

Smart Eye Annual Report 2018

Technology that understands, simplifies and predicts human intentions and actions.

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Annual Report 2018

World-leading eye tracking – to save lives

Since 1999 Smart Eye has been engaged in development of artificial intelligence (AI) in the form of eye tracking technology that understands, supports and predicts a person's intentions and actions. By carefully studying eye, facial and head movement, our technology can draw conclusions about a person's awareness and mental state.

Today our eye tracking technology is used in the next generation of cars and is helping the automotive industry take an important step towards safer and more environment-friendly transport solutions. In the research field, Smart Eye's solutions are providing new opportunities in complicated and real situations, and are paving the way for new insights in the aerospace, aviation and defence industries as well as in the fields of psychology, neuroscience, medicine and academic research.

Smart Eye's head offices are in Gothenburg, Sweden, and the company also has offices in Detroit, Michigan (USA), Tokyo (Japan) and Chongqing (China). In addition to these offices of its own, Smart Eye also has partners, retailers and distributors in several locations in Europe, the USA and APAC. Smart Eye's solutions are used around the world by more than 700 partners and customers, leading research teams, brands and laboratories, including the US Air Force, NASA, BMW, Lockheed Martin, Audi, Boeing, Volvo and GM, to name a few.

Smart Eye's business is organised in two business areas, Research Instruments and Automotive Solutions. In Research Instruments, Smart Eye provides advanced eye tracking systems for measuring and analysing human behaviour. In Automotive Solutions, the company provides eye tracking software for integration in vehicles.

An intensive year with major successes

23 January – Directed new issue of SEK 43.6 million To strengthen the company's financial position and take advantage of growth opportunities, a directed issue of SEK 43.6 million was carried out. The subscription price was SEK 44.0 per share, corresponding to a discount of approximately 6.4% compared to the volume weighted average share price during five trading days immediately preceding the issue.

29 March – Launch of Smart AI-X

The Smart AI-X hardware and software suite allows the automotive industry to rapidly test, benchmark and validate AI-based driver monitoring for production. Smart Eye's eye tracking software has been combined with tested and optimised hardware, and Nvidia's Drive IX platform.

25 April - Smart Eye opens first office in Japan

Driven by increased market interest, Smart Eye opened its first office in Japan with local staffing in place and fully operational from day one.

4 June - New design win from existing customer

Smart Eye earned renewed trust from a European premium car maker by being awarded with another design win for an additional model on the same platform as the company's previous design win.

In January 2019 Smart Eye was able to communicate that the customer is BMW, and the two car models are the BMW X5 and the BMW 8 Series.

29 June – Smart Eye opens first office in China

Growing demand for driver monitoring systems in markets outside Europe is accentuating the need for a strong international presence. Smart Eye opened its first office in China with local staffing in place and fully operational from day one.

10 July – New design win from major Chinese OEM

A design win was awarded from one of China's largest OEMs for a car model that will go into series production in 2019. The order value is estimated at SEK 100 million. In late August Smart Eye was able to communicate that the customer that this design win pertained to is Geely. **24 August – Five design wins from existing customer** Earning the renewed trust of an existing customer – a European premium car maker – Smart Eye earned an additional five design wins for car models on the same platform where two design wins had already been awarded. The car models will be launched during the course of 2018 and 2019. The estimated revenue over the product lifecycles, based on volume projections for the five car models, is SEK 200 million.

18 September - Directed new issue of SEK 114 million

In a directed new issue, Smart Eye raised approximately SEK 114 million before issue costs. The subscription price of SEK 52 corresponded to a discount of 7.0% compared to the volume weighted average share price during the ten trading days immediately preceding the issue. The Swedbank Robur Ny Teknik fund became a new large owner at the same time that Fouriertransform AB sold its entire holding in Smart Eye.

12 November – Two design wins from existing customer

Earning the renewed trust of an existing customer – a European premium car maker – Smart Eye earned an additional two design wins for car models on the same platform where seven design wins had already been awarded. The car models will be launched from 2019 to 2021. The estimated revenue over the product lifecycles, based on volume projections for the two car models, is SEK 50 million.

19 November – Four design wins from existing customer

Earning the renewed trust of an existing customer – a European premium car maker – Smart Eye earned an additional four design wins for car models on the same platform where one design win had already been awarded. The car models will be launched in 2019 and 2020. The estimated revenue over the product lifecycles, based on volume projections for the four car models, is SEK 125 million.



Breakdown of employees + consultants



Key figures

TSEK	2018	2017	2016
Net sales, TSEK	50 778	43 199	40 743
Operating profit, TSEK	-55 998	-41 463	-11 159
Profit after tax, TSEK	-56 404	-41 896	-12 403
Shareholders' equity per share, SEK	12,88	7,41	14,13
Equity ratio, %	83	73	83
Number of employees	74	65	49

Net sales, TSEK



2018 – Growth in research systems and breakthrough for vehicle mass market

A positive development took place during the year as the market for the mid-class car segment began to achieve real momentum. The change came faster than expected. Naturally, the migration from the premium segment to the mass market is very positive. It is in this segment where the really big volumes are. It is also gratifying to note that sales of advanced research systems picked up speed during the second half of the year, and as a result 2018 was the best year ever for Research Instruments as well as for the company as a whole.

Smart Eye was able to land deals with one car model after the next during the year - from existing as well as new customers. Orders from existing customers confirm that we have delivered with high quality and precision. Orders from new car makers confirm that we have an attractive offering and world-class technology. During the year we received no fewer than 13 new design wins for car models, of which 12 were from premium car customers and the 13th was from Geely, which will include DMS (driver monitoring systems) in its coming platform. After year-end we communicated that an additional 14 Korean car models, which can essentially be classified as pure mass market cars, will also join the fleet of cars that offer DMS with software from Smart Eye. To be sure, this major Korean deal entailed an intensive amount of work throughout much of 2018. It makes up SEK 2 billion of the estimated market potential of more than SEK 10 billion that was communicated in the Q2 interim report. This means that there is an estimated remaining market potential of SEK 8 billion, of which SEK 2 billion in existing platforms.

One of the first to meet the automotive industry's requirements

A major advantage for Smart Eye in the growing market is that as an early player we have already made it through the eye of the needle by qualifying as a supplier to the demanding automotive industry. This proved difficult already in 2014 when the first tentative attempts were made to specify the systems at the time. Since then the thumbscrews have been further tightened and the specifications are becoming increasingly harder to meet.

As the requirements are raised for all sub-systems that are used to make cars increasingly autonomous, the same applies for DMS. It is of utmost importance that the most stringent demands on safety, error handling and real-time performance are met. Smart Eye has not only managed to meet these demands, but has done so by maintaining its hardware diagnostic processor offering, which is both unique and appreciated by customers.

International expansion and new customers

The future continues to look bright for continued success in driver monitoring systems. We have established a local presence in Japan, China and the USA in order to be close to the largest customers and thereby continue to ride the mass market wave. After year-end we were able for the first time to disclose that one of our early customers was BMW. BMW's X3, X4, X5 and 8 Coupe models are fitted with a small camera in the upper part of the instrument panel. This is connected to a small computation computer in which Smart Eye's software continuously monitors the driver's head and eye movements. This information is used in the cars' sophisticated driver assist functions. We look forward to naming the other car makers and car models that are equipped with Smart Eye's software as soon as possible.

New, important deals for Research Instruments

Research Instruments has gone from strength to strength, and we are confident about the future. Sales grew 42% thanks to a strong team effort. The company has an interesting offer for the market combined with successful partnerships and third-party product integrations. The aviation and automotive industries are the leading segments, but a number of other segments are bubbling in the background. Many key deals were landed in the important US market in 2018, including with the US Air Force, the US Army, NASA Langley and the FAA. In addition, interest in using Smart Eye's products for simulator training has increased and culminated when Smart Eye – together with defence industry giant Thales – demonstrated a new training concept for helicopters at the major I/ITSEC industry trade show in December. There are major opportunities to continue exploring these



opportunities based on the platform that Smart Eye Pro offers. The situation is similar to how things went when the car market moved from pure research to the mass market via testing and development with the advanced systems that Smart Eye provides.

Initiatives from the UN and EU for increased traffic safety

The ongoing global traffic injury epidemic continues unabated, and every year some 50 million people are injured and 1.3 million die in traffic accidents. If nothing is done, by 2029 traffic accidents will result in injury to some 500 million people and 13 million deaths. This unacceptable situation has come into focus in the UN, and directives have been issued to the world's governments to put this issue on the global agenda. We also think it is positive that Euro NCAP is working at full strength to attach a premium to active safety in its scoring system. A further positive development is that the European Parliament has adopted a legislative proposal submitted at the initiative of European Parliament member Roza Thun, which calls for all cars in the future to be equipped with active safety features. For me, active safety - including DMS is just as obvious as equipping new cars with seat belts and airbags, and my hope is that the EU will lead the way in this area so that the rest of the world can follow suit and put an end to the global traffic injury epidemic.

Our complex society does not work without a fine-meshed network of transports of people and products. These transports must be safe and environment-friendly. The sooner the better!

Gothenburg, February 2019 Martin Krantz CEO, Smart Eye

Priorities 2019

Further develop Research Instruments' offering with new products and strategic collaborations

Further expand our AI portfolio for both RI and AS

Further strengthen Smart Eye's position in China Take initial steps toward measuring the entire cabin together with strategic automotive customers

Smart Eye regularly announces by press release when a new design win has been awarded, and design wins are also clearly reported in the company's quarterly reports.

Unique position in fast-growing market

The market for eye tracking systems is growing rapidly. The areas of application are many, including vehicle interior environments, academic research, behavioural analysis, neuroscience, the aviation and defence industries, and computer interaction and computer games. In combination with AI (artificial intelligence), eye tracking systems are becoming very powerful, and many new application areas are opening up.

Smart Eye is at the epicentre of eye tracking technology development. The company focuses on applications for vehicle interior environments, but also for research and training in the aviation, aerospace and defence industries as well as in academic research and behavioural analysis in other R&D-focused areas.

Quality that meets stringent requirements

Smart Eye was established in Gothenburg in 1999, with Saab Automobiles as its first customer. Ever since, the automotive industry has been a priority target group – an industry that sets very high requirements for quality, safety, reliability, durability and delivery capability. Moreover, the technical operating environment inside vehicles is very demanding with respect to such factors as sunlight, darkness and vibration. At the same time, a robust eye tracking system must also be capable of monitoring people wearing sunglasses, hats, or facemasks, which is common in Asia. Today, Smart Eye is one of the world's very few producers of eye tracking systems with the capacity to deliver this type of technology to the automotive industry. Moreover, Smart Eye has a key competitive advantage in that it offers a platform-independent solution that is open and flexible, which thereby makes it fully compatible with customers' other system components.

Smart Eye's eye tracking solutions have been developed to meet the automotive industry's extremely high quality requirements, and as a result, the other customer categories targeted by the company today have adopted equivalent requirements. The aviation and aerospace industries are examples of such target groups. Smart Eye's leading position among these target groups is shielded by the market's high entry barriers. The lengthy and cumbersome qualification process for vehicle software makes it hard for new market actors, which must adopt an extremely long-term and persistent approach in order to win a car maker's trust. A supplier like Smart Eye that has proven that it can meet these customers' exacting safety and quality requirements, and at the same time deliver with a high tempo, has a big advantage over its competitors.

Two business areas with different eye tracking offerings

Smart Eye conducts its activities in two business areas: Research Instruments and Automotive Solutions. Its eye tracking systems have been developed in Research Instruments, and this business area sells full-scale eye tracking systems for research, development and training environments, mainly in the automotive, aviation and aerospace industries, but also to customers in the world of academic research.

In Automotive Solutions, Smart Eye provides eye tracking algorithms and software for systems installed by the automotive industry in vehicle interior environments. It is in this business area that Smart Eye currently expects the greatest growth. Vehicle manufacturers use eye tracking for various types of driver monitoring systems (see fact box on p. 9), but there are a host of other application areas. Eye tracking is being developed also to control other functions, such as a vehicle's infotainment system, seat adjustments and windscreen wipers.

Initiatives driving demand

Every year more than 1.3 million traffic-related deaths occur around the world. Passive safety systems, such as seat belts and airbags, are not enough. Focus is therefore now on active safety systems such as driver monitoring systems to improve traffic safety. Three initiatives, in particular, are driving this development – from Euro NCAP, the EU, and the United Nations Council on Trade and Development (UNCTAD).

Euro NCAP, the world's most renowned organisation for safety classification of cars, has an agenda to implement requirements for driver monitoring systems by 2025. The EU has launched its initiative, "Europe on the move", which includes proposals requiring all new cars sold in Europe to be equipped with systems that detect if the driver is drowsy or inattentive. The UNCTAD, in its agenda – "Considerations in support of the 2030 agenda for sustainable development" – has taken a position to encourage development of tech-

nology that improves vehicle safety. Eye tracking is essentially the only technology that provides for the type of driver monitoring required by Euro NCAP. Euro NCAP's strong position in safety classification of vehicles, combined with the aforementioned initiatives from the EU and UN, has likely contributed to the strong growth in demand that Smart Eye has experienced in both 2017 and 2018. In addition, future legislation that will allow vehicles with self-driving features will also require driver monitoring systems, which can thereby be expected to contribute further to continued rising demand for eye tracking technology in the automotive industry.

Market with strong growth

There are thus strong drivers behind the rising demand for eye tracking technology. Between the years 2017 and 2021, the annual growth rate is expected to be 31%, and by 2021 the eye tracking market in the vehicle and transport sector is expected to be worth more than USD 22 million (source: Technavio). Between the years 2021 and 2025 the growth rate is expected to accelerate further. The number of vehicles with driver monitoring systems is expected to increase by roughly 70% or more per year during this period, reaching an annual growth rate of approximately 30 to 40 million vehicles (source: Euromonitor and Smart Eye's own estimations). Growth in demand is mainly being driven by the aforementioned initiatives, legislation, and the increasing degree of self-driving features in new cars.

Smart Eye's assessment is also that the value of the international procurement processes in progress at the end of 2018 for eye tracking systems had a future value of more than SEK 10 billion. Smart Eye's assessment is based on insights it has gained as an established supplier of eye tracking technology and its involvement in many ongoing international procurement processes for driver monitoring systems.

