



# ANNUAL REPORT

2022

Smoltek Nanotech Holding AB



# Annual report 2022, Smoltek Nanotech Holding AB

## ABOUT SMOLTEK

Smoltek develops process technology, concepts and products to solve advanced materials engineering problems in several different industrial sectors.

Smoltek's pioneering carbon nanotechnology enables, for example, the manufacture of components with smaller form factors, higher performance and lower energy consumption within the semiconductor industry, where the company today focuses on developing technology for ultra-thin capacitors for mobile phones.

Smoltek also sees great potential within the hydrogen industry, where the company today focuses on developing a high-performance cell material for the cell stack in electrolyzers that enables the manufacture of both smaller and cheaper electrolyzers.

Smoltek protects the company's unique technology platform through an extensive and growing patent portfolio consisting of around 110 patent assets, of which 78 have been granted. Smoltek's share is listed on the Spotlight Stock Market in Stockholm, Sweden under the ticker SMOL.

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Visualization of carbon atoms – in a 1-layer configuration



# Smoltek in brief

## WE ENABLE FUTURE TECHNOLOGY LEAPS

New technology drives the world forward. Smoltek develops solutions that can enable the next technological leap in the semiconductor and hydrogen industries.

Our patented nanotechnology radically increases the available surface area for chemical and electrical processes, enabling more compact, energy-efficient, powerful and cost-effective products.

Semiconductor business area: In the pursuit of more computing power, the number of transistors on the microchips has doubled every two years. Until now. Our ultra-thin capacitor technology creates more space on the chips, allowing the semiconductor industry to once again develop chips with increasing demands for higher performance.

Hydrogen business area: Interest in green hydrogen is growing rapidly, but the current need for iridium is driving costs, making it difficult to scale up existing technology. Our technology for compact electrolyzers uses only a minimum of expensive iridium particles, enabling the green hydrogen industry to convert future prospects into viable business opportunities.

## VISION

Through licensing and proprietary production solutions based on the company's patent-protected technology in the nanotechnology area, Smoltek aims to become a globally leading technology development partner and supplier of revolutionizing solutions for advanced materials engineering challenges.

Cash and cash equivalents  
(incl. Short-term investments)

SEK 71,1 million

Solidity

84,5%

## The possibilities of our technology

Smoltek's patent protected technology platform enables controlled growth of precisely localized and defined conductive nanostructures; as individual fibers, or in predetermined clusters or films. This is done through catalytic growth, with materials and at temperatures which are compatible with industrial requirements.

By being able to precisely grow extremely thin carbon nanofibers in different three-dimensional structures, we can multiply the actual performance on a given surface, which can be coated with different types of materials.

This could revolutionize material engineering within several industry segments – starting with semiconductors and hydrogen.

## Possibilities – Semiconductors

To solve challenges in the semiconductor industry, we are developing extremely thin capacitors with very high electrical performance, which can be placed closer to the active circuit – for example an application processor in mobile phones. This enables the manufacturing of mobile phones with higher performance.

## Possibilities – Hydrogen

In order to solve challenges during the global energy transition, we are, with the help of our nanotechnology, developing a high-performing cell material, which could radically reduce the amount of expensive catalyst particles (iridium) in an electrolyzer, enabling the manufacturing of smaller and cheaper electrolyzers for the production of fossil-free hydrogen.

Equity

SEK 124,7 million

# The year in brief

## 6 new patents granted

During the year, six new patents were granted in the semiconductor business area. Four of these are related to our unique CNF-MIM capacitor technology and two are related to our Assembly Platform which is a solution for further miniaturization of packages of different semiconductor components.



## SEK 34,3 million raised in 2022

At the end of November, it was announced that Smoltek's preferential rights issue was subscribed to a total of 65 percent. Through the rights issue, approximately SEK 34.3 million was added to the company after issuing costs.

## The Smoltek team continues to grow



x11



x9

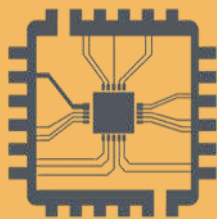
## 8 new faces at Smoltek

As the company's two business areas, semiconductors and hydrogen, have been given clearer directions, Smoltek's organization has also developed with specialists that has deep knowledge and a strong creative mindset. During 2022, we made eight new recruitments to tie people with the right knowledge and experience to the company, which now has 20 employees.



## Development agreement for the Semiconductor business area

The group company Smoltek Semi has entered into a Joint Development Agreement for the development and commercialization of ultra-thin CNF-MIM capacitors with YAGEO Group, a global manufacturer of electronic components including capacitors.

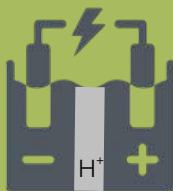


## Smoltek Innovation has become Smoltek Hydrogen

Smoltek Innovation was formed to take the company's nanotechnology to other markets beyond semiconductors. The hydrogen market was quickly identified as having the greatest potential and has become a business area with its own staff and R&D, hence the name change. The development of technology concepts for new markets has been moved to Smoltek AB, where the main R&D and patent portfolio is.

## Collaboration agreement for the Hydrogen business area

Smoltek Hydrogen has signed a collaboration agreement for testing and prototype manufacturing of a highly efficient cell material for electrolyzers with one of Europe's leading manufacturers of input materials for electrolyzers. The collaboration agreement covers the development of demonstrators (prototypes) based on Smoltek's highly efficient nanofiber-based cell material for PEM electrolyzers.



# The year in brief

## The technology for electrolyzer cell material presented at conference

Fabian Wenger, Head of Technology for the hydrogen business area, presented Smoltek's nanofiber-based cell material to electrolyzers at the International Conference on Electrolytic Technology in Golden, Colorado. The presentation introduced our technology for the cell material and how it can enable smaller and cheaper electrolyzers – and thus more efficient and cheaper production of green hydrogen.

## The CNF-MIM technology presented in Keynote address

R&D engineer Maria Bylund presented Smoltek's CNF-MIM technology at the international semiconductor and capacitor-oriented conference ESTC in Sibiu, Romania. The capacitor technology enables the production of ultra-thin capacitors – that thanks to their high performance in combination with their thinness can be used for more efficient and flexible packaging inside computers, tablets and mobile phones.

## Electrolyzer manufacturer evaluates Smoltek's nanotechnology

Smoltek Hydrogen has signed an agreement with a leading international electrolyzer manufacturer for evaluation of Smoltek's carbon nanofibers and corrosion protection in test cells for electrolyzers. This enables the electrolyzer manufacturer to examine how Smoltek's nanofiber-based cell materials perform in combination with the manufacturer's other material choices and designs in test cells – which are then run according to specific test protocols to give an indication of the cell's lifespan.

## Technology for ultra-thin capacitors presented – together with YAGEO

Smoltek Semi has together with YAGEO presented the technology for upcoming ultra-thin capacitors for application processors in mobile phones at Semicon Europe 2022 – Europe's largest electronics and semiconductor conference. At the event, interest was also shown in use of the capacitor technology in other areas of application.



## Medical technology company evaluates Smoltek's nanotechnology

A global medical technology company has ordered a concept study of Smoltek's nanotechnology in order to solve an advanced materials technology problem.



## A comment from the CEO, Håkan Persson

Dear shareholders,

2022 was a particularly transformative year for Smoltek. We took crucial steps towards the market in the semiconductor business area by signing an agreement with the global capacitor manufacturer YAGEO for the joint commercialization of ultra-thin capacitors based on our nanotechnology platform. At the same time, the hydrogen business area was developed, in which we made gradual progress in the development of our high-performance cell material for electrolyzers for the production of fossil-free hydrogen together with several prominent R&D and industrial partners.

### **Semiconductor business area – Clear path to market with a strong, global partner**

In the first half of the year, Smoltek and YAGEO finally reached the finish line with a comprehensive technical and commercial evaluation of our ultra-thin capacitors that has been ongoing for two years. This allowed us to sign a Memorandum of Understanding (MoU) followed by a Joint Development Agreement (JDA) regarding discrete capacitors with a subsidiary of YAGEO Corporation. The JDA also included a first payment of SEK 15 million from YAGEO. These agreements constitute Smoltek's most important milestones to date as we have now shown that a major global player is not only interested in our technology platform but is also willing to invest significant resources for commercialization of the technology together with us as an equal counterparty. This recognition speaks volumes about the potential value of Smoltek's patent portfolio, while we have now also established the framework for a very clear path to market in the semiconductor business area.

During the autumn of 2022, we started up the collaboration with YAGEO, and the goal is to develop ultra-thin capacitor products as well as production capacity within the framework of a future joint venture (JV) to then sell them on the global market. In the development of engineering samples for the first product, which is expected to be a decoupling capacitor for the next generation of application processors in mobile phones, steady progress has been made. After the end of the year (in February 2023), we announced in an update of our strategic objectives for the business area that the development work will be intensified with technical and commercial analyzes of more potential products within the family of ultra-thin capacitors.

The work on the production chain is also moving forward, and an important part of this process is the industrial machine for growing carbon nanofibers on 200 mm silicon wafers that we ordered at the end of the first quarter. It is designed to be expanded into a fully automated so-called cluster tool that can be integrated into the production at a foundry and deliver a production capacity of approximately 5,000 200 mm wafers per month, corresponding to approximately 1-3 billion capacitors per year depending on size. Together with YAGEO, we have also participated in several major industry events in Europe and the USA with the aim of establishing contacts and educating potential customers about the advantages of our technology platform.

### **Business area hydrogen – Promising development progress with several partners**

Ever since Smoltek was founded, we have had the ambition to establish our technology platform within a number of different areas of use. It was therefore gratifying that we made such significant progress during the year in the development of our high-performance cell material for electrolyzers for the production of fossil-free hydrogen.

This business area is operated by Smoltek Hydrogen, and in May 2022 we signed a collaboration agreement with a large international manufacturer of input materials for electrolyzers as part of our work to build complete PEM electrolyzer cells (demonstrators) on a laboratory scale in order to prove the performance of the cell material.

In November, we also received an order for test samples of our cell material from a leading international electrolyzer manufacturer. These material samples will be coated with Smoltek's carbon nanofibers and a corrosion protection. The samples will allow complete PEM electrolyzer cells to be tested according to predetermined protocols for performance and lifetime. We also have ongoing collaborations with leading research groups within, for example, corrosion protection.

To ensure a high pace in our continued work with the development and evaluation of our cell material in various configurations, we are establishing an inhouse laboratory for the Hydrogen business area adjacent to our premises in Gothenburg this spring. The work with evaluating various processes for large-scale production of the cell material has also progressed and continues in a positive manner.

## Vd Håkan Persson har ordet (*cont.*)

### **Continued reinforcement with broad and deep technical competence**

An increasingly extensive business gave rise to a continued need for qualified personnel in 2022, and it is inspiring that we have managed to attract well-qualified people to our team to fill these positions. Among others, we recruited Farzan Ghavanini, with solid experience from leading positions in technology development at innovative companies and an extensive research background in nanotechnology, to the position of Chief Technology Officer (CTO), and Jaime S. Sanchez, most recently from IMDEA Energy Institute in Madrid and an international expert in corrosion protection, to the position of Senior Corrosion and Catalyst Scientist in the Hydrogen business area.

### **Funding and outlook for the rest of 2023**

Despite a historically challenging financial climate for growth companies, we managed to carry out a rights issue that gave us SEK 43.4 million before issue costs during the fourth quarter. This, together with YAGEO's first payment of SEK 15 million for the collaboration within ultra-thin capacitors, allow us to continue to work intensively on development and commercialization in both of our business areas in 2023, and I would like to thank all of our shareholders for your continued support.

2023 will be another exciting year for Smoltek as we have several important goals that we aim to achieve. Within the Semiconductor business area, we have a strong focus on meeting all the milestones required to take the collaboration with YAGEO to the next phase – the formation of a joint venture (JV) for volume production and sales. Within the Hydrogen business area, we focus on continued technical development as well as testing and evaluation of complete electrolyzer cells with our cell material. When we can verify the performance of the cell material, it will be possible to aim to sign an agreement for the commercialization of the cell material so that we have as clear a path to market as we already have in the semiconductor business area. In addition, the work to develop more potential business areas continues, including the concept study for a global medical technology company that began in the third quarter of 2022.

Finally, I would like to take the opportunity to express my gratitude to Smoltek's chairman of the board, Peter Augustsson, who, after valuable contributions to the company's development over a number of years, chose to decline re-election at the annual general meeting.

