risk
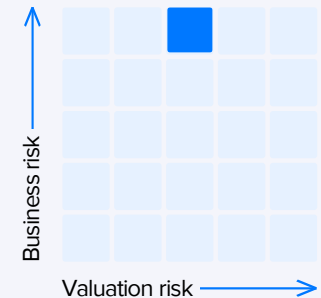
Key indicators

	2023	2024e	2025e	2026e
Revenue	10,6	2,2	8,4	21,0
growth-%	-56 %	-79 %	283 %	150 %
EBIT adj.	-20,9	-15,5	-12,3	-4,5
EBIT-% adj.	-197 %	-704 %	-146 %	-22 %
Net Income	-19,6	-14,7	-12,2	-4,6
EPS (adj.)	-0,38	-0,28	-0,23	-0,09
P/E (adj.)	neg.	neg.	neg.	neg.
P/B	1,4	1,2	1,4	1,5
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	6,4	21,0	7,2	3,2

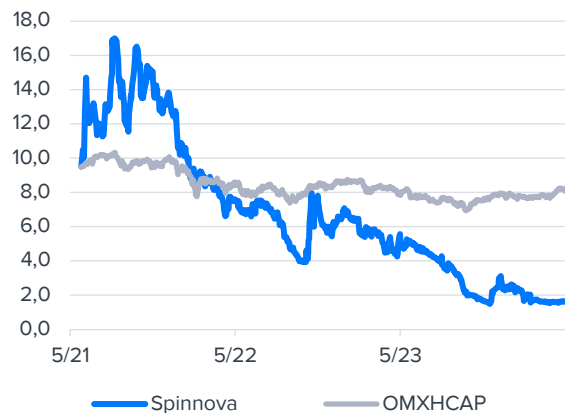Source: Inderes

Guidance   (Unchanged)

In 2024, revenues are estimated to be lower than in 2023. The timing of revenues is linked to the timing of technology sales and delivery of the next production facility. The operating result is expected to improve from 2023 but to continue to be negative.
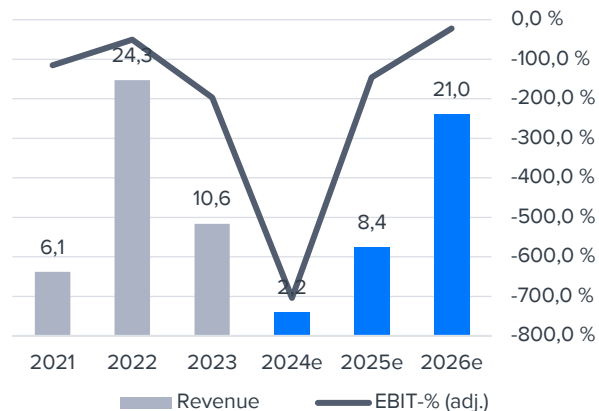
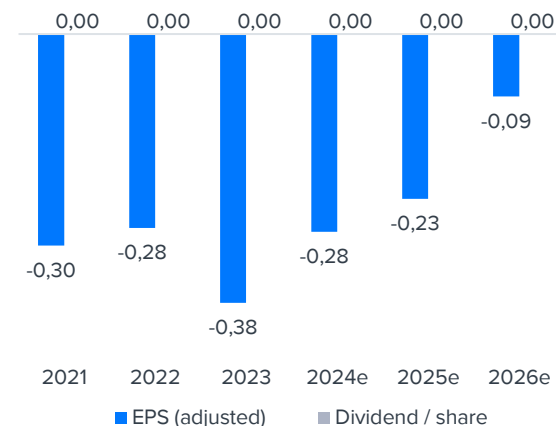# Contents

Share price

Source: Millistream Market Data AB

Net sales and EBIT-%

Source: Inderes

EPS and DPS

Source: Inderes

Value drivers

- Differentation by unique technology
- Excellent environmental performance of the fiber
- Potential first mover advantage
- Large target market
- Scalable and capital light business model makes profitable growth very valuable

Risk factors

- Failure to reduce the investment and operating costs of technology
- Delay of investments due to external factors
- Dependence on individual customers and especially on Suzano
- Slowing down of the sustainability trend in the consumer market

Valuation	2024e	2025e	2026e
Share price	1,61	1,61	1,61
Number of shares, millions	52,3	52,3	52,3
Market cap	84	84	84
EV	46	61	67
P/E (adj.)	neg.	neg.	neg.
P/E	neg.	neg.	neg.
P/FCF	neg.	neg.	neg.
P/B	1,2	1,4	1,5
P/S	38,2	10,0	4,0
EV/Sales	21,0	7,2	3,2
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

Company description and history (1/2)

Spinnova is an innovation in fiber technology

Founded in 2014, Spinnova's innovation is a production technology that enables the flexible production of natural fibers from a variety of materials. At least initially, they will be used primarily in the textile industry, with possible future applications in healthcare, interior design, and composite materials. Spinnova was founded by Juha Salmela and Janne Poranen, who used to work at Technical Research Center of Finlandf (VTT) and are still involved in the company as major shareholders, board members and operational employees.

SPINNOVA® fiber differs from other man-made cellulosic fiber (MMCF) or synthetic fiber production technologies in that no solvents or harmful chemicals are used, and the fiberization process is based entirely on mechanical grinding of the cellulose-based raw material. Spinnova has protected its technology with more than 40 patents valid in all major European, North American and Asian markets until 2030s.

The strength of the fiber is its environmental friendliness

Thanks to its unique production technology, the environmental performance of SPINNOVA® fiber is highly competitive with any other MMCF fibers. The difference is, of course, even greater when compared to traditional apparel fibers such as cotton and oil-based man-made fibers. Sustainability is one of the fastest growing consumer trends in the world, and regulation is expected to move in a direction that encourages more sustainable solutions, at least in the EU. Emissions from the apparel industry are significant, accounting for approximately 4% of global CO_2 emissions (compared to 2% of global emissions from the demonized aviation industry).

Against this backdrop, reducing emissions is a key strategic goal for all global apparel brands. Measured by revenue, 85% of the world's leading companies have already set carbon reduction targets for their supply chains. In this work, the role of more sustainable materials is key, as around 75% of emissions in the fashion textile value chain come from material production. This makes Spinnova an inherently attractive partner for apparel brands. In addition, the SPINNOVA® fiber has advantages in terms of natural cotton-like feel, comfort and appearance, and we see the technology's suitability for a wide range of raw materials as a strength. We believe that the weaknesses of SPINNOVA® fiber are still related to its high price (including high capital and operating costs of production), lack of availability and, to some extent, strength properties and usability on yarn processing lines. The latter issue can, however, be solved relatively quickly through R&D work.

The original business plan had to be modified

Spinnova's technology has been validated at laboratory and pre-industrial scale between 2014 and 2020. Spinnova was listed on Nasdaq Helsinki in spring 2021

SPINNOVA®

A fiber technology company founded in 2014 based on VTT's (Technical Research Center of Finland) research

Spinnova's innovation is a technology that enables the environmentally friendly production of natural fibers from cellulose-based materials, e.g., for the clothing industry.

At the end of 2023, the company employed 76 employees.

Spinnova's strategy and business model, updated in spring 2024, is based on scalable and capital efficient technology sales, so the company does not require external financing.

Spinnova's partner Suzano is planning the first industrial-scale investment based on Spinnova's technology

Several patents have been granted to Spinnova as a result of its research and development work

Spinnova targets positive cash flow from operating activities by 2028-2030 and an EBIT of 100 MEUR by 2034-2036

Source: Spinnova

Company description and history (2/2)

and very successfully raised gross funds of 115 MEUR (incl. greesnhoe) for technology commercialization in an IPO in an excellent capital market conditions. Spinnova's original plan was to cover a significant part of the apparel value chain, as the company intended to sell its fiber production technology, get involved in the fiber manufacturing business through joint ventures, and sell fiber directly to brand companies.

Although the company's business model and strategy at the time of the IPO also relied on partnerships, implementing such a playbook would have been highly ambitious and also risky given the high capital requirements of the production business, the technical scaling risks of production and the limited resources of a small company. Between 2022 and 2023, both Spinnova and its affiliate Woodspin faced significant delays in the ramp-up and technology concept development of the Jyväskylä pre-industrial plant. In addition, the recruitment of a CEO by Spinnova in spring 2022 seems to have failed. These issues, cash burn, and a significant tightening of financial markets (incl. reduced availability and rising cost of equity and debt financing due to rising interest rates) made the original business model virtually infeasible, or at least extremely risky, by 2022-2023. Spinnova's share price has also fallen by almost 80% from the IPO price and by more than 90% from its peak in 2021, reflecting slower-than-expected development, the need to change the business model and changes in capital market pricing mechanisms.

The silver lining of the current situation, which is the

sum of all these factors, is that despite the delays and complications, the company did not rush ahead and force the original strategy forward. In this way, Spinnova avoided a major misstep, such as a significant production investment, which could have consumed the IPO proceeds and significantly reduced the company's strategic options. Due to the size of the IPO, the company's cash position is still good and there were a reasonable number of strategic options left.

Updated strategy and business model based on technology sales

At the end of 2023, Tuomas Oijala took over as CEO of Spinnova and under his leadership, Spinnova reshaped its short- and medium-term strategy and business model towards a narrower focus on technology sales. Technology sales are capital-light and scalable. With this significant simplification, Spinnova will avoid major production investments and we estimate that it will be able to move forward with its current cash position. In addition, updated strategy focus on the technology side, which is the core competence of the company based on its history. We think this was a good choice, given the realities of the situation. Even in the best-case scenario, Spinnova still faces several years of work to commercialize its technology for large-scale production. A breakthrough in commercialization is far from certain. Therefore, Spinnova remains a relatively high-risk company for investors

List of shareholders
April 30, 2024

Shareholder	Number of shares (M)	% of all shares
Suzano S.A	9.8	18.8%
Besodos Investors Oy	4.0	7.7%
Maki.vc Fund I Ky	3.5	6.8%
Beata Domus Ab	3.3	6.4%
Janne Poranen	2.7	5.1%
Holdix Oy Ab	2.2	4.2%
Juha Salmela	2.0	3.8%
Aktia Fund Management Company	1.5	2.8%
Timo Soininen	1.4	2.6%
Ella Salmela	1.3	2.5%
1-10 largest combined	31.7	60.7%
10-	20.6	39.3%
Total	**52.3**	**100.0%**

Source: Spinnova

Business model and strategy (1/11)

SPINNOVA® fiber manufacturing process in brief

The manufacturing process of SPINNOVA® fiber is similar to the way a spider weaves its web. This is made possible by the similarity between the raw material of spider webs and Spinnova's raw material, microfibrillated cellulose (MFC). In addition to wood-based pulp, microfibrillated cellulose can also be produced from a number of other raw materials, such agricultural and food waste and recycled clothing. In addition, the technology can process also leather waste even if is a protein (and not cellulose).

Therefore, the raw material base for Spinnova's technology is very broad. In the long run, this will create good conditions for scaling up production volumes to a sufficient level, given the huge scale of the textile industry, and for developing the cost competitiveness of SPINNOVA® fibers compared to competing fiber materials. We believe that in the long term a flexible raw material base will also reduce the company's exposure to dependencies in several directions along the value chain. However, in the short and even medium term, the benefits of a flexible raw material base will not be fully realized, as Spinnova will have to focus on 1-3 main raw materials and partly on selected partners in these sectors in the early stages of commercialization.
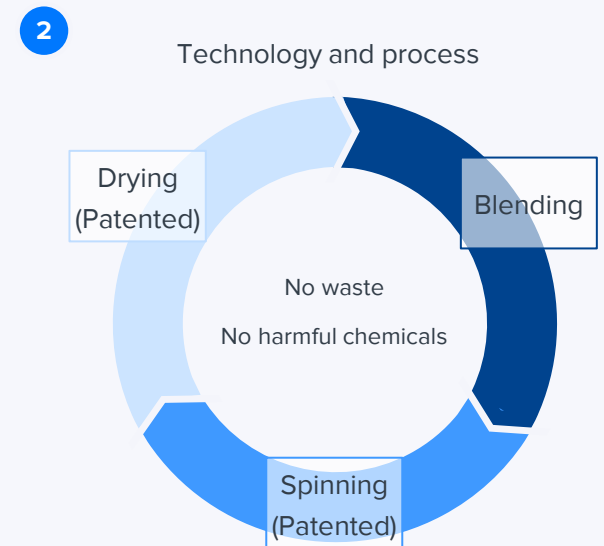
The process is entirely mechanical

The raw materials for the spinning fiber process are MFC from regular pulp, water and energy. At the beginning of the process, MFC is mixed with water and some non-hazardous additives to form a gel-like mixture (cf. the material a spider uses). When this mixture flows under high pressure through

Spinnova's proprietary nozzles, the natural microfibers align with the flow and form an elastic filament structure, or textile fiber. At the end of the process, water is evaporated from this structure by drying, causing the fibers to bond together. Once collected and cut, the fibers are ready to be spun into yarn, which can then be woven into fabric for clothing.

The SPINNOVA® fiber, the end product of the fiberization process, can be combined with other fibers in the manufacture of yarns and fabrics. This is important because the textile industry typically optimizes the properties and cost structures of its products by blending different types of fibers. With the possibility of blending, we do not believe that the currently limited strength properties alone will significantly limit the commercialization potential of the fiber. Share of SPINNOVA® fiber has been some 30 % of total fiber furnish in the first commercial solutions. However, it would be an advantage to increase SPINNOVA® fibers' share in the product as it would increase the company's total available market. SPINNOVA® fiber is naturally light in color but can be dyed and processed like other apparel fibers. SPINNOVA® fibers behave like any other apparel fiber in end-use and the fibers themselves do not require any special measures from the consumer wearing them, such as washing. SPINNOVA® fiber is also 100% recyclable thanks to its natural structure

The 74 % lower carbon footprint of SPINNOVA® fiber compared to conventional cotton is primarily due to the company's raw material base and the nature of the manufacturing process.

Production process

1 Feedstocks

Wood-based | Agricultural waste | Leather | Textile waste

2 Technology and process

Drying (Patented)

Blending

No waste
No harmful chemicals

Spinning (Patented)

3

Ready-to-use textile fiber

Business model and strategy (2/11)

The most significant difference with cotton (the closest benchmark SPINNOVA® fiber in terms of fiber properties) is on the raw material side, as the production of wood pulp requires significantly less land and especially less water than the very water-intensive cultivation of cotton. Spinnova's mechanical process produces no waste (i.e. 100% yield of MFC used) and the process water loop is closed. Thus, the only "waste" from the process is hot water vapor, but even this can be recovered and used in the district heating network if there is a need for low-pressure water vapor for heating purposes in the country where the plant is located or for other industrial processes in the vicinity of the plant.

The mechanical grinding of MFC consumes a lot of electrical energy. Of course, when purchasing electricity, the manufacturing company can enter into long-term contracts for electricity generated exclusively from renewable sources, which increases the scope for controlling pollution. Although the amount of electricity consumed is not disclosed, it is our understanding that energy is a very significant part of the cost structure of SPINNOVA® fiber, both in the short term and especially in the long term (i.e. once investment costs are reduced). In practice, fiber mills are likely to be located in countries with reasonable electricity prices and/or, for example, integrated with a pulp mill that produces MFC and has excess electricity capacity and/or can sell its low-pressure excess heat outside.

Short- and medium-term revenue comes from technology sales

We believe that Spinnova is a technology company at its roots, and the strategy announced in spring 2024 takes the company back to where it all began. At the same time, focusing on a single revenue stream instead of three high-level potential revenue streams greatly simplifies Spinnova, although there are certainly more sub-revenue streams within technology sales. In addition, the company's business model continues to include strategic partnerships, which are necessary to implement the model within a reasonable timeframe.

Technology is an obvious part of Spinnova's business model, given the company's innovation, unique IPR and high technological capabilities in a challenging niche (i.e. fiber physics and rheology). The technology business is also capital-light and scalable, so a company as small as Spinnova has the potential to operate globally in the process and apparel industries. Similarly, a manufacturing business would require upfront and risky capital investments and would not scale beyond certain limits. Thus, in our view, the exclusion of production from Spinnova's sphere of influence, at least in the short and medium term, is justified and necessary, although there is a risk that it will take time to find and attract players interested in the two-way risk of large production investments as technology customers. The company's customer structure will also be concentrated in the beginning.

Although the sale of fabrics is out of Spinnova's scope for the time being, the company continues to work with

Spinnova's offering covers the entire investment lifecycle

Feasibility assessment
Supports the assessment of the client's potential project

Contract for the project
Agreement on a suitable technology project

Project implementation support
Operating license under the Spinnova IPR and provision of a process design package for engineering work and plant investment

Machinery delivery
Spinnova is responsible for the technology and delivering proprietary items which are the nozzles, main machinery is provided by partners

Service and support
Spinnova and a wide network of partners provide services and support for the investment project

Source: Spinnova

Business model and strategy (3/11)

brands, i.e. companies that are directly connected to consumers. We believe that in addition to identifying the needs and preferences of end users (to help develop technology concepts), the company's goal is still to brand SPINNOVA® to consumers as a material with significant advantages over other fibers, especially in terms of sustainability (cf. Gore-Tex in water-repellent films). This would allow the company's technology customers to price fiber at a premium, which would naturally drive technology sales, assuming capital and operational cost reduction targets are met. However, the success of this objective over time is uncertain, as brands and/or potential fiber producers may have conflicting objectives on this front. So far, however, Spinnova has been able to make its brand very visible in the products of branded companies.

