



heliospectra™



Heliospectra AB (publ)

2016

ANNUAL REPORT

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SAFE FOOD PRODUCTION IN SPACE

Heliospectra has developed a new water-cooled, high-intensity grow light for use in space. The project was conducted in partnership with EDEN ISS to develop a new system based on controlled environment agriculture (CEA). The system, in the form of a container, will be used for safe food production on board an international space station, as well as for future human exploration of space. Heliospectra's role in the project was the creation of a water-cooled LED solution based on the company's expertise in intelligent lighting technology for plants. The light is a development of the existing LX60 product. CEA is able to make a major difference in the use of resources in areas that lack a proper water supply such as the Middle East or areas with contaminated soil and water such as in China. Water-cooled LEDs enable farmers to grow crops in a more environmentally friendly manner by recycling the heat from the lights and thereby reducing the demand for ventilation.

EDEN ISS is part of a German research program under the DLR Institute of Space Systems (ISS). The overall goal of the EDEN ISS initiative is to adapt, integrate and demonstrate crop cultivation techniques and operational procedures for reliable, sustainable food production on board the international space station and in future space projects. The next step will be to integrate and extensively test all systems developed by the participating members at DLR's installation in Bremen, Germany. In October 2017, the completed installation will be sent to the German Neumayer III station in the Antarctic to simulate a real environment. The project, which is partly funded by the EU, will be concluded in March 2019.

The EDEN ISS project has received funding from Horizon 2020, an EU research and innovation program, under grant agreement No 636501.



Europeiska
kommissionen

A sustainable business idea

Creating a cloud-based, sustainable future for commercial crop production

Heliospectra develops complete lighting systems for controlled environments such as greenhouses and indoor cultivation, using the latest LED technology. The advanced products save energy, water and transportation; they reduce waste and increase the quality of plant production.



DECREASED ENERGY CONSUMPTION

LED lights require only 50–60 percent of a high-pressure sodium (HPS) light's energy level. This is largely because HPS lights emit a great amount of heat. LED lights are thermally neutral. This not only means energy savings when burning the light, but also because there is no need for cooling heat given off by the lights.



DECREASED WATER CONSUMPTION

Water scarcity is an ever-increasing problem around the world. The ability to use water efficiently in cultivation is increasingly important. For example, Heliospectra is in discussions with middle eastern countries with intense sunshine and scarce water about beginning cultivation underground.



OPPORTUNITIES FOR LOCAL CULTIVATION

Local cultivation reduces the need for transport and lowers carbon dioxide emissions. By using Heliospectra's products, cultivation is not dependent on location, weather, season and available sunlight. Cultivation is possible wherever a greenhouse can be erected.



REDUCED WASTE

Plant quality increases markedly through the use of Heliospectra's products. This means the proportion of crops that farmers must discard due to poor quality decreases, while resources get used more efficiently and crop yields increase.

TOMORROW'S TECHNOLOGY

Heliospectra's products specialize in intelligent lighting technology for plant research and greenhouse cultivation; they are based on a profound understanding of plant physiology and photosynthesis, coupled with a unique way of putting modern LED technology to good use. Tomorrow's lights will also be able to detect how the illuminated plants are growing and adapt the light accordingly. Heliospectra has received numerous awards for its advanced, pioneering technology.



Business Model & Strategies

BUSINESS MODEL

Heliospectra's business model seeks to develop and sell efficient lighting systems that provide growers with the ability to check plant quality and growth. The products are sold as a system, in which the lights are subcomponents. Up-sells follow in the form of software for new functionality and new units such as lamps and sensors.

STRATEGIES

Market

Heliospectra focuses on market segments with the greatest potential in terms of both sales and customer value. By establishing initial customer relationships and an installed product base primarily through sales of grow lights, Heliospectra is able to move forward with the sale of sensors and complete systems to existing customers. This allows Heliospectra to base its sales on both existing and future benefits. Heliospectra has plans to establish a future business model with recurring revenues from software and hardware updates, lighting instructions and in some cases also hardware financing. Marketing is conducted in geographic areas primarily comprising North America, Europe Australia and the Middle East.

Marketing

By partnering with research institutes and market-leading commercial growers and developing products together with them, Heliospectra enjoys opportunities to use prominent customers to evaluate products, build the company's brand and communicate the benefits to a wider circle. Heliospectra also participates in high-profile research projects that bring attention. The market for medicinal plants comprises a well-defined group of growers. Heliospectra directs targeted efforts in this regard through participation in specific events and interest groups engaged in the cultivation of medicinal plants, and through collaborations with suppliers in other parts of the value chain. Being able to use installations with growers in the industry as references is important.

Sales and Distribution

Heliospectra sells both directly and through small retailers. The company has dedicated sellers in important markets such as greenhouse cultivation in Europe and medicinal crops in North America. Cooperation agreements have also been signed with a number of dealers. Because Heliospectra seeks to maintain checks over where sold products end up and how they are used, the number of distributors and partners is kept low. In this way Heliospectra is able to guarantee successful installation and that customers understand how to use the products in the best way. Reference customers form an important part of sales strategy.