World-leading position with favourable growth opportunities for Automotive Solutions

Smart Eye's and Automotive Solutions' world-leading position as a supplier of eye tracking technology is further confirmed by a steady succession of design wins (see p. 8). No other manufacturer of eye tracking for vehicle interior environments has as many design wins and its technology installed in as many vehicles that are already in production as Smart Eye. Smart Eye is often prevented by secrecy agreements from disclosing the names of customers it has been entrusted by. Of the car models already in production, Smart Eye has been able to name four: the BMW X3, X4, X5 and 8-Series.

During the past year Smart Eye was awarded with 12 new design wins, bring the company's total number of design wins to 29 at year-end 2018.* The majority are still European premium manufacturers, but through a design win from Geely, a breakthrough has been achieved in Asia.

Smart Eye regularly announces by press release when a new design win has been awarded, and design wins

are also clearly reported in the company's quarterly reports.

Internationally, apart from Smart Eye there are a small number of actors that can deliver the type of eye tracking software being demanded by the automotive industry.

Research Instruments – strong offering but small market

The Research Instruments business area is of very high strategic importance for Smart Eye. The activities conducted in Research Instruments provide early insights into the types of eye tracking functions and applications that will be in demand a few years into the future. The business area has a strong and stable position as a supplier of eye tracking systems for research, development and educational environments. Smart Eye's assessment is that the global market for this type of eye tracking system is currently worth approximately SEK 500 million on an annual basis, and that the annual growth rate is around 10%. The business area's growth potential lies mainly in the introduction of eye tracking technology in new areas. One example is the aircraft cabin's interior environment. Others are medical research, consumer electronics and IT. Smart Eye also sees favourable prospects for increasing the business area's market share through its partnership with iMotions and through sales and marketing initiatives.

* 43 design wins as per 12 March 2019.



The global eye tracking market 2017-2021 (USD million)

Integration of driver monitoring, global car manufacturing (million)

Vehicles without integration of driver monitoring Vehicles with integration of driver monitoring



Eye tracking

Eye tracking is a technology for measuring a person's gaze and eye movements. Sensors are used to detect a person's eyes, calculate their gaze and track their eye movements. Studying a person's eye movements makes it possible to assess their alertness, attentiveness and focus, and thereby gain an impression of the person's awareness and mental state.

A common form of eye tracking is a system that uses eye tracking together with an ordinary computer and screen, where eye tracking is either integrated in the screen or is a free-standing device connected to a screen. More advanced eye tracking systems use several cameras for eye tracking of more than one person in a larger environment, such as an aircraft simulator. It is this type of eye tracking technology that Smart Eye's Research Instruments business area works with. Smart Eye's Automotive Solutions business area focuses only on the software and algorithms needed for eye tracking in vehicle interior environments, Smart Eye's software and algorithms use AI to be more precise and reliable, which is highly significant when eye tracking is used in environments with difficult conditions, such as with respect to light or where the person's eyes are partly covered.

There is also portable eye tracking, where the technology is integrated with a forward-looking camera, but this is another type of solution that Smart Eye has chosen not to focus on. Eye tracking today is an established technology that is used in a number of areas, including vehicle interior environments and driver functions, and in research and neuroscience, such as for diagnosis of Alzheimer's and Parkinson's diseases. The aviation and defence industries use eye tracking for R&D and educational purposes. Eye tracking can even replace a computer mouse and thereby be used for computer interaction and computer games to improve the user experience.

Eye tracking is used for a number of purposes:

- Analysing and understanding human behaviour and interaction with the surrounding world
- Enabling interaction between people and machines
- Hands-free computer interaction

Design wins and car model product lifecycles

When original equipment manufacturers (OEMs) in the automotive industry purchase components based on products such as Smart Eye's eye tracking software, they do so via so-called Tier 1 suppliers. In this context Smart Eye is a Tier 2 supplier to these Tier 1 suppliers.

In certain cases, OEMs can specify that a Tier 1 supplier is to supply components that contain a certain sub-supplier's (Tier 2) products. In other cases, the Tier 1 suppliers can choose themselves which Tier 2 suppliers they want to work with.

When an OEM chooses a supplier of a functional component in a vehicle, this is preceded by a procurement process with a Tier 1 supplier, which in turn contracts a Tier 2 supplier. The procurement process can pertain both to all cars of a certain model at a time, or to all cars and models in a full production platform at the same time. These procurement processes usually continue for nine to 20 months. When the OEM thereafter decides which supplier it will contract, it is called a design win. By "one" design win is meant "one car model".

From the time a design win has been awarded, it often takes between one and three years before deliveries to the intended car model commence. The car model, in turn, is often in production for up to seven years. Car platforms, on the other hand, are often in production for up to 14 years, but as the greatest volume of cars is produced in the middle of this time period, the lifetime of a car platform is usually referred to as its product lifecycle.

The invitations to tender that precede a design win are extensive international processes with tough qualification requirements. The earlier in the process a relationship with the procuring party can be established, the greater the opportunities to be picked as a supplier. In return, the potential can be great, as certain car models are manufactured in series as large as over a million vehicles. In the premium class segment, series are typically smaller, usually between 30,000 and 300,000 vehicles.

When an OEM chooses a supplier for a functional component in a vehicle, it is called a design win. The period of time – often up to 14 years – that a car platform is in production is called the product lifecycle.

Driver monitoring systems

Euro NCAP, the world's most respected organisation for car safety classification, announced in autumn 2017 that its 2025 Roadmap for safety testing of passenger vehicles will include driver monitoring systems (DMS). The EU and UNCTAD (the United Nations Conference on Trade and Development) have also taken initiatives to improve vehicle safety. It now remains to be seen if, within a few years, driver monitoring systems will become as common as seatbelts and airbags already are.

By integrating eye tracking in driver monitoring systems, additional functionality can be added that is not directly related to traffic safety. The information that Smart Eye's eye tracking software gathers can also be used for systems that allow the driver – through his or her gaze or gestures – to control internal vehicle functions, such as a car's infotainment system. Further possibilities include combining information from the eye tracking software with other data that can improve the comfort and safety for the driver as well as other passengers, especially in cars with more and more self-driving features that are now being introduced worldwide. Driver monitoring systems (DMS) have been developed to improve traffic safety. By integrating eye tracking software they can detect if a driver is inattentive, drowsy, or falling asleep at the wheel. The systems can also generate impulses to alert the driver's attention or – if the driver fails to react to these impulses – take control and bring the vehicle to a stop.

Active safety for self-driving cars

Self-driving cars have long been a utopian vision, but it is now nearing a reality. Today there are already car models in production with autonomous driving functions, and in the years immediately ahead many more are set to be unveiled by more car makers.

The path to entirely self-driving cars – i.e., cars that can take themselves to a chosen destination entirely without the driver's interaction – is long. Much of the technology already exists, but further development is needed to ensure greater reliability and the adoption of standards and changes in laws before it is possible to have entirely self-driving vehicles.

The first step is semi-autonomous driving, where the car handles certain functions, but where the driver actively participates and maintains overall control. The degree of autonomy is expected to increase over time and ultimately change over to fully autonomous vehicles.

Development is moving from passive to active traffic safety. The automotive industry is going a step further, from protecting drivers and passengers to preventing accidents from happening in the first place. Today most accidents can be attributed to the human factor, and therefore active safety solutions are being Development is moving from passive to active traffic safety. The automotive industry is going a step further, from protecting drivers and passengers to preventing accidents from happening in the first place.

developed, such as advanced systems for vehicle assistance, vehicles with sophisticated automation features, and eventually fully selfdriving cars. Future generations will use both online- and offlinebased machine learning, where information is collected from a number of data sources to develop a relation with the individual driver.

World-leading technology in two separate application areas

Smart Eye develops and markets eye tracking systems that can measure and calculate a person's gaze. The company has two business areas, Research Instruments and Automotive Solutions.

In Research Instruments Smart Eye provides advanced eye tracking systems for measurement and analysis of human behaviour. In Automotive Solutions the company provides eye tracking software for integration in vehicles. By monitoring and interpreting a person's gaze along with eye, head, mouth and facial movements, Smart Eye's technology can understand, support and predict human actions and intentions.

Strategy

Smart Eye's strategy is grounded in the company's two business areas. Research Instruments is of great strategic significance, as its operations provide early insights into which types of functions and applications may come into demand in a few years' time with respect to eye tracking technology. These insights are then used in the Automotive Solutions business area to develop eye tracking technology specifically adapted for the automotive industry, and it is in this business area where the major growth potential exists.

Automotive Solutions' business model – leading partner in active safety for the automotive industry

In Automotive Solutions, Smart Eye provides primarily algorithms and software for the cameras and other hardware that the automotive industry's Tier 1 manufacturers assemble into complete systems for, above all, driver monitoring systems (DMS). Smart Eye's algorithms and software can also be used to manage vehicles' infotainment systems and individually customise a vehicle's interior environment. Thus far, however, it is only in DMS that Automotive Solutions' technology has been incorporated into series production. Apart from software, Automotive Solutions also provides some hardware to Tier 1 manufacturers for various development projects.

The strategy chosen by Automotive Solutions can be broken down into three steps:

 Establish Smart Eye as the market leader in the premium segment, where initial development of driver monitoring systems is taking place. This goal has already been achieved, and the phase is considered to be over.

2. Use the premium market as a bridgehead to establish a corresponding leading position in the mid-class segment. Smart Eye believes it is in this phase that the company and Automotive Solutions are currently in.

3. Leverage the achieved market position to expand the product offering to include multimodal vehicle interior monitoring, which will lead to higher value-added per produced car.

Central technology for interaction between car and human being Driver monitoring and self-driving features in cars are vital to achieving the vision of zero traffic-related deaths and severe injuries. Eye tracking is a central technology for enabling the interaction between driver and vehicle to function in a safety system and for partly or fully autonomous vehicles to be able to react to the driver's intentions and mental state.

Enduring, leading innovative strength Since the early 2000s Smart Eye has developed pioneering eye tracking technology and is now the technical leader in this area. The first eye tracking systems were essentially limited to ensuring that the driver was alert and not falling asleep at the wheel; the second generation's systems are also capable of helping control a vehicle's internal functions. In 2017 Smart Eye launched the world's first eye tracking system that uses Artificial Intelligence (AI) technology to provide even more reliable data about a driver's actions and intentions. Today, with 29 design wins, five separate platforms and four cars in series production, Smart Eye is regarded as the world leader in eye tracking systems for the passenger vehicle industry (number of design wins as per 31 December 2018; for information about the current number, see interim reports and press releases).

Established partner

Smart Eye has long-term, well-established customer relationships and is engaged in ongoing development work with all of the largest Tier 1 manufacturers and OEMs in the automotive industry. Smart Eye has a proven ability to meet the automotive industry's exacting requirements for performance, precision, reliability, availability, safety, durability and delivery capability.

In most cases Smart Eye is initially prevented from disclosing the name of a customer that awards a design win. The customers that the company has been able to disclose to date are BMW and Geely.

Platform-independent software

In the commercialisation of the eye tracking technology used in Automotive Solutions, Smart Eye has chosen a hardware diagnostic strategy, which makes it possible for the business area to benefit from the investments being made in the smartphone industry. Processors developed for smartphones subsequently also become qualified for the automotive industry, which means that new, improved chips continuously become available for series production. Smart Eye's technology is thereby compatible with most relevant Electronic Control Units (ECUs) and Systems on Chips (SOCs). Moreover, Smart Eye's platform-independent software can be locked-in late in the development process. These strategic considerations have proven to be entirely in line with the automotive industry's preferences. They also mean that Smart Eye's technology can be generic. Few customer adaptations are needed, and the integration processes are thereby often highly efficient.

Research Instruments' business model – bridgehead to new vertical markets

From the onset Research Instruments has offered two different eye tracking product series, Aurora and Smart Eye Pro. In 2018 a further development of Smart Eye Pro was launched, Smart Eye Pro DX, along with an entirely new eye tracker, Smart Eye XO, which is an intermediate step between Aurora and Smart Eye Pro.

Aurora is an off-the-shelf product – an eye tracker mounted on a screen that customers can install themselves. It can also be regarded as an entrylevel product when a customer develops a need for eye tracking.

Smart Eye XO, which was launched at year-end 2018, represents an upgrade opportunity, when the need for more precise eye tracking arises. The system uses two cameras.

Finally, Smart Eye Pro and Smart Eye Pro DX are entirely customised systems that employ up to eight cameras in a very robust system that provides precise and reliable eye tracking data.

As a complement to Smart Eye Pro and Aurora, a number of complementary accessories are offered, such as Smart Recorder and Smart AI. All of the systems are sold as all-in solutions whereby customers pay per system or per product based on the current price list. Even though Smart Eye also delivers the hardware, the greatest value lies in the algorithms and software used in the system, which is reflected in the business area's gross margin in the range of 75% to 90%.

High precision for complex tasks and demanding customers Research Instruments' systems have the capacity to work with up to eight

cameras, making them superior for the most complex and precision-based tasks. Systems of this type are needed in advanced research, development and educational environments. There is a particular need for these advanced eye tracking systems in the aviation, space and automotive industries as well as in academic research. For the latter, Research Instruments has, for example, delivered equipment for research projects in neuroscience and behavioural science.

Smart Eye is positioned as a supplier of premium systems, and the company has a wealth of strong references. Customers such as NASA, Boeing, the US Air Force, General Motors, Harvard University and Stanford University affirm that Smart Eye's systems are at the forefront of the technology.

Sales through various channels Sales work is handled internally as well as through partners and local distribuVision – The leading interface between human and artificial intelligence.

Mission – To contribute to sustainable development for everyone through science and technology.

Objective – Smart Eye's objective is to be the leading player in eye tracking for vehicles and to maintain its position as the leading supplier of advanced eye tracking systems for research applications.

tors. Sales to the automotive, aviation and defence industries are usually handled directly by Smart Eye. Many customer contacts are also established through active participation at conferences and trade shows.

In Asia, most sales are handled by distributors, and the company has distribution partners in Japan, China and South Korea. In the USA, Research Instruments established its own presence in 2017 and has two employees stationed in Detroit, Michigan.