Spinnova has co-operated with brands such as Adidas, H&M, ECCO, Bergans of Norway, Marimekko, Bestseller, The North Face and Icebreaker. The company has focused mostly on premium brands even if some co-operation has been made with mass producers like H&M. This is not surprising, as SPINNOVA® fibers will be priced higher than competing fibers for some time. Therefore, we believe that Spinnova needs quality brands and their willing and able to pay customers to maximize its overall value proposition. However, the attainable market size in the upper luxury category would be too small, so luxury *per se* is not Spinnova's clearest target group, and rightly so.

We think Spinnova's partner portfolio is impressive. This reflects Spinnova's attractiveness to brand companies that are actively developing new material options to meet their sustainability goals. However, Spinnova is not unique in this respect, as many of its competitors have similar cooperation agreements with the same apparel brands. Brands seem to follow the development of new materials quite opportunistically, without committing themselves to individual partners. While reducing emissions in the apparel industry requires multiple material streams (i.e., the business is not a winner-take-all game like technology companies), we estimate that only a very limited number of suppliers of more sustainable fibers can reach a position like the above-mentioned Gore-Tex. That's why we believe it's important for a company to outperform its competitors in brand collaboration.

Technology sales

In technology sales, Spinnova offers the technology it has developed to operators interested in fiber production. The service concept includes a feasibility study, concept selection, technology access, investment project management support, lifecycle service and development support. However, unlike Woodspin's Jyväskylä factory, Spinnova does not make comprehensive EPC deliveries to its customer. Therefore, the technology revenue will not include significant pass-through items from partners in future like it included in 2022-2023.

Spinnova's brand co-operation in near history

Source: Spinnova

Revenues and expenses from technology sales are fully recognized in the Spinnova Group's income statement and assets and liabilities are recognized in the consolidated balance sheet.

Customers are initially raw material companies

The potential producers of SPINNOVA® fiber, especially in the early stages, are the upstream value chain, such as raw material producers, for whom expansion into fiber production represents an opportunity to add value to the raw material, i.e. to increase their revenues and diversify their business into a new industry. Later, as investment costs per ton decrease, fiber and textile producers in the apparel value chain could be potential customers for the technology. For many operators in this part of the value chain, an investment in SPINNOVA® fiber production could enable business expansion or reduce raw material risks.

Suzano is the partner for cellulose material and ECCO for leather waste

As far as raw material producers are concerned, the situation is clearer with Spinnova's previous decisions. In wood-based pulp, Spinnova's partner is the world's largest pulp company, Suzano, with whom Spinnova owns half of the Woodspin which has 1000-ton mill in Jyväskylä Finland. Suzano originally invested in Spinnova in 2017 and now owns 19% of the company. Suzano has also signed a letter of intent with Spinnova for the construction of some 20,000-ton SPINNOVA® fiber production plant, which is linked to Spinnova's strategic decision not to invest further in Woodspin production in the short

and medium term. In our view, Spinnova cannot in practice take on other wood pulp technology customers to continue the cooperation with Suzano for the time being, at least not without Suzano's consent or termination of the cooperation. However, the companies seem to be forming a mutually beneficial partnership and we believe that Suzano, with its strong financial muscles and expansion strategy in the textile industry, is an excellent partner for the company.

For leather waste, Spinnova and shoe giant ECCO set up a similar 50/50 joint venture, Respin, a few years ago. Spinnova's current strategy does not include significant production investment in Respin, should the pre-industrial phase with leather waste be successful. Against this background, we find it difficult for Spinnova to sell leather waste technology to companies other than ECCO. However, we estimate that the development of Respin is at least 2-4 years behind wood-based cellulose and Woodspin, so Spinnova does not even face an acute choice in this regard.

In the long term, Spinnova's technology customers could include companies that produce SPINNOVA® fiber from both agricultural and food industry waste. In practice, there are still several years of development work to be done on these raw materials before concrete conditions for more significant technology sales emerge.

Technology customer's strategic logic to invest in SPINNOVA® fiber production

Raw material manufacturer: Increased value added / revenue growth, expansion into new parts of the value chain

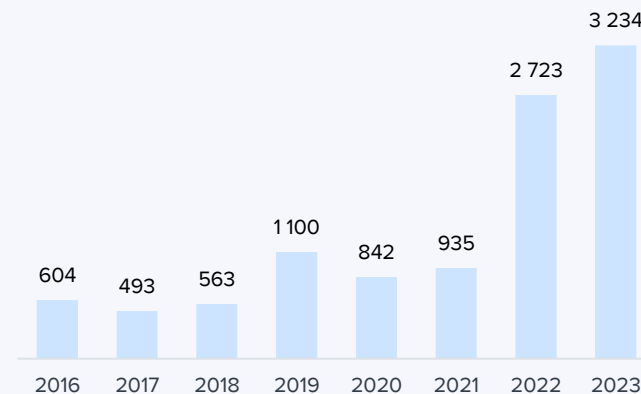**Fiber producer:** Expanding the product portfolio, leading the way in more sustainable fibers

Textile industry operator: Reducing of raw material risk, expanding backwards in the value chain

Brands: Supporting the growth of more sustainable fiber supply, ensuring raw material availability

Suzano's investments (MEUR)

Year	Value
2016	604
2017	493
2018	563
2019	1 100
2020	842
2021	935
2022	2 723
2023	3 234

Source: Spinnova, Suzano

Business model and strategy (5/11)

Customer structure will be concentrated for a long time

Suzano will be by far the most important customer for Spinnova in the short and medium term, especially in view of the partnership with Suzano and the advanced stage of development of wood-based materials. As a result, the company's customer structure is likely to be highly concentrated in the short and medium term and is likely to remain somewhat concentrated in the long term. In our view, this increases the risk of dependence on customers. We consider this is not so much a traditional risk of switching suppliers, as Spinnova's technology is unique, but strategic changes at Suzano, for example, could lead to virtually the same result than traditional switch of supplier. Of course, the risks of dependency are mutual, as customers would not be able to purchase similar technology elsewhere, given the current information. Suzano (and ECCO) are well-established large companies and major players in their fields, so Spinnova's most potential customers have strong and numerous supporting legs. Thus, the financial risk associated with the counterparty is low.

Technology deliveries will be the most significant revenue stream at the beginning

One-off like revenue items relate to the supply of technology concepts to customers as project deliveries or the subsequent upgrading of existing plants with new equipment. Spinnova's aim, and a promise to its customers, is that the technology in the early-stage factories can be progressively upgraded to the most advanced as technological advances increase productivity. Due to the time lag required to achieve critical mass, sales will initially be driven by deliveries of new factories and lines. Typical of the project business, revenue can and will continue to fluctuate significantly over a long period of time, depending on the progress of projects. The company's figures for the period 2021-2023 are also already showing signs of change.

Revenue will be also generated from royalties

After project delivery, Spinnova aims to charge its customers a technology fee based on production volume, effectively a royalty based on production volume. The royalty would provide an ongoing revenue stream, but it carries the risk of successful production and commercial success of the final product. We believe that there will be reasonable conditions to agree royalties, at least for the duration of the patents, as Spinnova's technology is unique, at least for the time being.

For example, for Woodspin, Spinnova and Suzano have already agreed that Spinnova will receive 6% of Woodspin's revenue as a technology fee. The royalty terms of the LOI with Suzano have not yet been disclosed. We estimate that in the future technology fees could amount to a low single-digit percentage of a manufacturing company's revenue. However, we believe that the percentage should be considered as a whole, together with the technology delivery, as it will be a total solution from both Spinnova's and the client's perspective, sharing revenue and risk.

Spinnova's revenue streams

Technology project
Nature: One-off and front-loaded
Size: Clearly Spinnova's biggest revenue stream for a long time to come
Gross margin: High; The sale of IPR does not generate many direct additional external costs

Royalty
Nature: Continuous, gradual, dependent on customer production
Size: Small at the beginning, possible to increase the weight later
Gross margin: Extremely high; practically no variable costs

Services / Maintenance
Nature: Recurring and based on medium-term contracts
Size: The smallest item during the lifecycle. Focus on a narrow high value-added segment
Gross margin: Quite high, but there are some external costs for spare parts (like nozzles)

Source: Inderes

Business model and strategy (6/11)

It is therefore critical that contracts will be structured so that revenues are commensurate with the risk level of the revenue stream (i.e. the share of the total project investment budget or NPV). We believe that royalties will play an important role in achieving Spinnova's long term goal of a continuous 30% share of revenue.

In our view, Spinnova will initially favor one-time technology payments for project delivery in its contracts, as these will provide the company with the fastest cash flow. This will be important to secure the company's financial position for at least the next decade. Later on, Spinnova may have the ability and desire to increase the weight of royalties in the contract package as its financial position will strengthen and allow it to take a little more risk with a more backward and riskier but more valuable revenue stream due to its continuity.

Very high margin on technology project sales and royalties

From a revenue perspective, the difference between royalties and technology sales is likely to be negligible as there are no significant direct variable costs associated with either, although technology development has and will continue to generate personnel and other operating costs for the company. Thus, both items are scalable. Spinnova has not disclosed its margin targets, but we estimate that a technology company with a unique technology might be able to negotiate 10-20% of the investment cost or 15-30% of the total NPV of the project. Getting to the upper end would require clear risk sharing

through royalties, while the lower end is a more realistic starting point with upfront and one-time payments. Of course, for the first delivery, the conditions may vary as all the parties may need to make compromises to proof the concept.

Spinnova is also expected to getting paid for the technology in 2024 at the latest, when Woodspin's 1,000-ton production plant in Jyväskylä is ramped up. The revenue stream from Woodspin will be very small relative to the capacity of the plant and its use based on technology development.

The third revenue stream consists of services

In addition to project deliveries and technology payments, Spinnova can service the customer's production machinery, especially the most critical technologies (e.g. nozzles). This can result in what we estimate to be a fairly predictable and recurring batch of technology sales related to high value-added development services and products (i.e consumables, spare parts and technical consultation) for the company. However, it is our understanding that Spinnova does not take over the maintenance of the machinery, but this is the responsibility of the machinery supplier.

The start of service sales naturally requires the start-up and ramp-up of the first production facilities and commercial negotiations with customer companies on service contracts. However, we estimate that Spinnova has a rather narrow

Suzano's investment criteria

Strategy: 1) Create and strengthen competitive advantage, 2) boldly invest in new markets 3) maintain position in pulp 4) maintain cost leadership in pulp

↓

Is the investment compatible with Suzano's economic and sustainable development framework? ✓

↓

Is the investment profitable and productive enough? ✓

↓

Does the investment strengthen and create a competitive advantage? ✓

↓

Does the investment provide enough growth and scale? ✓

↓

Other Suzano investment criteria: 1) Increasing geographical diversification 2) reducing business volatility 3) improving risk management

Source: Suzano

Business model and strategy (7/11)

focus on services, so this will be the company's smallest revenue stream.

Woodspin and Respin

As noted above, based on its history and previous business model, Spinnova has a 50% stake in the Woodspin and Respin joint ventures. Although the production business is not part of Spinnova's strategy, at least in the short to medium term (i.e. over the next decade), both joint ventures will continue to play a role in Spinnova's business model. Woodspin will serve Spinnova (and Suzano) as an industrial-scale pilot plant for the production of wood pulp-based fibers, while Respin will continue to industrialize a model based on leather waste. We expect the joint venture structure to remain unchanged for the foreseeable future. For Respin, however, the time for solutions will come at the end of the decade, when the concept should be scalable to (pre-)industrial production.

As Spinnova owns half of the joint ventures, at least for the time being, Woodspin and Respin are treated as associates for Spinnova's accounting purposes. Therefore, revenues and profits are not consolidated line-by-line in Spinnova's income statement and balance sheet, but Spinnova recognizes in its EBITDA the share of the joint ventures' net result corresponding to its shareholding. Associate line will be most likely dominated by Woodspin as it is much sizeable company than Respin in the next years.

In cash terms, Spinnova has invested and is likely to invest capital in joint ventures in proportion to its shareholding. The capital will be used to cover losses

in Woodspin due to development work and low sales (previously also to cover investments in the Jyväskylä mill). Respin, on the other hand, needs capital to finance concept development losses. Similarly, Spinnova may generate a small amount of revenue from Respin based on progress in concept development, but this is likely to be limited in the coming years.

We estimate the combined investment needs in the joint ventures to be in the tens of millions of euros over the next few years as Woodspin has no major investments planned and, from a cash flow perspective, it should be possible to get Woodspin to near cash neutral cash flow within a few years with the current model. In Respin, Spinnova's investment commitments to date again amount to 1.25 MEUR.

Investment, capital commitment and R&D

The business model of a technology company is inherently capital-light, as there is little need for investment in fixed assets. There should also be no need for acquisitions in Spinnova's current strategy. In addition, the balance sheet (adjusted for cash) did not have time to grow significantly during the previous strategy period. Consequently, the company's depreciation will also be quite low. Thanks to its moderate capital commitment, Spinnova, like many other technology companies, has the potential for a good return on capital and strong operating cash flow, provided it can eventually become profitable through revenue growth.

Spinnova's result in associated companies (MEUR)
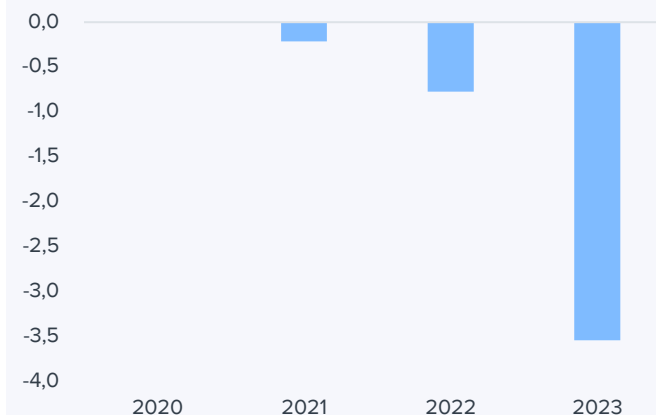
Investments in patents and new technology development (MEUR)

Source: Spinnova
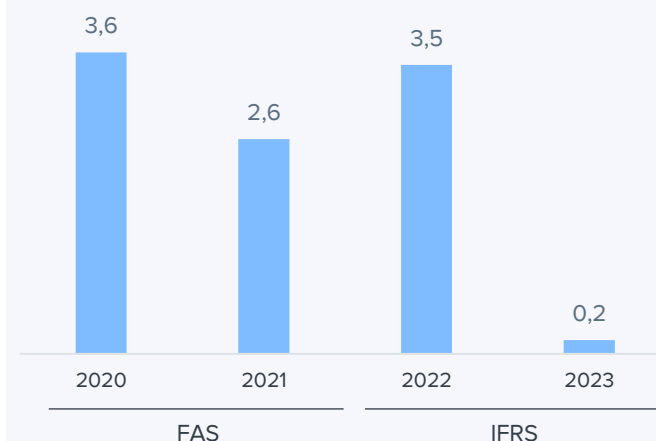
Business model and strategy (8/11)

In 2022 and 2023, Spinnova invested a total of 17 MEUR and 9 MEUR, of which 12 MEUR and 8 MEUR were invested in joint ventures. We expect investments to decline from these levels in the coming years, although annual investment needs may vary. Moderate investment needs also support the company's goal of surviving without recapitalization in the current technology sales-driven strategy, which we believe is important to the company's investment story and risk/reward for shareholders.

As a technology company, research and product development play an important role in Spinnova's business model. We estimate that the vast majority of R&D investments are fixed personnel costs and semi-fixed other operating expenses that are expensed as incurred. In addition, research and development may result in minor investments in tangible and intangible assets, such as R&D equipment and/or patents. In our view, the development priorities are 1) to support the scaling of technology sales to customers by reducing production and investment costs, 2) to promote the Respin industrial pilot project, 3) to optimize fiber applications together with apparel brands, 4) to explore other raw materials at an early stage, and 5) to protect intellectual property rights. We particularly emphasize the role of the first factor in shaping the group's long-term competitiveness, but we believe that other factors are also necessary priorities.

Achieving competitiveness requires significant reductions in investment and production costs

Woodspin's Jyväskylä 1,000-ton mill is estimated to have an investment cost per ton of capacity of approximately EUR 50,000 (compared to a modern greenfield pulp mill's investment cost of approximately EUR 1,500-2,000 per ton of capacity). This estimate includes the buildings, equipment purchased by Woodspin, and the MFC mill financed by Suzano. According to Spinnova, it should be possible to reduce the investment cost per ton by 60-70% for the next Suzano project and then gradually by 60% over the long term (probably more than 10 years). To bring investment costs down to the latter level, we estimate that a gradual increase in plant size to at least 100,000 tons (p.a) will be required, mainly through improvements in drying efficiency and economies of scale. Reducing investment costs would also improve operational cost efficiency, where Spinnova aims to triple productivity in the long term. We believe that increasing production speed and nozzle density are key factors in improving productivity.