Research and Development

Heliospectra has an advanced facility for plant researchers in Gothenburg. In addition, Heliospectra participates in a number of research programs and collaborates with both research institutes and market-leading commercial growers. Heliospectra develops lighting system control software in-house, processes in which both customers and partners participate. Thanks to these joint research projects, a major part of Heliospectra's research is paid by third parties. Heliospectra retains the rights to all results from joint projects

with e.g. universities and research institutes. The majority of Heliospectra's products consist of a wide range of software incorporated in the lights, as well as external software used to control lights and communicate with external sensors. Heliospectra has a team of developers that leads software development.

Production

Heliospectra is actively engaged in the design and development of its lamps. Hardware production is outsourced to external manufacturers. The LEDs are produced by reputable manufacturers such as Phillips and Osram, and most of the other parts are standard components. Some of the mechanisms, plastics and components are manufactured in China. Final assembly is carried out by manufacturers with facilities in Sweden and the United States. At present, production is mainly to order. One dealer maintains a small stock for small orders in the American market.

IP strategy

Patents are always sought for the more advanced inventions regarding functions in Heliospectra's lighting systems. The company has one granted patent, which has been followed up with requests for so-called improvement patents. Because they are often more detailed and specific than the original patent, they provide extended protection. Heliospectra tries to protect products and processes that are not sophisticated or original enough to patent by other means. This can be achieved through trademark protection or design protection. Where something cannot be protected by other means, it can be achieved by keeping it secret from customers and partners. This applies e.g. to codes and algorithms for controlling software and feedback from the systems.



Development 2016

NEW ORDERS:

Q1

- Order worth SEK 2.2 million for the LX601C lighting and software system from medical marijuana growers in Washington State.
- Order worth SEK 650,000 for LX601C from Canada's Island Garden, growers of medical marijuana.

Q2

- Order worth SEK 1.4 million for lighting systems based on the LX60 series from a Scandinavian algae producer.
- Supplementary order valued at SEK 4.6 million on E60 LED growing lights from a major international AgTech company in the United States.

Q3

- Order for LX601C from Green Leaf, cannabis growers in Alaska
- Supplementary order worth SEK 1.9 million for E60 LED growing lights from major global AgTech company.

OTHER

- A grant in the amount of SEK 500,000 was obtained from the Swedish Energy Agency to develop energy-efficient and water-efficient cultivation in the Middle East.
- Recruitment of Caroline Nordahl Wells, Director of Sales and Marketing in the United States.
- A study conducted in collaboration with Gothenburg University and biotechnology companies CropTailor and OlsAro shows it to be possible to grow staple foods such as oats and barley in a controlled environment using only Heliospectra's LED lighting.
- Water-cooled LED light for commercial use launched. The first application will be in space. A system for safe food production in space is developed together with EDEN ISS. Heliospectra has created a water-cooled LED solution based on the LX60 series.
- Research results presented at the 8th International Symposium on Light in Horticulture. Representatives from Chalmers University of Technology and the Swedish University of Agricultural Science present results from research carried out with the help of Heliospectra's lighting systems.
- The Grove in Nevada enjoys very positive results from their cultivation using Heliospectra's LED growing lights.
- A balance sheet for liquidation purposes is prepared, which makes clear there is no shortage of capital.
- A total of 48 Heliospectra RX30 lights are installed at the Swedish University of Agricultural Science research facility in Alnarp. The lights are installed in two different chambers to simulate the spectral composition of light that occurs at the equator.
- Ali Ahmadian is appointed new Chief Commercial Officer.
- Heliospectra's products receive The Cannabist Awards. The Cannabist Awards are granted by The Denver Post, which is generally recognized as one of the best industry publications.
- A rights issue provides Heliospectra with around SEK 107 million and a little fewer than 1,200 new shareholders.
- At the New West Summit cannabis conference in San Francisco, the company Fleurish Farms introduced a cultivation technique that combines equipment for capturing sunlight with Heliospectra's LED growing lights.

KEY FINANCIAL INDICATORS

SEK THOUSAND	2016	2015
NET SALES	23,053	13,686
EBITDA	-38,446	-28,473
OPERATING LOSS	-42,784	-32,360
CASH FLOW	54,092	12,721
CASH AND CASH EQUIVALENTS	72,940	18,848
SHAREHOLDERS' EQUITY	81,474	28,147
EQUITY/ASSETS RATIO, %	77	56
QUICK RATIO, %	614	277
NUMBER OF SHARES, THOUSAND	35,112	18,622

Heliospectra AB (publ)

CEO's COMMENTS

The market's most advanced system

Heliospectra continues to progress well. From 2015 to 2016, sales increased by 75 percent, market investments increased and strategic product development continued. The company's strategy of focusing on three segments comprising AgTech companies, institutions and universities; greenhouses and indoor gardens, and medicinal crops has proved to be successful. All segments are showing strong growth and Heliospectra has established a very good foothold in each market segment with important reference customers. Current market factors such the rise in urbanization, the demand for better, more nutritious food, marked climate change, increasing automation and the flourishing development of medicinal plants, also act to the company's advantage. During the year the company made major investments in marketing, which we anticipate will bring positive effects in 2017.

As the outgoing CEO, I am able to sum up the fantastic developments of the last seven years. I started in 2010 as a part-time consultant hired by the principal shareholders to evaluate the market, the technology and the company's position. Even back then we could conclude that Heliospectra possessed amazing skills and a profound understanding of how plants function, allowing us to discover how various light settings are able to influence plants to optimize taste, content, shape, quality and longevity while also enabling the replacement of old types of lights to save large amounts of energy. The fact that we were working on something important for humanity became all the more clear as even then we noted changes in the weather that were creating problems for growers.