*Håkan Persson, President and CEO  
Smoltek Nanotech Holding AB*





## A comment from the Chairman of the Board, Peter Augustsson

Dear investors,

In 2022, the Smoltek Group achieved several important milestones on our journey from an innovation company to an innovation-driven industrial company. By attracting a strong, global commercial partner in the semiconductor business area and also making significant progress in the hydrogen business area, we have shown that our structure for refining business opportunities and customer benefit based on our solid patent portfolio is fully feasible.

### **Commercial validation that contributes positively in all our business areas**

In 2022, together with our partner YAGEO, a global manufacturer of electronic components including capacitors for the semiconductor industry, we managed to reach the finish line with a technical and commercial evaluation of our technology platform that has been ongoing for several years. This is an important validation of our technology platform, which thus contributes positively to confidence in our operations in all business areas. By taking the collaboration to the next level, with agreements for the joint commercialization of ultra-thin capacitors for, among other things, application processors in mobile phones, we now have a clear path to market within our leading business area. Of course, a number of challenges remain to be dealt with, but I am convinced that our highly competent and growing team has the capabilities required to succeed in this in a time and cost-effective manner together with our partner.

It has also been gratifying to see the progress made in the hydrogen business area during the year, which enables us to broaden our opportunities to capitalize on our technology platform. This business area, like the semiconductor business area, is run in a separate group company with its own personnel and thus has the opportunity to fully concentrate on its task - to commercialize our cell material for electro-

lyzers for the production of fossil-free hydrogen. Our goal is to develop a significantly cheaper material that at the same time provides powerful performance improvements in electrolyzers. This in a market that is expected to be twenty times larger before the end of the decade, as fossil-free hydrogen is required in a number of industrial and shipping-related applications in order to be able to reduce carbon dioxide emissions and mitigate the climate impact. This business area is thus very relevant, and we have excellent potential to sign an agreement with a strong commercial partner within this business area as well given that we can verify our product's performance in ongoing evaluation projects.

In addition to our two business areas, we also demonstrated that our technology platform is attractive within the medical technology industry during the past year. An agreement was signed for a concept study for a global medical technology company, and if this study turns out well, there is potential to establish medical technology as a business area on its own over time.

With the significant progress made by the Smoltek group during the year, with excellent conditions to take our business areas further towards market in 2023, I feel that the time is well chosen for me to hand over the role of Chairman of the Board to a successor. It has been both exciting and inspiring to contribute to Smoltek's development during my time as Chairman, and I would like to express my gratitude to all board members, colleagues, partners and shareholders with whom I have had the privilege of working with.

Smoltek's journey has only just begun, and I am convinced that the continued journey will be both rewarding and successful.

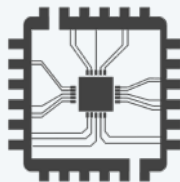
*Peter Augustsson, Chairman of the Board  
Smoltek Nanotech Holding AB*





# The possibilities of our technology

Smoltek's patent protected technology platform enables controlled growth of precisely localized and defined conductive nanostructures; as individual fibers, or in predetermined clusters or films. This is done through catalytic growth, with materials and at temperatures compatible which are compatible with industrial requirements. By being able to precisely grow extremely thin carbon nanofibers in different three-dimensional structures, we are able to effectively multiply the actual performance on a given surface that can be coated with different types of materials. This could revolutionize material development within, for example, industry segments for semiconductors and green hydrogen production.

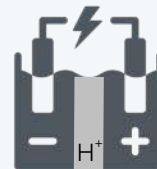


## Possibilities for business area semiconductors (capacitors)

To solve challenges in the semiconductor industry, this means that we can develop extremely thin capacitors with high electrical performance, which can be placed closer to the active circuit in, for example, an application processor.

## Possibilities for business area hydrogen (electrolyzers)

In order to solve challenges during the global energy transition, this means that our high-performing cell material could enable the production of more efficient electrolyzers for the production of fossil-free hydrogen.



# The future potential of our technology platform

Our unique and patent-protected technology platform has great potential also outside of the company's two prioritized areas – semiconductors and hydrogen.

We also see that the technology could enable improved performance compared to today's technology in other membrane-based applications in the future, within energy conversion and energy storage.

One such area is (Li-ion) solid-state batteries that could offer higher energy density, extended charging capacity, better temperature performance and reduced flammability compared to today's batteries.

Another area where we see that there may be a future opportunity for our technology is medical technology, or biotechnology. Here, we see the potential to create refined bioelectrodes which could provide better interfaces and resolution for research of cells and tissues compared to current technology in this space. These could, for example, provide very thin implantable electrodes that can be used to better listen to the communication between nerve cells in

the brain, or reduce inflammation risks for implants, fixtures or prostheses, by creating significantly improved interfaces between the organic tissue and the "hardware," where 65% of healthcare-related infections occur today.



We are not investing actively in these areas at the moment. They are instead considered to be attractive future opportunities for our technology platform.



However, we have ongoing development work with an international medical technology company where we are carrying out a concept study with the aim of solving an advanced materials technology problem. Here we have started phase two of the study after the evaluation of the initial step was positive.

## Semiconductors business area: Ultra-thin capacitors

Since the company was founded, Smoltek has focused on developing technology specifically for the semiconductor industry. After early development projects in various application areas, the semiconductor market showed greatest interest in our technology for extremely thin capacitors (CNF-MIM) – where we have presented a prototype of the world's thinnest capacitor. This capacitor has a total height of 38.2 micrometers (including the necessary substrate). The prototype otherwise has the same high performance that the market demands; i.e. high energy storage capacity and low internal losses for the component. These are important parameters that are on par with the industry standard for competing capacitor technologies.

### Potential customers and partners

The potential customer base for our capacitor technology consists of a small number of very large capacitor manufacturers. We are currently collaborating with YAGEO Group, which is one of these manufacturers. In the collaboration, we jointly conduct technology development for the commercialization of various types of ultra-thin capacitors based on our technology platform. The objective is to form a joint venture company with one of their subsidiaries for commercialization and global sales of capacitor products.

### The market for capacitors

One of the sub-segments in the global semiconductor market is discrete decoupling capacitors. These are used, among other things, in application processors for mobile phones, where very high demands are placed on the capacitor's performance and minimal form factor. With our technology for ultra-thin capacitors, we can become a leading technology supplier in this segment; since no one else can

combine very high electrical performance with an extremely small form factor. This enables our capacitors to be placed closer to the application processor compared to competing technologies.

About 1.5 billion mobile phone application processors are produced each year. Each such processor needs up to 10 decoupling capacitors, which in turn corresponds to a market volume of up to 15 billion decoupling capacitors per year.

### Agreement for product development and industrialization

In the collaboration agreement with YAGEO Group, Smoltek Semi has agreed on overall terms and initial financing to take Smoltek's patent-protected CNF-MIM technology for ultra-thin capacitors to the market within the discrete capacitor segment. The agreement initially concerns the development of a specific capacitor to be adapted to application processors in mobile phones. The goal is to mass produce and sell these capacitors via a 50/50 joint venture company.

Smoltek is conducting intensive technical development at the same time as technical and commercial analysis is carried out to identify additional potential products within the family of ultra-thin capacitors. By being in control of the entire chain, from product development to global sales, the volume production can be scaled up at an optimal rate. This translates into a significant risk minimization combined with higher cost efficiency. This also allows Smoltek to reach the market more quickly and cost-effectively with more capacitor products that, in each individual case, can meet specific design and performance requirements.



Smoltek R&D team in the Chalmers nanolaboratory

Smoltek's advanced PECVD, that was installed during Q2 2021 at Chalmers' MC2 laboratory, is specially designed for extremely high plasma and temperature uniformity across a full 6-inch wafer (now also possible for 8-inch wafers).

## Hydrogen business area – Cell material for electrolyzers

Within the hydrogen business area, we are developing a nanofiber-based high-performance cell material for electrolyzers, the system that uses renewable electricity to split water into oxygen and fossil-free hydrogen.

Our patent-protected cell material (ECM) is intended for the anode side of the cell in PEM electrolyzers. The material's unique three-dimensional structure allows us to reduce the amount of very expensive iridium particles by up to 95%. By packing the catalyst particles more densely, a considerable reduction in the size of the electrolyzer is also made possible. A smaller and thus cheaper electrolyzer reduces the cost of building a new hydrogen plant by up to half, and also reduces operating and maintenance costs.

### Development of the ECM technology

This summer we signed a cooperation agreement with a global manufacturer of input materials for electrolyzers to build demonstrators. In the project, our cell material, together with other partners' parts, are assembled into a complete electrolyzer cell (demonstrator), which is then tested in an electrolyzer. At the end of spring, the long-term tests are expected to be completed and then we will receive scientific evidence supporting the advantages of our carbon nanofibers.

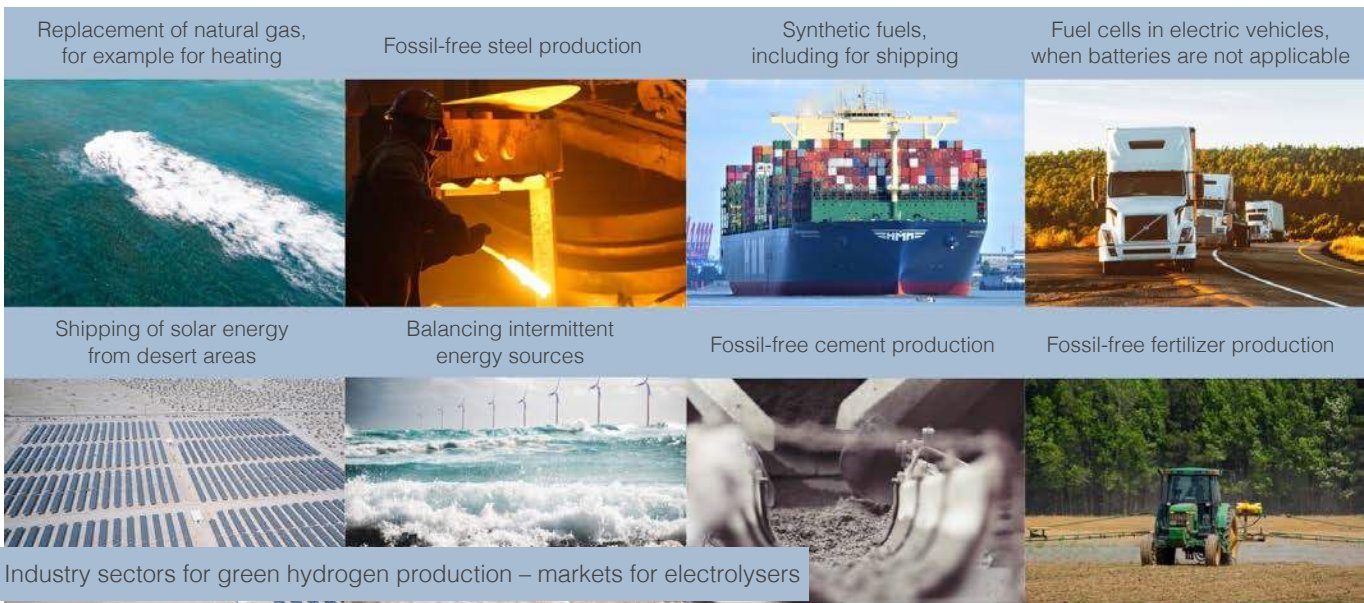
In November, we signed an agreement with one of Europe's leading manufacturers of electrolyzers for a project where we apply our nanofibers and corrosion protection to an existing cell layer, for evaluation of the technology. During the spring, we will start up our own hydrogen laboratory, in connection with our new headquarters. H2Lab, as we call it,

has advanced equipment for performance measurement and long-term tests of electrolyzer cells, and here we will be able to manufacture our own test cells. This will accelerate the development of the cell material, at the same time as we can evaluate different concepts for volume production. The ongoing progress in our technology development continues to strengthen our confidence in the potential of the cell material.

### Huge market for green hydrogen and electrolyzers

Hydrogen as a fossil-free raw material creates a potentially huge market for electrolyzer manufacturers, and also for Smoltek. Massive investments are being made in this area all over the world, not least in Europe. Already today, large amounts of hydrogen are produced for several energy-intensive industrial sectors that need to switch to fossil-free energy. So far, however, only barely 5 percent of all hydrogen is fossil-free. This means that there is a great demand for new technology to obtain more cost-effective methods for the production of green hydrogen.

The global market for green hydrogen production today sees large-scale investments in building up the production and distribution of green hydrogen. At the same time, there is a vigorous accumulation of capital earmarked for investments in electrolyzers and related technological innovations with the potential to improve the performance of green hydrogen production. The market for cell material for the anode side in PEM electrolyzers alone is estimated to be worth around SEK 3.5 billion in 2026 and around SEK 65 billion in 2030.