In our view, reducing investment costs and improving productivity are absolutely critical objectives for Spinnova, as the price per ton of the end product (i.e. fiber) is the main determinant of the achievable market size for fiber, and we believe that this situation is unlikely to change significantly in the future. Without a significant improvement in technology customer efficiency (including CAPEX and OPEX),

Estimated investment cost (€) per ton of capacity
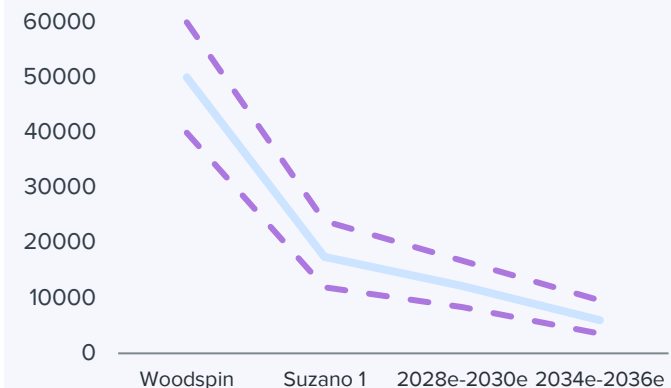
Investments and depreciation (MEUR)

Source: Spinnova, Inderes
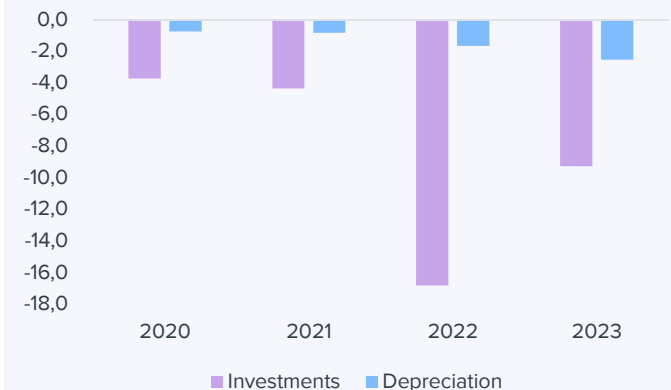
Business model and strategy (9/11)

Spinnova's technology would likely be too expensive for the volume textile market and the sales potential of the whole concept would be limited. The competitiveness of the entire Spinnova concept therefore depends on the success of these technological capital and production improvements.

The company's goals may seem ambitious, but the pulp and paper industry, for example, has achieved comparable improvements in the fastest stages of its life cycle in just a few decades. Therefore, we do not consider it impossible that the company will succeed, although it is difficult to assess the risk as Spinnova has not disclosed the technical background of the limiting factors. However, we believe that the limiting factor will not be physical constraints such as science, but that today's challenges (perhaps related to engineering of the machinery, for example) may be solved in the future by other means.

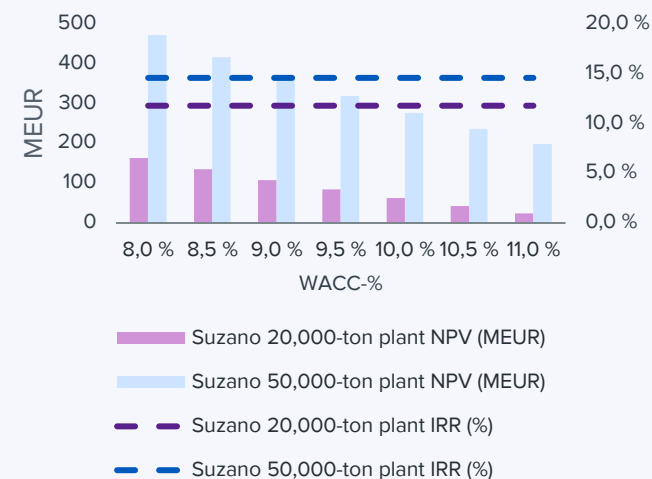## The financial perspective of the technology customer

As the investment in Spinnova's technology will be very capital intensive for some time to come, we believe that the customer's business plan must be based on the producer getting a high price for a differentiated fiber and thus a high EBITDA margin. In addition, the reduction of production costs over the life cycle and the improvement of capital efficiency through subsequent capacity investments play a key role in making the investment equation profitable. Spinnova stated in its IPO prospectus that it was targeting a payback period of 6-7 years for the production investment, which we believe is optimistic

given the size of the capital investment and the fact that the beginning of the 2-3 year ramp-up cycle (i.e. the first year) is likely to be loss-making. In contrast, with a payback period of more than 10 years, the economic logic of the investment begins to weaken, according to our calculations, so that the room for maneuver in terms of payback is limited.

Add to that the unproven demand for the end product on a mass scale, and manufacturing investment, at least in this part of the decade, is quite a project for manufacturing companies. Therefore, we believe that investing in production at this stage requires long-term strategic plans and goals for textile industry, such as Suzano. Return on capital requirements, for example in NPV calculations, must also be set at single digits, despite the technology and commercialization risks in the early stages. For later projects, the IRR has the potential to reach well into double digits as plant size increases and investment per ton decreases, according to our calculations. However, we believe that the strategic nature of initial investments does not exempt them from professional financial analysis, and projects must demonstrate a positive net present value, a double-digit return on invested capital, and a payback period of less than 10 years.

We also note that Suzano's investment in SPINNOVA® fiber production, for example, competes for capital with a number of other projects, such as pulp and paper mills and other new products, as well as M&A. In the competition projects with the best risk/reward ratio will win, so competition for investment capital will be fierce also within Suzano.

Economic outlines of a possible 1st and 2nd project (20kt ja 50kt plant) with Suzano

- Suzano 20,000-ton plant NPV (MEUR)
- Suzano 50,000-ton plant NPV (MEUR)
- Suzano 20,000-ton plant IRR (%)
- Suzano 50,000-ton plant IRR (%)

Key assumptions of the outline:

- Plant lifecycles 25 years (incl. construction and ramp-up period)
- Cash flows and cost of capital before tax
- Selling price of fiber EUR 3,000-8,000/ton starting high and declining
- Average lifetime EBITDA margin of approximately 40%
- Investment cost EUR 15,000-20,000 / capacity ton for a 20,000-ton plant and EUR 10,000-14,000 / capacity ton for a 50,000-ton the next plant
- Two capacity increases with investments that together double/triple the original capacity
- Maintenance investments around 2% of sales
- Working capital accounts for around 20% of sales
- Terminal value about one third of lifecycle investments

Source: Inderes

Business model and strategy (10/11)

In our view, companies that invest in production in the early stages are taking on the greatest financial risk in the value chain. Thus, we expect that, at least initially, production companies will be able to claim by far the largest share of the economic value added (i.e., share of the NPV) of a project because of the risks involved. However, in the very first projects all parties may of course have to make certain trade-offs to get industrial scaling off the ground. As capital and production costs fall and technical and commercial risks decrease, Spinnova's bargaining power with technology customers is expected to improve, especially in the next decade, which should be reflected in Spinnova's share of value added.

Implementation of the letter of intent with Suzano is critical

Spinnova and Suzano announced in March 2024 that the companies have signed a letter of intent (LOI) for a potential investment to build new wood-based SPINNOVA® fiber production plant. Spinnova and its partners will supply the fiber technology to Suzano, which will own and operate the new plant. The initial target capacity of the plant is 20,000 tons of fiber per year, which is still small by process industry standards. The factory is likely to be located near Suzano's existing pulp mill, effectively building the facility in Brazil, as all of Suzano's pulp mills are currently located in Brazil.

This is a non-binding letter of intent in which the parties have established the criteria for the project to proceed to the pre-engineering stage. The criteria have not been disclosed, but we estimate that they relate to the approvals of the final product in the fiber processing chain (e.g. yarn production) and the finalization of the economic calculations. The transition to the pre-engineering phase is estimated to take 6-12 months, so we believe that pre-engineering could start in Q4'24. We believe that Suzano could make a binding investment decision on the project during H1'25. With this schedule, the plant could start production in H2'27 and be fully operational by H2'30 at the latest, after a 2-3-year ramp-up period. The size of the investment has not yet been disclosed but based on Woodspin's first plant and the targeted reduction in investment cost per ton, we estimate the project to be worth 300-400 MEUR for Suzano.

In our view, the importance of the project from Spinnova's perspective cannot be overstated, but for the overall Spinnova investment story to move forward, it is absolutely critical that the project is realized and successful from the perspective of all parties (including. Spinnova, Suzano and customers buying fiber from Suzano). Without the realization and success of the project, we estimate that Spinnova would find it very difficult to convince other potential investors of the techno-economic potential of its technology

Estimated timetable for the Suzano project (~20 000-ton plant)

Meeting the criteria for a pre-contract
According Spinnova, it will take 6-12 months to meet the criteria, which have not been disclosed.

Pre-engineering
Rough design of the factory concept and finalization of the economic calculations.

Suzano's investment decision
A binding investment decision that requires a techno-economic analysis. Estimated at H1'25.

Detailed engineering
Finishing technical details.

Purchase and construction
The construction phase takes less than 2 years. The plant could start production around H2'27.

Source: Spinnova, Inderes

and, if the project fails, commercialization would at least slow down Spinnova considerably. We also expect Suzano to be by far Spinnova's largest technology customer over the next decade, and we believe that Suzano's future investment decisions will be subordinated to the techno-economic success of the first project.
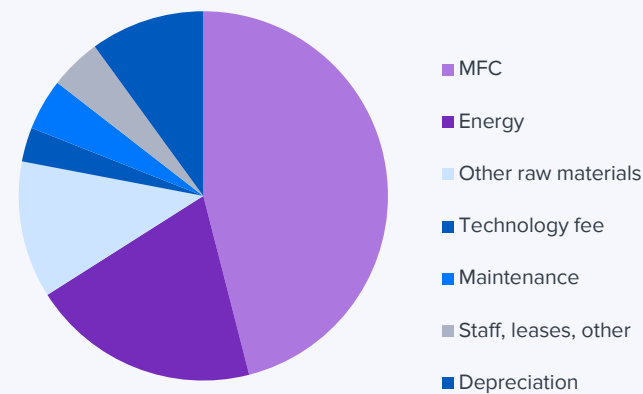
Cost structure

The most significant items in Spinnova's income statement are personnel costs, other costs, share of profit of associates and depreciation. Cost of materials and services are expected to be low given the current business model and strategy based on technology sales. Personnel costs consist of the salaries of Spinnova's own personnel (incl. statutory expenses) and the expenses recorded for share-based compensation plans (e.g. stock option plans). Other costs include both variable and fixed items. Depreciation is relatively low due to the capital-light nature of the business. The result from associated companies represents 50% of the combined net profit of Woodspin and Respin and is only indirectly (i.e. to the extent of the investments required by the companies) cash effective.
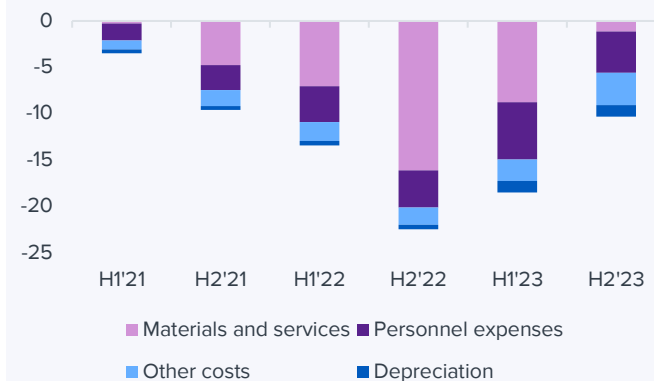
Thus, Spinnova's cost structure will be fixed in the long run, but to cover its fixed costs, the company will need a moderate amount of revenue, preferably from multiple technology sales streams. Achieving this will take several years at best, and Spinnova's goal is to reach profitability in the 2028-2030 timeframe.

In the context of the spring 2024 strategy update, Spinnova started to adjust its cost structure. The goal was to align the company's resources with the new strategy and reduce cash burn so that the company could survive on its current cash position until the cash flow turnaround without the need for additional capital. During the change negotiations in spring 2024, Spinnova aimed to achieve savings of up to 1.4 MEUR. During the negotiations, 8 employees were laid off, tasks were changed and outsourced work was brought in-house. In addition, the potential savings were increased by the reduction of the management team. We believe that savings are necessary given the changed resource requirements resulting from the change in strategy. We also emphasize that we believe that avoiding additional financing is very important to the return potential of early-stage owners.
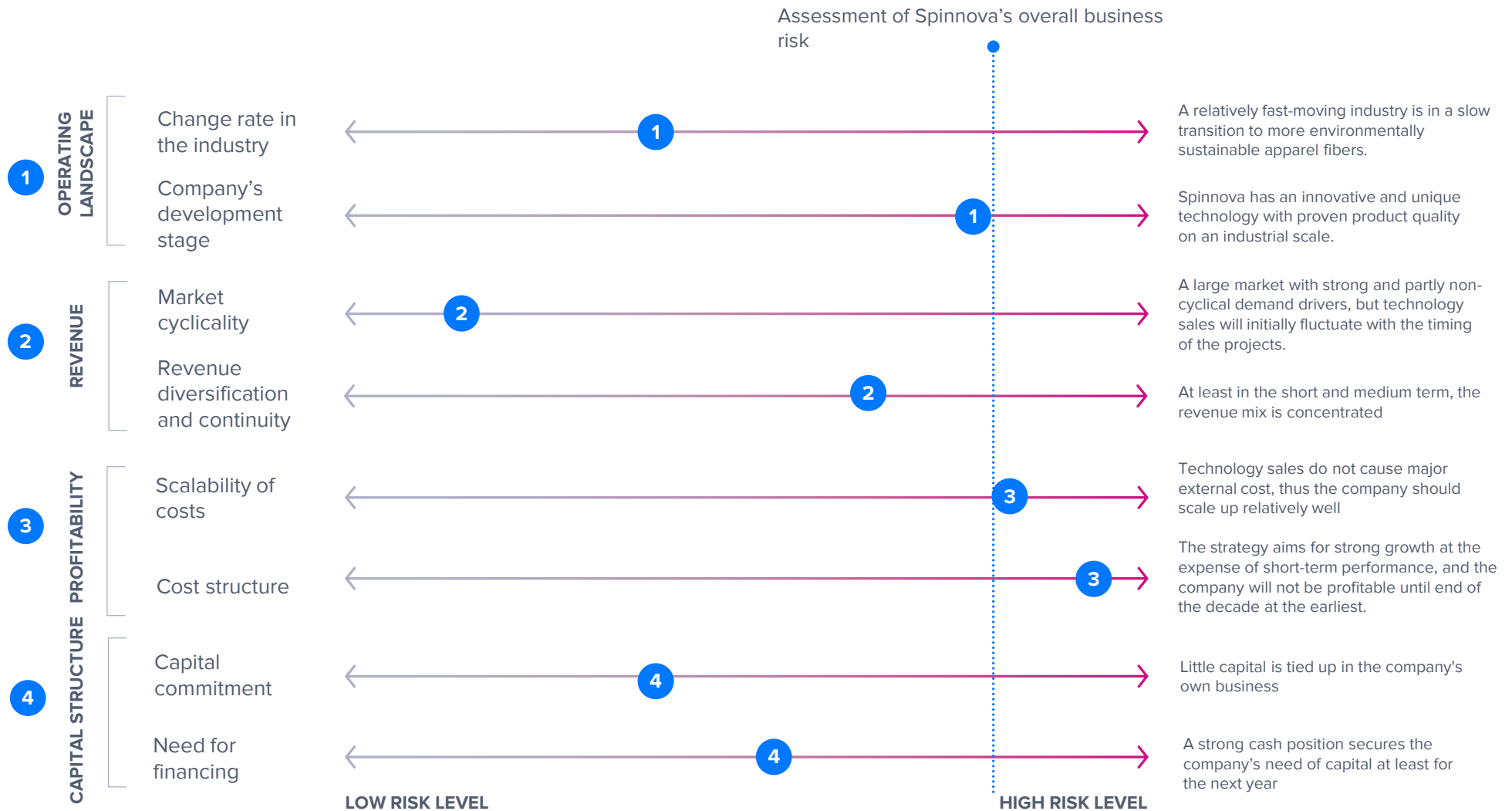
Estimated production cost structure for a technology customer

- MFC
- Energy
- Other raw materials
- Technology fee
- Maintenance
- Staff, leases, other
- Depreciation

Development of Spinnova's cost structure (MEUR)

- Materials and services
- Personnel expenses
- Other costs
- Depreciation

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Source: Spinnova

Risk profile of the business model

Assessment of Spinnova's overall business risk

OPERATING LANDSCAPE (1)

Change rate in the industry — 1
A relatively fast-moving industry is in a slow transition to more environmentally sustainable apparel fibers.

Company's development stage — 1
Spinnova has an innovative and unique technology with proven product quality on an industrial scale.

REVENUE (2)

Market cyclicality — 2
A large market with strong and partly non-cyclical demand drivers, but technology sales will initially fluctuate with the timing of the projects.

Revenue diversification and continuity — 2
At least in the short and medium term, the revenue mix is concentrated

PROFITABILITY (3)

Scalability of costs — 3
Technology sales do not cause major external cost, thus the company should scale up relatively well

Cost structure — 3
The strategy aims for strong growth at the expense of short-term performance, and the company will not be profitable until end of the decade at the earliest.