The company has had a vision of a high-tech cultivation system that combines adjustable lights with sensors and software since its inception in 2006. This lay the foundation for the company's very first patent, which was applied for in 2008 and is now by and large accepted worldwide. The original patent has since been added to, and there is now a whole portfolio of patents that protect Heliospectra's technology. The company has resolutely developed the system and we finally reached a technological mile marker when we held our first DLI (Daily Light Integral) seminar in February 2017

where we demonstrated how we can automatically maintain desired light levels in a greenhouse by using sensors and software to control the lighting. We are able to connect weather forecasts and energy prices to this to optimize energy consumption, which means the system provides energy savings in addition to the savings our lights bring. The market has already drawn attention to the system with articles and presentations on the internet.

Heliospectra's market position and growth potential have allowed us to attract a very competent new CEO to take the company further. For my part, it feels good to hand the helm over to Ali Ahmadian, and it will be exciting to follow Heliospectra's developments moving forward. Ali has a background as a successful entrepreneur who went on to spend much of his working life in business development, sales and international marketing at Tetra Pak. Overall, his is the perfect combination to move Heliospectra on to new successes.

Personally, it has been an honor to bring Heliospectra this far, and I would like to thank everyone who supported us on our journey, especially my colleagues, who did all the hard work. The future looks bright for the company and for plants.

Staffan Hillberg, CEO until January 31, 2017
Heliospectra AB (publ)



Incoming CEO's comments

Proactive, consultative sales focus

Now, as I take over the helm and prepare to lead Heliospectra, it is with my sights firmly set on increasing commercialization and driving sales while also improving the company's financial performance. The product portfolio enjoys a stable, well defined base, and our customers appreciate our high-quality, reliable products. Product development will of course continue to be very important for maintaining our position with the market's most advanced products, but it will be characterized more by continual adaptations and model iterations than it will by major new product launches. Time and resources will also be invested in the development of additional, more advanced smart add-on services. To a great extent, they are what make Heliospectra's products so unique and competitive. There are also local technical circumstances that we have to adapt our products to in order to expand into certain geographical markets. Europe and North America will continue to be our priority markets, but we also receive inquiries from other countries.

The company's organization been refocused to concentrate more sharply on sales. Roles have been clarified and resources added to sales, marketing, product development and the supply chain. We will to a much greater extent work on a proactive, consultative basis in sales. By this I mean we should increase our outreach and let our expertise and experience guide customers and help them choose the solution that is the best for them. We will offer our customers a smorgasbord from which they can choose the optimal products. We follow up by maintaining a close dialogue and helping them with advice and guidance on how to use the products to get the maximum return on their investment. In this way we can be the most profitable option, even if we did not have the lowest price initially.

Some of our competitors are major, well-resourced companies. They are sometimes able to compete with prices to buy market share. We do not intend to compete on price. Our goals are high-quality products and long-term, maximum return for the customer, and for sales to be profitable for us. We will continue to use dealers, but we will be very selective in choosing who we work with.

We have built up a good customer base within medicinal plants with excellent reference customers. It is a burgeoning market, especially in North America; we also see growth in South America and Europe, where we have gained new customers. At the same time, by far the largest market for our products is in food production, to which we will devote major resources moving forward. Reference customers are important and we will concentrate on getting more of them. We will complete and take market share in the growth currently taking place in indoor farming and vertical farming. Although the selling-in process with major, established food growers may be slightly longer, the upside is bigger sales and greater volumes. In existing installations, we still complete primarily with HPS lights and because the transition to LEDs means a great investment for farmers, the decision-making process can often take some time.

One of the things that attracted me when I first came into contact with Heliospectra was the fact that the entire operation and business idea is based on sustainability. The products not only help mankind, they are also good for the environment. So it's with a mixture of pleasure and excitement that I – together with all of our talented employees – take on the job of leading Heliospectra further down the road in its contribution to a sustainable society.

Ali Ahmadian, CEO as of February 1, 2017
Heliospectra AB (publ)



A team of experts

Heliospectra's team has grown over the year and now consists of 26 people. The team comprises experts in a variety of specialties and includes biologists, plant researchers and software developers. In addition to its own team, Heliospectra works closely with leading researchers around the world who use Heliospectra's products in their work and thereby contribute important cutting-edge know how to product development.

MANAGEMENT GROUP



Ali Ahmadian

CEO

Ali Ahmadian was recruited as the new Chief Commercial Officer in the fall of 2016, but as of February 1, 2017 he has taken over as CEO for Heliospectra. For seven years, Ali worked for Tetra Pak in both global and regional positions, and he started the company Abban Co in Iran. Recently, he ran the Expeed AB management consultancy which focused on providing advice to international companies in the development of their business, organization and sustainability matters.



Håkan Bengtsson

CFO & HR

Håkan Bengtsson has been CFO at Heliospectra since 2014, and in 2016 his duties were expanded to include personnel matters. Håkan has held the position of controller at Telia AB; he is founder and co-owner of Comeva AB and has been Deputy CEO/CFO/HR Director at Empower AB and has many years' experience from a number of other positions in these companies.