High level of innovation for advanced research and development environments Continuous development is part of Research Instruments' business model. Ongoing relationships with customers require constant further development of technology. There is also demand for eye tracking from new customer groups, such as in train technology and neuroscience. Demand is also increasing for combined multimodal research systems, whereby information from eye tracking systems is combined with information from other modal sensory systems, such as for breathing, pulse and movement. Both independently and together with its partner iMotions, Research Instruments can deliver systems that meet the needs and requirements of these new customer categories.

World class sustainable development

Creativity, curiosity and high ambitions have taken Smart Eye to a position as the leading supplier of eye tracking technology for some of the world's most demanding industries. This position has been achieved by leveraging an enduring ability and unique expertise to develop algorithms and software that meet customers' extremely high demands on quality, adherence to norms and flexibility.

Through dialogue and close collaboration with customers, development projects are prioritised so that resources can be devoted to the projects with the best commercial conditions. Apart from these development projects that are driven by concrete customer requirements, development is also conducted in collaboration with partners.

Smart Eye's R&D team consists of 15 people engaged in pre-development before the technology culminates in customer solutions in either the Research Instruments or Automotive Solutions business areas. Since 2017 focus is increasingly on utilising opportunities of AI in all development projects. Today the R&D team dedicates a significant share of its resources to developing pure-play AI applications.

Customer-driven projects focused on cutting-edge technology

Since the start in the early 2000s, Smart Eye has developed eye tracking solutions in close collaboration with customers. Saab Automobiles was the company's first customer, and the automotive industry has been the company's primary target group ever since. It is a target group that sets very high standard for safety, reliability, quality, durability and delivery capability. As a result, Smart Eye's eye tracking solutions have been developed with extremely high quality and performance, entailing that the customer categories in focus today set equivalent requirements to those of the automotive industry. For example, the aviation and space industries are now also important target groups.

New application areas for Research Instruments

The most obvious way to develop new eye tracking solutions has been to work in close cooperation with customers, and this is still the case. New application areas that have emerged for Research Instruments in recent years include training environments for train operators, neuroscience research applications, and full-flight aircraft simulators for pilot training.

AI opening up new opportunities for Automotive Solutions

The greatest share of development work is focused on further developing existing or developing entirely new applications for Automotive Solutions. Since 2017 AI has taken on evergreater importance, as it enables development of algorithms and software that incorporate eye tracking under increasingly difficult conditions and precision than the earlier algorithms, which were based solely on standard image processing. AI makes it possible, for example, to perform unhindered in difficult lighting conditions or if something partially and/or suddenly obstructs the camera's view.

The technology now being researched monitors not only eye movements, but also a person's mouth, face and entire head movements. Smart Eye is also researching solutions to use AI to be able to identify individuals and objects inside a vehicle's interior, and to use eye tracking to control functions such as a car's infotainment system, seat adjustments and windscreen wipers.

To date it is only eye tracking for driver monitoring systems that Automotive Solutions has been awarded design wins for. However, Smart Eye has received many queries and has also initiated strategic partnerships for other areas of application.

Smart Eye – part of the DMS ecosystem

Through Smart Eye's long-standing relationships with some of the most important actors in the automotive industry, the company has good knowledge about other software and hardware that its technology needs to be compatible with. Owing to Smart Eye's many years of work with eye tracking solutions for the automotive industry, the company is also a coveted partner for these system and component suppliers, and the number of partnerships increased in 2018. For many of these actors, Smart Eye serves as a vital link to the automotive industry. Smart Eye's long-standing and close relationships are considered to be highly valuable, as the company has deep insights into which technical requirements the automotive industry is expected to require in a few years' time. Having these partnerships is also a strength in Smart Eye's offering, as they help establish Smart Eye's eye tracking technology as the first-hand choice for various systems and solutions for the automotive industry.

Examples of key component areas in which Smart Eye has strong relation-



ships with leading manufacturers are image sensors, optics, light sources, semiconductors and processor platforms. Collaboration with these component manufacturers takes place, for example, in marketing, in joint demonstrations at trade shows, and through the production of joint prototypes to show at customer meetings.

Following are some examples of concrete collaborations that Smart Eye has with a few of these manufacturers. In addition to those described below, some others can be mentioned, including Osram, Omnivision, Sony, Sunex, Maxim and On Semiconductors.

• NXP is one of the world's foremost semiconductor manufacturers, and ensuring compatibility of Smart Eye's eye tracking systems with NXP's semiconductors is essential. For example, Smart Eye's driver monitoring system can run on NXP's i.MX 8 application processor. During 2018, compatibility was further developed so that it is Smart Eye's AI-supported eye tracking algorithms that are run on i.MX 8 and enable both eye tracking and control of a car's infotainment system, Amazon Alexa and other vehicle functions.

• NVIDIA is one of the world's leading manufacturers of graphic processors, and for Smart Eye it is essential to be able to offer eye tracking systems that are compatible with these. In 2017 Smart Eye developed Smart AI, the world's first smart AI platform for use in a vehicle's interior environment. The platform is based on NVIDIA's TX2 processor.

• AMBARELLA is one of the world's foremost semiconductor manufacturers for video processor and image processing. Ambarella's components are vital for a driver monitoring system to be able to handle AI algorithms. Smart Eye's AI-based eye tracking algorithms, used together with Ambarella's components, can thereby be a powerful combination in an advanced driver monitoring system.

Development projects in 2018

As described above, Smart Eye is continuously engaged in a multitude of development projects. Some of these are more extensive than others and are more commercially promising, while others are part of various collaborations with external partners. In 2017 Smart AI was developed, an imbedded computer unit based on a processor from NVIDIA. In 2018 the SMART AI-X camera was developed, the new DRAMA project was initiated, and the partly EU-funded

ADAS&Me project continued with new assignments.

Smart AI

Smart AI-X is a new camera – smaller than Aurora – that is sold by both Automotive Solutions and Research Instruments. Smart AI-X is a single camera with a 2 megapixel sensor and two infrared LEDs encapsulated in a case. Smart AI-X is designed mainly for a vehicle interior environment, but application in a desktop environment is also being studied. Product development of the Smart AI-X will be completed in 2019, but the camera is already being sold together with development environments.

DRAMA

This project began in 2018 in collaboration with RISE Viktoria. The assignment covers two areas. One involves identifying the activities that people do inside a vehicle as a means to improve safety and comfort. The other involves facial expression recognition in the aim of gaining an understanding of passengers' emotional reactions. ADAS&ME

Smart Eye's research department is involved in numerous national and international research projects in which eye detection is used for research purposes. One example is the EU-funded ADAS&Me project, which Smart Eye has been participating in since 2017. The project is focused on developing safe solutions for autonomous vehicles. In 2018 Smart Eye contributed by developing a driver drowsiness estimate based on the Karolinska Sleepiness Scale. The drowsiness estimate consists of an AI-based algorithm that predicts how tired a driver is based on the driver's behaviours.

Advanced eye tracking systems for research, development and educational environments

In the Research Instruments business area, Smart Eye provides advanced eye tracking systems to analyse human behaviour. Customers consist mainly of actors in academic research as well as in the aviation, space, defence and automotive industries.

When Smart Eye was established in the early 2000s, the aim was to develop eye tracking systems primarily for the automotive industry. These were complete systems that included both hardware and software. The Research Instruments business area originates from this activity. Smart Eye's other business area, Automotive Solutions, was established in 2012 as eye tracking software began to be delivered to driver monitoring systems for installation in passenger vehicles.

Organisation

The business area has been headed by Solmaz Shahmehr since 2016. Most of the business area's employees are based in Sweden, at the company's head offices in Gothenburg, but employees are also stationed in Detroit, Michigan, in the USA.

With customers located all over the world, this requires extensive cooperation with distributors, that employees travel a lot, and a local presence. The office in Detroit that opened in 2017 made a positive contribution to the business area's development in 2018, with many new deals from the aviation industry, among others. In Asia the business area has various distributor agreements, and in 2018 a new Japanese partner was contracted that also has representation in China, which is expected to open interesting opportunities in the coming years. In addition to Japan and China, partnerships also exist in South Korea, for example.

Relations with European customers

are primarily served by employees in Gothenburg.

Offering

A natural result of Research Instruments' initial focus on the extremely demanding automotive industry is that the business focus continues to be on developing complete eye tracking systems for environments and application areas with extremely high demands on precision, reliability, function and performance.

For some time, Research Instruments has been offering two different eye tracking product series: Aurora and Smart Eye Pro. In 2018 a further development of Smart Eye Pro was launched, Smart Eye Pro DX, as well as an entirely new eye tracker, Smart Eye XO, which is a combination of Aurora and Smart Eye Pro.

As a complement to Research Instruments' product series, the business area offers a number of accessories, such as Smart Recorder and Smart AI. Smart Recorder is a camera solution that generates a video film that records movements in a person's gaze. Smart AI is an embedded computer unit that can serve as a recording device for several cameras at the same time, for example.

Apart from the one-time revenues that Research Instruments receives on every sale, a smaller revenue stream is generated from software installations. Customers pay annual licence fees to gain periodic (twice a year) software upgrades.

Aurora

Aurora is the simplest eye tracker and an off-the-shelf product made in Sweden. It is used in combination with a video screen and consists of two cameras with accompanying software that can be installed by customers themselves. Aurora is a simpler type of eye tracker and is also provided by manufacturers such as Tobii, but what makes it unique is its high performance and the reliable data the system provides.

Smart Eye XO

Smart Eye XO, which was unveiled at year-end 2018, is a combination of Aurora's hardware and Smart Eye Pro's software, which makes it possible to use together with several screens at the same time. The hopes are that Smart Eye XO will be a way of motivating customers to upgrade their eye tracker systems. Aurora will be the entry-level product, followed by upgrade options first to Smart Eye XO and then finally to Smart Eye Pro.

Smart Eye Pro

Smart Eye Pro and Smart Eye Pro DX are the business area's most important products and account for the absolute majority of sales. These are customer-adapted comprehensive solutions comprising a system of up to eight cameras, two or more light sources, the option for other accessories, and hardware and software that is installed and configured on-site for customers. In contrast to Smart Eye Pro, Smart Eye Pro DX uses autofocus cameras and tolerates that the person whose eye movements are to be monitored moves about in a larger area. The system can also follow eye movements in a larger field of vision with even better resolution, precision and reliability. Moreover, the accompanying hardware is considerably smaller, which makes it possible to install in even more unique environments. Many customers who have previously had Smart Eye Pro have chosen to upgrade to Smart Eye Pro DX.

For customers searching for an eye tracking system with the advanced performance offered by Smart Eye Pro and Smart Eye Pro DX, Smart Eye seldom encounters any competition in practice. The company Ergoneers is a manufacturer that offers a headmounted eye tracker solution; in certain contexts, Smart Eye's system is compared with this.

Customers

The aviation and automotive industries continue to be the most important customer categories. The defence and space industries are also important, as is academic research. Newer target groups such as trains, educational applications and neuroscience are interesting, but still small in terms of volume.

Customers include the US Air Force, NASA, BMW, Lockheed Martin, Boeing, MITRE, Honeywell, Toyota, Volvo and GM.

Business partners

Partnerships – ranging from component suppliers to distributor agreements – are essential for being able to offer advanced eye tracking solutions. An important partner in this context is iMotions. Through the partnership with iMotions, which was formed in 2017, Smart Eye's eye tracking system can be used in iMotions' multimodal research platform, which makes it possible to combine eye tracking with sensors that detect physiological signals.

Important advancements in 2018

During 2018, several investments from previous years generated favourable results. In 2017, intensive development work was carried out to improve the performance of the existing product offering, which also made it possible in 2018 to launch Smart Eye Pro DX and at the same time streamline service deliveries to customers. It was also in 2017 when the office in Detroit, Michigan, USA was established. All of these efforts together contributed to the positive development in 2018. Research Instruments' sales grew 42% in 2018 to SEK 29.5 million (20.8). Both new sales and renewed trust among existing customers contributed to the positive trend, with each category accounting for roughly half of sales.

The aviation and automotive industries continue to be the business area's most important customer categories, and traditionally it has been the R&D departments in these customer categories that have bought Smart Eye's eye tracking systems. In recent years and most notably in 2018, greater interest has been noted from the training units of these customer categories, which are starting to use eye tracking systems in their training activities. A couple of other application areas, trains and neuroscience, showed growing interest for Smart Eye's systems during the past year. These are areas in which there will likely be continued interesting opportunities going forward.

Priorities 2019

The launch of Smart Eye XO, which took place at year-end 2018, will initially be a focal point for Research Instruments' operations in 2019. In addition, two additional key activities will be prioritised in the coming year:

 Continued development work aimed at improving and further developing existing and new products and services

 Continued realisation of the potential that exists in the current sales organisation and existing partnerships, including intensive participation at trade shows and conferences, and further developing the potential that exists in digital marketing

Research Instruments has a strong offering and strong team in place, giving it good prospects to pursue major opportunities in the market.

SHARE OF SALES

Research Instruments
Automotive Solutions

Smart Eye had sales of SEK 50.8 million in 2018 (43.2). Of this total, 58% (48%) was generated by the Research Instruments business area.

Eye tracking technology for integration in vehicle interior environments

In the Automotive Solutions business area, Smart Eye provides eye tracking algorithms and applications for the systems that Tier 1 suppliers develop and deliver to car manufacturers' OEMs.

When Smart Eye's customers in the automotive industry in 2012 began asking for eye tracking systems for integration in driver monitoring systems for self-driving passenger cars, the Automotive Solutions business area was formed (called Applied Solutions until autumn 2018). Today the need is wider, and driver monitoring systems are becoming a new safety standard for all passenger vehicles, not just those with partly autonomous functionality. In addition, within a couple of years, eye tracking in the vehicle interior environment is expected to start coming into use to control other functions, such as a car's infotainment system. While Smart Eye has long used artificial intelligence (AI) to improve the performance of its eye tracking systems, it also has good opportunities to develop additional functions based on eye tracking technology combined with AI.