CAPITAL STRUCTURE (4)

Capital commitment — 4
Little capital is tied up in the company's own business

Need for financing — 4
A strong cash position secures the company's need of capital at least for the next year

LOW RISK LEVEL   HIGH RISK LEVEL

SWOT analysis

Strengths

- A distinctive end product and scalable and advanced technology

- Environmental performance of the end product and excellent reputation among brand companies

- Partnership with Suzano, an investment-ready company with a strategic interest in the textile value chain

- Sufficient liquidity to execute a technology sales-based strategy through at least the end of the decade

Weaknesses

- Technology investment and production costs still far too high for mass market

- Scaling up will be time-consuming at best

- Customer structure will be very concentrated for a long time

- The value chain in the textile industry is fragile, as pricing power has traditionally been concentrated in the hands of brands

Opportunities

- Suzano's first project provides techno-economic proof of concept and generates revenue

- Accelerating emissions reductions in the textile industry and a growing sense of urgency among brands as emissions target deadlines approach

- Tightening regulation, especially in the EU

- The applicability of the technology to a broad feedstock base and different applications sets the stage for very long-term business expansion

Threats

- Failure of Suzano's first project, for one reason or another, would be at least a major setback to scaling up

- Persistently high inflation and interest rates and their slowing and shifting effects on investment

- Failure to protect IPR

- Reducing or postponing brand climate and emissions targets

Source: Inderes
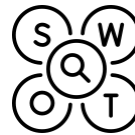
Strategy

Spinnova Group Strategy: Increasing technology sales

Technology sales

Spinnova focuses on selling and developing technology with its partners. Technology sales are targeted at the part of the value chain where they add the most value. Potential customers include raw material producers at the upstream end of the value chain and textile manufacturers at the downstream end.

Technological development

Spinnova continues to develop its technology with the goal of reducing the investment and production costs associated with the technology and increasing the amount of raw materials that can be utilized with the technology.
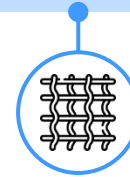
Development of the fiber market

SPINNOVA® fiber is a unique material that is being developed into a mass market product. The company participates in the commercialization of fiber and seeks to create value for its technology customers through its brand strategy.

Sustainability strategy

Spinnova is committed to building a sustainable value chain in all its activities.

Inderes' comments on Spinnova's strategic priorities

- Spinnova is a technology company at its core, so we believe that a fairly straightforward technology strategy plays to the company's strengths.
- In our view, focusing on technology sales is the fastest and easiest way for the company to become cash flow positive, and probably the only way to survive the next few years on current cash (i.e. without diluting current shareholders).
- The first major industrial delivery to Suzano must be a success for all parties if the strategy is to remain viable in the medium term.

- We believe that reducing the capital and operating costs of technology is a prerequisite for fiber competitiveness and profitable growth for technology customers, as the cost level of the end product determines the achievable market size.
- We believe it is important to develop raw material capability and suitability as this will allow the company to expand the size of the accessible market and optimize the cost position of the fiber in the long term.

- Spinnova's price point will remain higher than many competing fibers for a long time due to production costs, so the company needs customers with the purchasing power of major brands.
- Apparel brands appear to be taking an opportunistic approach to novel fibers, monitoring the competitiveness of different technologies. Thus, the effectiveness of the brand strategy is still an open question.
- The winner will not take all of the market for more responsible fibers, but the fiber company that stands out in the eyes of brands can reap the lion's share of the industry's profits.

- The key strengths of Spinnova's end product are environmental performance and sustainability, so the entire group adhere to sustainability principles in all its activities in a world-class manner.
- We believe that Spinnova's reputation is currently very clean and that maintaining this reputation is critical to maintaining the brand image of SPINNOVA® fibers.

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Source: Spinnova, Inderes

Strategy and financial targets

Medium-term objectives for 2024-2026

Sales: Cumulative technology sales of 30,000 tons (2023: 1 ton)

Business / financing: No additional external funding (2023 cash 64 MEUR)

Medium (2028-2030) and long-term (2034-2036) objectives

Sales: Cumulative technology sales of 130,000 tons in the medium and 450,000 tons in the long term

Revenue structure: In the long term, 30% of revenue is recurring, i.e., royalties and service fees.

EBIT: Positive EBIT in the medium term and EBIT above 100 MEUR in the long term

Inderes' comments on the objectives

- The framework for this is the delivery of Suzano's first industrial plant. This project should cover about two-thirds of the target and the companies already have an LOI for it. Without this delivery, we estimate that the goal is not achievable. In addition, Spinnova would need a factory delivery of less than 10,000 tons to meet the target. This could be a project based on textile fiber recycling, as the leather waste project is unlikely to contribute in this timeframe. Concreteness is still scarce in this respect. We estimate that achieving this objective would enable the company to generate cumulative revenues of several tens of millions of euros by 2026-2027.

- We believe the company's cash position remains strong relative to the estimated burn rate of the business. Moreover, the implementation of the LOI agreed with Suzano alone would guarantee the company a moderate level of revenue, although the first delivery margin is probably not optimal. Thus, we see the target as realistic.

Inderes' comments on the objectives

- In our view, the medium- and long-term goals are completely subordinate to the success of Suzano's delivery for all parties involved. Even if the project is successful, the medium-term goal may be challenging, as we estimates that Suzano is unlikely to invest in a second plant before the first one has proven its economic potential. Moreover, the first major Respin delivery won't likely be enough to bring the company up to its target level. We believe that the timeframe is sufficient for the long-term objectives and that the growth in factory size supports this objective. To achieve the long-term goal, SPINNOVA® fiber must penetrate the mass market.

- We understand that the focus of Spinnova's service sales is quite narrow, so a significant part of the target will have to be covered by volume-based royalties. From Spinnova's perspective, royalties and the one-time technology fees are about risk sharing and pricing.

- The medium-term objective is subordinate to sales growth. To achieve this, Suzano needs to complete at least its first project with a reasonable gross margin and a reasonable factory throughput (i.e. a small royalty and service revenue). A revenue target above 100 MEUR would require all three revenue streams to develop broadly in line with the targets in the mid-2030s and strong business scalability.

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Markets

Spinnova's potential market in the long term: worth 200 BNEUR, growing at 2-3% per year

Market size

The size of the global textile fiber market in 2022 will be 200 BNEUR, or 115 million tons. Roughly one third of this is the natural fiber market, which we believe is currently the most relevant target market for Spinnova in long-term

Market growth rate

The value of the textile fiber market is expected to grow at an annual rate of about 2.5% through 2030, and 3.5% for natural fibers. This implies a need for about 3 million tons of capacity in the latter segment in 2030.

Market drivers

Traditionally, the main drivers of growth in the textile fiber market have been the growth of the middle class and the rise of fast fashion. New drivers for sustainability are growing consumer awareness and regulation.

The role of sustainability

The textile industry accounts for 4% of global CO_2 emissions and emissions are increasing due to quantitative growth. Approximately 75% of emissions in the value chain come from materials production. Therefore, changes in material production are needed to reduce emissions.

Inderes' comments on Spinnova's target market

- The market is huge for Spinnova's size and there are no limits to growth.
- Apparel fibers account for 75-85% of the total textile fiber market, making them the most natural target for Spinnova.
- Cotton supply will shrink due to climate change and environmental challenges, resulting in a shortage of natural fiber in the market, which is expected to increase its price.
- A significant portion of cotton production is also located in geopolitically unstable countries, which increases the risk of cotton availability for the industry

- The market is expected to grow slightly slower than GDP in the 2020s, so it is not an explosive growth market at the high level.
- The market for MMCF fibers, which is of competitive interest to Spinnova in the short term, is the fastest growing natural fiber segment with an annual growth rate of about 3.5%, implying a capacity requirement of 3 million tons by 2030.
- Regulatory changes, particularly in the EU, could affect the growth picture for more sustainable fibers over the forecast period, but concrete evidence in this regard is still limited.
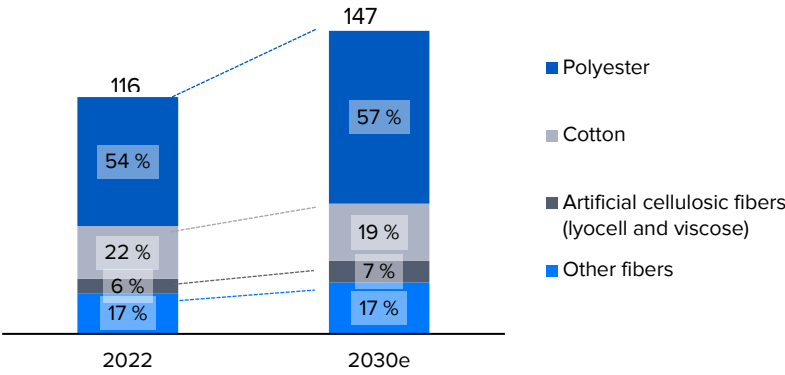
- Population growth and rising incomes will continue to drive market growth. However, we believe that sustainability will challenge the adoption of fast fashion (i.e short life cycle of clothes), as we see a certain conflict between these factors, despite the possibility of recycling.
- In our view, Spinnova is well positioned for population growth and middle-class penetration, although the still high price of fiber poses a challenge from a mass market perspective. In terms of sustainability drivers, we believe that Spinnova is excellently positioned.

- Currently it seems that the textile industry will only be able to mitigate the negative effects of its quantitative growth through sustainability measures.
- Reducing emissions and improving accountability factors is likely to lead to tighter regulation of operators in the sector.
- The role of consumers in demanding sustainability and lower emissions is significant in the West, although there is no evidence yet that the broad mass of consumers will accept the higher costs caused by improved sustainability.

Spinnova's target market is large and growing

Spinnova's target market is large and the demand for MMCF is expected to grow fastest

Global textile fiber market 2022-2030e (BNUSD)

Legend:
- Polyester
- Cotton
- Artificial cellulosic fibers (lyocell and viscose)
- Other fibers

2022 (116):
- Polyester: 54 %
- Cotton: 22 %
- Artificial cellulosic fibers: 6 %
- Other fibers: 17 %

2030e (147):
- Polyester: 57 %
- Cotton: 19 %
- Artificial cellulosic fibers: 7 %
- Other fibers: 17 %

Drivers supporting artificial fibers

Commitments from brands to switch to more environmentally friendly fibers

Regulatory developments and outlook, especially in the EU

Shortage of greener fibers / stagnation in cotton growth

Industrial supply chain disruptions due to climate change

Fiber price level will determine market size

Global fiber market size and fiber price levels

Scatter plot — Price of fiber (€ / kg) vs Market size (Mt):
- Hemp (~0.3, 5)
- Linen (~0.4, 5)
- Wool (~1, 6)
- Lyocell (~0.35, 2.5)
- Organic cotton (~0.4, 3)
- Viscose (~6, 1.5)
- Cotton (~25, 2)
- Polyester (~63, 0.7)
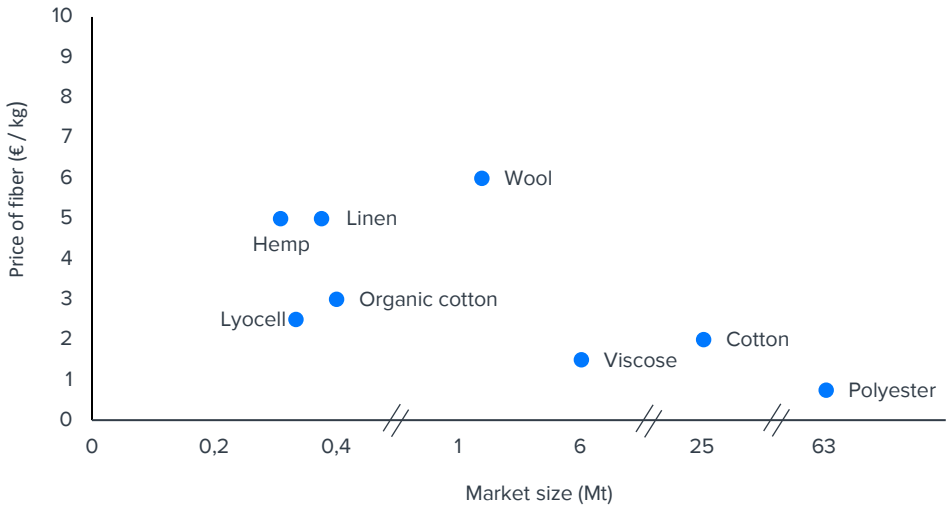
- There is already a significant market for new and more sustainable fibers
- Increasing market size requires reducing production and investment costs, as there is a correlation and causality between achievable market size and fiber price, and this situation is unlikely to change
- Product application development will expand market reach and volume is expected to follow

Competitors 1/3

Spinnova competes against other more sustainable fiber technologies

Given the size of the textile fiber market and the need to reduce emissions, which is likely to shake up the demand dynamics of the market, many new and more established players have taken an interest in the MMCF segment and have invested in the development of various types of technologies. These technologies compete more widely against other garment fibers, especially in the early stages and, in our opinion, also with each other in certain respects.

When competing with other apparel fibers, we estimate that the key challenge for Spinnova is the multiple cost level. This, together with the limited supply implicitly linked to cost levels, is likely to limit the use of SPINNOVA® fiber to premium products at higher price points for a long time to come. Thus, the global mass market is still a decade of development work away. However, we do not see this as a real problem for investors, as there will be a market for greener fibers in the near future as brands need to meet their emission reduction targets. We also believe that the size of the current and emerging relevant markets is sufficient for Spinnova's near-term goals. However, the long-term market size and therefore the attractiveness of Spinnova's technology to technology customers depends on the price of fiber, so the importance of lowering the investment and production costs in the technology cannot be overstated in the equity story. Therefore, we believe that achieving the required cost level of the mass market is a necessary goal for a company to first grow the achievable market to a sufficiently large size and then maximize it.

We believe there is room for a number of technologies but profits may centralize

Given the size of the textile market and the opportunities created by the different raw material bases, we do not believe it will be a winner-take-all game as in many technology sectors, but we do believe there is room for more technologies and companies in the market of more sustainable fibers. This is also supported, in our view, by the fact that meeting the growth in demand for natural fiber is expected to require a capacity investment of 3 million tons by 2030 (cf. Spinnova's target of cumulative technology sales of 130,000 tons by 2030). Fiber properties also vary, creating room for different types of solutions.

The ability to scale production, reduce costs, and differentiate is what matters in the competition

While there may not necessarily be fierce competition between fiber technologies, at least in terms of volume, we believe it is possible that future profits generated by different types of fibers will be concentrated in the hands of one or a few cost leaders and/or market leaders that are successful in creating brand value. In our view fiber manufacturing is a large and rather brutal, low-capital-return basic industry, and few players have competitive advantages that break this dynamic. Therefore, it would be important for Spinnova to be able to support its technology customers in the best possible way, both in terms of revenue (including differentiation) and cost efficiency, so that the fiber produced by the technology customer is more attractive than its competitors and thus a premium product in the eyes of the end user, and at the same time as cheap as possible to produce. We believe that brand collaboration and sustainability factors will be key differentiators.

In our view, the key drivers of competition will initially be the ability to meet the demand for more sustainable fibers, i.e., the ability to scale up production, because without supply there can be no demand. This requires scaling up production to convince financiers, i.e., investors in fiber production, of the techno-economic potential. At a later stage, the role of fiber price is likely to become more important, and the companies and technologies that stay above their competitors' price points will remain niche players. We believe that the first movers have the potential to gain some advantage, so getting the first projects up and running before the others would also be important in this regard.

Lyocell is a pioneer of more environmentally friendly synthetic fibers

The most important technology among MMCF is currently lyocell, which is essentially a process in which a solution of short fibers, water and certain solvents is forced through nozzles by means of an air spinning process. The technology, which produces strong, soft and lustrous fibers, has been on the market since the 1990s, so it is a mature technology. However, the fiber properties of lyocell are more similar to viscose, while the properties of SPINNOVA® fiber are more similar to cotton. Therefore, we believe there is limited competition between lyocell and SPINNOVA® fiber.

Until the 2000s, lyocell production was protected by patents and patent agreements, and Lenzing, the world's largest lyocell producer, has a significant share of the global lyocell capacity of about 0.7 million tons. The relatively slow growth rate of lyocell capacity illustrates the scaling challenge in our view, although the sustainability trend is of course much stronger now than in the 1990s and early 2000s. In recent years, many other companies, such as Sateri, have begun to produce materials using the lyocell process or a process very similar to it. Thanks to mature technology and reasonable volumes, the price level for Lyocell is a good EUR 2,000-3,000 per ton depending on quality, which Spinnova fiber is likely to remain well above for a long time to come.

Other emerging technologies based on soluble chemistry

In addition to Lyocell, several other methods based on chemical dissolution have been developed by various players. These methods differ, for example, in raw material base and dissolution methods. Processes use, e.g., recycled clothing, pulp, recycled paper and cardboard as raw materials. In our view, improved viscose processes (using dissolving pulp as a raw material) also operate in a similar space.

These technologies are relatively new, and the low-volume technologies that are in production are small. In our view, this group of competitors for newer technologies includes in particular Tree to Textile, Infinited Fiber, Ioncell and Metsä Spring, as well as Sateri and Birla Cellulosa for more environmentally friendly viscose. Renewcell also fell into this category before its bankruptcy and any potential bankruptcy estate buyer would continue in this position.

For these players, it should be noted that the characteristics of the fibers are more similar to viscose than to cotton, which distinguishes them from Spinnova in terms of competitive positioning. Naturally, Spinnova's strengths come to the fore in applications where cotton-like properties and feel are important, and vice versa. An example of a volume product well suited to Spinnova is denim, where the comfortable feel of cotton in jeans is an important competitive factor.