Christopher Steele

CCO

Christopher Steele came to Heliospectra in 2012 and is in charge of sales, marketing and support. Christopher has a background in international business development, strategies, sales and marketing. He was previously Executive director at European Partnership for Innovation Capital and has held positions at Klarna AB, Encubator AB and Ricoh Americas Corporation.



Caroline Nordahl Wells

General Manager USA

The United States team is led by Caroline Nordahl Wells, who was recruited as new General Manager for the United States at the beginning of 2016. Caroline has fifteen years' experience in growth-oriented industries including cleantech companies. As one of the founders and the previous head of LumiGrow, a plant lighting company which in some respects competes with Heliospectra, Caroline was responsible for recruiting and leading a successful sales organization.



Peter Emanuelsson

Supply Chain Director

The focus on sustainability was sharpened further during 2016 through the recruitment of Peter Emanuelsson as the new Supply Chain Director, who is responsible for purchasing and logistics. Peter has over 20 years' experience in international trade, project management, sales, and strategic sourcing from Ericsson.

“ Heliospectra has the technology and the ability to become the global market leader. ”

-Caroline Nordahl Wells,
General Manager, Americas

Five questions for Caroline Nordahl Wells

How did you first come into contact with Heliospectra?

I have worked in cleantech for over a decade and within the smart farming lighting category since 2011. In late 2015, when I evaluated the market, Heliospectra stood out from the competition thanks to its proven commitment to quality and innovation.

What were the main reasons that brought you to Heliospectra?

It became clear to me more than a year ago that Heliospectra has the technology and the ability to become the global market leader in the field of smart grow lights.

Why do you think Heliospectra will be a success?

Heliospectra has invested heavily in research and development, something which stems from the fact that the company was founded by scientists – a tradition that continues even today. The company's commercial solutions address the challenges farmers face and gives them the ability to improve profitability by increasing crop yields and consistency while reducing costs.

What are Heliospectra's challenges in America?

The outlook for Heliospectra in America has never been brighter. However, we face two challenges – uncertainty about the regulation of the cannabis market in the United States and market confusion caused by the influx of substandard grow lighting products.

What role do you think you will have in the future development of the company?

Heliospectra's America team will lead the company toward profitability. I will be working together with our CEO Ali Ahmadian to establish a model for other Heliospectra divisions around the world.

Demographics and sustainability market drivers

Demographics and sustainability drive the market and the need for more farming and new methods. More food must be produced in limited areas without taking up more space, while farming must become more energy and water efficient.

POPULATION GROWTH

The global population is growing steadily, while farmland and natural resources are a limited asset. The Food and Agriculture Organization of the United Nations estimates that food production must increase by 70 percent to feed the population of the earth for the next 40 years. This means that the agricultural sector and food producers face a number of new challenges. New farming methods and technologies must be developed to cope with the demands of food production. Land areas already used for growing must be used more efficiently and new geographical areas that were previously impossible to cultivate can become arable land through the use of new methods.

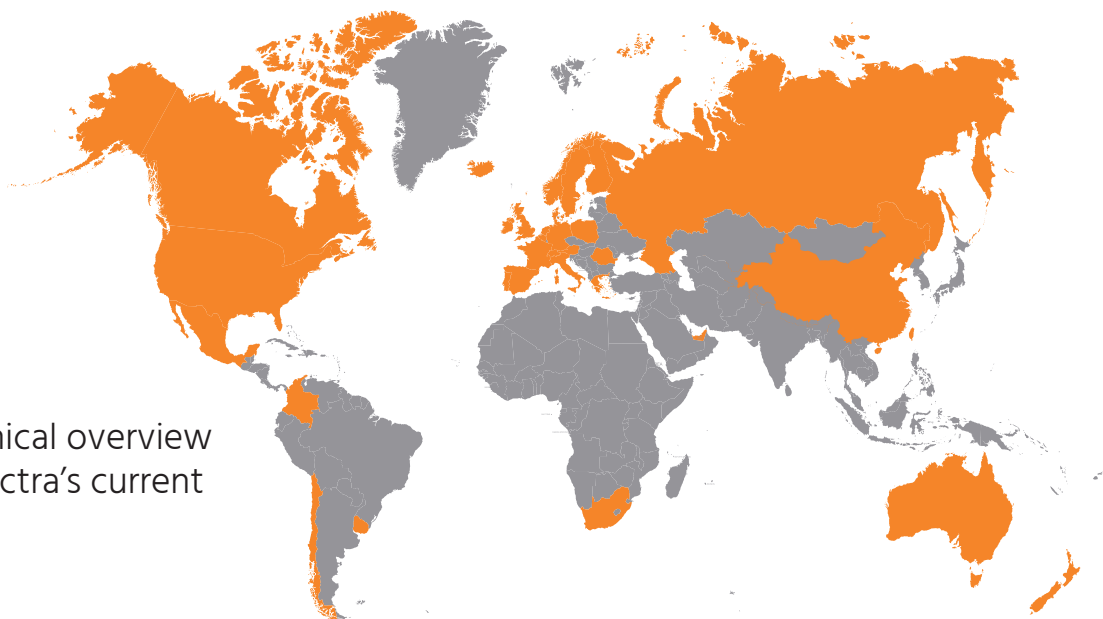
URBANIZATION

According to the UN, 80 percent of the world's population will live in cities by 2050. There is a continuous movement of people to cities to gain access to education, services, career opportunities, culture and entertainment and everything else cities have to offer. This means that demand for food is increasing in those areas, while the supply of cultivable land around the cities is very limited. This leads to the development of new farming initiatives. All the new urban farming initiatives require a controlled environment, artificial light and automated solutions, thus driving the demand for LED lights and smart cultivation systems. Thanks to these new urban farming methods, city dwellers can enjoy locally produced, fresh, nutritious vegetables and fruit. Urban crops also lower environmental impact by reducing transport needs.