Organisation

The business area has been headed by Daniel Åman since 2014. Most of the business area's employees, who are active mainly in development and sales, are based at the head offices in Gothenburg, but through travel also maintain a strong presence in local markets. The business area's geographic expansion relies on its customers' locations, which is why it has also established a local presence in Detroit, Michigan (USA), Tokyo (Japan) and Chongqing (China).

Offering

In Automotive Solutions, Smart Eye provides primarily eye tracking algorithms and software for the systems developed by the automotive industry's Tier 1 suppliers for OEMs. In general terms, revenue is derived from three types of assignment:

- Concept studies, reference structures and prototype development
- Project-specific development revenue in connection with awards of design wins
- After receiving a design win, licence revenue for car models that go into series production. This revenue typically ranges from EUR 5-10 per manufactured car

In connection with a design win, Smart Eye initially receives payment for the work on integrating the software with other parts in the system that a Tier 1 supplier provides. When the car model then goes into series production, roughly 12 to 36 months after a design win is awarded (see explanation on p. 8), Smart Eye receives licence revenue, typically in the range of EUR 5-10 per produced car.

On top of revenue from design wins, Smart Eye also participates in concept studies, reference structures and prototype development for Tier 1 suppliers and OEMs (original equipment manufacturers). For these types of assignment Smart Eye receives project revenue.

Eye tracking for driver monitoring systems Eye tracking for the automotive industry was initially developed as a means of improving traffic safety. By equipping a vehicle with a driver monitoring system (DMS) based on eye tracking technology, it is possible to detect if the driver is inattentive or drowsy. When such information is combined with other vehicle functions, traffic safety can be improved. Initially it was the automotive industry's premium car manufacturers that saw this potential, but since Euro NCAP in autumn 2017 decided to include driver monitoring systems as part of its 2025 Roadmap for safety testing of passenger vehicles, this accelerated demand for driver monitoring systems. Today eye tracking technology is included in invitations to tender for driver monitoring systems for both premium and midclass cars. In 2017 a total of approximately 94 million cars were manufactured worldwide, and of these, approximately 70%-80% were cars in the premium and mid-class segments.

Smart Eye received its first design win in 2015 from BMW, for the BMW X5, which went into series production in autumn 2018. As per the end of December 2018 Smart Eye had a total of 29 design wins for five different car platforms. Thus far four car models have gone into series production. In addition to the BMW X5, it is the BMW 8-series and an additional two car models – which Smart Eye is still prevented from disclosing under secrecy agreements – that are in series production. The first licence revenue was received in 2018.

New design wins are always announced via press release. For information on the current number, see the company's press releases or quarterly reports, in which they are also clearly reported on.

Eye tracking for other

vehicle interior uses

Thus far, eye tracking in a vehicle interior environment is used only for driver monitoring systems. However, the application areas are considerably broader, and Smart Eye's technology can be used for these as well. This can entail controlling a car's infotainment system, personally adjusting the car's interior environment, or operating the windscreen wipers, for example. Smart Eye's technology is being used by a large number of partners that are developing these types of functions.

Unique quality that meets the automotive industry's requirements

The eye tracking technology developed by Smart Eye is unique. The automotive industry has exceptional requirements for performance, precision and availability. The technology must work on an optimised platform, not use too much processor power, and it must be able to be implemented cost effectively. Moreover, the technology itself must be able to measure exactly – it must be able to determine with a high level of precision where a person is looking and how open his or her eyelids are – and correctly, essentially 100% of all measurements must be correct. When it finally comes down to availability, the technology must work all over the world and in all environments, regardless of daylight, tunnels or time of year, or if the driver is wearing glasses, a hat, or a facemask.

Apart from the fact that Smart Eye's eye tracking technology meets these highly placed requirements, Smart Eye also has a major benefit from having worked with the automotive industry since its start in 2000. Smart Eye's organisation and development processes are well-attuned to this industry.

Apart from Smart Eye there are very few actors that have the capacity required to deliver eye tracking technology to the automotive industry.

Customers

At year-end 2018 Smart Eye had received a total of 29 design wins to deliver eye tracking technology for car models on five different platforms. Of these, 28 design wins pertain to car models from European premium car manufacturers.

Important advancements in 2018

Sales for the Automotive Solutions business area decreased to SEK 21.2 million (22.4) in 2018. The decrease, albeit marginal, is explained by a greater focus on expansion. Investments, which have been made at an accelerated pace, have been aimed at receiving new design wins rather than on sales of development systems to Tier 1 suppliers.

If 2017 can be said to have been a breakthrough year for eye tracking for driver monitoring systems in the premium car segment, then 2018 was the breakthrough year for the mass market segment. The breakthrough came faster and more strongly than expected. The large number of design wins received -29, of which 13 in 2018 – and the fact that an additional two car models using Smart Eye's technology went into series production in 2018 (the BMW X5 and BMW 8-series), are clear proof that Smart Eye had a world-leading position in the market for eye tracking technology for the automotive industry.

Related to these design wins, another important milestone was passed during the past year as Smart Eye, since the end of 2018, is receiving licence revenue for the eye tracking systems that are now continuously being installed in cars in series production.

Finally, it is also relevant to note that a key condition for the achievement of these successes is that Automotive Solutions' international presence has been prioritised. During 2018 Smart Eye established its own local presence in China and Japan, which was entirely decisive for the successes achieved to date, and it is believed that these establishments – like that in the USA – will continue to be highly significant for future business opportunities.

Priorities 2019

The level of activity in Automotive Solutions remains high. The number of international tendering processes for driver monitoring systems continues to grow, and Smart Eye is participating very actively in these. It is mainly invitations to tender for cars in the mid-class segment that are expected to drive business in the coming year. A key measure for maintaining its world-leading position also in the coming year is to continue prioritising Automotive Solutions' geographic expansion.

SHARE OF SALES



Research Instruments
Automotive Solutions

Smart Eye had sales of SEK 50.8 million (43.2) in 2018. Of this total, 42% (52%) was generated by the Automotive Solutions business area.

Improved safety and security – Smart Eye's focus every day

The eye tracking technology developed by Smart Eye and that the foundation of the company's business is designed to save lives, improve safety and increase people's sense of security. Sustainability is at the heart of Smart Eye's business model.

Smart Eye was founded to bridge the gap between humans and machines. The technical solutions developed by the company understand, simplify and predict human intentions and actions.

Saving lives on land and in the air

Smart Eye's customers work in the automotive, aviation and space industries, but also in academic research. These customer categories put extremely high demands on their suppliers. Smart Eye can meet these customers' high demands for safety, reliability, quality, durability and delivery capability.

Smart Eye's technology helps save lives on roads and in the air. By delivering to research and education environments, Smart Eye also contributes to deeper knowledge in behavioural science and to a better understanding of human behaviour, such as in crisis situations.

Driver monitoring systems a requirement in top safety class

The significance of the technical solutions developed by Smart Eye is considerably greater than the company's present size would indicate. Smart Eye's technology is used in active driver monitoring systems in cars that went into series production in 2018. These first car models with driver monitoring systems are in the premium car segment. The systems can detect if the driver is inattentive or drowsy, and alert the driver's attention if such is the case. If the driver does not respond to the system's impulses, the driver monitoring system can reduce the vehicle's speed or bring it to a stop.

The potential for, and significance of, these systems were confirmed back in 2017 in Euro NCAP's "Vision 2025" document, where they have been included as a standard in the organisation's vehicle safety classification. Euro NCAP is the world's most influential vehicle safety organisation. All of the world's car manufacturers seek to achieve the best possible ranking in Euro NCAP's vehicle safety tests.

Competent employees developing new technology

To be able to develop cutting edge technological solutions, Smart Eye is dependent on its ability to recruit and retain top talent. It is thus gratifying to note that many of the employees who joined the company when it was founded are still with us. Moreover, very few employees recruited in recent years have left the company. By offering an attractive work environment with good opportunities for growth and development, Smart Eye has been able to attract ambitious engineers, experienced developers and prominent researchers, all of whom have a strong drive, are solution-oriented, and are interested in both learning from and teaching others.

Smart Eye's employees have what it takes to make a difference, including a depth of knowledge about the interaction between humans and machines. They know what is required to measure, describe and interpret reality, and to develop and refine the entire technology chain, from eye to software.

Company culture and Code of Conduct ensure responsible business

Apart from Smart Eye's software and systems as such, the company is also active in other ways to ensure that its business is responsible and sustainable. Internal processes ensure that all employees are aware of and comply with Smart Eye's Code of Conduct.

The Code of Conduct provides guidance to employees in important principles for how Smart Eye is to act and prioritise its day-to-day activities. Smart Eye is an inclusive workplace - we show consideration for each other and our environment, and have a zero-tolerance policy concerning corruption. In practice, these standpoints influence, for example, how we prioritise and act in recruitment situations, purchasing and customer contacts. The Code of Conduct, in combination with Smart Eye's company culture, helps ensure that all of the company's activities are distinguished by responsibility and sustainability.

Smart Eye's employees have what it takes to make a difference: depth of knowledge about the interaction between humans and machines.

Smart Eye's company culture helps ensure that all of the company's activities are characterised by responsibility and sustainability.

Strong share price growth and many new shareholders

Smart Eye's shares have been listed on Nasdaq First North since 7 December 2016. The introduction price was SEK 46 per share. The shares are included in the industrial products and services segment, and are traded under the ticker symbol SEYE.

During 2018, trading in Smart Eye's shares totalled SEK 582.4 million (205), for an average daily value of SEK 2.32 million (0.8). The number of shares traded during 2018 corresponds to 85% (39%) of the average number of shares outstanding during the year.

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Share capital

At the start of 2018 the number of shares outstanding was 9,910,892. During the year two directed new issues were carried out, in January and in September. The new issues increased the total number of shares outstanding by 991,089 and 2,191,157 shares, respectively. The number of shares outstanding also increased by 53,805 within the framework of an incentive programme for senior executives and employees (see below). At year-end 2018 the total number of shares outstanding in Smart Eye was thereby 13,146,943.

All shares have equal voting power

and carry entitlement to an equal share of the company's assets.

Ownership

In connection with the directed new issue in September 2018, the Robur Ny Teknik fund became the new secondlargest shareholder. Robur's holding at year-end 2018 was 1,000,000 shares, or 7.6% of the capital. At the same time, in connection with the new issue in September 2018, the previous largest owner, Fouriertransform AB, sold its shareholding. This divestment was in accordance with a Swedish Parliament decision made in June 2016 that required Fouriertransform to divest all of its shareholdings over the long term. The current largest shareholder, Mats Krantz, is a co-founder of the company together with its CEO, Martin Krantz. The number of shareholders grew by 46% during the year to 3,565 (2,448).

Incentive programme

At Smart Eye's Annual General Meet-

ing on 17 June 2016 it was resolved to establish an incentive programme for senior executives and employees. Subscription of shares could take place from 1 November 2017 through 28 February 2018 at a subscription price of SEK 45 per share. A total of 53,805 shares were subscribed.

At the Annual General Meeting on 25 April 2018 it was resolved to establish a new incentive programme. The decision was made to issue a total of a maximum of 170,000 warrants, which senior executives and other employees – approximately 70 persons in all – were offered to purchase. Upon full exercise of the warrants, a maximum of 170,000 new shares will be issued, corresponding to a dilutive effect of approximately 1.5%.

The subscription price for shares subscribed for via the warrants is SEK 48.7 per share. The premium per warrant, which has been calculated using the Black-Scholes model, was SEK 5.90.

Subscription of shares may take place during the period 1 May 2021 through 30 June 2021.



Dividend policy

Smart Eye is in a development phase, and any profits are planned to be reinvested in the company's development. The Board of Directors does not intend to propose a dividend. Any dividend payments will be decided by a general meeting of shareholders based on a recommendation by the Board of Directors.



Share price development and trading volume

SEK	2018	2017
Closing price 28 (29) December	68 kr	49,70 kr
Market capitalisation 28 (29) December	893,9 mkr	492,6 mkr
Price development during the year, %	+36,8	-17,2
Highest price paid	86 kr (3 Oct)	63,25 kr (16 Jan)
Lowest price paid	30 kr (3 May)	36,50 kr (15 Nov)

Introduction price SEK 46, first day of trading 7 December 2016.
 Price development from listing on 7 December until the year's last trading day on 30 December.

Ten largest owners at 28/12/2018

Name	Share of votes and capital, %	Market value, SEK m
Mats Krantz and related parties	8,86	79,2
Swedbank Robur funds	7,61	68,0
Anders Jöfelt	6,57	58,7
Linda Jöfelt	6,57	58,7
Martin Krantz	6,54	58,4
Danica Pension	4,39	46,1
Handelsbanken Microcap Sverige	4,00	35,8
Avanza Pension	3,46	31,0
Nordnet Pension	3,05	27,3
Roosgruppen AB	3,04	27,2
Others	45,90	403,6
Total	100	894

Källa: Euroclear Sweden AB per 2018-12-28

Share distribution at 28/12/2018

Shareholding	No. of shareholders	No. of shares outstanding
1-500	2 747	389 712
501–1 000	364	303 603
1 001–2 000	320	694 383
2 001–5000	54	411 304
5 001–10 000	14	181 655
10 001–20 000	12	224 402
20 001-	54	10 942 154
Total	3 565	13 146 943

Source: Euroclear Sweden AB as per 28/12/2018

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Management report

The Board of Directors and CEO of Smart Eye AB (publ), corporate identity number 556575-8371, hereby submit the annual report for the 2018 financial year. Unless otherwise specified, all amounts are reported in thousands of Swedish kronor (abbreviated TSEK). Figures in parenthesis pertain to previous years.

Information about operations

The company develops and markets camera-based gaze sensors, and eye tracking algorithms and software. Measuring eye data is important for, among other applications, vehicle safety, aircraft safety, educational activities, simulator activities, behavioural analysis, and research & development activities. The most important unique characteristics of the company's sensors, algorithms and software are the combination of high flexibility, insensitivity to external light conditions and vibrations, and the ability to handle situations where the eye being tracked is partly or temporarily obscured by other objects. In addition, the company has unique opportunities to achieve low costs in mass production.