Competitors in new technologies face the same challenges as Spinnova

In our view, Spinnova's main competitors are in this segment in the short term, and these companies face broadly similar scaling challenges as Spinnova. In our view, scaling has also been slowed by external factors in recent years, as rapid inflation and subsequent interest rate increases have reduced investors' risk appetite and the availability of financing. In addition, the purchasing power of consumers in Western countries, which has been hit historically hard by rapid inflation, has forced consumers to focus on acute problems, and the green trend appears to have slowed, at least temporarily. Brand progress toward sustainability goals has also been slow, with brands initially focusing on the fastest but relatively limited emission reduction opportunities, such as switching to renewable energy.

Competitors 3/3

In our view, the most concrete example of a change in external factors combined with internal production challenges is the fact that Renewcell's first start-up company ended up in bankruptcy in the spring of 2024. We expect another player to buy Renewcell's factory in Sweden from the bankruptcy estate and continue commercialization efforts with a new company. Renewcell's fate is also a stark reminder to investors of the high risks associated with new technologies and cash-flow negative operations, which are of course even more pronounced in capital-intensive manufacturing businesses.

Opportunistic competition on all sides of the table

It is also interesting to note that there are several cross-ownerships in the sector and branded companies seem to be opportunistically collaborating with companies that produce more responsible fibers with different technologies. For example, H&M, which worked with Spinnovan, is one of the four founders of Tree to Textile. H&M was also a shareholder in Renewcell, but the company was not willing to guarantee Renewcell's continuity. In addition, Spinnova's partner and minority shareholder Adidas also cooperates with Infinited Fibers, and Lenzing is a minority shareholder in Spinnova and Sateri in Infinited Fibers.

In our view, the acquisitions suggest that branded companies are flexibly seeking positions in the greener fiber segment before the winning technologies and companies emerge and before the cut-off points of the brands' sustainability goals approach. We believe that as the picture becomes clearer, branded companies may more actively choose sides to differentiate themselves from their competitors. This may change competitive positions of the different players in the future.

The industry may also see mergers and acquisitions of emerging technology companies by more established fiber companies. In principle, Spinnova is not expected to be an M&A target due to Suzano's large ownership in the base case and the other owners of the company seem to want to develop the company as an independent listed company. However, in our opinion it would be very important for Spinnova to convince the strongest brand partners (e.g. Adidas) to join their camp that Spinnova could support the best possible way its technology customers on their revenue optimization.

Lenzing Fiber Division

Revenue (MEUR) — EBITDA %

2021: 1 904
2022: 2 105
2023: 1 841
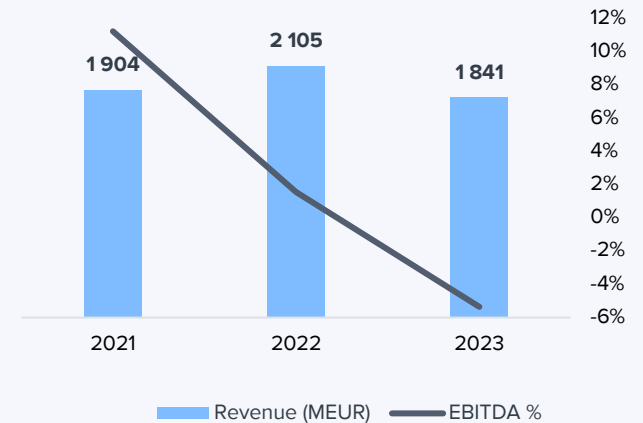
Renewcell until bankruptcy (MEUR)

Revenue (MEUR) EBITDA

2020: 0 / -5,9
2021: 0 / -11,9
2022: 1 / -23,7
Q3'23 LTM: 3 / -11,2

Source: Lenzing, Renewcell
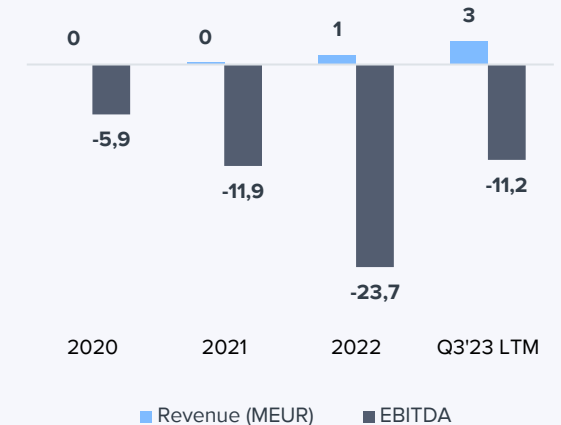
Overview of competing new fiber technologies

	SPINNOVA®	'Ex-Renewcell'	Lenzing	Sateri	Birla Cellulose	The Infinited Fiber Company	MetsäSpring	Tree to Textile	IONCELL
Brand name	Spinnova	Circulose (at Renewcell)	Tencell	N/A	Livaeco	Infilla	Kuura	N/A	N/A
Technology / business model	Mechanical spider / technology sales	Chemical dissolution technology / textile recycling and/or textile pulp production	Chemical lyocell technology / fiber production	Chemical viscose technology and lyocell technology / fiber production	Chemical viscose technology / fiber production	Chemical carbamate dissolution technology / fiber production and technology licensing	Chemical direct solder technology / business model under development, but likely to have a backbone in fiber production	Chemical enzyme-activated leaching technology / business model under development	Chemical dissolution technology based on non-toxic ionic liquid / business model under development
Development stage	Launching the first industrial technology project and proving the commercial potential of the concept	The company went bankrupt in the winter of 2024; the bankruptcy estate is selling the company's assets	Increasing commercial production	Scaling up commercial production	Increasing commercial production	Investing in industrial capacity and starting commercial production	Product development and preliminary study of first commercial plant	Product development and pre-industrial scale testing	Product development
Owners / Financing	Listed, with Suzano as largest shareholder with 19%. Raised 115 MEUR in IPO Q2'21.	We estimate that the company's assets will end up in the hands of a new owner	Listed as a well-established and large company with other cash-generating businesses	Part of a privately owned large industrial conglomerate. Ownership in China	Privately owned large Indian industrial conglomerate.	Privately owned Finnish company established in 2016.	The product development unit of Metsä Group, a well-established and large, mainly privately owned Finnish forest company.	Joint venture created in 2014 by H&M, Ikea, Stora Enso and LSCS	Privately owned Finnish company established in 2019
Strengths / weaknesses	Distinctive technology, suitable for a wide range of feedstocks in an environmentally efficient manner, investment-ready partner / Scale-up dependent on partners, still high costs	New owner can enter the business with a lighter balance sheet / Product quality, rapid and capital-efficient scale-up of production	Significant existing capacity and ability to fund growth from cash flow / Lyocell patent expiration and increasing competition in the sector	Ability to fund growth from cash flow / No significant proprietary technology, ESG risks associated with e.g. viscose process	Ability to fund growth from cash flow / No significant proprietary technology, ESG risks associated with e.g. viscose process	Flexible feedstock base and potentially capital-light business model / Ability to make the large plant investments required to prove commercial potential	Concept potentially synergistic for the group and ability to invest / Commercial potential and competitiveness still a question mark	Owners have the muscle to develop the concept and invest / The commercial phase is far away and the potential is unproven and fiber production is not the core business of the owners	The technology has the potential to align well with ESG values / The concept is at an early stage and there is no business model and/or credible partners yet

Source: Inderes, companies

Financial position (1/1)

Cash dominates the balance sheet for now

At the end of 2023, Spinnova's balance sheet total amounted to 99 MEUR. On the assets side, the company had intangible assets, mainly capitalized development costs, of 12 MEUR and fixed assets (including IFRS 16 assets) of 3 MEUR. Investments amounted to 19 MEUR, mainly reflecting the investments made in Woodspin. In current assets, the company had receivables of just over 3 MEUR, the majority of which were receivables from associated companies (presumably Woodspin). The company had a total cash position of 61 MEUR at the end of 2023.

On the liabilities side, equity remained at 87 MEUR thanks to the capital raised in the 2021 IPO. The company had long-term interest-bearing debt of 5 MEUR and short-term interest-bearing debt of 2 MEUR (incl. IFRS 16 liabilities). Other current liabilities amounted to just under 4 MEUR and consisted mainly of trade payables and accruals.

Short- and medium-term financing is secured

Spinnova's financial position is very strong thanks to the well-timed IPO, with a net cash position of 54 MEUR at the end of 2023. As a result, net gearing was strongly negative, and the equity ratio was high at 89%. However, at the current stage of Spinnova's development, it is not very meaningful to assess the ratios, as they will deteriorate in the coming years due to the negative net result and free cash flow.

In our view, the company's cash needs are secured for several years, as the cash burn from operations

before investments is in the range of a few million euros (incl. the cost structure that decreases due to cost-cutting measures). Investment needs are also manageable, as Spinnova will not invest in increasing the production capacity of Woodspin and Respin through a technology-based sales strategy. Spinnova may have to cover future losses of Woodspin in the coming years in proportion to its shareholding, but we estimate that this capital requirement will also be some millions of euros. Spinnova has committed to invest 1.25 MEUR in Respin if the project advances to the commercial phase. In addition, technological development may require an annual investment of several million euros in tangible and intangible assets in the coming years. Debt reduction may also require a little cash. Given the above, we believe that the company's short- and medium-term financing is secured in all scenarios.

There will still be a tipping point at the end of the decade

As the company will continue to burn cash for several more years, the cash and financial position will deteriorate for some time in all scenarios. If the company's cash flow had not turned around by then, or if the sales pipeline was weak, for example due to the failure of first technology deliveries, the financial risk could surface at the end of the decade or the beginning of the next decade. In the long term, participation in the production business is not excluded in the strategy, and taking part in production investments would immediately create financial needs for the company.

Balance sheet 2023
99 MEUR

Stakes in joint ventures — 19
Intangible assets — 12
Tangible assets — 3
Receivables — 3
Equity — 87
Cash in hand — 61
Other non-interest-bearing liabilities — 2
Trade payables — 2
Bank loans — 6
Lease liabilities — 1

Source: Spinnova
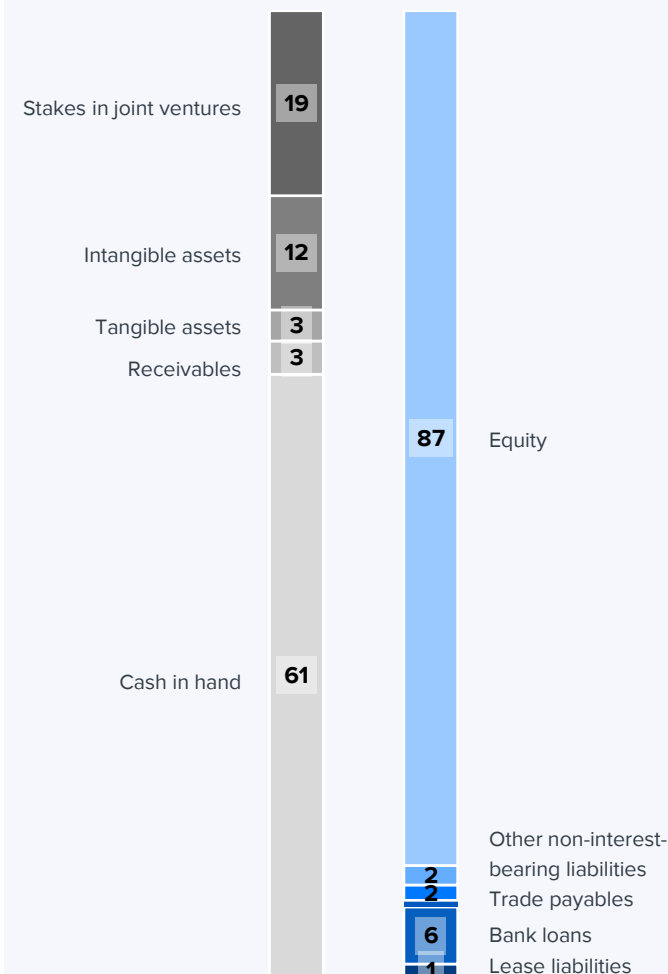
Estimates 1/6

Predictability remains low, although scenarios for project progress can already be outlined

Spinnova operates in a very large and relatively slow-growing market, which the company aims to penetrate through sustainability and emission reduction trends towards the end of the decade. Due to the nature of the business, which is in the scaling and commercialization phase, the history of the company or even the history of the market does not provide any support for the forecasts. As a result, our estimates are based on a number of assumptions, the accuracy of which will be determined over time. The assumptions relate in particular to the number of technology projects delivered by the company, Spinnova's share of the project value, the timing of the projects and, for the later stage, the size of the ongoing revenue streams (including royalties and services). As a significant part of Spinnova's revenue will be project-based for a long time to come, Spinnova's revenue and earnings are likely to be volatile for at least the rest of this decade. This development is unlikely to be linear, as the company is likely to have only 1-3 projects underway at any one time during this decade.

For now, our assumptions are largely based on the information provided by Spinnova in its spring 2024 strategy update and will be refined over time as more information is released. In principle, we do not expect the macroeconomic situation to have a significant impact on the pace of Spinnova's development, provided that extremely favorable or unfavorable conditions in terms of global economic growth, inflation and interest rates are avoided. In our view,

the risks associated with external factors are mainly related to the price and availability of financing, which traditionally affects the ability and willingness of investors (i.e. Spinnova's clients) to proceed with their projects. However, predicting macroeconomic conditions over the multi-year horizon required by Spinnova is virtually impossible. Another variable in the forecast is regulation, which we expect to tighten gradually, especially in the EU.

It is therefore important for investors to be aware of the very large uncertainties inherent in our forecasts. In addition to the baseline scenario included in our forecasts, we outline a more positive scenario (i.e. the company's financial targets are met) and a more negative scenario (i.e. scaling fails in the short term).

Key estimate drivers

We model Spinnova's revenue for the 2024-2036 strategy period on a technology project-by-project basis, based on the estimated capacities and timing of the different projects, the investment cost per ton, Spinnova's share of the investment cost and, to some extent, the rough NPV values of the projects and Spinnova's potential NPV contributions. Our forecasts include projects based on Suzano's MCF material, leather waste and recycled clothing, as well as pure textile projects. Of the potential technology customers, only Suzano and ECCO is clearly identifiable and the rest are as yet unknown raw material, fiber and textile companies.

Drivers for income statement estimates

Estimate	Key parameters
Revenue	• Number, size and timing of technology projects • Share of royalties and services
Costs	• Gross margin % (sales mix) • Number of personnel • Personnel costs (incl. stock option plans) per employee • Other operating expenses relative to revenue • Depreciation / amortization • Share of profits in associates (no direct cash flow effect)

Defining predictable customer groups

Customer group	Description	Potential customers
Suzano / ECCO	• **Main customer** Several projects in the strategy period	2
Fiber manufacturers	• **Potential customer group** 2-4 projects in the strategy period, if development is successful	A few
Textile companies	• **Potential customer group** 2-4 projects in the strategy period, but probably not before the turn of the 2030s	Several

Source: Inderes

Estimates 2/6

We also model the volumes and revenue generated by the cumulative capacity sold by Spinnova through 2038 and, based on this, the revenue generated from royalties and services. After 2039, we forecast a terminal period of slow growth and more moderate profitability.

In the cost structure, we model the materials and services item as a percentage of revenue and estimate Spinnova's technology deliveries, royalties and services through our estimated margins on sales. We model personnel costs using estimated growth in headcount and changes in average wages, and other costs using growth in company revenue. We model the profit share of Woodspin and Respin as separate items. However, under Spinnova's current structure, the development of the associates item is unlikely to be a game changer for investors one way or the other.

Estimates for 2024

Spinnova started the year in a difficult position, with virtually no technology delivery projects underway. The letter of intent signed with Suzano in March will reach the revenue-generating pre-engineering stage for Spinnova in H2 at the earliest, and we estimate that reaching this stage will be the largest potential revenue stream for the current year. In addition, we expect Spinnova to generate small revenues in 2024 from technology deliveries and royalties from Woodspin, development work on Respin, and other development projects. Similarly, Spinnova's cost structure is expected to decline as savings from the change negotiations in the spring, the expected

lower stock option expense, the transition of the company's development phase to a phase with fewer other operating expenses (and investments) will reduce the company's income statement expenses and cash outflow from investments already this year. In addition, Woodspin's losses should not increase further in P&L as its ramp-up advances and also cash outflow to Woodspin should reduce.

Against this backdrop, Spinnova has also issued guidance of a decline in revenue this year and an improvement in EBIT from 2023 onwards. However, the company expects the operating result to remain negative. According to the guidance, Spinnova's combined personnel and other operating expenses will also be lower in 2024 than in 2023. In 2023, Spinnova made an operating loss of 21 MEUR on a revenue of 11 MEUR. Combined personnel and other expenses amounted to 16 MEUR (incl. 2.4 MEUR of stock option plan expenses).

We expect Spinnova's revenue to decline by 62% to 4 MEUR this year. We expect revenues to be concentrated in the second half of the year, when we expect to receive the first installment for the delivery of the 20,000 metric ton plant in Suzano. With a slightly declining cost structure and stable depreciation, we expect Spinnova to report an operating loss of 14 MEUR and a negative free cash flow of around 15 MEUR this year.