## Management report

The Board of Directors and the CEO of Smoltek Nanotech Holding AB (publ), corporate identity number 559020-2262, based in Gothenburg, hereby submit their annual accounts and consolidated accounts for the financial year 2022.

Amounts in the annual report are stated in SEK. All amounts are stated in SEK, unless otherwise stated.

### Summary of the year

Twice during the first quarter, Smoltek Semi, Smoltek's group company that develops technology solutions for the semi-conductors business area, announced that the evaluation license agreement signed in April 2020 with a global manufacturer of electronic components including capacitors was further extended. The extensions demonstrate the willingness of both parties to take the collaboration further and continue towards the next stage of development with current speed.

On January 11, it was announced that Farzan Ghavanini was recruited as new Chief Technology Officer. In addition to solid experience from leading positions in technology development at innovative companies, and a strong research background in the field, he also has experience from industrialization of nanotechnology.



*Farzan Ghavanini, CTO at Smoltek*

At the end of January, Smoltek's CEO Håkan Persson purchased 50,000 shares in the company. The shares were purchased from the company's two largest owners, Finn Gramnaes (30,000) and Peter Enoksson (20,000). The transaction was completed at a price of 27.10 SEK per share, which was determined on the basis of the volume-weighted average price of the Company's share during the ten trading days preceding the transaction date. The entire transaction corresponds to a total purchase price of 1,354,840.07 SEK.

In mid-February Réka Simon-Bálint, a civil engineer from Chalmers University of Technology, was employed as Industrialization Manager at Smoltek Semi. This is a new role, and Réka will work together with the R&D team and the product and industrialization manager to adapt the production process sequence to fit into a high-volume manufacturing environment.

On March 10, the group company Smoltek Innovation (now Smoltek Hydrogen), who runs Smoltek's technology solutions for the Hydrogen business area, published an update regarding the development of the company's nanofiber based cell material for electrolyzers. Following the achieved proof-of-concept in the autumn of 2021, preparatory steps were initiated in a development collaboration with an industrial manufacturer of materials for electrolyzers.

At the end of the first quarter, the Group company Smoltek Semi announced that the company has placed an order for an industrial carbon growth machine. The machine constitutes a central part of the outsourced production infrastructure that Smoltek Semi is now establishing for the production of ultra-thin capacitors. The machine will be designed and constructed for growth of carbon nanofibers on 200 mm silicon wafers and is designed to be expanded to a fully automated so-called Cluster Tool at a subsequent stage. This will enable seamless integration of the machine in the production of the contract manufacturer where high-volume production of Smoltek's ultra-thin capacitors will take place. When fully developed, the Cluster Tool will have a production capacity of approximately 5,000 200 mm wafers per month, which corresponds to approximately 1-3 billion capacitors per year, depending on size.

Smoltek Semi is also working on the development of the first product, which the company believes has the potential to become the world's thinnest decoupling capacitor for application processors in mobile phones. The production process, including the ordered carbon growth machine, will over time be able to be used for manufacturing of several different capacitor types based on Smoltek's patent protected CNF-MIM technology. Smoltek Semi's ambition over time is also to expand and broaden the product family of CNF-MIM based capacitors. Primary applications can be found in for example wearables, high performance computing (HPC) and 5G.



## Management report

In the beginning of the second quarter, it was announced that the company's CEO Håkan Persson will also take over as President of the Group company Smoltek Semi AB from 1 May. This change is implemented as a result of Smoltek Semi's current President Ola Tiverman choosing to leave his role for new challenges. The functions that were part of Ola's current role will be partially redistributed, as a natural part of the ongoing and previously communicated strengthening of Smoltek Semi's organization.

On May 5, an update and a clearer definition of the company's strategic objectives was published, with continued focus on industrialization and commercialization within the company's two business areas: semiconductors and hydrogen.

On May 30, it was announced that the Group company Smoltek Innovation (now Smoltek Hydrogen) has signed a cooperation agreement with a large international manufacturer of input materials for electrolyzers. The cooperation agreement includes the development of demonstrators based on Smoltek's highly efficient nanofiber-based cell materials for PEM electrolyzers.

On June 21, Fabian Wenger, Head of Technology for the Hydrogen business area, presented a technical poster at the International Conference on Electrolytic Technology in Golden, Colorado. The purpose of the presentation was to introduce Smoltek's nanofiber-based cell material to electrolyzers and how it can enable smaller and cheaper electrolyzers and thus cheaper production of green hydrogen.



*Fabian Wenger, Head of Technology of Smoltek Hydrogen*

On June 29, it was announced that the Group company Smoltek Semi has signed a Memorandum of Understanding with a global manufacturer of passive components, including capacitors, for the development of Smoltek's ultra-thin CNF-

MIM capacitors. The parties were thus able to present a joint plan for product and process development for the company's ultrathin capacitors as well as mass production and sales via a 50/50-owned joint venture in the discrete capacitors segment.

In the second quarter, Fredrik Sturesson was employed as Senior Reliability Engineer in Smoltek Semi. This is a new role and Fredrik will be responsible for ensuring that the products developed are designed in such a way that they meet the reliability requirements.

In the beginning of the third quarter, it was announced that Smoltek has received an order to carry out a Proof-of-Concept study based on the company's unique carbon nanofiber technology, to solve a difficult materials engineering problem for a global medtech company. The order is worth 40,000 euros.

On August 18, it was announced that the group company Smoltek Semi has entered into a Joint Development Agreement (JDA) with a subsidiary of YAGEO Corporation to commercialize discrete capacitors. The capacitors are based on Smoltek's patented CNF-MIM technology. In conjunction with the signing of the JDA, Smoltek Semi received 1.5 MUSD from YAGEO, as an initial part of the joint financing plan for development activities within the framework of the project.



*YAGEO headquarters in New Taipei City, Taiwan*

On August 30, an operational update was published for the Semiconductors business area. The group company Smoltek Semi has made significant progress in the development of the technology for ultra-thin capacitors during the year. This has led to, for example, the Joint Development Agreement that was signed with the YAGEO, which is expected to further accelerate the industrialization of Smoltek's ultra-thin capacitors

## Management report

On September 14, Smoltek's R&D engineer Maria Bylund gave a keynote address at the international semiconductor and capacitor-oriented conference ESTC in Sibiu, Romania. The main focus of the conference was current advances and developments in the packaging and integration of electronic systems and components. Maria's speech was about Smoltek's CNF-MIM technology and how it enables the production of the world's thinnest capacitors, as well as how our ultra-thin capacitors – thanks to their high performance in combination with their thinness – can be used for more efficient and flexible packaging inside computers, tablets and mobile phones.



*Maria Bylund, R&D engineer at Smoltek*

On September 19, an operational update was published for the Hydrogen business area. During the first six months of the year, significant progress has been made within the development of the nanofiber-based cell material for electrolyzers. For example, a collaboration has been initiated with a global manufacturer of input material for electrolyzers for the joint construction of a PEM electrolyzer cell demonstrator to demonstrate the performance of the cell material. Additionally, during the summer two internal recruitments were carried out in the business area: Qi Li, PhD, as R&D Project Manager and Xin Wen, PhD, as Nanotechnology Scientist. Furthermore, Bastien Penninckx, from the University of Montpellier, has been recruited as a laboratory engineer. In October, Jaime S. Sanchez, PhD, assumed his position as Senior Corrosion and Catalyst Scientist. He is an international expert in the field.

On September 21, it was announced that Smoltek's Board of Directors has conditionally resolved upon a rights issue of units of approximately SEK 67 million. The resolved preferential rights issue, subject to the approval of the extraordinary general meeting on October 24, 2022, is guaran-

teed to approximately 65 percent through subscription commitments and underwriting commitments. Notice to attend the extraordinary general meeting was published on September 22.

At the end of the third quarter, it was announced that the group company Smoltek Innovation AB has changed its name to Smoltek Hydrogen AB. The change of name is a logical next step as the innovation project around materials for electrolyzers and green hydrogen is now its own independent business area in Smoltek with its own staff and collaboration agreements with external parties. The next step in the business area is to start building prototypes together with potential customers and planning the first pilot plant for the production of cell material. This includes the milestone of building a complete PEM electrolyzer cell on a laboratory scale during the winter, together with a large manufacturer of materials for electrolyzers.

The work to develop new technology concepts from Smoltek's R&D to new markets and to broaden the use of the company's patent-protected core technology for nanofibers to other areas in addition to the semiconductor industry and the hydrogen industry will now be moved to the technology development company Smoltek AB.

In the beginning of the fourth quarter, it was announced that the Group company Smoltek Semi and YAGEO have begun the work on commercializing Smoltek's technology for ultra-thin capacitors in accordance with the joint development agreement that was signed last summer. The work started in Gothenburg with a joint workshop to draw up guidelines for industrialization roadmaps, including technology and product development as well as market-related activities.

On October 24, an extraordinary general meeting was held in Smoltek Nanotech Holding AB. The meeting was conducted solely by postal voting without physical participation. At the meeting, it was decided to adopt the new articles of association proposed by the board. The meeting also decided to approve the new issue of shares and warrants (units) with preferential rights for existing shareholders. The meeting also decided, in accordance with the board's proposal, to authorize the board to, on one or more occasions during the time until the next annual general meeting, decide on a new issue of shares and/or warrants and/or convertibles.

## Management report

On November 9, it was announced that the group company Smoltek Hydrogen has received an order for a number of test samples of cell material for electrolyzers from an international electrolyzer manufacturer. The material samples consist of porous titanium to be coated with Smoltek's carbon nanofibers and a corrosion protection. This enables the electrolyzer manufacturer to investigate how Smoltek's cell material performs in combination with the manufacturer's other material choices and design. The electrolyzer manufacturer and Smoltek Hydrogen have agreed to run a project together where materials from both parties are built together into complete electrolyzer cells in laboratory size, so-called test cells. These test cells are then run by the manufacturer according to predetermined protocols, where they first measure the performance of the cell. Special test methods are then used to give an indication of the cell's lifespan. The results of these measurements are shared with Smoltek.

On November 15-18, Smoltek together with YAGEO presented the technology for upcoming ultra-thin capacitors for mobile phones at SEMICON Europe, Europe's largest electronics event for the electronics and semiconductor industry.



*"Product launch" of the CNF-MIM technology at Semicon Europe*

On November 18, the outcome of the company's issue of units and warrants was announced. Through the rights issue, approximately SEK 43.4 million was added to the company before issue costs. The rights issue was subscribed to a total of 65.0 percent, of which approximately 35.2 percent was subscribed with the support of unit rights, approximately 2.1 percent was subscribed without the support of unit rights and approximately 27.7 percent was subscribed by issue guarantors. In total, 4,824,124 new shares and 2,412,060 warrants of series TO 7 were subscribed. Through the rights issue, the number of shares in the company increased by 4,824,124 from 9,282,895 shares to 14,107,019 shares; the share capital increased at the same time by approximately

SEK 574,687.77, from approximately SEK 1,105,856.30 to approximately SEK 1,680,540.48.

Upon full utilization of all issued warrants of series TO 7, the company can receive an additional capital injection of up to approximately SEK 32.5 million. As the subscription price for subscribing to new shares using the warrants is based on 70 percent of Smoltek's share price during a measurement period, the size of the issue is dependent on the development of the share price. In order for the capital contribution to reach SEK 32.5 million, a volume-weighted share price during the measurement period, which runs from and including June 5, 2023, to and including June 19, 2023, of at least SEK 19.30 and that all warrants are exercised is required. At a share price of, for example, SEK 6.40, the capital contribution at full utilization will be approximately SEK 7 million.

On November 30, it was announced that the company, in accordance with the guarantee agreements entered into in connection with the rights issue, has carried out a directed issue of units to one of the guarantors, who has chosen to receive their guarantee compensation in the form of new units. The subscription price in the directed compensation issue was set at SEK 36.00 per unit and payment has taken place by offsetting the guarantor's claims.

Smoltek's collaboration with DC Advisory, a leading global financial advisor with expertise in industrial transactions, continued during 2022. DC Advisory's wide network in both the semiconductor and electronics industries, as well as in other industrial segments has contributed to an increased global presence for Smoltek and opened opportunities through strategic relationships in existing as well as new application areas and industries.

### Research & Development

Smoltek demonstrated continued R&D advances in the company's two business areas, semiconductors and hydrogen, in 2022.

Hydrogen business area: Together with our partner for input materials in PEM electrolyzers, Smoltek Hydrogen has evaluated how to integrate corrosion-protected nanofibers into the anode so that the current density can be maintained with a significantly reduced proportion of the catalyst material iridium. We see a strong interest from our partners in this type of solution that can be made possible with nano-structured electrodes.