Today the company has two business areas: Research Instruments and Automotive Solutions (name changed from Applied Solutions on 1 October 2018). In Research Instruments, Smart Eye provides advanced eye tracking systems that measure and analyse human behaviour. In Automotive Solutions, Smart Eye provides algorithm and eye tracking software for integration in vehicles.

Subsidiaries

In 2017 a subsidiary was started in the USA, Smart Eye International Inc. In 2018 a subsidiary was also started in Japan, Smart Eye Japan Co. Starting with the third quarter of 2017 the company prepares consolidated accounts. No purchases or sales were made with the subsidiary JN Data AB during the financial year, as the company has been dormant.

Revenue and earnings

Net sales for the period January-December 2018 totalled TSEK 50,778 (43,199), an increase of 18%. The increase is attributable to higher revenue in the Research Instruments business area from essentially all customer categories and geographies. Performance for Research Instruments received support from product launches and product upgrades during the year, and from a positive contribution to sales in 2018 from the establishment of operations in the USA in 2017. In the Automotive Solutions business area, sales decreased slightly, mainly owing to lower revenue from sales of pre-development systems. This is a result of the fact that operations are now entirely focused on meeting higher demand for driver monitoring systems and receiving new design wins. During 2018, 13 new design wins were received, and at year-end 2018 the company had a total of 29 design wins. In addition, during 2018 Automotive Solutions prioritised its geographic expansion, which is viewed as necessary to build confidence from customers in these markets.

Other operating revenue, which is mainly attributable to external research projects, totalled TSEK 2,360 (1,684). Capitalised work for own account amounted to TSEK 17,976 (15,722) during the period. The Group's total revenue during the period amounted to TSEK 71,114 (60,605). Operating profit for January–December was TSEK -55,998 (-41,463). The change in the result is mainly attributable to the decided expansion, with an increase in the number of employees and an increase in the company's international presence in more geographic markets. Net sales for the Automotive Solutions

business area was TSEK 21,232 (22,442), a decrease of 5.4%. Net sales for the Research Instruments business area was TSEK 29,546 (20,757), an increase of 42%.

Cash flow and financial position

At year-end the company had an unutilised overdraft facility of TSEK 5,000 (5,000) and liquid assets amounting to TSEK 89,946 (10,262). Through a new issue and redemption of warrants the company received TSEK 160,914 before issue costs in 2018. The equity ratio was 83% at year-end, compared with 73% at year-end 2017. Cash flow from operating activities before changes in working capital was TSEK -42,603 (-30,940) during the period January–December. Cash flow after changes in working capital was TSEK -40,922 (-19,330) during the same period.

Significant events during the financial year

To strengthen the company's financial position and take advantage of growth opportunities, a directed new issue of SEK 43.6 million was carried out in January. For the same reason, an additional directed new issue of SEK 114 million was carried out in September. In connection with the new issue in September, Fouriertransform AB divested its entire shareholding in the company.

Driven by growing market activity and a strong need for local presence where existing and potential customers are established, Smart Eye opened its first office in Japan in April and its first office in China in June. These offices have had local staffing in place from the start.

A total of 13 new design wins were received during the year. Twelve design wins represented increased confidence from two existing customers for additional models on the same platforms that the company had previously receive design awards for. One design win was a new award from a new customer, Geely, which also represented a breakthrough for the company in Asia.

In connection with the interim report for the period January–June that was presented on 20 August, the company began disclosing the estimated market value of awarded design wins. The total estimated value at year-end of the 29 design wins received to date exceeds SEK 850 million over the products' lifecycles.

To be able to meet the growing number of queries for driver monitoring systems and maintain the company's market-leading position, during the year investments were made in expanding the work force. At year-end the number of employees was 71 (65).

A number of new products and product upgrades were launched during the year. Smart Eye XO is a new eye tracker that can be described as a combination of Aurora and Smart Eye Pro. Smart Eye Pro DX is a further development of Smart Eye Pro, which among other things tolerates that the person whose eye is being tracked moves about in a larger area. Smart AI-X is a new camera that is smaller than Aurora and mainly designed for a vehicle interior environment.

Förvatlningsberättelse forts. >>

Förvatlningsberättelse forts. >>

Significant events after the end of the financial year

After the end of the financial year through 28 February 2019 the company received an additional 14 design wins from a new, global Korean car manufacturer. The estimated order value for the 14 models is expected to exceed SEK 150 million based on volume forecasts over the product lifecycle.

The company was also able to disclose an additional four of the car models that previously awarded and communicated design wins pertain to. These are the BMW X3, BMW X4, BMW X5 and the BMW 8-series.

Future development, and significant risks and uncertainties

Operational risks

The company's operations include risk factors that could have a negative impact on the company's commercial and financial positions.

The ability to retain current employees and also to recruit new employees is crucial for the company's future development. If key employees leave the company or if the company is unable to attract qualified talent, this could have a negative impact on the company's operations.

Delays in the company's development work or an inability to keep up with technical development could result in a decrease or loss of competitiveness for the company.

Defective quality in the company's delivered products could lead to claims for damages against the company. There is also a risk that defective product quality could result in reduced demand for the company's products.

The company's intangible assets are of great importance to its business. Should the company be unsuccessful at protecting its intangible assets, other parties could succeed in developing activities similar to the company's, or copy or in some other way utilise the technology and products used and developed by the company. If the company's efforts to protect its intangible assets are inadequate or if its assets are misused, this could affect the company's business. The company could also be forced to initiate legal proceedings to protect its intangible assets and trade secrets. Such processes could lead to significant costs and take up time of the company's senior executives.

Financial risks

The company is financed with share capital and loans. If the company fails to generate revenue on the scale and in the time perspective deemed necessary by the Board of Directors, further capital requirements may arise.

As sales increase, the company is subject to increased currency exposure, since most of the company's sales take place in another currency than Swedish kronor.

Market risks

Eye tracking is an emerging technology in which the company's products are used for behavioural analysis. There is a risk of declining interest in using eye tracking for behavioural analysis, which could have a negative impact on the company's sales. The company's objective is to provide eye tracking to the automotive industry, which is based on vehicle manufacturers choosing to integrate eye tracking in safety functions and autonomous driving functions in future car models. There is a risk of the automotive industry choosing to introduce eye tracking more slowly than expected by the company. There is also a risk that eye tracking, and the functions that eye tracking technology makes possible, is not appreciated by consumers, which could result in declining interest in the technology and thereby in the company's products. Overall, a delayed or lack of an introduction of eye tracking in the automotive industry could entail a risk for lower growth or a complete lack of growth opportunities for the company, with a resulting negative impact on the company's business.

Proposed distribution of profit

The following profit is available for distribution by the Annual General Meeting:

	102 301 TSEK
Loss for the year	-56 540 TSEK
Retained earnings	158 841 TSEK

The Board of Directors proposes that the profits be carried forward to the next financial year

	102 301 TSEK
Profit carried forward	102 301 TSEK

CORPORATE GOVERNANCE

The company strives to ensure a high standard of corporate governance through simple and transparent management systems and governance documents. Corporate governance of Smart Eye AB is based on Swedish legislation, primarily the Swedish Companies Act, the Swedish Annual Accounts Act, and the Nasdaq First North Rule Book for Issuers.

The Board's assignment 2018

The Board's main duty is to administrate the company's affairs for the benefit of the shareholders in such a way that the shareholders' interests in a favourable long-term investment return are met in the best possible way. The Board's work is governed by, among other things, the Swedish Companies Act, the Articles of Association and the rules of procedure adopted by the Board of Directors for its work. The Board's rules of procedure including instructions for the CEO and reporting instructions are updated and adopted yearly. The rules of procedure prescribe how the Board is to work and are based on an annual cycle, among other things. Each board meeting focuses on one or several themes. On top of these the Board also addresses current and upcoming matters.

Several-year overview

Several-year overview 2014-2018

		2018	2017	2016	2015	2014
Net sales	TSEK	50 778	43 199	40 743	37 572	33 262
Operating expenses	TSEK	127 112	102 068	66 708	50 358	37 396
Operating profit/loss	TSEK	-55 998	-41 463	-11 159	-2 568	3 164
Operating margin	%	neg.	neg.	neg.	neg.	9,5
Profit after tax	TSEK	-56 404	-41 896	-12 403	-3 863	2 249
Earnings per share*	SEK	-4,29	-4,23	-1,52	-0,57	0,33
Earnings per share after full dilution*	SEK	-4,24	-4,12	-1,47	-0,55	0,32
Return on equity	%	-33,3	-57,1	-10,8	-29,9	13,4
Total assets	TSEK	204 101	101 053	139 475	51 369	41 708
Shareholders' equity	TSEK	169 312	73 408	115 312	12 927	16 790
Shareholders' equity per share*	SEK	12,88	7,41	14,13	1,9	2,47
Shareholders' equity per share after full dilution*	SEK	12,72	7,41	13,71	1,8	2,47
Equity ratio	%	83	73	83	25	40
Cash liquidity	%	370	135	520	57	65
Number of shares*		13 146 943	9 910 892	8 160 892	6 817 842	6 817 842
Number of shares after full dilution*		13 307 143	9 910 892	8 410 892	7 052 842	7 052 842

*Not including shares from the new issue ahead of the listing on Nasdaq First North.

Figures for 2017 are consolidated figures, as this is the first year that consolidated financial statements are presented. Figures for earlier years pertain to the Parent Company.

Definitions of key ratios are presented in Note 1.

ACCOUNTS GROUP

GROUP

Income statement

GROUP	Note	Full year 2018	Full year 2017
Operating revenue			
Net sales	3	50 778	43 199
Capitalised work for own account	4	17 976	15 722
Other operating revenue		2 360	1 684
Total operating revenue, etc.		71 114	60 605
Operating expenses			
Other external costs	5, 6, 7	-48 424	-40 794
Personnel costs	8, 9	-64 943	-50 318
Depreciation, amortisation and impairment of property, plant			
and equipment and intangible non-current assets	4, 13	-13 745	-10 956
Total operating expenses		-127 112	-102 068
Operating profit/loss		-55 998	-41 463
Financial income and expense			
Other interest income and similar profit/loss items		21	15
Interest expenses and similar profit/loss items		-371	-448
Total financial income and expense		-350	-433
Profit/loss after financial items		-56 348	-41 896
Tax on profit for the year	10	-56	0
Net profit/loss for the year		-56 404	-41 896

Balance sheet

GROUP	Note	2018-12-31	2017-12-31
Assets			
Non-current assets			
Intangible assets			
Capitalised development expenditures	4	79 457	63 089
Concessions, patents, licences, trademarks and similar rights		272	359
		79 729	63 448
Tangible assets			
Fixtures, tools, fixtures and fittings	13	4 769	5 150
Financial assets			
Participations in associated companies	12	25	25
Total non-current assets		84 523	68 623
Current assets			
Inventories, etc.			
Raw materials and consumables		4 308	2 959
Current receivables			
Trade receivables		19 342	13 931
Current tax assets		774	370
Other current receivables	14	2 594	1 741
Prepaid expenses and accrued income	15	2 614	3 167
		25 324	19 209
Cash and bank balances		89 946	10 262
Total current assets		119 578	32 429
Total assets		204 101	101 053

» Balance sheet, cont.

GROUP	Note	2018-12-31	2017-12-31
Shareholders' equity and liabilities			
Shareholders' equity			
Restricted shareholders' equity			
Share capital		1 315	991
Share premium reserve		21 914	21 914
Fund for development costs		45 816	28 314
		69 045	51 219
Unrestricted shareholders' equity			
Share premium reserve		291 617	139 737
Translation difference		89	-8
Retained profit or loss		-135 035	-75 644
Net profit/loss for the year		-56 404	-41 896
		100 267	22 189
Total shareholders' equity		169 312	73 408
Non-current liabilities			
Other liabilities to credit institutions	16, 18	3 667	5 667
Total non-current liabilities		3 667	5 667
Current liabilities			
Other liabilities to credit institutions	16, 18	2 000	2 000
Advance payments from customers		2 231	0
Trade payables		9 641	7 828
Liabilities to Group companies		0	0
Tax liabilities		58	0
Other current liabilities		2 350	1 481
Accrued expenses and prepaid income	17	14 842	10 669
		31 122	21 978
Total shareholders' equity and liabilities		204 101	101 053

Shareholders' equity

		Other	Other	Total
GROUP	Share capital	contributed equity	shareholders' equity	shareholders' equity
Opening balance, 1/1/2017	816	161 826	-47 330	115 312
New issue	0	0	0	0
Ongoing new issue, subscribed and paid but not registered	175	-175	0	0
Translation difference			-8	-8
Net profit/loss for the year			-41 896	-41 896
Shareholders' equity at 31/12/2017	991	161 651	-89 234	73 408
Opening balance, 1/1/2018	991	161 651	-89 234	73 408
New issue	324	150 935		151 259
Warrant programme 2018	0	945	0	945
Translation difference			105	105
Net profit/loss for the year			-56 404	-56 404
Shareholders' equity at 31/12/2018	1 315	313 531	-145 533	169 312

The share capital consists of 13,146,943 shares with a share quota value of SEK 0.1.

During the period an ongoing new issue was registered and the share capital increased by SEK 323,605.

Cash flow statement

GROUP	2018	2017
Operating activities		
Operating loss after depreciation and amortisation	-55 998	-41 463
Reversal of depreciation and amortisation	13 745	10 956
Financial payments received	21	15
Financial payments rendered	-371	-448
Тах	0	0
Change in working capital		
Change in inventories	-1 349	26
Change in trade receivables	-5 410	-4 235
Change in other current receivables *	-704	10 041
Change in trade payables	1 813	2 761
Change in other non-current liabilities	7 331	3 017
Cash flow from operating activities	-40 922	-19 330
Investing activities		
Intangible assets	-28 595	-25 191
Tangible assets	-1 050	-5 374
Financial assets	0	-90
Cash flow from investing activities	-29 645	-30 655
Financing activities		
New issue	152 204	0
Dividends		
Non-current liabilities	-2 000	-1 833
Cash flow from financing activities	150 204	-1 833
Translation difference	47	-8
Cash flow	79 684	-51 826
Opening cash and cash equivalents	10 262	62 088
Closing cash and cash equivalents	89 946	10 262

* Current receivables and new issue include a receivable of SEK 10.8 million from Erik Penser Bank AB for the portion of the new issue from December 2016 that was paid out in January 2017.