Revenue development

	H1	H2
2023	8,8	1,8
2024e	1,0	3,0

EBIT development

	H1	H2
2023	-11,0	-9,9
2024e	-8,9	-5,2

Source: Inderes
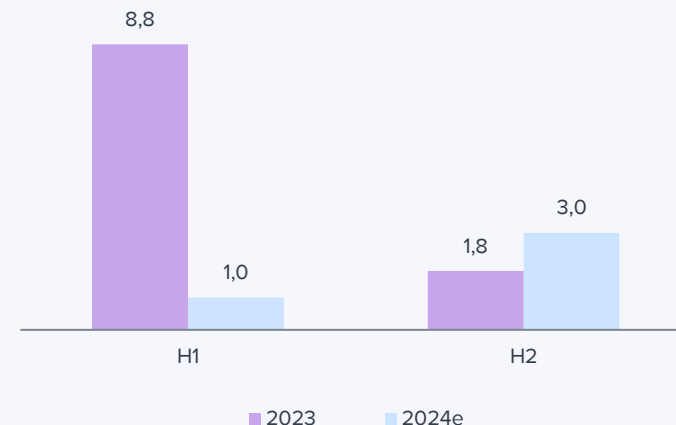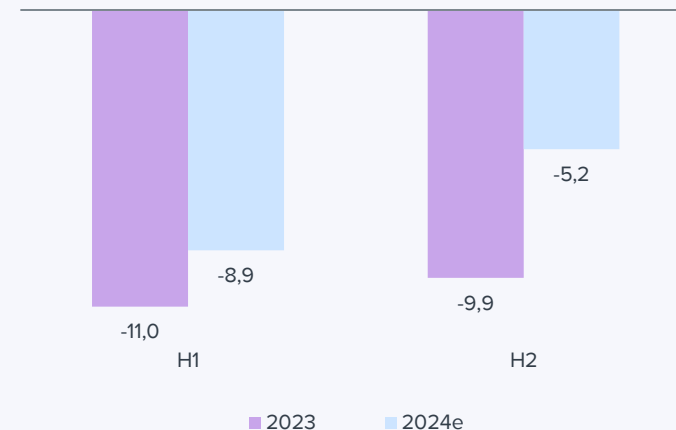
Estimates 3/6

Our free cash flow forecast includes a total of 5 MEUR of capitalized investments in R&D and fixed assets as well as partial coverage of Woodspin's losses. At the end of 2024, Spinnova's cash position is expected to remain strong at around 46 MEUR.
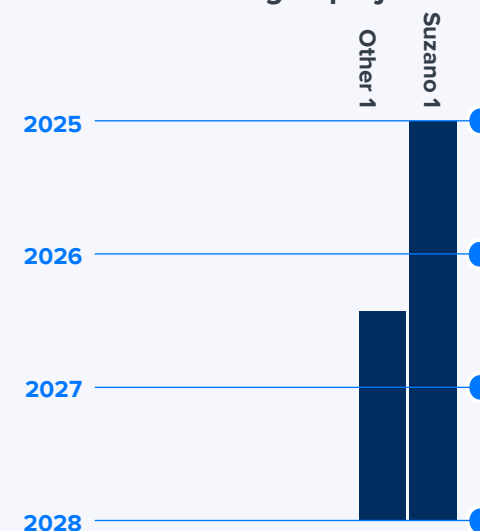
Estimates for 2025-2027

For 2025-2027, we estimate that Spinnova's starting point for revenue growth should be better as we expect Suzano's first project (20,000-ton plant) to receive a positive investment decision in H1'25 for a total investment of 300-400 MEUR and generate cumulative revenue for Spinnova of around 35 MEUR (including the first payment in H2'24). This project represents the majority of Spinnova's projected revenue for 2025-2027. In addition, we expect Spinnova to successfully sell a project of around 10,000 tons to a player active in, e.g., clothing recycling in H2'26, which would meet the company's target of 30,000 tons of cumulative technology sales by 2026. This project is expected to generate a small amount of revenue, especially in 2027 (and most of it in 2028). We also expect the company to generate small revenues from the same sources in 2025-2027 as in 2024. Our revenue forecast for Spinnova is 8 MEUR in 2025, 19 MEUR in 2026 and 18 MEUR in 2027.

On the cost structure side, with technology project-driven sales, we expect Spinnova to maintain a sales margin of 90%, with personnel and other operating expenses growing at a slower rate than revenue (but still growing in absolute terms). We expect the result from associated companies to continue to show a narrowing loss. Therefore, our forecast for Spinnova's EBIT is -12 MEUR in 2025, -6 MEUR in 2026 and -7 MEUR in 2026. We estimate that the company will invest around 5 MEUR per year in the same areas as in 2024 and also partially cover Woodspin's losses. Taking into account the loss-making result and the investments, our free cash flow forecast for Spinnova for 2025-2027 is 7-14 MEUR in the red per year. Due to the negative cash flow, the company's cash position will gradually decrease and is expected to reach a reasonable level of EUR 16 million at the end of 2027. We expect the company to survive the next few years with its current cash position without major problems, even if the development were slightly off our forecasts.

We emphasize that the first industrial delivery to Suzano is the backbone of our projections for 2025-2027. If, for one reason or another, the project does not materialize, our revenue projections for those years would be reduced. At the same time, revenue forecasts for subsequent years would be subject to significant upward pressure, as they are based on the assumption that the Suzano project will validate the techno-economic feasibility of the concept. The realization and success of Suzano's first project is therefore critical for the entire forecast horizon.

Forecast timing of projects

Revenue and EBIT estimates (MEUR)

Source: Inderes
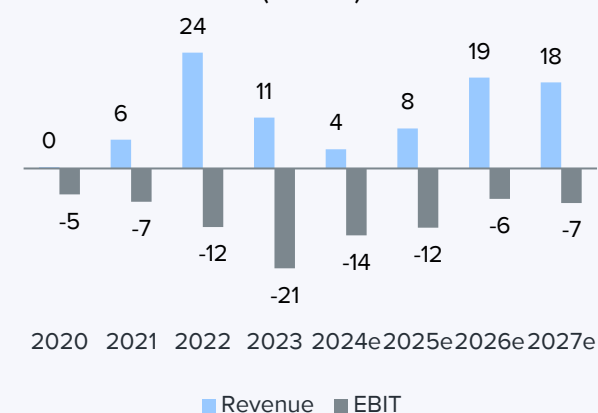
Estimates for 2028-2031

Suzano's 20,000-ton plant is expected to be completed by H2'27 and will take 2-3 years to be fully operational. We also do not expect Suzano to make an investment decision on the next plant, which is estimated to have a capacity of approximately 50,000 tons, until the first project has proven to be an economically viable investment. As a result, we estimate that Suzano's next project could not be launched until 2030. However, in our forecasts, we expect Suzano to carry out this project. The 10,000-ton textile recycling plant, which we expect to be sold in H2'26, will still be generating revenue for Spinnova still in 2028. In addition, we estimate that the first technology delivery to a fiber producer or branded company (we forecast a capacity of 30,000 tons) could occur before the turn of the decade and the first industrial plant for leather waste-based material around 2030. For the period 2028-2031, we expect the investment value of the projects delivered by Spinnova to be in the range of 150-600 MEUR and Spinnova's share of the projects to be around 15-100 MEUR, in line with the company's objective of reducing the investment cost per ton.

Between 2028 and 2031, Spinnova will have 1-3 technology projects running simultaneously. At the upper end of the range, between 2030 and 3031, we estimate that the company's resources will be stretched, and it would be difficult to advance more projects at the same time. In addition, we expect Spinnova to begin accumulating a low level of royalty and service revenue from 2028, when Suzano's first

factory enters volume production. Initially, we estimate the royalty to be about 1% of the fiber sales price, or about EUR 100 per ton. Service sales represent a smaller percentage of total revenues than royalties.

Due to the project investments described above, we expect Spinnova's revenue to decline in 2028 and start growing again in 2029. Our revenue forecast for 2028 is 11 MEUR, and our forecasts for 2029-2031 are 29 MEUR, 58 MEUR and 71 MEUR, respectively. In terms of sales margin, we expect the margin on technology project revenue to be 90%, while we expect the margin on license revenue to be 95% and on service revenue 75%. In our forecast, the sum of personnel and fixed costs will decrease slightly in 2028 as revenue declines but will return to slower growth than revenue in 2029-2031. We estimate that Spinnova will still be operating at a significant loss in 2028 but will rise to just break-even in 2029 and scale to a significant profit on all revenue fronts in 2030-2031 as the volume and size of technology deliveries increase and license and service revenues gradually increase.

On the cash side, we estimate that Spinnova's tightest moments will be in 2028 or 2029, when we expect cash position to be at its lowest. However, at this stage Spinnova is close to or in profit, so it may be possible to cover small financing needs with debt if needed.

Forecast timing of projects
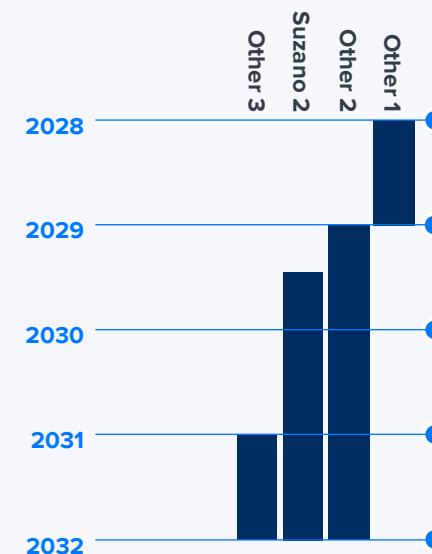
Revenue and EBIT estimates (MEUR)

■ Revenue ■ EBIT
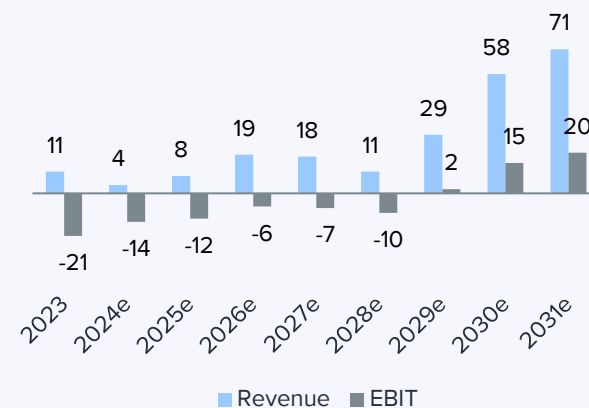
Estimates 5/6

We therefore believe it is realistic for Spinnova to survive without raising new equity funding throughout the strategy period, although we do not believe this can be yet taken for granted given the margins of error in the forecasts. If the commercialization of Spinnova were to be slower than expected, cash reserves would likely be tight around the turn of the decade.

Estimates for 2032-2037

Between 2032 and 2037, Spinnova expects to complete the first leather waste project. In addition, we expect Spinnova to supply Suzano in these years with two projects with overlapping capacities of 100,000 tons and 135,000 tons and one project with a capacity of 75,000 tons for either a fiber or brand company with a feedstock based on wood, leather waste or recycled clothing. We forecast that Spinnova will achieve its cumulative technology delivery target of 450,000 tons for the period 2034-2036, calculated from the date of the delivery agreement. During these years, project sizes will increase to the 700-900 MEUR range with increasing capacity, although the investment cost per ton will be reduced to a fraction of Woodspin's reference level, in line with Spinnova's objectives. In these years, we expect Spinnova's revenue per project to surpass the 100 MEUR mark (of course, the project will be spread over an increasing number of years).

We expect Spinnova's annual revenue to continue to fluctuate with project investments at the end of the strategy period, although project sizes will increase and license and service revenues will grow in line with customer production volumes. We estimate that the royalty rate will be 2-3% of the estimated sales price of the fiber in those years, or approximately EUR 100-200 per ton of volume sold. The increase in the royalty share is possible due to the demonstrated ability to create economic value and Spinnova's increased flexibility to bet on an ongoing, riskier and more back-loaded royalty rather than a more front-loaded, one-time and more certain project delivery. The share of service sales remains lower than royalties.

In our projections, we expect Spinnova to grow at an average rate of 17% from its 2031 baseline to 2037. At the end of the forecast period, Spinnova will have a full-year revenue of 183 MEUR, of which more than one third will be recurring revenues from licenses and services. In these years, Spinnova has reached critical mass, so growth scales nicely to profitability in our forecast, and the company will deliver a very strong EBIT margin of 26-49% between 2032 and 2037, which is possible for a mature technology company. In practice, however, the growth investments could continue beyond 2037, which would mean stronger growth and lower profitability than we forecast currently.

Forecast timing of projects

Source: Inderes
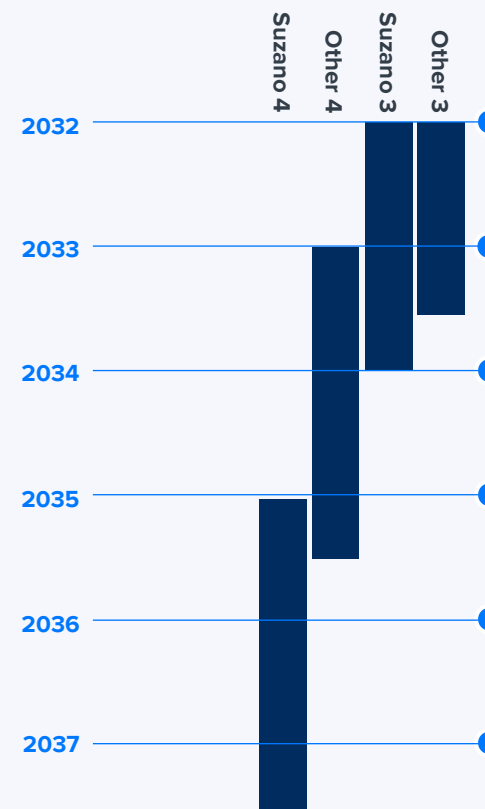
Estimates 6/6

We do not foresee any cash challenges for Spinnova in the 2030s in our estimate scenario as the company is very cash flow positive. Our forecasts also see Spinnova starting to pay dividends in the mid-2030s, but this will depend in part on its growth ambitions and strategy for the next decade.

Long-term estimates

Beyond 2038, our projections assume that the size of the company will stabilize as growth in technology sales slows and growth in continuing operations slows. Product groups outside the textile industry, such as nonwovens and composites, as well as raw material flows based on waste materials, were not modeled in our projections due to lacking data and the prudency principle. Thus, in our forecasts, Spinnova matures into a slow-growth company in the terminal stage. In our post-2039 terminal growth forecast, we have set our terminal growth assumptions at 2% and our EBIT margin forecast at 15%, which results in a return on capital that better reflects the cost of capital. The convergence of these factors reflects the long-term trend of increasing competition.

If the commercial breakthrough is successful, Spinnova's growth potential will not be practically exhausted by the 2030s, but by replacing cotton in the textile industry, expanding the raw material base and product applications, there would likely still be plenty of room for rapid growth. However, we estimate that strategy updates, competitive developments, and patent expirations could significantly change the dynamics of the company's

business model beyond the mid-2030s. At this stage, it would, for example, be economically feasible for the company to participate in the production business in a good scenario. Modeling for the 2040s and beyond is not relevant to an investor interested in Spinnova today as these very uncertain cash flows should be discounted with extremely high return requirement and they can have only minimal impact on the share today.