ENVIRONMENTAL REQUIREMENTS

Governments and authorities around the world seek to reduce energy consumption and encourage a transition to LED lighting through subsidies and regulation. It can be to support ongoing research, subsidies to make investments in profitable technology and regulation. This is especially true in the EU, the US and China. Among other things, the EU plans to phase out halogen lights in favor of LEDs in their member countries through regulation. In Europe, greenhouse farming is one of the biggest energy consumers. The majority of greenhouses use HPS lights to complement sunlight. By replacing HPS lights in existing systems with LEDs, growers can save significant amounts of energy.

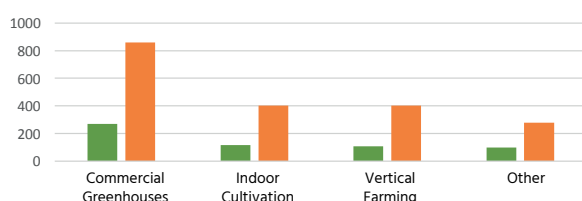
A geographical overview
of Heliospectra's current
customers



Market trends in terms of new cultivation techniques

Traditional, commercial greenhouse farming will continue to be the biggest market for grow lights in terms of volume, but urbanization is driving the growth of indoor farms and vertical farms, whose markets are expected to increase rapidly over the next few years. Growers who are more favorably inclined to development have begun to adopt new farming methods known as Controlled Environment Agriculture (CEA), which involves growing indoors without sunlight and even vertically to maximize space utilization.

**Market Growth LED Grow Lights 2015-2020
(MUSD)**



Source: MarketsandMarkets

COMMERCIAL GREENHOUSE FARMING IS SWITCHING FROM HPS TO LED

The majority of the existing greenhouses use HPS lights to supplement sunlight. By replacing HPS lights in existing systems with LEDs, growers can save a great deal of energy, in addition to enjoying the other positive effects LEDs bestow. LED lights, unlike HPS lights, emit very little heat, which not only means lower energy consumption when using the lights, but also that growers do not need additional energy-consuming equipment to reduce the temperature in the growing environment. LED lights enable provision of the right spectrum and give better crops, since the quality of the plants is better than with HPS lights. The replacement of HPS lights with LEDs in existing greenhouses is hampered by the investment cost involved in replacing the lights. As LED sales volumes increase, the price will drop and have a positive effect on the sale of LED systems.

INDOOR FARMS INCREASE CULTIVABLE AREA

Indoor farming occurs in greenhouses in which plants are grown in artificial light instead of sunlight. Indoor farming usually takes place where there is an absence of sufficient sunlight for growing. This means plantings can be located in areas where no consideration needs be given to environmental factors such as climate, extreme weather, pests or diseases. Previously, high energy consumption and thus high costs were factors that inhibited indoor growing when

HPS lights were the predominant choice. However, the low energy consumption of LEDs allows farmers to grow indoors at significantly lower cost than for conventional HPS lights. Indoor farming also reduces the need for toxic substances for pest control.

VERTICAL CULTIVATION ENABLES URBAN CULTIVATION

The introduction of vertical farming in urban environments is a new trend in the agricultural industry. The limited availability of cultivable areas in urban environments is driving the development of new methods for optimum space utilization. Vertical farms are indoor cultivations where plants are stacked atop each other and where artificial light is the only source of light for the plants. Vertical farms are designed to maximize crop capacity on limited surface areas and use control systems to optimize cultivation conditions. Cost-effectiveness, energy consumption and the lifespan of lights and equipment are important, and optimum lighting levels to stimulate photosynthesis are another focus area.

TRADITIONAL GREENHOUSE FARMING AND MEDICINAL CULTIVATION CONVERGING

Cultivators of medicinal plants have traditionally grown crops indoors without natural sunlight, but as legalization spreads, they have begun to use greenhouses to a greater extent. At the same time, urbanization has led traditional greenhouse farmers to take up indoor and vertical farming without natural sunlight. This has led to a trend where traditional greenhouse farming and medicinal farming are converging, and there is cross-fertilization between them. An exchange of knowledge and experience has begun between what were previously entirely separate segments.

Advanced systems based on plant physiology and photosynthesis

Heliospectra's products for stimulating the growth and quality of plants are some of the market's most advanced, and are designed from the outset based on the plant's needs. Plants grown under Heliospectra's LED lights look better, taste better and have longer shelf lives than plants grown under HPS lights.

ENERGY-EFFICIENT GROWING

Energy consumption accounts for a large part of the cost of greenhouse farming. Heliospectra's products offer direct energy savings and enable the control of crops to reduce growing time and improve quality. Energy consumption can be reduced by up to 50 percent through the use of Heliospectra's LED lights. Because the lights do not generate heat, no cooling system is necessary, and the expense of heating something up only for it to be cooled down again is avoided.