## Management report

The work with Smoltek's IP development continued during the year and at the end of the year the company had 76 granted patents globally. Four of Smoltek's granted patents during the year are related to areas of the company's CNF-MIM capacitor technology. Two of these patents relate to the Compact Energy Storage Interposers patent family, i.e. the invention and manufacture of extremely thin energy storage devices embedded in an interposer. Our concepts for energy storage devices can take many forms, e.g. discrete (single component), integrated component, or it can take the form where the end result is an interposer with CNF-MIM capacitors embedded in it. The other two patents targeting CNF-MIM technology relate to the family of patents for capacitor applications on interposers. The patent protection around interposers is based on the need to improve circuit performance by enabling smarter, compact energy storage devices which in turn can enable more efficient energy management solutions. Two of this year's granted patents relate to the Assembly Platform family (Smoltek Tiger), which is a solution to exploit the ever-increasing demand for miniaturization of electronic components and interconnecting them in the form of an assembly to minimize semiconductor packaging.

### Parent company operations

The object of the company's operations is to, on its own or through group companies, develop technology and intellectual property rights in the nanotechnology area for licensing to the electronics and semiconductor industries, and compatible activities.

### After the year-end

On February 1, 2023, the Smoltek Group moved into new premises at Otterhålllegatan 1 in central Gothenburg. The new premises are adapted and more suitable for the growing organization, which was temporarily divided into two offices. Adjacent to the new premises also two laboratories, one of which is the company's existing laboratory with electrical measuring and testing equipment for semiconductor components for Smoltek Semi's operations. The second is a completely new laboratory where complete electrolyzer cells can be built and tested in-house, which accelerates the speed of Smoltek Hydrogen's development work and enables long-term tests of function and corrosion resistance of various materials.

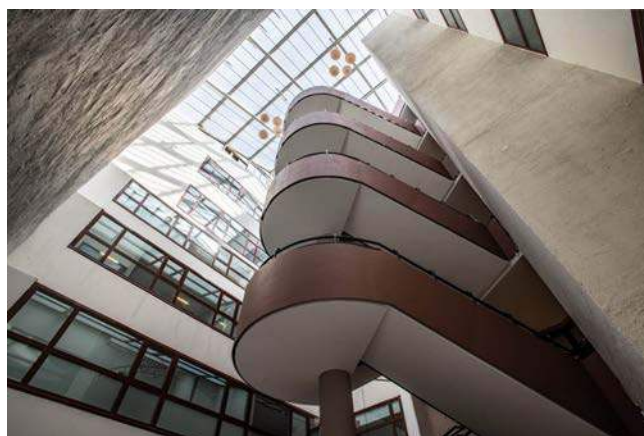
On February 2, the company announced that board chairman Peter Augustsson declines re-election at the upcoming annual general meeting. The nomination committee has started the

search process and aims to present its complete proposal for the board, including a new board chairman, in good time before Smoltek's annual general meeting, which will be held in Gothenburg on May 11. Peter Augustsson has been chairman of the board of Smoltek since the company was listed on the stock exchange in 2018.

On February 9, the company adjusted the strategic objectives in relation to those published in May 2022. This is largely due to the cooperation initiated with the American-Taiwanese capacitor manufacturer YAGEO Group for the semiconductor business area. Turnover target for the first product is at least SEK 400 million in 2027, to then gradually multiply the turnover by adding more products in the family of ultra-thin capacitors.

On March 9, it was announced that the company has initiated a deepened collaboration with the technology consulting company Qamcom to call on specialists within certain development projects. The aim is to ensure a continued high pace in technology and product development for the company's two business areas semiconductors and hydrogen.

On March 17, it was announced that the Group company Smoltek Hydrogen has appointed Shafiq Kabir as Head of Volume Processes in the Hydrogen business area. Shafiq Kabir founded Smoltek in December 2005 and he has been responsible for developing the company's technology platform, based on catalytic growth of conductive nanostructures, and the patent portfolio to be used in several industrial sectors. In January 2021 he chose to leave the company to pursue an Executive MBA-program, but he has now returned to the company.



Smoltek's head office at Otterhålllegatan 1 in Gothenburg



## Board of Directors



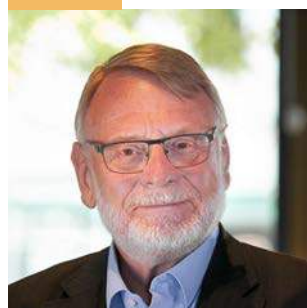
### **PETER AUGUSTSSON**

Born 1955, Chairman since 2017

Peter Augustsson holds a M.Sc. degree in Mechanical Engineering from Chalmers University of Technology, Gothenburg. He has over 40 years of experience from automotive, technology and component companies, including senior positions at Volvo Cars and as CEO of SKF and Saab Automobile.

Holding: 94,321 through holding company

Warrants: 80,000



### **FINN GRAMNAES**

Born 1948, Member of the Board since 2015

Finn Gramnaes has an education in mechanical engineering as well as extensive experience in building companies in Sweden and the US, in several technology areas, including as CEO of the development company Gramtec Innovation and the investment company Gramtec Business Partner.

Holding: 1,871,184 through holding company + 20,785 privately

Warrants: -



### **GUSTAV BRISMARK**

Born 1962, Member of the Board since 2019

Gustav Brismark holds a M.Sc. degree in Engineering Physics from Uppsala University. He has over 30 years of experience of technology development, patent and licensing issues and commercialization of new technologies. Gustav was most recently Head of Intellectual Property at Ericsson.

Holding: 2,724 through holding company + 3,409 privately

Warrants: 50,000



### **EDVARD KÄLVESTEN**

Born 1967, Member of the Board since 2022

Edvard Kälvesten holds a PhD in micro-electromechanical systems from KTH Royal Institute of Technology in Stockholm. He has deep knowledge within Smoltek's business area, which is aimed at the semiconductor industry, and has solid experience of company building, as CEO and founder of Silex Microsystems, which today has sales of more than SEK 1 billion.

Holding: -

Warrants: 30,000



### **PER ZELLMAN**

Born 1960, Member of the Board since 2022

Per holds a M.Sc. in Electrical Engineering from KTH Royal Institute of Technology in Stockholm and an Executive MBA from Lund University. Per Zellman has extensive experience in company building and commercialization from, for example, the semiconductor industry. Previous board experience from, among others, Norstel AB, Ascatron AB and Acosense AB.

Holding: 6,000

Warrants: 10,000

## Ledande befattingshavare och revisor



### HÅKAN PERSSON

Born 1961, CEO since 2021 and President of Smoltek Semi AB since 2022

Håkan Persson holds a B.Sc. in Business Administration from Lund University. He has held the position of CEO in several listed technology companies. Most recently he held the position of interim Senior Vice President, Sales & Strategy at Next Biometrics.

Holding: 50,000

Warrants: 50,000



### ELLINOR EHRNBERG

Born 1966, President of Smoltek Hydrogen AB, employed since 2021

Ellinor Ehrnberg holds a Ph.D. in Technology and Corporate Strategy from Chalmers University of Technology in Gothenburg. She has over 30 years of experience in innovation, business development, strategy, company acquisitions, research, sales and business management, mainly within SKF and also from Husqvarna, Mölnlycke Health Care, RISE and Arthur D Little.

Holding: 7,200

Warrants: 35,600



### FARZAN GHAVANINI

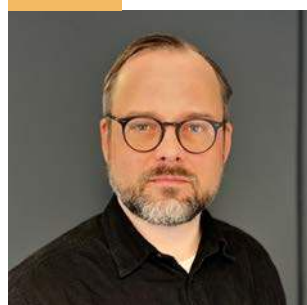
Born 1978, CTO, employed since 2022

Farzan Ghavanini holds a Ph.D. in Microtechnology and Nanoscience from Chalmers University of Technology in Gothenburg. He has solid experience from leading positions in technology development, most recently as head of new technology development at Fingerprint Cards.

Farzan also has extensive experience of industrializing nanotechnology.

Holding: -

Warrants: -



### KARL LUNDAHL

Born 1977, COO & Head of R&D, employed since 2019

Karl Lundahl holds a M.Sc. in Chemical Engineering from Chalmers University of Technology in Gothenburg. He has over 15 years of experience in applied research and development in the electronics and semiconductor industry. He also has experience in scaling up prototyping to very high-volume production.

Holding: -

Warrants: 8,000



### PIA TEBGORG

Born 1968, CFO, employed since 2020

Pia Tegborg holds an MBA from the School of Business, Economics and Law in Gothenburg. She has extensive experience of running finance and treasury functions in growth companies, and has extensive experience in strategic communications.

Holding: -

Warrants: 9,000



### ZLATAN MITROVIC Chief Auditor

Zlatan Mitrovic is an authorized accountant at Grant Thornton Sweden. He has been the auditor for Smoltek Nanotech Holding since 2016.

## The share, share capital and result distribution

As of December 31, 2022, the share capital of Smoltek Nanotech Holding AB amounted to 1,690,297 SEK, distributed on 14,188,887 shares. All shares are of the same type. The company's share is traded on Spotlight Stock Market with the ticker symbol SMOL. As of December 31, 2022, the number of shareholders in the company was approximately 3,200. The ten largest shareholders owned shares corresponding to 47.94% of the capital and votes.

### Incentive program

At the annual general meeting on 2022-05-12, it was decided to issue a maximum of 409,000 warrants to the management and other employees as well as to certain board members. 109,000 of these were exercised. The options have a term of three years, and the exercise price is SEK 45.80 per share.

At the extraordinary general meeting on 2021-12-20, it was decided to issue a maximum of 50,000 warrants to CEO Håkan Persson and 40,000 warrants to chairman of the board Peter Augustsson. The warrants were fully exercised. The options have a term of three years, and the exercise price is SEK 47.83 per share.

At the 2021-05-27 annual general meeting, it was decided to issue a maximum of 123,000 warrants with the right for certain board members and certain key persons in the company to subscribe. 79,100 of these were used. The options have a term of three years, and the exercise price is SEK 70 per share. Furthermore, it was decided to give employees, both current and future, based on predetermined categories, the right to acquire a maximum of 52,000 warrants from the company. The warrants must be transferred on market terms at a premium determined based on a calculated market value per the day of each transfer.

At the Annual General Meeting 2020-06-09, it was decided to issue a maximum of 48,000 warrants with the right for key employees in the company to subscribe. 8,640 of these were exercised. The warrants have a maturity of 3 years and the exercise price is 115 SEK.

### Ownership structure\*

Shareholder	No of shares	Votes and capital (%)
Gramtec Business Partner AB	1,871,184	13.19%
Peter Enoksson	1,204,142	8.49%
Mangold Fondkommision AB	888,848	6.26%
Formue Nord Markedsneutral	768,159	5.41%
Avanza Pension	742,299	5.23%
Kaj Holmberg	446,263	3.15%
Tuvedalen Limited	316,230	2.23%
Nordnet Pensionförsäkring AB	282,199	1.99%
Försäkringsbolaget Skandia	148,096	1.04%
Bo Hedfors	135,270	0.95%
Övriga	7,386,197	52.06%
<b>Totalt</b>	<b>14,188,887</b>	<b>100.0%</b>

\*Information from Euroclear.

### Proposed appropriation of retained results

Retained earnings at the disposal of the Annual General Meeting:

Retained earnings	-39,344,099
Share premium reserve	236,218,375
Profit/loss for the year	-15,363,880
	<b>181,510,397</b>

The Board proposes that the profit/loss for the year be carried forward.

With regard to the company's financial position and performance in other respects, refer to the following income statement, balance sheet and cash flow statements, as well as the accompanying notes.

## Risks and uncertainties

**The risk factors deemed to have an impact on Smoltek's future prospects are described below.**

### RISKS RELATED TO BUSINESS AND OPERATIONS

#### **Risks related to technological development**

The company develops carbon nanofiber structures for the development of products and process steps for mass production of these, primarily intended for ultra-thin capacitors for the semiconductor industry and high-efficiency cell materials for electrolyzers in the hydrogen industry. Changes in these industries, which are technologically intensive and characterized by rapid development, can be associated with great uncertainty compared to companies in more stable industries and markets with less change.

There is a risk that the Company misjudges the technological development and/or the market regarding the above industries and new technologies may be developed that make the Company's future products obsolete. This could entail a delayed or completely cancelled market launch of parts of or entire product categories with lost revenue and/or increased development costs as a result.

#### **Risks related to sales and license and collaboration agreements**

Smoltek's future sales are dependent on the Company either succeeding in entering into commercial agreements for sales, partnership or licensing of the technology and products that the Company develops with industrial companies, or on the Company succeeding in selling this through its own channels.