Revenue and EBIT estimates (MEUR)
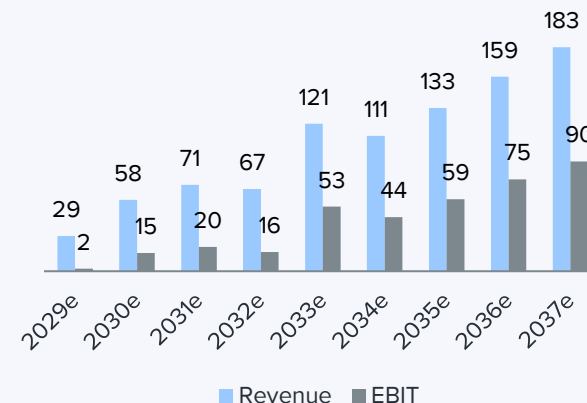
Development of net cash and cash flow (MEUR)
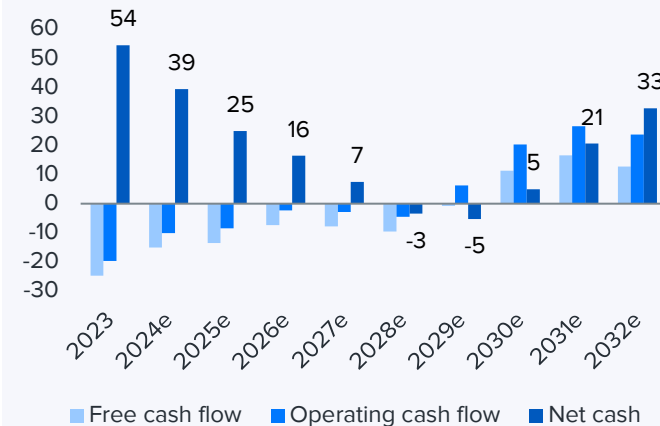
Income statement

Income statement	H1'22	H2'22	2022	H1'23	H2'23	2023	H1'24e	H2'24e	2024e	2025e	2026e	2027e
Revenue	7,6	16,6	24,3	8,8	1,8	10,6	0,6	1,6	2,2	8,4	21,0	18,0
Konserni	7,6	16,6	24,3	8,8	1,8	10,6	0,6	1,6	2,2	8,4	21,0	18,0
EBITDA	-5,3	-6,0	-11,4	-9,7	-8,7	-18,4	-7,7	-5,4	-13,1	-9,3	-1,2	-3,4
Depreciation	-0,5	-0,5	-1,0	-1,3	-1,2	-2,5	-1,2	-1,2	-2,4	-3,0	-3,3	-3,6
EBIT (excl. NRI)	-5,8	-6,5	-12,3	-11,0	-9,9	-20,9	-8,9	-6,6	-15,5	-12,3	-4,5	-6,9
EBIT	-5,8	-6,5	-12,3	-11,0	-9,9	-20,9	-8,9	-6,6	-15,5	-12,3	-4,5	-6,9
Konserni	-5,8	-6,5	-12,3	-11,0	-9,9	-20,9	-8,9	-6,6	-15,5	-12,3	-4,5	-6,9
Net financial items	-1,7	-0,1	-1,8	0,5	1,1	1,6	0,5	0,5	1,0	0,1	-0,1	-0,1
PTP	-7,5	-6,6	-14,1	-10,4	-8,8	-19,3	-8,4	-6,1	-14,5	-12,2	-4,6	-7,0
Taxes	0,0	0,0	0,0	-0,1	-0,2	-0,3	-0,1	-0,1	-0,2	0,0	0,0	0,0
Minority interest	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net earnings	-7,5	-6,6	-14,1	-10,6	-9,0	-19,6	-8,5	-6,2	-14,7	-12,2	-4,6	-7,0
EPS (adj.)	-0,15	-0,13	-0,28	-0,21	-0,18	-0,38	-0,16	-0,12	-0,28	-0,23	-0,09	-0,13
EPS (rep.)	-0,15	-0,13	-0,28	-0,21	-0,18	-0,38	-0,16	-0,12	-0,28	-0,23	-0,09	-0,13

Key figures	H1'22	H2'22	2022	H1'23	H2'23	2023	H1'24e	H2'24e	2024e	2025e	2026e	2027e
Revenue growth-%	1964 %	192 %	300 %	16 %	-89 %	-56 %	-93 %	-12 %	-79 %	283 %	150 %	-14 %
EBITDA-%	-70 %	-36 %	-47 %	-110 %	-477 %	-173 %	-1278 %	-338 %	-594 %	-110 %	-6 %	-19 %
Adjusted EBIT-%	-76 %	-39 %	-51 %	-125 %	-546 %	-197 %	-1478 %	-413 %	-704 %	-146 %	-22 %	-38 %
Net earnings-%	-99 %	-40 %	-58 %	-120 %	-496 %	-184 %	-1411 %	-388 %	-667 %	-145 %	-22 %	-39 %

Source: Inderes

Balance sheet

Assets	2022	2023	2024e	2025e	2026e
Non-current assets	**25,7**	**33,9**	**36,5**	**38,5**	**40,1**
Goodwill	0,0	0,0	0,0	0,0	0,0
Intangible assets	10,9	11,7	13,5	15,5	17,2
Tangible assets	1,6	3,1	3,9	4,0	4,0
Associated companies	13,2	18,9	18,9	18,9	18,9
Other investments	0,0	0,1	0,1	0,1	0,1
Other non-current assets	0,0	0,0	0,0	0,0	0,0
Deferred tax assets	0,0	0,0	0,0	0,0	0,0
Current assets	**89,3**	**64,7**	**46,3**	**34,4**	**30,6**
Inventories	0,0	0,0	0,0	0,1	0,4
Other current assets	1,1	1,0	1,0	1,0	1,0
Receivables	5,5	2,3	0,4	1,7	4,2
Cash and equivalents	82,7	61,5	44,9	31,6	25,0
Balance sheet total	**115**	**98,6**	**82,8**	**72,8**	**70,7**

Source: Inderes

Liabilities & equity	2022	2023	2024e	2025e	2026e
Equity	**100**	**87,3**	**72,7**	**60,5**	**55,8**
Share capital	0,1	0,1	0,1	0,1	0,1
Retained earnings	-39,9	-47,8	-62,4	-74,7	-79,3
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	140	135	135	135	135
Minorities	0,0	0,0	0,0	0,0	0,0
Non-current liabilities	**5,4**	**5,7**	**5,7**	**5,7**	**5,7**
Deferred tax liabilities	0,0	0,7	0,7	0,7	0,7
Provisions	0,0	0,0	0,0	0,0	0,0
Interest bearing debt	5,4	5,0	5,0	5,0	5,0
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
Current liabilities	**9,6**	**5,6**	**4,4**	**6,7**	**9,2**
Interest bearing debt	1,0	2,0	2,0	3,0	3,0
Payables	6,5	1,6	0,4	1,7	4,2
Other current liabilities	2,1	2,0	2,0	2,0	2,0
Balance sheet total	**115**	**98,6**	**82,8**	**72,8**	**70,7**

Valuation and recommendation (1/5)

Spinnova's valuation is influenced by general factors associated with early-stage growth companies

We base Spinnova's investment story on our projections for the market breakthrough of SPINNOVA® fiber and the resulting gradual increase in technology sales. In our view, the timing for commercializing Spinnova's environmentally friendly solution is still quite opportune in the grand scheme of things, as the timeframes for brands' emission reduction targets are approaching and are already quite close. In addition, no green fiber technology has achieved a clear bridgehead position in the market (i.e. in the eyes of consumers and brands) and Spinnova is still among the first movers.

In the short term, however, we believe that the business environment for companies developing new fiber technologies has become more challenging as the inflationary spike and increased interest rates in developed economies since Spinnova's IPO has tightened financial markets, reduced risk appetite throughout the value chain and forced consumers to prioritize their spending. Due to the changed circumstances and the slower-than-expected development of Spinnova, the market expectations for the company and expectations priced in the share price have decreased, which is also reflected in the valuation level of the company. Rising interest rates and a slower-than-expected revenue ramp-up have, in our view, has focused investors' attention more on the short term, even though the company's

financial position is secured for several years to come, unlike many other negative cash flow early stage companies. As a result, we expect the share price to still be strongly driven by near-term developments and news flow, while the reaffirmation of the growth outlook could shift the focus further out.

In our view, as with other negative cash flow growth companies, the key to valuing Spinnova is to assess 1) the value creation potential of the company's business, 2) the likelihood of achieving that potential, and 3) the willingness of investors to price it. The valuation of Spinnova, and in particular the approved market pricing, has also been, and in our opinion will continue to be, sensitive to market conditions. In particular, investors' willingness to value companies on their long-term potential can vary significantly depending on factors such as interest rates and general risk appetite. The change in the pricing horizon can also be very rapid.

Return consists of changes in value

Spinnova will be a cash consuming growth company for a long time to come, so the expected return on the stock will depend on the change in share price for the foreseeable future, and no dividends are expected during this decade. As such, Spinnova is only suitable for the portfolio of risk-tolerant and patient growth investors.

Risk of total capital loss already reduced

Of course, in a negative scenario, where Suzano's first project does not materialize or fails, Spinnova runs the risk of losing capital, which is typical for

early-stage companies. However, we believe that Spinnova is far enough along in its development that the IPR portfolio could be of interest to industry players even in the scenario that Spinnova's own commercialization efforts continue to falter in the coming years. Spinnova's technology-driven business also has the potential to manage cash burn in a tolerable manner, avoiding a full "back-to-the-wall" negotiation situation even in the worst case.

Given this dynamic, we believe that the risk of a complete destruction of investors' capital in Spinnova, even in a negative scenario, is already somewhat reduced. In our opinion, this would obviously improve the risk/reward ratio for existing owners and potential early stage investors. The risk/reward for existing owners and other early-stage investors is also supported by secure funding for the next few years, which means that dilution risk is low in virtually all scenarios, at least until around the end of the decade. This is a rare situation for companies with Spinnova's profile, especially in today's market.

Required return high due to the risk level

Given the wide range of possible future scenarios, Spinnova's risk profile is high in the eyes of investors, but lower than many of its peers due to the factors mentioned above. To compensate for

the high risks (including a rather positive scenario in the forecasts, especially in the long term), we believe that the investor's return requirement should also be set higher, so that there is also sufficient return potential to compensate for the risks. In addition to the DCF model, we apply the required return in Spinnova's valuation when assessing the present value of the company's potential market cap in the next few years. The valuation of Spinnova is also 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 over time, driven by the company's development and external factors. We estimate that downward pressure on Spinnova's risk level and, correspondingly, on the required return could be created by, for example, the confirmation of Suzano's first plant, announcing new potential technology customers and the progress of their projects, a fall in interest rates, an increase in investors' risk appetite or a slower-than-expected decline in cash. Conversely, the level of risk would be increased by the opposite factors: setbacks to the completion or timing of Suzano's first project, no news flow from other projects, a weakening of Suzano's commitment to the partnership, a faster-than-expected cash burn, rising interest rates and a decline in investor risk appetite. Considering Spinnova's risk level, we have set the cost of equity at 15% and the weighted average cost of capital, which takes into account the slight long-term debt leverage, at 14%.

We estimate that these levels are in line with current

return requirement for high-risk assets in the market. The levels are well above those of Inderes' overall coverage (i.e. most of Nasdaq Helsinki), reflecting the stock's risk profile, which is well above that of the average listed company. However, our required rates of return are several percentage points below the highest levels in Inderes' coverage, reflecting the company's stage of development and secured financing for foreseeable future.

Should Spinnova's technology concept succeed in the market, even in line with the company's targets and our forecasts, the company's growth prospects would be both strengthened and confirmed (i.e. the risk level of the stock decreased). We estimate that this would create significantly shareholder value in the coming years compared to the current enterprise value of below 50 MEUR, even if earnings and cash flows do not turn positive for years (i.e. traditional earnings multiples will not support the valuation for some time). Thus, the key to assessing the stock's valuation is the balance between return potential and risk.

Like its peers, the short-term revenue-based valuation is high

Spinnova's sales ratio for the current year is above 20x, which is high in absolute terms, mainly due to very low sales resulting from project investments in technology sales. Due to the clear revenue growth we forecast (i.e. especially Suzano's first project),

Valuation	2024e	2025e	2026e
Share price	1,61	1,61	1,61
Number of shares, millions	52,3	52,3	52,3
Market cap	84	84	84
EV	46	61	67
P/E (adj.)	neg.	neg.	neg.
P/E	neg.	neg.	neg.
P/FCF	neg.	neg.	neg.
P/B	1,2	1,4	1,5
P/S	38,2	10,0	4,0
EV/Sales	21,0	7,2	3,2
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

EV/Sales

Year	Value
2019	0,0
2020	0,0
2021	97,2
2022	10,6
2023	6,4
2024e	21,0
2025e	7,2
2026e	3,2

Median 2019 - 2023: 10,6

Legend: EV/Sales — Median 2019 - 2023
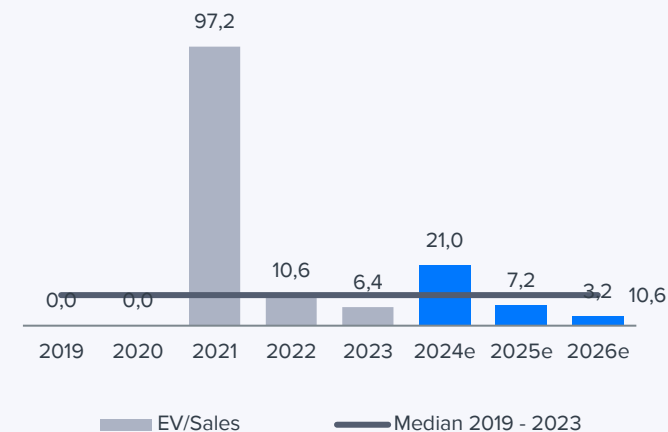
Source: Inderes

the EV/S ratio will fall to some 7x in 2025, which is still not a particularly low level given the revenue structure that consists of individual projects. As a result, we believe that the near-term revenue-based valuation is highish in absolute terms. Historically, however, Spinnova's revenue ratios have been roughly in the same ballpark as the near term with a weaker-than-projected revenue structure (i.e., pass-through items in revenue). However, the high volatility of revenue and the short history make it difficult to draw conclusions about historical revenue levels.

Spinnova's 2025 revenue multiples are somewhat in line with a peer group of early-stage companies on the Helsinki Stock Exchange. The peer group reflects the pricing of early-stage companies on the stock market, but due to differences in lifecycle stage and industry, the peer group is not a particularly relevant metric for Spinnova. Therefore, we do not believe that peers are the driver of Spinnova's valuation and instead believe that investors should keep a close eye on the company's development.

The most stable of the valuation multiples for Spinnova would be the P/B ratio, but this is not well suited to valuing a capital-light technology company like Spinnova. The company currently has a low P/B multiple of 1.2x, but this level is sure to rise as equity declines due to losses in the coming years. At the end of the IPO year, the P/B was 3.3x, and we believe the decline in the multiple reflects the decline in the bar set for the company with the share price over the past few years. P/B is also lower than peers. This reflects Spinnova's better cash position than

many of its peers (i.e. equity is matched mostly by cash on the asset side of the balance sheet).

We gauge the value through near-term scenarios

We have examined the value development by the end of 2025 and 2026 using three scenarios. The neutral scenarios are in line with our estimates. In our scenarios, we apply 4x-10x EV/S multiples, which we estimate to take into account rapid revenue growth but still loss-making business.

The positive 2025 scenario exceeds our forecast by 50% and the negative scenario underperforms by 50%. Hence, with our required return and our forecast scenario, we arrive at a value of around EUR 1.6 for Spinnovas's share, with a range of around EUR 1.0-2.5. Consequently, the valuation picture still looks quite neutral also at the end of 2025.

In an examination based on 2026, the neutral scenario is in line with our estimates. The logic for the positive and negative scenarios is the same as for 2025. Thus, with our baseline scenario and our required return, we end up with a value per share of around EUR 1.9 with a wider range of EUR 0.8-3.6. The 2026 scenario thus shows a slightly more positive valuation picture, but the dispersion between the different scenarios is already large and the forecast risks increase when projecting further into the future.

Estimated valuation ranges for the coming years

2025e, MEUR	Low	Estimate	High
Revenue	4	8	13
EV/S, LTM	6	8	10
EV/S, NTM	5.3	7.1	8.8
EV	25	67	126
Net debt	-38	-38	-38
Market cap	63	105	164
Per share	1.2	2.0	3.1
Discounted to the present	**1.0**	**1.6**	**2.5**

2026e, MEUR	Low	Estimate	High
Revenue	11	21	32
EV/S, LTM	4	6	8
EV/S, NTM	4.7	7.0	9.3
EV	42	126	252
Net debt	-17	-17	-17
Market cap	59	143	269
Per share	1.1	2.7	5.2
Discounted to the present	**0.8**	**1.9**	**3.7**

Annual expected return in the target scenario up to 2036 (dashed line)

Net earnings in 2036e

P/E 2036e	0	25	50	70	80	90	100
12	-100 %	11 %	17 %	20 %	21 %	23 %	24 %
15	-100 %	13 %	19 %	22 %	24 %	25 %	26 %
18	-100 %	14 %	21 %	24 %	25 %	27 %	28 %
21	-100 %	16 %	22 %	26 %	27 %	28 %	29 %
24	-100 %	17 %	24 %	27 %	28 %	30 %	31 %
27	-100 %	18 %	25 %	28 %	30 %	31 %	32 %

Source: Inderes

Valuation and recommendation 4/5

Using DCF model to outline long-term value creation potential

At the current stage of the company's development, the assumptions of the DCF model are subject to significant uncertainty and the company's positive cash flows will not start until the next decade. However, as a long-term method, DCF is useful in valuing Spinnova, unlike many other methods. As such, we use it with considerable weight in forming our investment view, although the results of the DCF should be viewed as indicative. Our DCF model yields an equity value of 110 MEUR, or EUR 2.1 per share. Given the DCF, we believe the long-term potential of the stock is already cautiously attractively priced.

Our DCF model is based on Spinnova's current share count, as surviving on the current cash position is a realistic option for the company and the subscription prices of the company's stock options are mostly well above the market price and our target price. Therefore, based on current information, the stock option plans will not result in a significant capital or dilution risk for Spinnova, at least not at our target price horizon (the total number of outstanding options granted is 6.8% of the share count. In addition, the value of the share based incentive scheme is less than 2% of number of the shares (taking into account the cash portion). However, if necessary, we will add the capital raised through options and corresponding new shares to our forecasts later, if the situation changes due to price movements or the introduction of new share-based programs.

In the target scenario, the expected return would be considerable

In our view, Spinnova's financial targets provide a reference point against which the valuation can be benchmarked. However, caution should be exercised as the targets are based on the period 2034-2036, when the company set its first profit target above zero. So, in terms of time, it is a very long way. The targets set by listed companies are also challenging on average and the uncertainty surrounding their achievement is high. Spinnova also had to postpone and lower its targets once after the IPO, and the revenue target of over 100 MEUR for 2034-2036 is subject to commercialization largely succeeding as planned over the next decade.

At the lower end of the target range, Spinnova's EBIT would be 100 MEUR in 2036. For reasons of prudence, we use the last target year in the calculation. This would leave the company with a net profit of just over 70 MEUR after depreciation, very low financing costs and a normal tax rate of 20%, according to our estimates. The company's balance sheet would likely be very strong at this point (i.e., clearly net cash) if the current strategy of relying on technology sales had not been changed.