ROUP NOTES

NOTE 1 Accounting policies and valuation principles

The company's annual report has been prepared in accordance with the Swedish Annual Accounts Act and the Swedish Accounting Standards Board's recommendation BFNAR 2012:1 Annual accounts and consolidated accounts (K3). The accounting policies are unchanged from the previous year.

Foreign currencies

Monetary asset and liability items in foreign currencies are measured at the exchange rate on the balance sheet date. Transactions in foreign currencies are translated at the spot rate on the transaction date.

Revenue

Goods

Sales of goods are recognised when the significant risks and benefits are transferred from the seller to the buyer in accordance with the terms of sale. Sales are recognised after deductions for VAT, discounts and exchange rate differences for sales in foreign currencies. System revenue for which there are non-delivered components that are a condition for the functionality of the system is recognised when these components are delivered.

Service assignments

For service assignments at current prices the revenue attributable to a completed service assignment is recognised in pace with completion of the work and the delivery or use of the material.

Capitalised work for own account

See further under intangible assets.

Income tax

Current tax

Current tax is measured based on the tax rates and tax rules on the balance sheet date. Deferred tax is measured based on the tax rates and tax rules decided prior to the balance sheet date. Deferred tax liabilities concerning temporary differences that are related to investments in subsidiaries are not recognised in the consolidated accounts, since the Parent Company may in all cases determine the time of reversal of the temporary differences, and it is not deemed to be probable that reversal will take place in the foreseeable future.

Deferred tax

Deferred tax assets pertaining to loss carryforwards or other future tax deductions are recognised to the extent that it is likely that the loss carryforwards can be offset against surpluses in conjunction with future taxation.

Receivables and liabilities are recognised net only when there is a legal right of set-off. Current tax, like the change in deferred tax, is recognised in the income statement unless the tax is attributable to an event or transaction that is recognised directly in shareholders' equity.

Leases

All leases for which the company is the lessee are recognised as operating leases (rental agreements), regardless of whether the leases are finance or operating leases. Lease payments under operating leases, including higher first-time rents, but excluding expenses for insurance and maintenance, are recognised as expenses on a straight-line basis over the lease term.

Employee benefits

Employee benefits in the form of salaries, holiday pay, paid sick leave, etc., as well as pensions, are recognised as they are earned. The company only has defined-contribution pension plans. There are no other long-term employee benefits.

Defined-contribution pension plans

Under defined-contribution pension plans, the company pays fixed contributions to a separate independent legal entity and does not have any obligation to pay additional contributions. The company's earnings are charged with expenses as the benefits are earned, which normally corresponds to the time when the premium is paid.

Intangible assets

Intangible non-current assets are recognised at cost less accumulated amortisation and any impairment. Cost includes costs directly attributable to the acquisition of the asset.

Intangible non-current assets are amortised on a straight-line basis over the asset's estimated useful life. Straight-line amortisation is applied. Amortisation is recognised as a cost in the income statement.

Development work

Development costs are capitalised if the project is assumed to be of significant future value to the company. Capitalisation pertains to development costs for a specific application and which are clearly delineated for the project.

The following amortisation schedule is applied: Capitalised development expenditure

10 years

Tangible assets

Property, plant and equipment is recognised at cost less accumulated depreciation and any impairment.

Cost includes costs directly attributable to the acquisition of the asset.

Additional expenses concerning assets that are not divided into components are added to the cost if they are estimated to give the company future economic benefit, to the extent that the asset's performance increases in relation to the asset's value on the acquisition date. Expenses for ongoing repair and maintenance are recognised as costs.

Property, plant and equipment is depreciated on a straight-line basis over the asset's estimated useful life. Any residual value of the asset is taken into account when determining the assets' depreciable amounts. Straight-line depreciation is applied. Depreciation is recognised as a cost in the income statement.

The following depreciation schedules are applied:Equipment and tools5 yearsComputers3 years

If an asset's carrying amount exceeds its estimated recoverable amount, the asset is immediately written down to its recoverable amount.

ROUP NOTES

Financial instruments

Financial instruments recognised on the balance sheet include trade receivables, other receivables, trade payables and loans. The instruments are recognised on the balance sheet when the company becomes party to the contractual terms of the instrument.

Financial assets are derecognised from the balance sheet when the right to receive cash flows from the instrument has expired or has been transferred, and the company has transferred essentially all risks and benefits associated with the right of ownership. Financial liabilities are derecognised from the balance sheet when the obligations in the contract are met or otherwise lapse.

Trade and other receivables

Receivables are recognised as current assets, with the exception of items falling due more than 12 months after the balance sheet date, which are classified as non-current assets. Receivables are recognised in the amount at which they are expected to be received less individually assessed doubtful debts.

Loans and trade payables

Loans and trade payables are initially recognised at cost after deducting transaction costs. If the recognised amount differs from the amount to be repaid on the due date, the difference is accrued as an interest cost or interest income over the term of the loan. This means that as of the due date the recognised amount corresponds to the amount to be repaid.

Participations in subsidiaries and associated companies

Participations in subsidiaries are recognised at cost after deducting any impairment. Participations in associated companies are recognised at cost after deducting any impairment.

Inventories

Inventories are measured at the lower of cost and net realisable value on the balance sheet date. Cost is calculated according to the first-in, first-out (FIFO) principle. Net sales value is the sales value after deducting calculated costs that can be attributed directly to the sales transaction.

Provisions

A provision is recognised on the balance sheet when the company has a formal or informal obligation due to an event that has occurred, and it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made.

Cash flow statement

The cash flow statement presents the changes in the company's cash and cash equivalents during the financial year. The cash flow statement is prepared according to the indirect method. The recognised cash flow solely includes transactions that involve incoming and outgoing cash payments.

Definitions of key ratios

Net sales growth

The percentage net increase in net sales compared with an earlier period. The company believes that this key ratio gives a better understanding of the company's growth.

Operating profit/loss

Profit/loss before financial income and expenses, and tax.

Operating margin Operating profit in relation to net sales.

Liquidity ratio

Current assets excluding inventories and work in progress as a percentage of current liabilities.

Equity ratio

Equity and untaxed reserves (less deferred tax) in relation to total assets.

Return on equity

Profit after tax in relation to shareholders' equity during the period.

Earnings per share

Profit for the period divided by the number of shares outstanding at the end of the period.

Equity per share

Shareholders' equity divided by the number of shares at the end of the period.

Dividend per share

Dividend for the period divided by the number of shares outstanding at the time of the dividend.

Employees

Number of employees at the end of the period.

NOTE 2 Estimates and assessments

No assessments or estimates have been made that have a significant effect on the amounts recognised in the financial statements or that would entail a significant risk of a material adjustment of the carrying amounts for assets and liabilities in the next financial year.

NOTE 3 Net sales per business area

	2018	2017
Research Instruments	29 546	20 757
Automotive Solutions	21 232	22 442
	50 778	43 199

GROUP NOTES

NOTE 4 Capitalised development expenditure

	2018	2017
Acquisition value	112 995	89 018
Capitalised expenses for the year	28 574	25 128
Disposals	-88	-1 151
Closing accumulated cost	141 481	114 146
Opening depreciation	-49 906	-41 119
Amortisation for the year	-12 205	-9 938
Disposals	87	439
Closing accumulated amortisation	-62 024	-49 906
Closing residual value according to plan	79 457	63 089

NOTE 6 Auditors' fees

	2018	2017
PWC AB		
Audit assignment	204	161
Other services	51	40
Total auditors' fees	255	201

By audit assignment is meant the auditor's fee for the statutory audit. This work includes review of the annual report and bookkeeping, the Board of Directors' and CEO's administration, and fees for audit consulting in connection with the audit assignment.

NOTE 5 Operating leases

Future minimum lease payments to be made for non-cancellable leases.

	31/12/2018	31/12/2017
Due for payment within one year	5 759	5 324
Due for payment later than one year, but within five years	12 099	16 568
Due for payment later than five years	0	0
	17 858	21 892
Lease payments expensed during the period	5 011	5 004

NOTE 7 Transactions with related parties

No transactions were made with related parties during the year other than stated in note 8 and note 9.

NOTE 8 Employees

	2018	2017
Average number of employees		
Women	13	11
Men	57	43
	70	54

Board members and senior executives

Number of Board members on the balance sheet date		
Men	6	6
Women	0	0
	6	6

Number of CEOs and other senior executives

	6	6
Women	1	1
Men	5	5
GROUP

Notes

Salaries, fees and other remuneration

Board of Directors	20	18	20)17
	Fees	Other remuneration	Fees	Other remuneration
Anders Jöfeldt, Chairman of the Board	125	0	129	0
Lars Olofsson, director	42	0	129	0
Mats Krantz, director* and CEO	125	0	129	0
Staffan Hansson, director	138	0	129	0
Magnus Jonsson, director	149	0	129	0
Per Aniansson, director	0	0		
Total	579	0	645	0

Salaries, fees and other remuneration

Total	40 878	31 807
Other employees	34 039	25 829
Other senior executives	4 726	4 020
CEO	1 534	1 313
Board of Directors	579	645
	2018	2017

Social security charges and pensions

Statutory and contractual social security charges and pensions	11 007	8 785
Pension costs	6 361	4 556
Total	17 368	13 341
Of which, CEO	0	0
Of which, other senior executives	806	583
Of which, other employees	5 555	3 973

2018

2017

Salaries and remuneration for the CEO and other senior executives

	Sala	Social security Salary Pension costs charges		Salary					al
2018	2018	2017	2018	2017	2018	2017	2018	2017	
CEO	1 534	1 313	0	0	482	413	2 016	1 726	
Other senior executives	4 726	4 020	806	583	1 485	1 263	7 017	5 866	
Total							9 033	7 592	

The CEO is subject to six months' mutual notice of termination. On notice of termination by the company, the CEO is not entitled to any severance pay or any pension benefits. No agreements concerning severance payments have been made with the company's other employees.

NOTE 9 Share-based payments

At the Annual General Meeting on 25 April 2018 it was resolved to establish a new incentive programme. The decision was made to issue a total of a maximum of 170,000 warrants, which senior executives and other employees – approximately 70 persons in all – were offered to purchase. Upon full exercise of the warrants, a maximum of 170,000 new shares will be issued, corresponding to a dilutive effect of approximately 1.5%.

The subscription price for shares subscribed for via the warrants is SEK 48.7 per share. The premium per warrant, which has been calculated using the Black-Scholes model, was SEK 5.90.

Subscription of shares may take place during the period 1 May 2021 through 30 June 2021.

NOTE 10 Income tax

	2018	2017
Current tax	56	0
Deferred tax	0	0
	-56	0
Reconciliation of tax expense		
Tax according to current tax rate (22%)	12 397	9 217
Tax effect of non-deductible expenses	-89	-34
Tax effect of non-deductible income	0	0
Tax effect of unrecognised loss carryforwards	12 364	9 183
Recognised tax expense	- 56	0

Unrecognised loss carryforwards amount to 142,808 (86,404).

GROUP

NOTE 12 Participations in associated companies

	Reg. no.	Number of shares	Share of equity (%)	Share of votes (%)	Book value 31/12/2018	Book value 31/12/2017
Neoeye AB	559059-9824	Stockholm	50	50	25	25
Total					25	25

NOTE 13 Equipment, tools, fixtures and fittings

	2018	2017
	2010	2017
Opening cost	8 512	3 138
Changes during the year		
- Disposals	-2 485	
- Purchases	1 049	5 374
Closing accumulated cost	7 076	8 512
Opening depreciation	-3 362	-2 426
Changes during the year		
- Disposals	2 485	
- Depreciation	-1 430	-936
Closing accumulated depreciation	-2 307	-3 362
Closing residual value according to plan	4 769	5 150

NOTE 14 Other current receivables

	2018	2017
Tax account	1 046	0
VAT account	1 476	1 362
Subscribed but not paid-up new issue	0	0
Other current receivables	72	379
Total other current receivables	2 594	1 741

GROUP

Notes

NOTE 15 Prepaid expenses and accrued income

Total prepaid expenses and accrued income	2 614	3 167
Other prepaid expenses	1 049	736
Accrued income and ongoing contribution projects	1 064	2 019
Prepaid rents	501	412
	2018	2017

NOTE 17 Accrued expenses and prepaid income

	2018	2017
Accrued salaries and holiday pay	5 107	4 332
Accrued social security charges	1 605	2 165
Accrued expenses	3 564	2 812
Accrued interest expenses	2 436	0
Other items	2 130	1 350
Total accrued expenses and prepaid income	14 842	10 659

NOTE 16 Liabilities to credit institutions

NOTE 18 Pledged assets and contingent liabilities

	2018	2017
Due within 1 year after the balance sheet date	2 000	2 000
Due between 1 and 5 years after the balance sheet date	3 667	5 667
Due later than 5 years after the balance sheet date	0	0
Total liabilities to credit institutions	5 667	7 667

	2018	2017
For own provisions and liabilities		
Floating charges	15 000	15 000

PARENT COMPANY

Income statement

PARENT COMPANY	Note	Full year 2018	Full year 2017
Operating revenue			
Net sales	3	50 778	43 199
Capitalised work for own account	4	17 976	15 722
Other operating revenue		2 360	1 683
Total operating revenue, etc.		71 114	60 604
Operating expenses			
Other external costs	5, 6, 7	-48 680	-40 824
Personnel costs	8, 9	-64 878	-50 378
Depreciation, amortisation and impairment of tangible and intangible assets	4, 13	-13 745	-10 956
Total operating expenses		-127 303	-102 158
Operating profit/loss		-56 189	-41 553
Financial income and expense			
Other interest income and similar profit/loss items		20	15
Interest expenses and similar profit/loss items		-371	-448
Total financial income and expense		-351	-434
Profit/loss after financial items		-56 540	-41 987
Tax on profit for the year	10	0	0
Net profit/loss for the year		-56 540	-41 987

Balance sheet

PARENT COMPANY	Not	31/12/2018	31/12/2017
Assets			
Non-current assets			
Intangible assets			
Capitalised development expenditure	4	79 457	63 089
Concessions, patents, licences, trademarks and similar rights		272	359
		79 729	63 448
Tangible assets			
Fixtures, tools, fixtures and fittings	13	4 769	5 150
Financial assets			
Participations in Group companies	11	624	461
Participations in associated companies	12	25	25
Total non-current assets		85 147	69 084
Current assets			
Inventories, etc.			
Raw materials and consumables		4 308	2 959
Current receivables			
Trade receivables		19 342	13 931
Receivable from Group companies		147	0
Current tax assets		774	370
Other current receivables	14	2 590	1 741
Prepaid expenses and accrued income	15	2 554	3 167
		25 407	19 209
Cash and bank balances		88 809	9 733
Total current assets		118 524	31 901
Total assets		203 671	100 985

» Balance sheet, cont.