In order for the Company and/or its future business partners to be able to profitably market and commercialize the technology and products that the Company develops, the demand for these must be sufficiently good. There is a risk that the Company's future products will not gain broad market acceptance or that after commercialization it will decrease, for example as a result of competing solutions that are not known today being introduced on the market, or that the Company's products will not achieve the required quality. There is also a risk that the price of the technology and products that the Company develops cannot be set to a level desired by the Company upon commercialization. Should the demand or the price be insufficient during, or decrease after, a commercialization, this will negatively

affect the Company's results and financial position.

There is also a risk that Smoltek fails to enter into agreements with industrial companies, or that such agreements cannot be concluded on such favorable terms as the Company wishes. The Company's ability to sign successful agreements is dependent, among other things, on successful development work, the quality of the technology platform and on the Company's research and related documentation, the robustness of the Company's intellectual property rights and that the Company otherwise appears to be a credible and attractive business and collaboration partner. Potential collaboration partners may, in order to enter into an agreement, require that additional tests be carried out on the Company's products or technology platform, which can create delays and also create increased costs in connection with the Company's market establishment. Should the Company not live up to the potential demands made by partners, it could have a significant negative impact on the Company's operations and future development.

If Smoltek succeeds in entering into significant license, partnership or collaboration agreements, is it reasonable to expect that a significant proportion of the Company's potential revenue within the framework of such an agreement will consist of so-called milestone payments, i.e. one-off payments that are paid out only if and when certain determined goals are achieved. Since the majority of compensation within the framework of this type of commercial agreement is typically issued with a delay, at various commercial measurement points and in the form of royalty compensation, there is a risk that the Company will ultimately not receive the majority of the potential value of such an agreement if the established targets (so-called milestones) are not achieved.

#### **Dependence on key persons and employees**

The Company's operations are based on research and development of advanced high-tech products and are highly dependent on their employees and consultants, especially the Company's senior executives, some of whom are also shareholders in the Company. If one or a few of these key people were to leave the Company, it could delay or hinder the Company's continued research, development and operations. It is important for the Company to be able to attract and retain qualified personnel. The development and research in these areas require that the Company's employees



## Risks and uncertainties

have adequate education, experience and specialist knowledge that are in demand on the labor market. In the event that the Company does not succeed in retaining key personnel or does not succeed in recruiting qualified personnel in the future, there is a risk that this will negatively affect the Company's opportunities to develop and thus generate future income. Unexpected losses of key personnel could further in a short-term perspective lead to cost increases and that the Company's development of ultra-thin capacitors and high-efficiency cell materials, at least in the short term, deteriorates significantly.

### Competition

In the Company's main markets, the USA and Asia, there are several other companies who conduct similar and competing activities, such as Murata and TSMC. Some of these competing companies are, due to their access to greater personnel and financial resources, in a better position to quickly adapt the supply and products to customer wishes and demand. Smoltek currently has 20 employees, which compared to some of its competitors may be considered limited personnel resources. If customer demand shifts in a way the Company did not foresee, or if the Company's technology does not prove to be sufficiently competitive, it is not certain that Smoltek will be able to improve its current market position in the future. The industry's great potential could also mean that not yet established players enter the market and that such increased competition leads to price pressure for the Company's products and services as well as a reduced market share, which could have a negative effect on the Company's operations, future growth, results and financial position.

### Risks related to product liability and lack of product quality

Maintaining high product quality is an important factor in the area where the Company operates. Marketing and sales of the type of products that the Company intends to be able to offer in the future entails a significant risk of claims based on product liability.

Lack of quality in and/or design of the Company's future delivered products and/or manuals/guidelines/instructions that lead to damage to persons or property may result in claims for damages being directed against the Company. There is a risk that the insurance that the Company has taken out at any time does not cover potential claims regarding product

liability that may arise, for example if a product liability claim is not covered by the insurance cover or if the claim for damages exceeds the insurance amount. In addition, there is a risk that the Company cannot obtain or maintain such insurance cover on terms acceptable to Smoltek.

The company has so far only begun the industrialization and commercialization of its products, and it is therefore difficult to predict the extent to which any product problems may arise in the future. There is also a risk that problems arise when determining whether a fault, for example, in processors in electronic devices is due to Smoltek's product or another component, and that such a determination becomes both time- and cost-consuming for the Company.

Any disputes concerning product liability can be very costly and can lead to extensive negative publicity for the Company. If any of the above-mentioned risks were to materialize, it could entail significant costs, and have a significant negative impact on the Company and its operations, both reputationally and financially.

## LEGAL RISKS

### Intellectual property rights, know-how and confidentiality

The company's technology and products are based on a number of patents. The Company's future success will therefore depend to a significant extent on the Company's ability to obtain and maintain intellectual property protection in the markets where the Company operates. There is a risk that the Company will not obtain patents for products developed in the future. Patents also have a limited lifespan. In addition, the scope of each patent protection may differ from one country to another as all patent legislation is not harmonized.

Being a company with a commercially central patent portfolio entails a number of risks. Other companies may infringe the Company's patents with their products and operations. Other companies may also have applied for patents or registration of other intellectual property rights in the same field as the technology that the Company develops. There is also a risk that the Company's technology infringes third party rights and registered intellectual property rights. The company may be forced to take legal action to protect its patents

## Risks and uncertainties

and to prevent infringement. The cost and time required for legal proceedings may be significant, and the Company may lose such proceedings. It could result in the Company having to pay significant damages. There is a risk that the existing and possible future patent portfolio and other intellectual property rights held by the Company will not constitute adequate commercial protection.

The company is also dependent on proprietary company secrets and know-how. The company strives to protect these values, for example through confidentiality agreements with employees, consultants and partners. However, it is not possible to fully protect oneself against the unauthorized dissemination of information, which entails a risk that competitors or other unauthorized persons gain access to and can benefit from the know-how and business secrets developed by the Company. Furthermore, dissemination of company secrets can affect the Company's chances of being granted patents for inventions or even exclude the possibility of being granted patents.

If the Company's intellectual property rights, know-how and company secrets are not adequately protected, there is a risk that the Company's costs will increase significantly in order to defend the values linked to such rights. There is also a risk that the Company's potential future income will be significantly reduced in such a situation because it may involve difficulties in commercializing the Company's products.

### FINANCIAL RISKS

#### Earnings power and future capital needs

The company has been operating for a relatively short period and has only begun the industrialization and commercialization of its main business areas; semiconductors and hydrogen. Thus, the Company has only a limited history and no proven earnings power. The company is dependent on a successful commercialization and market introduction of its technology platform and products. There is a risk that the Company for shorter or longer periods will not generate sufficient funds to finance the continued operations.

### RISKS RELATED TO THE COMPANY'S SECURITIES

#### Risk associated with dilution in future issues

The company has historically financed product development and other operations with the help of new issues and in light of the development phase the company is in, Smoltek may need additional capital in the future to finance its operations. If the Company chooses to raise additional capital through directed new issues, holdings of existing shareholders not entitled to subscribe will be diluted. Shareholders can have their holdings diluted by not subscribing to their share in future preferential rights issues. Such dilution means that the shareholder's relative voting power and thus the opportunity to influence decisions at the general meeting is weakened and that the shareholder's share in the Company's assets and results is reduced.

If in the future the Company needs to acquire additional capital through the issue of share-related securities, this could have a negative impact on the Company's share price, which in turn also has a negative impact on existing shareholders.

#### Share price development, volatility and liquidity

Smoltek's shares are listed on the Spotlight Stock Market. Existing and prospective shareholders should take into account that an investment in Smoltek is associated with risk and that it cannot be predicted whether the share price will have a positive development. This entails a risk that investors may lose all or part of their invested capital. Smoltek's share price has historically been volatile and may continue to fluctuate as a result of, among other things, variations in results in the Company's quarterly reports, the general economic situation, general macroeconomic factors and changes in the stock market's interest in the Company and its share.

#### Risks of ownership concentration

The company today has two major shareholders; Gramtec Business Partner AB and Peter Enoksson, who together control approximately 21.1 percent of the votes and capital in the Company. These shareholders have also historically had great influence over the Company. In practice, such controlling owners have a very large influence over a listed company and will be able to influence the outcome of the majority of such matters that are decided at the general meeting, inclu-

## Risks and uncertainties

ding how the Company's results are to be disposed of and how the board is to be composed.

In addition, controlling owners can often indirectly exercise influence over the Company through assignments as board members in the Company. There is a risk that the interests of such controlling shareholders are not in line with those of the other shareholders in terms of, for example, profit distribution and structural transactions. Such ownership concentrations can also affect the conditions for ownership changes in the Company and mergers with other groups of companies. This type of conflict can negatively affect the Company's operations and financial position as well as the development of the share price to a medium extent.

# Key ratios

Multi-year overview (KSEK)	2022	2021	2020	2019
<b>The Group</b>				
Net sales	2,692	1,360	2,573	506
Equity/assets ratio**	84.5%	94.8%	96.4%	92.6%
Cash and cash equivalents (incl. short-term investments)	71,108	71,586	87,683	24,642
Total assets	147,486	143,533	144,039	68,540
Profit/loss after financial items	-46,803	-24,744	-13,561	-12,565
Profit/loss per share	-4.83 SEK	-3.01 SEK	-1.99 SEK	-2.06 SEK
Profit/loss per share, after possible dilution	-4.61 SEK	-2.90 SEK	-1.64 SEK	-1.95 SEK
<b>Parent company</b>				
Net sales	5,090	5,017	2,951	2,500
Equity/assets ratio*	98.0%	94.3%	99.0%	98.9%
Cash and cash equivalents (incl. short-term investments)	54,091	60,641	82,238	22,725
Total assets	187,566	172,895	192,910	95,942
Profit/loss after financial items	-15,364	-49,697	-2,473	-828

\* Adjusted equity / total assets



## Changes in equity

(SEK)

**The Group**

	Share capital	Other paid in capital	Other equity including profit/loss for the period	Total equity
Opening balance 2022-01-01	1,105,856	191,793,367	-56,898,662	136,000,561
Issuance of warrants		577,300		577,300
Issuance of shares (preferential rights issue)	574,688	43,417,116		43,991,804
Issuance of shares (directed issue guarantor)	9,753	727,059		736,812
Issuing costs		-9,821,975		-9,821,975
Profit/loss for the year			-46,803,338	-46,803,338
<b>Closing balance 2022-12-31</b>	<b>1,690,297</b>	<b>226,692,867</b>	<b>-103,702,000</b>	<b>124,681,164</b>

(SEK)

**Parent company**

	Share capital	Non-registered share capital	Share premium reserve unrestricted equity	Other unrestricted equity
Opening balance 2022-01-01	1,105,856		201,318 820	-39,344,099
Issuance of warrants			577,300	
Issuance of shares (preferential rights issue)	574,688		43,417,116	
Issuance of shares (directed issue guarantor)	9,753		727,059	
Issuing costs			-9,821,975	
Profit/loss for the year				-15,363,880
<b>Closing balance 2022-12-31</b>	<b>1,690,297</b>	<b>-</b>	<b>236,218,320</b>	<b>-54,707,979</b>

## Consolidated income statement

*Smoltek Nanotech Holding AB including subsidiaries*

(SEK)	Note	2022	2021
Net sales		2,691,845	1,359,728
Received grant		0	109,957
Activated own-account work	8	4,986,875	4,496,956
Other operating income		23,527	118,175
		<b>7,702,248</b>	<b>6,084,816</b>
<i>Operating costs</i>			
Depreciation and impairment		-12,306,964	-
Other external costs		-15,504,933	-13,085,371
Personnel costs	3, 4	-25,264,494	-17,972,000
<b>Operating profit/loss</b>		<b>-45,374,144</b>	<b>-24 972 555</b>
<i>Profit/loss from financial items</i>			
Sale of securities		-389,851	239,079
Impairment of short-term investment		-1,046,634	-
Interest income		23,259	-
Interest costs		-15,968	-10,869
<b>Profit/loss before tax</b>		<b>-46,803,338</b>	<b>-24,744,345</b>
Tax on profit/loss for the year	5	-	-
<b>Profit/loss for the year</b>		<b>-46,803,338</b>	<b>-24,744,345</b>