THE PERFECT LIGHT FOR OPTIMIZING PHOTOSYNTHESIS

The products are based on a profound understanding of plant physiology and photosynthesis, coupled with a unique way of putting modern light emitting diode (LED) technology to good use. Temperature and light are the most important parameters for photosynthesis. Heliospectra's products provide farmers with the ability to control the intensity and wavelength of light to optimize photosynthesis.

Heliospectra's lights have an adaptive spectrum, and systems include software and sensors. The lighting system enables wavelength and intensity adjustment based on light recipes developed through the company's research into growing light. Luminaires use LEDs with up to nine different wavelengths. Each wavelength can be controlled individually, thus creating the perfect light for plants as they have different requirements depending on type, stage of development and the characteristics you want to develop. In addition to the basic wavelengths for driving photosynthesis, some wavelengths are used to send signals to the plants. Examples might be to heighten the flavor of basil, or to start flowering.

INTELLIGENT, COMMUNICATIVE SYSTEMS

Heliospectra creates systems consisting of a number of luminaires combined with various types of sensor technologies. Sensors measure the light's spectral intensity, and optical sensors measure light reflected and fluorescing from the plant, and report this data to the Heliospectra system. Core competency is not in the production of the lights, but in the integration and the design of software, hardware and sensors.

In the future, Heliospectra's luminaires will also be able to detect how the illuminated plants are growing and adapt the light accordingly. They have a built-in intelligence and communicates

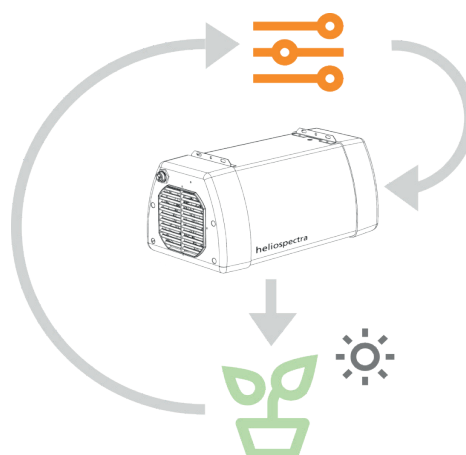
with a central control system. The patent also includes a further development with sensors that detect light reflected and fluorescing from plants, which means the system can discern how well plants are thriving and absorbing light. The systems can be adapted to all types of plants and also bring benefits through increased automation and higher plant quality.

Hardware

- **The light:** light with fully variable frequency spectrum.
- **Sensors:** sensors can be divided into two types. The most advanced sensors are placed at luminaire height and face down towards the plants to pick up signals from them. These are the signals that are used in the complete bio-feedback system. There are also sensors down at plant level that detect light intensity and spectral distribution.

Software

- **Web-based user interface:** Web-based interface for control and management of lights. Receives updates/light regimes from the database and implements them in the LED system.
- **Data center and control system:** data center for the collection, analysis and implementation of light regimes and recipes for different types of plants.
- **Light regimes:** Each type of plant has an individual light preference, and Heliospectra provides light regimes for a number of different plants (a manual showing which qualities a plant develops at different spectra). The benefit for the farmer is freedom of choice in areas such as plant growing time, taste, size, weight and hardiness.





High quality Intelligent lighting system

Investments in high quality Swedish
technology and manufacturing allows
Heliospectra to achieve a
margin of error of less than 1%.

Product portfolio tailored to lines of business

Heliospectra's product portfolio includes four different product families. The first three share the same mechanical platform to create economies of scale and volume, but are tailored to the operating areas of different customer groups.



LX60 SERIES

LX60 is aimed at the commercial greenhouse market; it was developed for a long service life in harsh environments. The light has a fully variable frequency spectrum and newly developed optics to optimize the light pattern on different surfaces and in different fields of application. The LX60 is sold primarily to traditional vegetable and flower growers as well as growers of medicinal plants. The LX60 series is available in the versions LX601 and 602. The LX601 is designed to sit closer to the plant, at a distance of around 0.5 meters. The LX602 should be located around 2.0 meters from the plant to complement natural sunlight and still achieve the desired results gained by varying the spectrum.



E60 SERIES

In the third quarter of 2015, Heliospectra launched a new product, the E60. It is a simplified version of the LX60 intended primarily for commercial greenhouse growers. It differs from the LX60 in that the E60 has a fixed spectrum and is suitable for customers who want an intensive, quality-assured spectrum. The product is available in Heliospectra's "G" and "C" spectra, and is thus suitable for both green and flowering plants.



RX30 SERIES

The RX30 is a product mainly suited for the research market. Purchasers include research-intensive customers such as universities, institutes and AgTech companies, i.e. major international companies that sell seeds, nutrients and pesticides. Because Heliospectra's products have achieved such an established position in the research market, researchers have begun to specify Heliospectra equipment in their submissions when seeking research grants.



LIGHTBAR

Launched at the same time as the E60 was a new light bar, which is an oblong luminaire intended for the burgeoning vertical farming market where cultivation takes place in stacks in a controlled indoor environment. It is a high-intensity LED light whose fixed spectrum is optimized for cultivation. It is available in two lengths and allows both water cooling and air cooling. The E60 and LightBar were developed in close collaboration with international customers.