PARENT COMPANY	Note	31/12/2018	31/12/2017
Shareholders' equity and liabilities			
Shareholders' equity			
Restricted shareholders' equity			
Share capital		1 315	991
Share premium reserve		21 914	21 914
Fund for development costs		43 459	28 314
		66 688	51 219
Unrestricted shareholders' equity			
Share premium reserve		291 617	139 737
Retained profit or loss		-132 776	-75 644
Net profit/loss for the year		-56 540	-41 987
		102 301	22 106
Total shareholders' equity		168 989	73 325
Non-current liabilities			
Other liabilities to credit institutions	16, 18	3 667	5 667
Total non-current liabilities		3 667	5 667
Current liabilities			
Other liabilities to credit institutions	16, 18	2 000	2 000
Advance payments from customers		2 231	0
Trade payables		9 461	7 821
Liabilities to Group companies		611	493
Other current liabilities		2 350	1 020
Accrued expenses and prepaid income	17	14 363	10 659
		31 015	21 993
Total shareholders' equity and liabilities		203 671	100 985

Shareholders' equity

PARENT COMPANY	Share capital	Share premium reserve (restricted)	Fund for development expenditure (restricted)	Share premium reserve (unrestricted)	Other unrestricted shareholders' equity	Total shareholders' equity
Opening balance, 1/1/2017	816	21 914	13 990	139 912	-61 320	115 312
New issue	0			0		
Ongoing new issue, subscribed and paid but not registered	175			-175		0
Warrants 2016				0		0
Fund for development costs			14 323	0	-14 323	0
Net profit/loss for the year				0	-41 987	-41 987
Shareholders' equity at 31/12/2017	991	21 914	28 314	139 737	-117 631	73 325
Opening balance, 1/1/2018	991	21 914	28 314	139 737	-117 631	73 325
New issue	324			150 935		151 259
Warrant programme 2018	0			945		945
Fund for development costs			17 976		-17 976	
Reversal of fund for development costs			-2 831		2 831	
Net profit/loss for the year			0		-56 540	-56 540
Shareholders' equity at 31/12/2018	1 315	21 914	43 459	291 617	-189 316	168 989

The share capital consists of 13,146,943 shares with a share quota value of SEK 0.1.

During the period an ongoing new issue was registered and the share capital increased by SEK 323,605.

Cash flow statement

PARENT COMPANY	2018	2017
Operating activities		
Operating loss after depreciation and amortisation	-56 189	-41 553
Reversal of depreciation and amortisation	13 745	10 956
Financial payments received	20	15
Financial payments rendered	-371	-448
Tax	0	0
Change in working capital		
Change in inventories	-1 349	26
Change in trade receivables	-5 410	-4 235
Change in other current receivables *	-1 159	10 041
Change in trade payables	1 639	2 754
Change in other current liabilities	7 755	2 577
Cash flow from operating activities	-41 320	-19 867
Investing activities		
Intangible assets	-28 594	-25 191
Tangible assets	-1 050	-5 374
Financial assets	-163	-90
Cash flow from investing activities	-29 808	-30 655
Financing activities		
New issue	152 204	0
Dividends		
Non-current liabilities	-2 000	-1 833
Cash flow from financing activities	150 204	-1 833
Cash flow	79 076	-52 355
Opening cash and cash equivalents	9 733	62 088
Closing cash and cash equivalents	88 809	9 733

* Current receivables and new issue include a receivable of SEK 10.8 million from Erik Penser Bank AB for the portion of the new issue from December 2016 that was paid out in January 2017.

Notes

NOTE 1 Accounting policies and valuation principles

The company's annual report has been prepared in accordance with the Swedish Annual Accounts Act and the Swedish Accounting Standards Board's recommendation BFNAR 2012:1 Annual accounts and consolidated accounts (K3). The accounting policies are unchanged from the previous year.

Foreign currencies

Monetary asset and liability items in foreign currencies are measured at the exchange rate on the balance sheet date. Transactions in foreign currencies are translated at the spot rate on the transaction date.

Revenue

Goods

Sales of goods are recognised when the significant risks and benefits are transferred from the seller to the buyer in accordance with the terms of sale. Sales are recognised after deductions for VAT, discounts and exchange rate differences for sales in foreign currencies. System income for which there are non-delivered components that are a condition for the functionality of the system is recognised when these components are delivered.

Service assignments

For service assignments at current prices the income attributable to a completed service assignment is recognised in pace with completion of the work and the delivery or use of the material.

Capitalised work for own account

See further under intangible assets.

Income tax

Current tax

Current tax is measured based on the tax rates and tax rules on the balance sheet date. Deferred tax is measured based on the tax rates and tax rules decided prior to the balance sheet date. Deferred tax liabilities concerning temporary differences that are related to investments in subsidiaries are not recognised in the consolidated accounts, since the Parent Company may in all cases determine the time of reversal of the temporary differences, and it is not deemed to be probable that reversal will take place in the foreseeable future.

Deferred tax

Deferred tax assets pertaining to loss carryforwards or other future tax deductions are recognised to the extent that it is likely that the loss carryforwards can be offset against surpluses in conjunction with future taxation.

Receivables and liabilities are recognised net only when there is a legal right of set-off. Current tax, like the change in deferred tax, is recognised in the income statement unless the tax is attributable to an event or transaction that is recognised directly in shareholders' equity.

Leases

All leases for which the company is the lessee are recognised as operating leases (rental agreements), regardless of whether the leases are finance or operating leases. Lease payments under operating leases, including higher first-time rent, but excluding expenses for insurance and maintenance, are recognised as expenses on a straight-line basis over the lease term.

Employee benefits

Employee benefits in the form of salaries, holiday pay, paid sick leave, etc., as well as pensions, are recognised as they are earned. The company only has defined-contribution pension plans. There are no other long-term employee benefits.

Defined-contribution pension plans

Under defined-contribution pension plans, the company pays fixed contributions to a separate independent legal entity and does not have any obligation to pay additional contributions. The company's earnings are charged with expenses as the benefits are earned, which normally corresponds to the time when the premium is paid.

Intangible assets

Intangible non-current assets are recognised at cost less accumulated amortisation and any impairment. Cost includes costs directly attributable to the acquisition of the asset.

Intangible non-current assets are amortised on a straight-line basis over the asset's estimated useful life. Straight-line amortisation is applied. Amortisation is recognised as a cost in the income statement.

Development work

Development costs are capitalised if the project is assumed to be of significant future value to the company. Capitalisation pertains to development costs for a specific application and which are clearly delineated for the project.

The following amortisation schedule is applied: Capitalised development expenditure

10 years

Tangible assets

Property, plant and equipment is recognised at cost less accumulated depreciation and any impairment.

Cost includes costs directly attributable to the acquisition of the asset.

Additional expenses concerning assets that are not divided into components are added to the cost if they are estimated to give the company future economic benefit, to the extent that the asset's performance increases in relation to the asset's value on the acquisition date. Expenses for ongoing repair and maintenance are recognised as costs.

Property, plant and equipment is depreciated on a straight-line basis over the asset's estimated useful life. Any residual value of the asset is taken into account when determining the assets' depreciable amounts. Straight-line depreciation is applied. Depreciation is recognised as a cost in the income statement.

The following depreciation schedules are applied:Equipment and tools5 yearsComputers3 years

If an asset's carrying amount exceeds its estimated recoverable amount, the asset is immediately written down to its recoverable amount.

Notes

Financial instruments

Financial instruments recognised on the balance sheet include trade receivables, other receivables, trade payables and loans. The instruments are recognised on the balance sheet when the company becomes party to the contractual terms of the instrument.

Financial assets are derecognised from the balance sheet when the right to receive cash flows from the instrument has expired or has been transferred, and the company has transferred essentially all risks and benefits connected with the right of ownership. Financial liabilities are derecognised from the balance sheet when the obligations in the contract are met or otherwise lapse.

Trade receivables and other receivables

Receivables are recognised as current assets, with the exception of items falling due more than 12 months after the balance sheet date, which are classified as non-current assets. Receivables are recognised in the amount at which they are expected to be received less individually assessed doubtful debts.

Loans and trade payables

Loans and trade payables are initially recognised at cost after deducting transaction costs. If the recognised amount differs from the amount to be repaid on the due date, the difference is accrued as an interest cost or interest income over the term of the loan. This means that as of the due date the recognised amount corresponds to the amount to be repaid.

Participations in subsidiaries and associated companies

Participations in subsidiaries are recognised at cost after deducting any impairment. Participations in associated companies are recognised at cost after deducting any impairment.

Inventories

Inventories are measured at the lower of cost and net realisable value on the balance sheet date. Cost is calculated according to the first-in, first-out (FIFO) principle. Net sales value is the sales value after deducting calculated costs that can be attributed directly to the sales transaction.

Provisions

A provision is recognised on the balance sheet when the company has a formal or informal obligation due to an event that has occurred, and it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made.

Cash flow statement

The cash flow statement presents the changes in the company's cash and cash equivalents during the financial year. The cash flow statement is prepared according to the indirect method. The recognised cash flow solely includes transactions that involve incoming and outgoing cash payments.

Definitions of key ratios

Net sales growth

The percentage net increase in net sales compared with an earlier period. The company believes that this key ratio gives a better understanding of the company's growth.

Operating profit/loss

Profit/loss before financial income and expenses, and tax.

Operating margin Operating profit in relation to net sales.

Liquidity ratio

Current assets excluding inventories and work in progress as a percentage of current liabilities.

Equity ratio

Equity and untaxed reserves (less deferred tax) in relation to total assets.

Return on equity

Profit after tax in relation to shareholders' equity during the period.

Earnings per share

Profit for the period divided by the number of shares outstanding at the end of the period.

Equity per share

Shareholders' equity divided by the number of shares at the end of the period.

Dividend per share

Dividend for the period divided by the number of shares outstanding at the time of the dividend.

Employees

Number of employees at the end of the period.

NOTE 2 Estimates and assessments

No assessments or estimates have been made that have a significant effect on the amounts recognised in the financial statements or that would entail a significant risk of a material adjustment of the carrying amounts for assets and liabilities in the next financial year.

NOTE 3 Net sales per business area

	2018	2017
Research Instruments	29 546	20 757
Automotive Solutions	21 232	22 442
	50 778	43 199

NOTES

NOTE 4 Capitalised development expenditure

	2018	2017
	2018	2017
Opening cost	112 995	89 018
Capitalised expenses for the year	28 574	25 128
Disposals	-88	-1 151
Closing accumulated cost	141 481	114 146
Opening amortisation	-49 906	-41 119
Amortisation for the year	-12 205	-9 938
Disposals	87	439
Closing accumulated amortisation	-62 024	-49 906
Closing residual value according to plan	79 457	63 089

NOTE 6 Auditors' fees

	2018	2017
PWC AB		
Audit assignment	204	161
Other services	51	40
Total auditors' fees	255	201

By audit assignment is meant the auditor's fee for the statutory audit. This work includes review of the annual report and bookkeeping, the Board of Directors' and CEO's administration, and fees for audit consulting in connection with the audit assignment.

NOTE 7 Transactions with related parties

No transactions were made with related parties during the year

NOTE 5 Operating leases

Future minimum lease payments to be made for non-cancellable leases.

	31/12/2018	31/12/2017
Due for payment within one year	5 759	5 324
Due for payment later than one year, but within five years	12 099	16 568
Due for payment later than five years	0	0
	17 858	21 892
Lease payments expensed during the period	5 011	5 004

NOTE 8 Employees

other than stated in note 8 and note 9.

	2018	2017
Average number of employees		
Women	13	11
Men	57	43
	70	54

Board members and senior executives

Number of Board members on the balance sheet date		
Men	6	6
Women	0	0
	6	6

Number of CEOs and other senior executives

Men	5	5
Women	1	1
	6	6

Notes

Salaries, fees and other remuneration

		018	20	17
Board of Directors	Fees	Other remuneration	Fees	Other remuneration
Anders Jöfeldt, Chairman of the Board	125	0	129	0
Lars Olofsson, director	42	0	129	0
Mats Krantz, director * and CEO	125	0	129	0
Staffan Hansson, director	138	0	129	0
Magnus Jonsson, director	149	0	129	0
Per Aniansson, director	0	0		
Total	579	0	645	0

Salaries, fees and other remuneration

	2018	2017
Board of Directors	579	645
CEO	1 534	1 313
Other senior executives	4 726	4 0 2 0
Other employees	34 039	25 829
Total	40 878	31 807

Social security charges and pensions

		2017
Statutory and contractual social		
security charges and pensions	11 007	8 785
Pension costs	6 361	4 556
	17 368	13 341
Of which, CEO	0	0
Of which, other senior executives	806	583
Of which, other employees	5 555	3 973

2018

2017

Salaries and remuneration for the CEO and other senior executives

	Sala	ary	Pensior	costs	Social se	ecurity	Tot	al
2018	2018	2017	2018	2017	2018	2017	2018	2017
CEO	1 534	1 313	0	0	482	413	2 016	1 726
Other senior executives	4 726	4 020	806	583	1 485	1 263	7 017	5 866
Total							9 033	7 592

The CEO is subject to six months' mutual notice of termination. On notice of termination by the company, the CEO is not entitled to any severance pay or pension benefits. No agreements concerning severance payments have been made with the company's other employees.