## Consolidated balance sheet – assets

Smoltek Nanotech Holding AB including subsidiaries

(SEK)	Note	2022-12-31	2021-12-31
<b>ASSETS</b>			
<b>Fixed assets</b>			
<i>Intangible fixed assets</i>			
Capitalized expenditures for development work	8	64,607,798	63,498,359
<i>Tangible fixed assets</i>			
Advance payments for tangible fixed assets	9	4,028,863	4,583,662
Machinery and equipment		4,402,474	
<b>Total fixed assets</b>		<b>73,039,136</b>	<b>68,028,021</b>
<b>Current assets</b>			
<i>Current receivables</i>			
Tax receivables		-	160,092
Accounts receivables		429,696	202,761
Other current receivables		2,392,379	2,161,215
Prepaid costs and accrued income		516 501	1,340,923
		<b>3,338,575</b>	<b>3,864,991</b>
Cash and cash equivalents		48,353,160	31,346,670
Other current investments		22,755,171	40,239,734
<b>Total current assets</b>		<b>74,446,906</b>	<b>75,451,395</b>
<b>TOTAL ASSETS</b>		<b>147,486,042</b>	<b>143,533,416</b>

## Consolidated balance sheet – equity and liabilities

Smoltek Nanotech Holding AB including subsidiaries

(SEK)	Note	2022-12-31	2021-12-31
<b>EQUITY AND LIABILITIES</b>			
<b>Equity</b>			
Share capital		1,690,297	1,105,856
Other contributed capital		226,693,367	191,793,367
Other equity incl. profit/loss for the year		-103,702,000	-56,898,662
<b>Total equity</b>		<b>124,681,224</b>	<b>136,000,561</b>
<b>Long-term liabilities</b>			
Liabilities to credit institutions	10	703,926	757,890
<b>Total long-term liabilities</b>		<b>703,926</b>	<b>757,890</b>
<b>Current liabilities</b>			
Trade liabilities		2,140,037	1,891,876
Other liabilities		14,436,563	599,493
Accrued costs and prepaid income	11	5,524,351	4,283,654
<b>Total current liabilities</b>		<b>22,100,951</b>	<b>6,775,023</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>147,486,541</b>	<b>143,533,416</b>



## Consolidated cash flow statement

*Smoltek Nanotech Holding AB including subsidiaries*

(SEK thousand)

### OPERATING ACTIVITIES

Operating profit/loss	-45,374	-24,973
Non-cash items	12,307	-10
Profit/loss from financial items	7	-

### Cash flow from operating activities before changes in working capital

**-33,449**      **-24,983**

### CHANGES IN WORKING CAPITAL

Changes in receivables	526	-1,150
Changes in current liabilities	15,326	2,428

### Cash flow from operating activities

**-17,597**      **-23,705**

### INVESTMENT ACTIVITIES

Intangible fixed assets	-12,326	-11,868
Tangible fixed assets	-4,902	- 2,573
Current Investments	-	-60,000
Sales of current investments	16,048	19,999

### Cash flow from investment activities

**-1,216**      **-54,442**

### FINANCING ACTIVITIES

Issuance of subscription warrants	577	21,913
Issuance of shares	44,729	-
Issuing costs	-9,822	-
Repurchase of warrants	-	-41
Changes in long-term liabilities	-54	-61

### Cash flow from financing activities

**35,430**      **21,811**

*Change in cash and cash equivalents*

17,006      -56,336

Cash opening balance

31,347      87,683

### CASH CLOSING BALANCE

**48,353**      **31,347**

## Parent company income statement

Smoltek Nanotech Holding AB

(SEK)	Note	2022	2021
Net sales		5,090,399	5,016,870
Other operating income		1,264,718	718,535
		<b>6,355,177</b>	<b>5,735,405</b>
<i>Operating costs</i>			
Other external costs		-8,857,661	-6,777,098
Personnel costs	3, 4	12,166,779	-10,081,400
<b>Operating profit/loss</b>		<b>-14,669,323</b>	<b>-11,123,094</b>
<i>Profit/loss from financial items</i>			
Sales of securities		-389,851	239,079
Interest income	6	755,948	1,189,220
Impairment of shares		-	-40,000,000
Impairment of short-term investment		-1,046,634	-
Interest costs		-14,019	-2,263
<b>Profit/loss before tax</b>		<b>-15,363,880</b>	<b>-49,697,059</b>
Tax on profit/loss for the year		-	-
<b>Profit/loss for the year</b>		<b>-15,363,880</b>	<b>-49,697,059</b>

# Parent company balance sheet – assets

Smoltek Nanotech Holding AB

(SEK)	Note	2022-12-31	2021-12-31
<b>ASSETS</b>			
<b>Fixed assets</b>			
<i>Financial fixed assets</i>			
Shares in Group companies	7	80,313,830	80,313,830
Receivables at Group companies		49,847,173	30,114,338
<b>Total fixed assets</b>		<b>130,161,003</b>	<b>110,428,168</b>
<b>Current assets</b>			
<i>Current receivables</i>			
Current receivables from Group companies		2,381,662	907,992
Tax receivable		163,121	120,163
Prepaid costs and accrued income		616,800	580,213
Other current receivables		137,952	337,848
		<b>3,299,535</b>	<b>1,946,216</b>
Cash and cash equivalents		31,336,098	20,400,982
Other current investments		22,755,171	40,239,734
<b>Total current assets</b>		<b>54,091,269</b>	<b>62,586,932</b>
<b>TOTAL ASSETS</b>		<b>187,551,807</b>	<b>173,015,100</b>

## Parent company balance sheet – equity and liabilities

Smoltek Nanotech Holding AB

(SEK)	Note	2022-12-31	2022-12-31
<b>EQUITY AND LIABILITIES</b>			
<b>Equity</b>			
<i>Restricted equity</i>			
Share capital		1,690,298	1,105,856
		<b>1,690,298</b>	<b>1,105,856</b>
<i>Unrestricted equity</i>			
Share premium reserve		236,218,375	201,318,820
Profit/loss brought forward		-39,344,096	10,352,963
Result for the period		-15,363,880	-49,697,059
		<b>181,510,399</b>	<b>161,974,724</b>
<b>Total equity</b>		<b>183,200,696</b>	<b>163,080,580</b>
<i>Current liabilities</i>			
Current receivables from Group companies		-	7,206,524
Trade liabilities		795,555	584,533
Other liabilities		773,107	536,894
Accrued costs and prepaid income	11	2,782,448	1,606,571
<b>Total current liabilities</b>		<b>4,351,110</b>	<b>9,934,520</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>187,551,807</b>	<b>173,015,100</b>



## Parent company cash flow statement

Smoltek Nanotech Holding AB

(SEK thousand)

	2022	2021
<b>OPERATING ACTIVITIES</b>		
Operating profit/loss	-14,669	-11,123
Profit/loss from financial items	23	-2
<b>Cash flow from operating activities before changes in working capital</b>	<b>-15,036</b>	<b>-11,125</b>
<b>CHANGES IN WORKING CAPITAL</b>		
Current receivables Group	-8,693	-881
Changes in receivables	-	-305
Changes in current liabilities	1,743	603
<b>Cash flow from operating activities</b>	<b>-21,986</b>	<b>-11,708</b>
<b>INVESTMENT ACTIVITIES</b>		
Financial fixed assets	-	-
Changes in receivables at Group companies	-19,000	-32,000
Current investments	-	-60,000
Sales of current investments	16,048	19,999
<b>Cash flow from investment activities</b>	<b>-2,952</b>	<b>-72,001</b>
<b>FINANCING ACTIVITIES</b>		
Issuance of subscription warrants	577	21,913
Issuance of shares (preferential rights issue)	44,729	-
Issuing costs	-9,822	-
Repurchase of warrants	-	-41
<b>Cash flow from financing activities</b>	<b>35,484</b>	<b>21,872</b>
<i>Change in cash and cash equivalents</i>	<i>10,935</i>	<i>-61,837</i>
Cash opening balance	20,401	82,238
<b>CASH CLOSING BALANCE</b>	<b>31,336</b>	<b>20,401</b>

# Notes for the group and the parent company

*All amounts are stated in SEK, unless otherwise stated.*

## Note 1 Accounting principles and valuation principles

### General accounting principles

The Group's and Parent Company's financial reports have been prepared in accordance with the Annual Accounts Act and BFNAR 2012:1 (K3). Applied principles are unchanged compared to the previous year. The most important accounting and valuation principles that have been used in preparing the financial reports are summarized below.

### Consolidated accounts

Basics of the consolidated accounts

In the consolidated accounts, the parent company and all subsidiaries' operations are consolidated up to and including 31 December 2022. Subsidiaries are all companies in which the Group has the right to design the company's financial and operational strategies in order to obtain financial benefits. The group achieves and exercises controlling influence by holding more than half of the votes.

All subsidiaries have a balance sheet date of December 31 and apply the parent company's valuation principles. The consolidated accounts are presented in the currency SEK, which is also the parent company's accounting currency. Results for subsidiaries acquired or divested during the year are reported from the date the acquisition, alternatively to the date the divestment, takes effect, according to what is applicable.

### Transactions eliminated on consolidation

Intra-group transactions and balance sheet items are eliminated in their entirety upon consolidation, including unrealized gains and losses on transactions between group companies. In cases where unrealized losses on intra-group assets are reversed during consolidation, the impairment of the underlying asset is also tested from a group perspective.

### The acquisition method

The group applies the acquisition method when accounting for business combinations, which means that the reported value of the parent company's shares in group companies is eliminated by being offset against the subsidiary's equity at the time of acquisition. The parent company prepares an acquisition analysis at the time of acquisition to identify the group's acquisition value, partly for the shares, partly for the subsidiary's assets, provisions and liabilities. The business acquisition is reported in the group from the date of acquisition. The acquisition value of the acquired unit is calculated as the sum of the purchase price, i.e.

- \* fair value at the time of acquisition for paid-up assets with the addition of incurred and assumed liabilities and issued equity instruments
- \* expenses that are directly attributable to the business acquisition
- \* additional purchase price or equivalent if this can be reliably estimated.

The group reports identifiable acquired assets and assumed liabilities in business combinations, regardless of whether they have been previously reported in the acquired company's financial statements prior to the acquisition or whether they relate to a minority interest. Acquired assets and assumed liabilities are usually valued at the fair value at the time of acquisition.

## The income statement

### Income

Revenues arise from the sale of goods and the performance of services and are reported in the item Net sales. Revenue is valued at the fair value of what has been received or will be received for goods delivered and services rendered, i.e. at the selling price with deductions for trade discounts, quantity discounts and similar price reductions as well as value added tax.

Amounts received on behalf of others are not included in the group's income.

When payment from the customer is deferred, a sale of goods/service is reported as well as an interest income. The revenue from the product/service is valued at the present value of all future payments.

### Interest income

Interest income is reported as it is earned. Calculation of interest income is done on the basis of the underlying asset's return according to the effective interest method.

### Public grants

A public grant that is not linked to requirements for future performance is recognized as revenue when the conditions for receiving the grant have been met. A public grant that is linked to requirements for future performance is recognized as revenue when the performance is achieved. Grants received where all conditions have not yet been met are reported in the item Other liabilities.

Grants received for the acquisition of a fixed asset reduce the acquisition value of the fixed asset. Other public grants are reported in the item Other operating income.

A public grant is valued at the fair value of the asset that the group received or will receive.

## The balance sheet

### Valuation principles etc

Assets, provisions and liabilities have been valued at acquisition value unless otherwise stated below.

### Shares in group companies

Shares in group companies are valued at acquisition value, possibly reduced by write-downs. Dividends from subsidiaries are reported as income.

### Intangible assets

Capitalized expenditures for development work. Depreciation begins when the development work is completed.

When reporting expenditure for development, the capitalization model is applied. An intangible asset is only recognized when the asset is identifiable, control is held over the asset and it is expected to provide future financial benefits. The company's research costs are expensed in the period they arise. In the company, expenditure on development is reported as an intangible asset, in addition to the general requirements stated above, only on the condition that it is technically and financially possible to complete the asset, the intention is and the conditions exist for the asset to be used in the business or sold and can be reliably estimated.

Development expenses that do not meet these criteria for capitalization are expensed as incurred.

The acquisition value for balanced expenses includes the expenses for the production of the asset. Directly attributable expenses include personnel costs incurred in the development work together with an appropriate proportion of indirect costs. The corresponding amount has been transferred to the Statutory reserve. The Statutory reserve is reported in Other equity incl. profit/loss for the year.

#### **Additional expenses**

Additional expenses on an intangible asset is added to the acquisition value only if it increases the future economic benefits in excess of the original assessment and the expenditure can be reliably estimated. All other expenses are expensed as incurred.

#### **Removal from the balance sheet**

Intangible fixed assets are removed from the balance sheet upon retirement or disposal or when no future economic benefits are expected from the use, retirement or disposal of the asset. When intangible fixed assets are disposed, the capital gain is determined as the difference between the sale price and the asset's reported value and is reported in the income statement in one of the items Other operating income or Other operating expenses.