	LX601	LX602	E601	E602	RX30	LIGHTBAR
TYPE	Top Light	Top Light	Top Light	Top Light	Research Light	LightBar
WATTS	630	630	630	630	420	96
SPECTRUM						
VARIABLE SPECTRUM	✓	✓	-	-	✓	-
PHOTON FLUX (μmol/s)	862 to 1011 μmol/s	862 to 1011 μmol/s	862 to 1011 μmol/s	862 to 1011 μmol/s	-	up to 146 μmol/s
OPTICS					Base reflector and a high-transparent glass plate	Base reflector and a high-transparent glass plate
APPLICATION	Indoor cultivation 	Greenhouse cultivation 	Indoor cultivation 	Greenhouse cultivation 	Research 	Vertical farming

FRAGMENTED COMPETITION

The retention of HPS lights is still the biggest Heliospectra competitor in the case of existing greenhouse installations. Replacing HPS lights with LEDs in major installations entails a significant initial investment, but the payback period is relatively short thanks to lower energy consumption, lower maintenance costs and better harvests. In the LED grow light market, Heliospectra not only competes with traditional light manufacturers who have stepped into the market for LED lights, but also with niche-oriented companies whose products are aimed at the greenhouse market. The market is fragmented, with a large number of smaller manufacturers. Competitors have chosen to take somewhat different paths. Some are going for simpler LED solutions as a complement to HPS lights. These are relatively cheap, but also have limited functionality. Others, like Heliospectra, are investing in

products that aim to completely replace HPS lights. In this segment, a greater spread in terms of technological level, height and product functionality results in somewhat higher prices. The simplest products have a static order light spectrum in off or on mode. The more advanced products allow dimming and control of the different wave lengths to manage the light mixture completely.

The biggest operators on the market today are Philips, Orbitech, Lumi-grow, Illuminex, Fluence and Hortilux. Osram, Philips, GE Lighting, Eye Iwasaki and many other companies are also among our competitors in traditional lighting. Heliospectra's competitive advantage is its ability to offer complete systems with software and sensors to optimize growing.

The market for grow lights

The total plant lighting market was valued at \$2.5 billion * (more than SEK 22 billion) in 2016.

LED

LED lights

- Philips

Variable LED lights

- Lumigrow
- Fluence
- Illuminex
- Fionia/Senmatic

Intelligent variable LED lights

- Valoya
- Orbitech

HPS

HPS lights

- Ushio
- Eye Iwasaki
- Bios

*Markets and Markets: Grow Light Market by Technology (HID, Fluorescent, LED, Induction, and Plasma), Type of Installation (New and Retrofit), Application (Indoor Farming, Commercial Greenhouse, Vertical Farming, Research), and Geography – Global Forecast to 2022

Industrial customers in three segments

The primary customer group for Heliospectra's products are major industrial farmers for whom automation is important. They want to grow plants all year round to the same high quality and they set high standards on system stability, reliability and quality. Products are structured such that the farmer can buy part of a system and then add accessories and software to it. The size of investments means selling-in time, with its many tests and evaluations, is lengthy. Reference customers and installations are very important.

FOODSTUFFS

Climate change and population growth have led to an increased demand for arable space at the same time as difficult growing conditions have become more prevalent around the world. Weather and temperature conditions have become more challenging in the form of e.g. storms, floods and unusual temperatures. Greenhouse farming provides a safer, more stable growing environment that is also independent of weather and growing conditions. The northern hemisphere, where winters are cold, dark and relatively long, remains the largest market. The greenhouse market is also changing, with the need for increased automation and improved qualitative productivity, at the same time as farming is moving closer to, and into, the cities.

Culinary herbs such as basil, parsley, dill, chives and mint are plants that are well suited for lighting using Heliospectra technology. Flowers are also often grown with external lighting. For major commercial greenhouse growers, product quality is more important than price, which is to Heliospectra's advantage. Heliospectra's customers in the food segment are major industrial growers such as Vitacress Ltd in the UK.

The biggest competitor to LED grow lights in traditional greenhouse farming continues to be HPS lights. Competitors offering LED lights are primarily General Electric, Philips and Osram. There are also a number of smaller companies such as Fionia, Valoya, Ilumitex and Lumigrow.



CUSTOMER: Vitacress Ltd. **LOCATION:** Chichester **PRODUCT:** Heliospectra's fully programmable LX602C LED grow light **RESULT :** Improved hardiness and enhanced cold tolerance in basil aftertreatment using Heliospectra LEDs in final production.

“What really impressed us was the ability LED lighting gave us to change the relationship between far red and red wavelengths in the spectrum and in this way subject the plants to different light treatments for specific times and at different intensities to make the basil more cold tolerant.”

- Chris Moncrieff, Production Manager

Vitacress Ltd. UK

Vitacress is a British company that grows potted plants and herbs in a 14 hectares (34 acre) nursery in Chichester, West Sussex. They were looking for a way to evolve their basil plants to cope with the cold better, prolong shelf life and deliver a better product in terms of quality and extended freshness.

In collaboration with the Royal Holloway University of London, they found they could

trigger changes in cell structure by changing light wavelengths during the final production process.

To put this knowledge to practical use they contacted Heliospectra, who helped equip their cooling tunnel with Heliospectra's LX601C intelligent LED lighting solution. The plants are exposed to a 24-hour light treatment before harvest. The LX601C is a high-intensity, fully adjustable luminaire that

gives Vitacress full control over individual wavelengths and intensities.