NOTE 9 Share-based payments

At the Annual General Meeting on 25 April 2018 it was resolved to establish a new incentive programme. The decision was made to issue a total of a maximum of 170,000 warrants, which senior executives and other employees - approximately 70 persons in all - were offered to purchase. Upon full exercise of the warrants, a maximum of 170,000 new shares will be issued, corresponding to a dilutive effect of approximately 1.5%.

The subscription price for shares subscribed for via the warrants is SEK 48.7 per share. The premium per warrant, which has been calculated using the Black-Scholes model, was SEK 5.90.

Subscription of shares may then take place during the period 1 May 2021 through 30 June 2021.

NOTE 10 Income tax

	2018	2017
Current tax	0	0
Deferred tax	0	0
	0	0

Reconciliation of tax expense

Recognised tax expense	-0	0
Tax effect of unrecognised loss carryforwards	-12 350	-9 183
Tax effect of non-deductible income	0	0
Tax effect of non-deductible expenses	-89	-34
Tax according to current tax rate (22%)	12 439	9 217

Unrecognised loss carryforwards amount to 142,944 (86,404).

NOTE 11 Participations in Group companies

	2018	2017	Group	Reg. no.	Domicile	Capital share (%)
Opening cost	461	371	JN Data AB	556563-7849	Gothenburg	100
Change during the year	163	90	Smart Eye			
Closing accumulated cost	624	461	International Inc.	6303763	Delaware	100
Closing residual value according to plan	624	461	Smart Eye Japan Co. Ltd	0104-01-139423	Tokyo	100

Parent Company	Reg. no.	Number of shares	Share of equity (%)	Share of votes (%)	Book value 31/12/2018	Book value 31/12/2017
JN Data AB	556563-7849	1 000	100	100	371	371
Smart Eye International Inc.	6303763	1 000	100	100	90	90
Smart Eye Japan Co. Ltd	0104-01-139423	2 000	100	100	163	
Total					624	461

NOTE 12 Participations in associated companies

	Reg. no.	Number of shares	Share of equity (%)	Share of votes (%)	Book value 31/12/2018	Book value 31/12/2017
Neoeye AB	559059-9824	Stockholm	50	50	25	25
Total					25	25

NOTE 13 Equipment, tools, fixtures and fittings

	2018	2017
Opening cost	8 512	3 138
Changes during the year		
- Disposals	-2 485	
- Purchases	1 049	5 374
Closing accumulated cost	7 076	8 512
Opening depreciation	-3 362	-2 426
Changes during the year		
- Disposals	2 485	
- Depreciation	-1 430	-936
Closing accumulated depreciation	-2 307	-3 362
Closing residual value according to plan	4 769	5 150

NOTE 14 Other current receivables

	2018	2017
Tax account	1 046	0
VAT account	1 476	1 362
Subscribed but not paid-up new issue	0	0
Other current receivables	68	379
Total other current receivables	2 590	1 741

NOTE 15 Prepaid expenses and accrued income

	2018	2017
Prepaid rents	501	412
Accrued income and ongoing contribution projects	1 064	2 019
Other prepaid expenses	989	736
Total prepaid expenses and accrued income	2 554	3 167

NOTES

NOTE 16 Liabilities to credit institutions

	2018	2017
Due within 1 year after the balance sheet date	2 000	2 000
Due between 1 and 5 years after the balance sheet date	3 667	5 667
Due later than 5 years after the balance sheet date	0	0
Total liabilities to credit institutions	5 667	7 667

NOTE 18 Pledged assets and contingent liabilities

	2018	2017
For own provisions and liabilities		
Floating charges	15 000	15 000

NOTE 17 Accrued expenses and prepaid income

	2018	2017
Accrued salaries and holiday pay	5 107	4 332
Accrued social security charges	1 605	2 165
Accrued expenses	3 085	2 812
Accrued interest expenses	2 436	0
Other items	2 130	1 350
Total accrued expenses and prepaid income	14 363	10 659

The income statement and balance sheet will be submitted to the Annual General Meeting on 15 May 2019 for adoption. Gothenburg, 10 April 2019 2 Martin Krantz Anders Jöfelt Ordförande ٧D Staffan Hansson Per Aniansson Lars Olofssor Mats Krantz Magnu onssor Our audit report was submitted on 18 April 2019. Öhrlings PricewaterhouseCoopers AB Magnus Götenfelt

Authorised Public Accountant

Auditor's report

To the general meeting of the shareholders of Smart Eye AB (publ), corporate identity number 556575-8371

Report on the annual accounts and consolidated accounts

Opinions

We have audited the annual accounts and consolidated accounts of Smart Eye AB (publ) for the year 2018.

In our opinion, the annual accounts and consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of parent company and the group as of 31 December 2018 and its financial performance and cash flow for the year then ended in accordance with the Annual Accounts Act. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the general meeting of shareholders adopts the income statement and balance sheet for the parent company and the group.

Basis for Opinions

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

Other Information than the annual accounts and consolidated accounts This document also contains other information than the annual accounts and consolidated accounts and is found on pages 1-21. The Board of Directors and the Managing Director are responsible for this other information.

Our opinion on the annual accounts and consolidated accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts and consolidated accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Director's and the Managing Director

The Board of Directors and the Managing Director are responsible for the preparation of the annual accounts and consolidated accounts and that they give a fair presentation in accordance with the Annual Accounts Act. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts and consolidated accounts, The Board of Directors and the Managing Director are responsible for the assessment of the company's and the group's ability to continue as a going concern. They disclose, as applicable, matters related to going concern and using the going concern basis of accounting. The going concern basis of accounting is however not applied if the Board of Directors and the Managing Director intend to liquidate the company, to cease operations, or has no realistic alternative but to do so.

Auditor's responsibility

Our objectives are to obtain reasonable assurance about whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts and consolidated accounts.

A further description of our responsibility for the audit of the annual accounts and consolidated accounts is available on Revisorsinspektionen's website: www. revisorsinspektionen.se/revisornsansvar. This description is part of the auditor's report.

Report on other legal and regulatory requirements Opinions

In addition to our audit of the annual accounts and consolidated accounts, we have also audited the administration of the Board of Director's and the Managing Director of Smart Eye AB (publ) for the year 2018 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that the profit be appropriated in accordance with the proposal in the statutory administration report and that the members of the Board of Director's and the Managing Director be discharged from liability for the financial year.

Basis for Opinions

We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

Responsibilities of the Board of Director's and the Managing Director

The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss. At the proposal of a dividend, this includes an assessment of whether the dividend is justifiable considering the requirements which the company's and the group's type of operations, size and risks place on the size of the parent company's and the group' equity, consolidation requirements, liquidity and position in general.

The Board of Directors is responsible for the company's organization and the administration of the company's affairs. This includes among other things continuous assessment of the company's and the group's financial situation and ensuring that the company's organization is designed so that the accounting, management of assets and the company's financial affairs otherwise are controlled in a reassuring manner. The Managing Director shall manage the ongoing administration according to the Board of Directors' guidelines and instructions and among other matters take measures that are necessary to fulfill the company's accounting in accordance with law and handle the management of assets in a reassuring manner.

Auditor's responsibility

Our objective concerning the audit of the administration, and thereby our opinion about discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance whether any member of the Board of Directors or the Managing Director in any material respect:

- has undertaken any action or been guilty of any omission which can give rise to liability to the company, or
- in any other way has acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

Our objective concerning the audit of the proposed appropriations of the company's profit or loss, and thereby our opinion about this, is to assess with reasonable degree of assurance whether the proposal is in accordance with the Companies Act.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards in Sweden will always detect actions or omissions that can give rise to liability to the company, or that the proposed appropriations of the company's profit or loss are not in accordance with the Companies Act.

A further description of our responsibility for the audit of the administration is available on Revisorsinspektionen's website: www.revisorsinspektionen.se/revisornsansvar. This description is part of the auditor's report.

Gothenburg 18 april 2019 Öhrlings PricewaterhouseCoopers AB

Magnus Götenfelt Authorized Public Accountant

Board of Directors





ANDERS JÖFELT

Director since 2012 Born: 1975. Education: M.Sc. Computer Engineering, Lund University's Faculty of Engineering Other assignments: None. Previous during last five years: None. Shareholding: 863 433 shares.

MAGNUS JONSSON

Director since 2014 Born: 1956. Education: M.Sc. Mechanical Engineering, Chalmers University of Technology

Other assignments: Chairman of Powercell AB, AstaZero AB, BIL Sweden Adm AB, AB Magnus Jonsson and Magnus Jonsson Consulting AB. Director of Nilsson Special Vehicles AB and Leading Light AB

Previous during last five years: Director of Kongsberg Automotive AS, LeanNova AB, Västkustens Affärsänglar AB, SenseAir AB, Nilsson Special Vehicles AB and Leading Light AB

Shareholding: 3 000 shares.

STAFFAN HANSSON

Director since 2008 Born: 1955. Education: M.Sc. Econ., Lund University

Other assignments: Chairman and CEO of Valerius Management Consulting AB, director of MIKE Kommersiella Fastigheter AB, Resultat Projektledning Sverige AB and LanCom AB

Previous during last five years: CEO and director of Icecon Affärssystem AB Shareholding: 5 222 shares.

MATS KRANTZ Born: 1947.

Education: Master Brewer at the Scandinavian School of Brewing in Copenhagen

Other assignments: Chairman of Letter Cube Digital AB, director of Ostkustens FartygsAssistans AB and M. Irwin & Krantz AB

Previous during last five years: None.

Shareholding: 984,384 shares privately and 180,800 shares via related parties

PER ANIANSSON

Director since 2017 Born: 1966. Education: M. Sc. Engineering Physics, Chalmers University of Technology and MBA from Insead, France. Other assignments: Director of Scibase AB (publ), ÅAC Microtec AB (publ), OssDsign AB, Renewcell AB, Stiftelsen Bota Cancer, Perma Ventures AB and Anian AB Previous during last five years: Director of Powercell AB and Bambora Device AB Shareholding: 0

LARS OLOFSSON

Vice Chairman since 2017 Born: 1951. Education: M. Sc. Econ., Lund University, and PED from IMD in Switzerland

Other assignments: Director of Axel Johnson AB. Vice Chairman of Axfood AB and TCC Global NV. Senior adviser to the Chairman and CEO of SICPA SA

Previous during last five years: Director of the International Business Council, World Economic Forum and Telia Sonera. Chairman and CEO of Carrefour Group. Co-chair of Consumer Goods Forum. Director of Compass Limited/Bata Shoes Shareholding: 0

Group Management





MARTIN KRANTZ Founder and CEO Born: 1971. Education: M.Sc. Engineering Physics, Chalmers University of Technology Other assignments: Chairman, Neoeye AB Previous assignments during last five years: None. Shareholding: 859,300 shares, 20,000 options.

HENRIK LIND

CRO Employed since 2017 Born: 1961. Education: M.Sc. Electrical Engineering, Chalmers University of Technology Other assignments: None. Previous assignments during last five years: Technical expert in Remote Sensing, Volvo Car Corporation Shareholding: 150 shares, 30,000 options.

MARTIN RYDBERG

CTO Employed since 2000. Born: 1976. Education: M.Sc. Computer Engineering, Chalmers University of Technology Other assignments: None. Tidigare uppdrag de senaste fem åren: None. Shareholding: 41,500 shares, 10,000 options.

SOLMAZ SHAHMEHR

VP of Research Instruments Employed since 2009 Born: 1982. Education: M.Sc. Computer Engineering, Chalmers University of Technology and M.Sc. Computer Engineering, Tehran Azad University Other assignments: None. Previous assignments during last five years: None. Shareholding: 8,500 shares, 3,600 options.

ANDERS LYRHEDEN

CFO Employed since 2017 Born: 1965. Education: School of Economics; Bachelor of Managerial Economics, Gothenburg, 1991 Previous assignments during last five years: Interim CFO of Swedish Orient Line, CFO of Swegon, Financial Director for Stena Technoworld Shareholding: 27,000 shares, of which 14,000 via company, 35,000 options

DANIEL ÅMAN

VP of Applied Solutions Employed since 2013 Born: 1972. Education: M.Sc. Engineering Physics, Chalmers University of Technology and IFL, Stockholm School of Economics

Other assignments: None. Previous assignments during last five years: None. Shareholding: 0 shares, 20,000 options

Annual General Meeting

Welcome to the Annual General Meeting of Smart Eye Aktiebolag (publ)

The shareholders of Smart Eye AB (publ), corporate identity number 556575-8371, are hereby invited to the Annual General Meeting to be held at 3.30 p.m. on Wednesday, 15 May 2019 at Smart Eye's offices, Första Långgatan 28B, Gothenburg, Sweden. Registration opens at 3 p.m.

Notice has been made through advertisement in Post- och Inrikes Tidningar (the Official Swedish Gazette) and by posting of the notice on the company's website, www.smarteye.se. The notice and documents kept on hand ahead of the AGM will be sent to shareholders upon request. Such request may be made in the same way as by notification to attend the AGM below.

To be entitled to attend the AGM, shareholders must be registered in their own names in the shareholder register maintained by Euroclear Sweden AB on Thursday, 9 May 2019, and must also notify the company of their intention to attend the AGM by not later than Thursday, 9 May 2019. Notification to attend the AGM shall be made by letter sent to the address: "Årsstämma 2019", Smart Eye Aktiebolag (publ), Attn.: Anders Lyrheden, Första Långgatan 28 B, SE-413 27 Gothenburg, Sweden, or by email to arsstamma@smarteye.se. Notification must include the shareholder's name (firm), personal identity number (corporate identity number), address and phone number, and where applicable, information on the number (maximum two) of assistants that shareholder intends to be accompanied by to the AGM. Shareholders represented by proxy must issue a dated power of attorney for their representative.

Shareholders whose shares are registered in the name of a trustee must, to be entitled to participate at the AGM, request to be temporarily registered in their own names in the shareholder register maintained by Euroclear Sweden AB by Thursday, 9 May 2019. Such request should be made to the trustee well in advance of 19 April 2019.

> Gothenburg, May 2019 Smart Eye Aktiebolag (publ) The Board of Directors

Calendar

Annual General Meeting Interim report January–March Interim report April–-June Interim report July–September Interim report October–December 15 May 2019 15 May 2019 26 August 2019 25 October 2019 20 February 2020

Contact

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