#### **Tangible fixed assets**

Tangible fixed assets are initially reported at acquisition value or manufacturing costs, including expenses to get the asset in place and in condition to be able to be used according to the intentions of the investment. The acquisition value includes the purchase price and other directly attributable expenses such as expenses for delivery, handling, installation, assembly, title deeds and consulting services. Indirect manufacturing costs are also included in the acquisition value of self-produced tangible fixed assets.

In the case of acquisition of tangible fixed assets where payment is deferred, the acquisition value is the present value of future payments.

#### **Removal from the balance sheet**

Tangible fixed assets or components are removed from the balance sheet upon retirement or disposal or when no future economic benefits are expected from the use, retirement or disposal of the asset or component.

When tangible fixed assets are disposed, the capital gain is determined as the difference between the sale price and the asset's reported value and is reported in the income statement in one of the items Other operating income or Other operating expenses.

#### **Impairment testing of intangible and tangible fixed assets**

At each balance sheet date, an assessment is made as to whether there is any indication that an asset's value is lower than its reported value. If there is such an indication, the asset's recovery value is calculated. If the recovery value is less than the reported value, an impairment is made and expensed. An internally developed intangible fixed asset that is not yet ready to be used or sold as of the balance sheet date is always tested for impairment.

The recoverable amount of an asset or a cash-generating unit is the higher of fair value less sales costs and value in use.

Fair value less sales costs is the price that the Group/Parent Company expects to be able to obtain in a sale between knowledgeable parties who are independent of each other and who have an interest in the transaction being carried out. Deductions are made for such costs that are directly attributable to the sale.



However, no provision is made for deferred tax on the first recognition of goodwill. Change in deferred tax is reported in the income statement. Deferred tax assets are reported for all deductible temporary differences and for the possibility of using unused loss deductions in the future.

Deferred tax assets and liabilities are valued based on how the Group expects to recover/settle the reported value of the corresponding asset/liability. Valuation is done without discounting and according to the tax rates and tax rules decided on the balance sheet date. A deferred tax asset is valued at a maximum of the amount that is likely to be recovered based on current or future taxable results, which is reviewed on each balance sheet date.

In the case of pure substance acquisitions, the Group has chosen to calculate the present value of the deferred tax liability that arises in connection with the acquisition but only if the value of the deferred tax liability is an essential part of the business settlement and there is a documented connection between the purchase price and the Group's valuation of the deferred tax liability.

### Foreign currency

Receivables and liabilities in foreign currency have been converted to the exchange rate on the balance sheet date.

### Cash and cash equivalents

Cash and cash equivalents consist of cash and disposable balances with banks and other credit institutions and other short-term, liquid investments that can be easily converted into a known amount and that are exposed to insignificant risk of value fluctuations. Such investments have a term of a maximum of three months.

### Equity

Equity in the group consists of the following items:

*Share capital* representing the nominal value of issued and registered shares.

*Other contributed capital* which includes any premium received from the new issue of share capital. Any transaction costs associated with the new issue of shares are deducted from the premium, taking into account any income tax effects.

*Other equity incl. profit/loss for the year* which includes the following:

\* The Statutory reserve is increased annually by the amount that has been activated regarding the company's own development work. The fund is reduced annually with the depreciation of the capitalized development work.

\* Profit/loss carried forward, i.e. all retained earnings and share-based compensation for the current and prior periods.

All transactions with the parent company's owners are reported separately in Changes in equity. Dividends to be paid are included in the item Other liabilities when the dividends have been approved at a general meeting before the balance sheet date.

### Remuneration to employees

#### Short-term remuneration

Short-term remuneration to employees, such as wages, holiday pay and bonuses, are remuneration to employees that fall due within 12 months from the balance sheet date in the year in which the employee earned the benefit. Short-term remuneration is valued at the undiscounted amount that the Group is expected to pay as a result of the unused right.

#### Compensation after termination of employment

The Group provides compensation after termination of employment in the form of pensions through various defined benefit and defined contribution plans.

### **Defined contribution pension plans**

The Group pays fixed fees to other legal entities regarding several government plans and insurances for individual employees. The Group has no legal or informal obligations to pay additional fees beyond payments of the established fee that is recognized as an expense in the period in which the relevant service is performed.

### **Compensation on termination**

Provision for severance pay is reported when the Group has a legal or informal obligation to terminate employment before its termination or to provide compensation on termination through an offer to encourage voluntary resignation. A provision is made for the part of the termination pay that the employee receives without work obligation plus social security contributions, which represents the best estimate of the compensation that is expected to be required to settle the obligation.

### **Share-related remuneration to employees**

The Group has share-related remuneration for its employees which is settled with shares and which is therefore booked against equity.

Share-related remuneration where the employees does not have to complete a certain period of service before they have an unconditional right to compensation is expensed in its entirety at the time of award.

Share-related remuneration where the employees must complete a certain period of service before they have an unconditional right to compensation is expensed during the earning period.

## **Note 2 Estimates and assessments**

When financial reports are prepared, the board and the CEO must, in accordance with applied accounting and valuation principles, make certain estimates, assessments and assumptions that affect the accounting and valuation of assets, provisions, liabilities, income and costs. The areas where such estimates and assessments can be of great importance to the group, and which can thus affect the results and balance sheets in the future, are described below.

### **Significant assessments**

The following are significant judgments that have been made when applying those of the group's accounting principles that have the most significant effect on the financial statements.

### **Capitalization of intangible assets**

The allocation between the research and development phases of new software development projects and the determination of whether the requirements for the capitalization of development expenditure are met require assessments. After capitalization, it is monitored whether the accounting requirements for development costs are still met and whether there are indications that the capitalized expenses may be exposed to a decline in value.

The group holds balanced intangible assets that have not yet been completed. Such assets must be tested for impairment in case of indication of continuing value decline, as well as at least annually. The company's intangible assets are deemed by the board to have a reassuring excess value. In order to do this, an estimate must be made of the future cash flows attributable to the asset or the cash-generating unit to which the asset is to be attributed when completed. An appropriate discount rate must also be determined to be able to discount these estimated cash flows.

### **Accounting of deferred tax assets**

The assessment of the extent to which deferred tax assets can be reported is based on an assessment of the probability of the group's future taxable income against which deferred tax assets can be utilized. In addition, significant considerations are required in assessing the effect of certain legal and financial limitations or uncertainties in various jurisdictions.

Deferred tax on loss carry-forwards represents significant amounts. As there is uncertainty about when in time the deficits can be utilized and whether utilization will be possible with regard to, for example, the current ownership structure, the board assesses that for the year there are no factors that convincingly indicate that the fiscal deficits can be utilized. As a result, no deferred tax asset is reported in the balance sheets and income statements, but information is provided about the size of the amounts.

### **Uncertainty in the estimate**

Below is information about estimates and assumptions that have the most significant effect on the accounting and valuation of assets, liabilities, income and expenses. The outcome from these can deviate significantly.

### **Impairments**

In connection with the group's annual accounts, balanced development expenses and shares in subsidiaries have been tested for impairment. To assess the need for impairment, the recoverable amount is calculated for each asset or cash-generating unit based on expected future cash flow and using an appropriate interest rate to be able to discount the cash flow. Uncertainties lie in assumptions about future cash flow and determination of an appropriate discount rate. The cash flow has been based on established forecasts by the company management and is based on future specific customer projects. A discount rate has been determined for the cash-generating unit and reflects the management's assessment of risk profile such as market and asset-specific risk factors. A weighted required return (WACC) of 21.9% after tax has been applied in the impairment test. The discount rate is based on an average weighted cost of capital, which is deemed to be in line with external requirements that the market places on similar companies. In addition to this, a sensitivity test with a higher WACC has also been carried out to check the margin in tests carried out. Conducted impairment test as of 31 December 2022 showed no need for impairments.

**Note 3 Average number of employees**

	<b>Group</b>		<b>Parent company</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
Average number of employees	21	15	6	4
<i>Of which women</i>	40%	40%	33%	25%

**Note 4 Salaries, other remuneration and personnel costs**

Board and CEO	3,722,445	2,842,493	3,722,445	2,842,493
Other employees	13,555,825	8,942,412	4,178,635	3,470,054
<b>Total</b>	<b>17,278,270</b>	<b>11,784,905</b>	<b>7,901,080</b>	<b>6,312,547</b>
Social expenses	6,275,954	4,031,035	3,155,156	2,552,948
<i>(of which pension costs)</i>	<i>(2,313,627)</i>	<i>(1,381,663)</i>	<i>(1,045,488)</i>	<i>(828,097)</i>

**Salaries and benefits board and CEO**

CEO, salary	2,858,205	2,122,954	2,858,205	2,122,954
CEO, consultant fee	-	2,006,500	-	2,006,500
CEO, pension premiums	512,065	361,743	512,065	361,743
Peter Augustsson, chairman of the board, board fee	288,080	227,039	288,080	227,039
Peter Augustsson, invoiced fee for other services	489,614	844,375	122,278	-
Gustav Brismark, board fee	144,040	123,125	144,040	123,125
Gustav Brismark, invoiced fee for other services	111,864	-	-	-
Peter Enoksson, board fee	51,741	123,125	51,741	123,125
Peter Enoksson, invoiced fee for other services	208,500	462,000	-	-
Finn Gramnaes, board fee	144,040	123,125	144,040	123,125
Bo Hedfors, board fee	51,741	123,125	51,741	123,125
Per Zellman, board fee	92,299	-	92,999	-
Edvard Kälvesten, board fee	92,299	-	92,299	-
<b>Total</b>	<b>5,044,489</b>	<b>6,517,111</b>	<b>4,356,788</b>	<b>5,210,736</b>

The company's pension plans are defined contribution, which means that the contributions are expensed directly in the income statement. Salaries and remuneration only refer to personnel in Sweden. In the event of termination of the CEO's employment by the company, 12 months' salary must be paid.

**Note 5 Taxes (Group)**

<b>Reconciliation of the year's tax cost</b>	<b>2022</b>	<b>2021</b>
Profit/loss before tax	-46,803,338	-24,744,345
Tax 20,6%	9,641,488	5,097,335
Unreported deferred tax asset	9,658,278	-5,102,545
Effect of non-deductible costs	-16,790	-5,210
Reported effective tax	0	0

The group has accumulated tax deficits for the tax year 2022 (2021) amounting to SEK -141.4 (-127.0) million. The underlying value of the deferred tax attributable to these deficits amounts to SEK 29.1 (26.1) million. Deferred tax asset is only reported when it can be ensured with a high degree of certainty that the deficit can be utilized.

**Note 6 Interest income (parent company)**

	<b>2022-12-31</b>	<b>2021-12-31</b>
Of which group companies	732,835	1,189,220

**Note 7 Shares in group companies (parent company)**

	<b>2022-12-31</b>	<b>2021-12-31</b>
Opening acquisition value	80,313 830	62,313 830
Issue for non-cash consideration	-	-
Shareholder contributions	-	58,000,000
Purchases/new formation	-	-
Impairment of shares	-	-40,000,000
<b>Closing accumulated acquisition values</b>	<b>80,313,830</b>	<b>80,313,830</b>

The group includes the following subsidiaries:

<b>Name/seat</b>	<b>Corporate ID</b>	<b>Number of shares</b>	<b>Share</b>	<b>Reported value</b>
Smoltek AB	556693-4591	1,382,704	100%	61,738,830
Smoltek Semi AB	559154-7723	50,000	100%	8,050,000
Smoltek Hydrogen AB	559268-1091	25,000	100%	10,525,000

**Note 8 Capitalized expenditures for development work (the group)**

	<b>2022-12-31</b>	<b>2021-12-31</b>
Accumulated acquisition values		
At the beginning of the year	63,498,359	51,120,465
Capitalized expenses for the year, internal development	4,656,133	3,718,629
Capitalized expenses for the year, purchases	7,375,187	8,149,456
Capitalized depreciation for the year	330,742	509,809
Impairment for the year	-415,007	-
<b>CLOSING ACQUISITION VALUE</b>	<b>75,445,414</b>	<b>63,498,359</b>
Accumulated depreciation		
At the beginning of the year	-	-
Depreciation for the year	-10,837,615	-
Closing accumulated depreciation according to plan	-10,837,615	-
<b>ACCOUNTED VALUE AT THE END OF THE YEAR</b>	<b>64,607,799</b>	<b>63,498,359</b>



**Note 9 Tangible fixed assets (Group)\***

	<b>2022-12-31</b>	<b>2021-12-31</b>
Accumulated acquisition values		
At the beginning of the year	4 583 662	2 520 250
Acquisitions for the year	4 902 017	2 573 221
Depreciation for the year	-1 054 342	-509 809
<b>CLOSING ACQUISITION VALUE</b>	<b>8 431 337</b>	<b>4 583 662</b>

\* This year's investments in intangible fixed assets refer to advances for an industrial machine for the growth of carbon nanofibers on 200 mm silicon wafers for the semiconductor business as well as the purchase of a potentiostat (analysis instrument) and a 600-ETS (advanced test system for R&D of electrolyzers) to the hydrogen business, of which an advance payment of 50% of the amount for the test system has been made.