Development of share value in different scenarios

	Negative[1]	Forecast[2]	Positive[3]
Successful technology sales	Failing in the 2020s	In line with forecasts	Broad market penetration and continued growth
Likelihood	Possible	Possible	Possible
EBIT 2036e and the path there	Negative, or company not independent	Estimates	100 MEUR, path better than forecast
Present share value	IPR sales value (< share price, > 0)	EUR ~2 (DCF)	EUR 3.3-6.9 (multiples 2036)

1) In this scenario, Spinnova's own commercialization fails in the 2020s, the company's cash flow dwindles, and the company needs to find a way to realize the remaining value as quickly as possible by selling the IPR.
2) In a scenario broadly consistent with our projections, commercialization will occur only in the textile value chain and with a limited feedstock base over the next 15 years, after which growth prospects will slow and the profitability profile will stabilize.
3) Commercialization will be at least in line with our projections, and growth prospects for the 2040s remain strong, either in the textile industry (including other feedstocks) and/or in other end-use applications.

Source: Inderes' estimate

Valuation and recommendation 5/5

The acceptable valuation of a stock at this stage would obviously depend on the growth prospects. However, we are basing our valuation on a mature stage outlook, where a technology company that has scaled to a high level of profitability with a good share of more than a third of recurring revenue could, in our view, be valued at an EV/EBIT multiple of 15x-20x and a P/E multiple of 20x-25x. Using these methods, the present value of a share would be EUR some 3-7 per share based on the current number of shares. As such, we believe that the stock is very cheap if Spinnova achieves its long-term goals. However, based on the company's current performance, we are not prepared to base our view solely on this very optimistic scenario.

Valuation summary

As mentioned above, the valuation of Spinnova has to be based on very uncertain assumptions for a long time to come, even if the cash flow model and scenarios allow us to get an idea of the correct valuation level. In our opinion, the fair value of Spinnova's share is around EUR 1-3 based on current assumptions. At the low end, we estimate that the market would not trust the company to pursue commercialization on its own and that the price level would reflect a very rough IPR liquidation value for an industrial buyer in a weak bargaining position. At the lower end, the expected return on the stock would be good if expectations for the future do not materially deteriorate. At the top end, however, expectations are higher and the risk/reward ratio, at least in the short term, would be rather weak in our view given the current data.

In less than 3 years as a public company, Spinnova has built a path to commercialization, although the company has not yet reached the stage of sustainable growth. The next few years will be critical for Spinnova's investment story, as the company will need to prove the techno-economic viability of its concept on an industrial scale, thus laying the foundation for more rapid scaling of the business (including in particular lower investment and production costs) from the turn of the decade.

We see a reasonable chance of success here, although the risks are still significant. Similarly, the return potential for the investor in the company would be enormous in the long run if the company could enter a period of scalable and capital-light growth. In addition, we believe that Spinnova's technology development is quite advanced, which improves the risk/reward for the investor. Thus, even in a negative scenario (i.e., the company fails to commercialize on its own in the coming years), we believe that a certain value can be justified for the company's IPR. Thus, in our view, the total destruction of investor capital is no longer on the table in the absence of further negative surprises. Looking at the overall valuation picture, we start our coverage of Spinnova with a recommendation of accumulate and a target price of 2 Euros. Thus, we see the expected return from the short- and especially long-term potential exceeding our required return, which already reflects a moderately high level of risk.

TSR drivers
2024e-2028e

Positive   Neutral   Negative

Profit drivers

First projects progress and begin to generate revenue
Low revenue keeps cash flow and earnings negative
Strong balance sheet means low financing costs

The most important driver of the stock, revenue growth, starts to pick up

Dividend yield drivers

Negative EBITDA
Small need for fixed investments
Cash position remains strong for business needs in coming years

All capital is allocated to implementing the growth strategy

Valuation multiple drivers

In the short term, revenue-based valuation is high
DCF value above the share price
Dilution risk is low for the next few years and there is a justifiable value for the IPR

We see slight upside in the valuation

The stock's expected return moderately exceeds our high required return

Investment profile

1. Innovative production technology that is in the early stages of scaling up

2. Proprietary and protected IP suitable for a broad raw material base

3. Large potential target market

4. Scalable and capital-light business model

5. Growth focus and strategic goals years away, but negative cash flow until the end of the decade

Potential

- Regulation and consumer demand drive apparel industry toward more sustainable materials
- Spinnova's product features are good enough and the brand has a great reputation
- Partnership with Suzano in particular, but also with other actors, will help scale up
- Target market is global and large
- Innovative and protected proprietary IP gives your company a technological edge

Risks

- Cost-competitiveness of the technology has yet to be proven, and scaling to significant volumes will require improvements in cost efficiency (CAPEX and OPEX).
- Suzano's first industrial plant delivery is a "must" for all parties involved
- Dependence on partners and a top-down customer structure
- Scaling up is slow at best
- Reputation risks

DCF calculation

DCF model	2023	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e	2038e	2039e	TERM
Revenue growth-%	-56,2 %	-79,3 %	282,7 %	149,8 %	-14,3 %	-40,8 %	169,1 %	103,4 %	20,7 %	-4,6 %	78,9 %	78,9 %	-8,2 %	20,6 %	19,2 %	15,2 %	5,0 %	2,0 %
EBIT-%	-196,7 %	-703,6 %	-146,1 %	-21,6 %	-38,4 %	-87,8 %	8,4 %	26,7 %	28,3 %	23,6 %	43,9 %	43,9 %	40,0 %	44,3 %	47,3 %	49,1 %	15,0 %	15,0 %
EBIT (operating profit)	-20,9	-15,5	-12,3	-4,5	-6,9	-9,4	2,4	15,6	20,0	15,9	52,9	44,3	59,0	75,3	90,0	28,9	29,4	
+ Depreciation	2,5	2,4	3,0	3,3	3,6	3,8	4,0	5,6	6,4	7,2	8,0	8,6	9,3	9,9	10,5	11,0	11,4	
- Paid taxes	0,4	-0,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-10,7	-9,0	-12,0	-15,3	-18,3	-6,1	-6,2	
- Tax, financial expenses	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	-0,1	-0,1	-0,1	
+ Tax, financial income	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,2	0,3	0,3	0,4	0,4	0,4	0,3	
- Change in working capital	-1,7	0,7	-0,1	-0,3	-0,1	0,2	-0,5	-0,9	-0,4	0,1	-1,6	0,3	-0,7	-0,8	-0,7	-0,3	-0,1	
Operating cash flow	-19,8	-11,6	-8,4	-0,6	-2,5	-4,4	6,5	21,0	26,6	23,8	49,4	44,7	56,2	69,7	82,1	33,8	34,9	
+ 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	0,0	0,0	0,0	
- Gross CAPEX	-5,0	-5,0	-5,0	-5,0	-5,0	-5,0	-7,0	-9,0	-10,0	-11,0	-11,0	-12,0	-12,0	-13,0	-13,0	-13,0	-11,9	
Free operating cash flow	-24,8	-16,6	-13,4	-5,6	-7,5	-9,4	-0,5	12,0	16,6	12,8	38,4	32,7	44,2	56,7	69,1	20,8	23,0	
+/- Other	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
FCFF	-24,8	-16,6	-13,4	-5,6	-7,5	-9,4	-0,5	12,0	16,6	12,8	38,4	32,7	44,2	56,7	69,1	20,8	23,0	
Discounted FCFF		-15,3	-10,8	-4,0	-4,7	-5,1	-0,2	5,0	6,1	4,1	10,8	8,0	9,5	10,7	11,4	3,0	2,9	24,3
Sum of FCFF present value	55,6	70,9	81,7	85,7	90,3	95,4	95,7	90,7	84,6	80,5	69,8	61,7	52,2	41,6	30,2	27,2	24,3	
Enterprise value DCF	55,6																	
- Interest bearing debt	-7,0																	
+ Cash and cash equivalents	61,5																	
-Minorities	0,0																	
-Dividend/capital return	0,0																	
Equity value DCF	110																	
Equity value DCF per share	2,1																	

WACC	
Tax-% (WACC)	20,0 %
Target debt ratio (D/(D+E))	10,0 %
Cost of debt	5,0 %
Equity Beta	2,70
Market risk premium	4,75 %
Liquidity premium	0,00 %
Risk free interest rate	2,5 %
Cost of equity	15,3 %
Weighted average cost of capital (WACC)	14,2 %

Source: Inderes

Rahavirran jakauma jaksoittain

- 2024e-2029e: -72%
- 2030e-2039e: 129%
- TERM: 44%

Legend: ■ 2024e-2029e ■ 2030e-2039e ■ TERM

DCF sensitivity calculations and key assumptions in graphs

Sensitivity of DCF to changes in the WACC-%

WACC-%	DCF value (EUR)
9,2 %	4,0
10,2 %	3,5
11,2 %	3,0
12,2 %	2,6
13,2 %	2,3
14,2 %	2,1
15,2 %	1,9
16,2 %	1,7
17,2 %	1,6
18,2 %	1,5
19,2 %	1,4

■ DCF value (EUR)
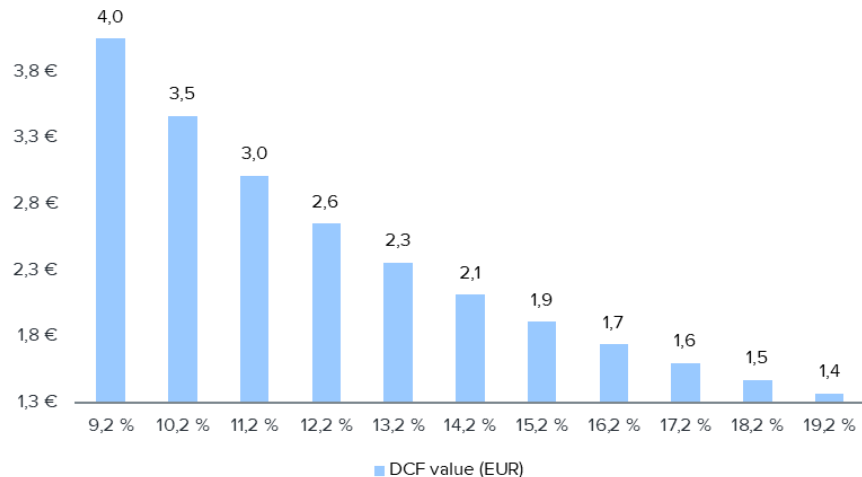
Sensitivity of DCF to changes in the risk-free rate

Risk-free rate	DCF value (EUR)
0,0 %	2,7
0,5 %	2,6
1,0 %	2,4
1,5 %	2,3
2,0 %	2,2
2,5 %	2,1
3,0 %	2,0
3,5 %	1,9
4,0 %	1,8
4,5 %	1,8
5,0 %	1,7

■ DCF value (EUR)
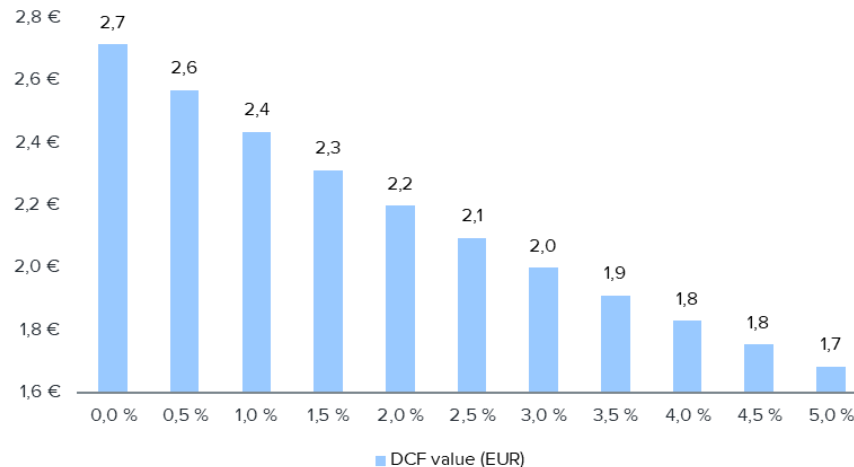
Sensitivity of DCF to changes in the terminal EBIT margin

Terminal EBIT margin	DCF value (EUR)
5,0 %	1,7
7,0 %	1,8
9,0 %	1,9
11,0 %	1,9
13,0 %	2,0
15,0 %	2,1
17,0 %	2,2
19,0 %	2,3
21,0 %	2,3
23,0 %	2,4
25,0 %	2,5

■ DCF value (EUR)
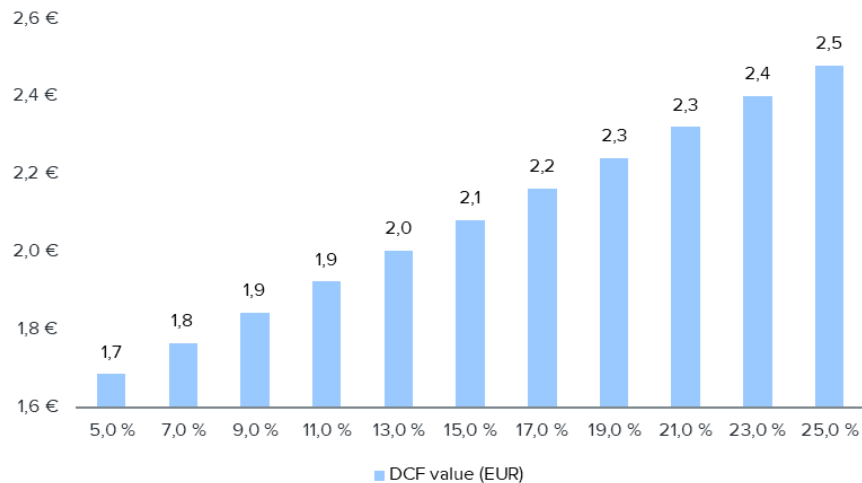
Growth and profitability assumptions in the DCF calculation

Years: 2023, 2024e, 2025e, 2026e, 2027e, 2028e, 2029e, 2030e, 2031e, 2032e, 2033e, 2034e, 2035e, 2036e, 2037e, 2038e, 2039e, TERM

■ Revenue growth-% — EBIT-%
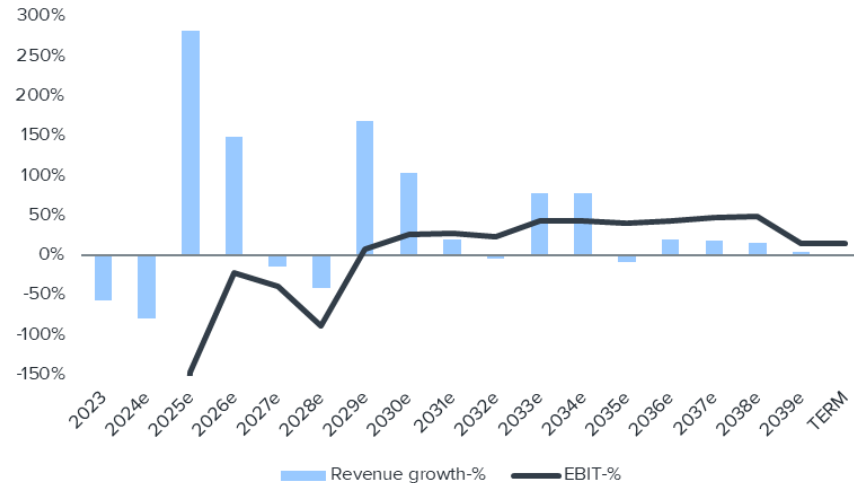
Valuation table

Valuation	2019	2020	2021	2022	2023	2024e	2025e	2026e	2027e
Share price			13,4	6,50	2,40	1,61	1,61	1,61	1,61
Number of shares, millions			51,3	51,3	51,3	52,3	52,3	52,3	52,3
Market cap			689	334	123	84	84	84	84
EV			589	257	69	46	61	67	76
P/E (adj.)			neg.	neg.	neg.	neg.	neg.	neg.	neg.
P/E			neg.	neg.	neg.	neg.	neg.	neg.	neg.
P/FCF			neg.	neg.	neg.	neg.	neg.	neg.	neg.
P/B			6,1	3,3	1,4	1,2	1,4	1,5	1,7
P/S			>100	13,7	11,6	38,2	10,0	4,0	4,7
EV/Sales			97,2	10,6	6,4	21,0	7,2	3,2	4,2
EV/EBITDA			neg.	neg.	neg.	neg.	neg.	neg.	neg.
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

Peer group valuation

| Peer group valuation | Market cap | EV | EV/S | | P/B |
Company	MEUR	MEUR	2024e	2025e	2024e
Betolar	20	11	5,6	1,9	2,8
Aiforia	103	95	23,7	13,5	4,5
Bioretec	54	48	8,7	4,6	13,4
Optomed	115	114	6,9	4,6	6,3
Nightingale	69				1,5
Spinnova (Inderes)	**84**	**46**	**21,0**	**7,2**	**1,2**
Average			**11,2**	**6,1**	**5,7**
Median			**7,8**	**4,6**	**4,5**
Diff-% to median			*169 %*	*56 %*	*-74 %*

Source: Refinitiv / Inderes

Disclaimer and recommendation history

Recommendation history (>12 mo)

Date	Recommendation	Target	Share price
30/05/2024	Lisää	2,00 €	1,61 €

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