**Note 10 Loans, long-term (Group)**

	<b>2022-12-31</b>	<b>2020112-31</b>
Liability due between one and five years from the balance sheet date	703,926	757,890
Liabilities due later than five years from the balance sheet date	-	-

**Note 11 Accrued costs and prepaid income**

	<b>Group</b>		<b>Parent company</b>	
	<b>2022-12-31</b>	<b>2021-12-31</b>	<b>2022-12-31</b>	<b>2021-12-31</b>
Personnel-related costs	5,007,850	2,942,731	2,581,603	1,295,172
Other accrued costs	516,501	1,340,923	200,845	311,399
Prepaid income	-	-	-	-
	<b>5,524,351</b>	<b>4,283,654</b>	<b>2,782,448</b>	<b>1,606,571</b>

**Note 12 Pledged assets and contingent liabilities**

The company has no pledged assets. According to the board's assessment, the company has no contingent liabilities.

**Note 13 Events after the balance sheet date**

In February, the Smoltek Group moved into new premises at Otterhälllegatan 1 in central Gothenburg. Adjacent to the new premises are also two laboratories, one with electrical measuring and testing equipment for semiconductor components, and one where complete electrolyzer cells can be built and tested in-house. In February, it was announced that board chairman Peter Augustsson declines re-election at the upcoming annual general meeting. The nomination committee has started the search process and aims to present its complete proposal for the board, including a new board chairman, in good time before Smoltek's annual general meeting. In March, it was announced that the company has initiated a deepened collaboration with the technology consulting company Qamcom to ensure a continued high pace in technology and product development for the company's two business areas, semiconductors and hydrogen. The Group company Smoltek Hydrogen has appointed Shafiq Kabir as Head of Volume Processes in the Hydrogen business area. Shafiq is the founder of Smoltek and was responsible for developing the company's technology platform and patent portfolio up until January 2021 when he chose to leave the company to pursue an Executive MBA-program.

Göteborg, 2023-03-31

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Peter Augustsson  
Chairman of the Board

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Håkan Persson  
CEO

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Gustav Brismark  
Board member

---

Finn Gramnaes  
Board member

---

Edvard Kälvesten  
Board member

---

Per Zellman  
Board member

Our audit report has been issued  
Göteborg \_\_\_\_\_ 2023  
Grant Thornton Sweden AB

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Zlatan Mitrovic  
Authorized accountant



# Grant Thornton

## Revisionsberättelse

Till bolagsstämman i Smoltek Nanotech Holding AB  
Org.nr. 559020 - 2262

### Rapport om årsredovisningen och koncernredovisningen Uttalanden

Vi har utfört en revision av årsredovisningen och koncernredovisningen för Smoltek Nanotech Holding AB för år 2022.

Enligt vår uppfattning har årsredovisningen och koncernredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av moderbolagets och koncernens finansiella ställning per den 31 december 2022 och av dessas finansiella resultat och kassaflöden för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens och koncernredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen för moderbolaget och koncernen.

### Grund för uttalanden

Vi har utfört revisionen enligt International Standards on Auditing (ISA) och god revisionssed i Sverige. Vårt ansvar enligt dessa standarder beskrivs är närmare i avsnittet *Revisorns ansvar*. Vi är oberoende i förhållande till moderbolaget och koncernen enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

### Annan information än årsredovisningen och koncernredovisningen

Detta dokument innehåller även annan information än årsredovisningen och koncernredovisningen och återfinns på sidorna 3 - 11. Det är styrelsen och verkställande direktören som har ansvaret för denna andra information.

Vårt uttalande avseende årsredovisningen och koncernredovisningen omfattar inte denna information och vi gör inget uttalande med bestyrkande avseende denna andra information.

I samband med vår revision av årsredovisningen och koncernredovisningen är det vårt ansvar att läsa den information som identifieras ovan och överväga om informationen i väsentlig utsträckning är oförenlig med årsredovisningen och koncernredovisningen. Vid denna genomgång beaktar vi även den kunskap vi i övrigt inhämtat under revisionen samt bedömer om informationen i övrigt verkar innehålla väsentliga felaktigheter.

Om vi, baserat på det arbete som har utförts avseende denna information, drar slutsatsen att den andra informationen innehåller en väsentlig felaktighet, är vi skyldiga att rapportera detta. Vi har inget att rapportera i det avseendet.

### Styrelsens och verkställande direktörens ansvar

Det är styrelsen och verkställande direktören som har ansvaret för att årsredovisningen och koncernredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen och verkställande direktören ansvarar även för den interna kontroll som de bedömer är nödvändig för att upprätta en årsredovisning

och koncernredovisning som inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag.

Vid upprättandet av årsredovisningen och koncernredovisningen ansvarar styrelsen och verkställande direktören för bedömningen av bolagets och koncernens förmåga att fortsätta verksamheten. De upplyser, när så är tillämpligt, om förhållanden som kan påverka förmågan att fortsätta verksamheten och att använda antagandet om fortsatt drift. Antagandet om fortsatt drift tillämpas dock inte om styrelsen och verkställande direktören avser att likvidera bolaget, upphöra med verksamheten eller inte har något realistiskt alternativ till att göra något av detta.

### Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om huruvida årsredovisningen och koncernredovisningen som helhet inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag, och att lämna en revisionsberättelse som innehåller våra uttalanden. Rimlig säkerhet är en hög grad av säkerhet, men är ingen garanti för att en revision som utförs enligt ISA och god revisionssed i Sverige alltid kommer att upptäcka en väsentlig felaktighet om en sådan finns. Felaktigheter kan uppstå på grund av oegentligheter eller misstag och anses vara väsentliga om de enskilt eller tillsammans rimligen kan förväntas påverka de ekonomiska beslut som användare fattar med grund i årsredovisningen och koncernredovisningen.

Som del av en revision enligt ISA använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Dessutom:

- identifierar och bedömer vi riskerna för väsentliga felaktigheter i årsredovisningen och koncernredovisningen, vare sig dessa beror på oegentligheter eller misstag, utformar och utför granskningsåtgärder bland annat utifrån dessa risker och inhämtar revisionsbevis som är tillräckliga och ändamålsenliga för att utgöra en grund för våra uttalanden. Risker för att inte upptäcka en väsentlig felaktighet till följd av oegentligheter är högre än för en väsentlig felaktighet som beror på misstag, eftersom oegentligheter kan innefatta agerande i maskopi, förfalskning, avsiktliga utelämnanden, felaktig information eller åsidosättande av intern kontroll.
- skaffar vi oss en förståelse av den del av bolagets interna kontroll som har betydelse för vår revision för att utforma granskningsåtgärder som är lämpliga med hänsyn till omständigheterna, men inte för att uttala oss om effektiviteten i den interna kontrollen.
- utvärderar vi lämpligheten i de redovisningsprinciper som används och rimligheten i styrelsens och verkställande direktörens uppskattningar i redovisningen och tillhörande upplysningar.
- drar vi en slutsats om lämpligheten i att styrelsen och verkställande direktören använder antagandet om fortsatt drift vid upprättandet av årsredovisningen och koncernredovisningen. Vi drar också en slutsats, med grund i de inhämtade revisionsbevisen, om huruvida det finns någon väsentlig osäkerhetsfaktor som avser sådana händelser eller förhållanden som kan leda till betydande tvivel om bolagets och koncernens förmåga att fortsätta



verksamheten. Om vi drar slutsatsen att det finns en väsentlig osäkerhetsfaktor, måste vi i revisionsberättelsen fästa uppmärksamheten på upplysningarna i årsredovisningen och koncernredovisningen om den väsentliga osäkerhetsfaktorn eller, om sådana upplysningar är otillräckliga, modifiera uttalandet om årsredovisningen och koncernredovisningen. Våra slutsatser baseras på de revisionsbevis som inhämtas fram till datumet för revisionsberättelsen. Dock kan framtida händelser eller förhållanden göra att ett bolag och en koncern inte längre kan fortsätta verksamheten.

- utvärderar vi den övergripande presentationen, strukturen och innehållet i årsredovisningen och koncernredovisningen, däribland upplysningarna, och om årsredovisningen och koncernredovisningen återger de underliggande transaktionerna och händelserna på ett sätt som ger en rättvisande bild.
- inhämtar vi tillräckliga och ändamålsenliga revisionsbevis avseende den finansiella informationen för enheterna eller affärsaktiviteterna inom koncernen för att göra ett uttalande avseende koncernredovisningen.

Vi ansvarar för styrning, övervakning och utförande av koncernrevisionen. Vi är ensam ansvarig för våra uttalanden.

Vi måste informera styrelsen om bland annat revisionens planerade omfattning och inriktning samt tidpunkten för den. Vi måste också informera om betydelsefulla iakttagelser under revisionen, däribland de eventuella betydande brister i den interna kontrollen som vi identifierat.

#### Rapport om andra krav enligt lagar och andra författningar Uttalanden

Utöver vår revision av årsredovisningen och koncernredovisningen har vi även utfört en revision av styrelsens och verkställande direktörens förvaltning för Smoltek Nanotech Holding AB för år 2022 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter och verkställande direktören ansvarsfrihet för räkenskapsåret.

#### Grund för uttalanden

Vi har utfört revisionen enligt god revisionssed i Sverige. Vårt ansvar enligt denna beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till moderbolaget och koncernen enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

#### Styrelsens och verkställande direktörens ansvar

Det är styrelsen som har ansvaret för förslaget till dispositioner beträffande bolagets vinst eller förlust. Vid förslag till utdelning innefattar detta bland annat en bedömning av om utdelningen är försvarlig med hänsyn till de krav som bolagets och koncernens verksamhetsart, omfattning och risker ställer på storleken av

moderbolagets och koncernens egna kapital, konsolideringsbehov, likviditet och ställning i övrigt.

Styrelsen ansvarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Detta innefattar bland annat att förtlöpande bedöma bolagets och koncernens ekonomiska situation och att tillse att bolagets organisation är utformad så att bokföringen, medelsförvaltningen och bolagets ekonomiska angelägenheter i övrigt kontrolleras på ett betryggande sätt. Verkställande direktören ska sköta den löpande förvaltningen enligt styrelsens riktlinjer och anvisningar och bland annat vidta de åtgärder som är nödvändiga för att bolagets bokföring ska fullgöras i överensstämmelse med lag och för att medelsförvaltningen ska skötas på ett betryggande sätt.

#### Revisorns ansvar

Vårt mål beträffande revisionen av förvaltningen, och därmed vårt uttalande om ansvarsfrihet, är att inhämta revisionsbevis för att med en rimlig grad av säkerhet kunna bedöma om någon styrelseledamot eller verkställande direktören i något väsentligt avseende:

- företagit någon åtgärd eller gjort sig skyldig till någon försummelse som kan föranleda ersättningsskyldighet mot bolaget, eller
- på något annat sätt handlat i strid med aktiebolagslagen, årsredovisningslagen eller bolagsordningen.

Vårt mål beträffande revisionen av förslaget till dispositioner av bolagets vinst eller förlust, och därmed vårt uttalande om detta, är att med rimlig grad av säkerhet bedöma om förslaget är förenligt med aktiebolagslagen.

Rimlig säkerhet är en hög grad av säkerhet, men ingen garanti för att en revision som utförs enligt god revisionssed i Sverige alltid kommer att upptäcka åtgärder eller försummelser som kan föranleda ersättningsskyldighet mot bolaget, eller att ett förslag till dispositioner av bolagets vinst eller förlust inte är förenligt med aktiebolagslagen.

Som en del av en revision enligt god revisionssed i Sverige använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Granskningen av förvaltningen och förslaget till dispositioner av bolagets vinst eller förlust grundar sig främst på revisionen av räkenskaperna. Vilka tillkommande granskningsåtgärder som utförs baseras på vår professionella bedömning med utgångspunkt i risk och väsentlighet. Det innebär att vi fokuserar granskningen på sådana åtgärder, områden och förhållanden som är väsentliga för verksamheten och där avsteg och överträdelser skulle ha särskild betydelse för bolagets situation. Vi går igenom och prövar fattade beslut, beslutsunderlag, vidtagna åtgärder och andra förhållanden som är relevanta för vårt uttalande om ansvarsfrihet. Som underlag för vårt uttalande om styrelsens förslag till dispositioner beträffande bolagets vinst eller förlust har vi granskat om förslaget är förenligt med aktiebolagslagen.





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