Outcome:

- Improved hardiness
- Improved crop quality
- Improved cold tolerance in basil

MEDICINAL PLANTS

Growers of medical marijuana are mainly in North America, but the gradual legalization of cannabis cultivation has also recently begun in Europe. The cultivation and sales of medical cannabis has been approved in 29 States in the United States and development will be further strengthened through future decisions in additional States. For example, elsewhere in the world, legalization has taken place in Israel, Uruguay parts of Australia and Macedonia. In Europe, there are pharmaceutical companies that produce plant-based medications that can be purchased at pharmacies in Sweden and the rest of Europe. One example is GW Pharma in England, which grows medicinal plants on a major scale in greenhouses for subsequent processing and sale to MS patients in Sweden and throughout Europe under the brand name Sativex. They are also developing other products e.g. to combat diabetes and pain in cancer patients. Heliospectra's customers in medicinal plants are located mainly in North America, such as Central Maine Flower.

Growers of medicinal plants are at the forefront when it comes to investing in new technology, lighting and cultivation methods to ensure high quality and high profitability. The legalization of cannabis cultivation in the United States has led to price reductions that are driving market changes. This price pressure means that growers are quick to introduce more advanced cultivation

products and processes. Technical solutions, including LEDs, bring competitive advantages in the form of cost-effective operations and improved returns.

In addition to the cost efficiencies that needed to be implemented, taste and quality have also become important ways in which to compete. Indoor growing also means greater efficiency as several harvests per year are possible. Cannabis is a short-day plant. This means it flowers and spreads its seeds when the days grow shorter. Growing indoors means light can be controlled and the reproductive cycle repeated three or four times a year.

There are at least two dozen suppliers of LED grow lights who cater to growers of medicinal plants. Some are purely low cost producers who mainly target smaller growers and cannot be included among Heliospectra's main competitors. The biggest competition comes from HPS lights, with suppliers like Gavita.

“LED technology not only brings cost savings in the field of water, sanitation and electricity, it also gives us the ability to control the space to a greater extent, which has helped us to improve on every stem.”

- Ryan Aubin, Master Grower, Central Maine Flower



CUSTOMER: Central Maine Flower **LOCATION:** Maine, USA **SOLUTION:** Heliospectra's fully programmable E601C LED grow light **RESULT:** Increased density, reduced trim time, increased oil production, improved quality, clarity and terpene content, HVAC and energy savings, harvest accelerated by 7 to 14 days

Central Maine Flower, US

Central Maine Flower is a medical marijuana grower located in Bangor, Maine in the United States. Central Maine Flower, which combines extensive growing experience with a hydroponics system of the highest quality in a totally controlled growing environment, invests in top quality products.

Because they are only allowed to have a certain amount of customers at any given time, it is important for them to constantly improve production to keep existing customers happy and provide them with

what they are looking for – standardized medications. For them, quality and regulation are their main competitive advantage.

Central Maine Flower understood that, thanks to its research background, Heliospectra had the know-how and credibility to provide them with a high quality product compared to competitor companies. Heliospectra furnished Central Maine Flower with its new 600 watt, high-intensity E601C units. The installation has improved production in a number of ways:

Outcome:

- Improved working conditions by introducing a spectrum that is easy to work under when taking samples
- Increased density
- Reduced trim time
- Increased oil production
- Improved quality, clarity and terpene content
- HVAC and energy savings
- Harvests accelerated by 7 to 14 days

RESEARCH & AGROTECHNOLOGY

The research market consists of scientists who study plants at universities, institutes and major AgTech companies. Typically, these customers have controlled plant environments. Examples of major companies that develop crops and fertilizers etc. are Monsanto, Syngenta, Bayer, Dupont and BASF. All of these companies have large research facilities that include greenhouses. In addition to companies, there are a large number of universities that concentrate on agricultural research and development.

In terms of volumes, agricultural research is a small market, but very important for other reasons. Relationships with these companies and institutes drive innovation and development and allow Heliospectra to participate and develop future technologies and markets. For example, Heliospectra is part of a joint venture with DLR (the German space administration), regarding cultivation in space; NASA uses Heliospectra's equipment in the simulation of a Mars expedition, and Google and MIT (Massachusetts Institute of Technology) in the United States use Heliospectra's lights in a joint research project. There is further potential for Heliospectra's lighting products

in e.g. forestry seedlings, botanical gardens and for algae cultivation for water treatment, biofuel and nutritional substances.

The market for research is the most challenging in terms of product functionality. There are only a few suppliers that can offer products that are sufficiently sophisticated for this customer group. Lumigrow, Illumitex and Orbitech are companies that target the research market.



“As LED lighting continues to evolve, commercial growers are beginning to recognize the potential benefits of LEDs compared to conventional lighting technology. The research our team conducts continues to show the benefits of optimized LED light intensity and spectral control on photosynthesis, morphology and plant growth for indoor and greenhouse production.”

- Dr. Youbin Zheng, Professor at the University of Guelph.

University of Guelph

In 2014, Heliospectra collaborated with the University of Guelph and other research organizations to develop agricultural technologies based on controlled environment agriculture (CEA) for the Eden International Space Station project. During the last three years of the ISS project, Heliospectra has extended its relationship with the University of Guelph Controlled Environmental Systems Research Facility (CESRF) to include the School of Envi-

ronmental Sciences.

The University of Guelph team is led by Dr. Michael Dixon, Dr. Youbin Zheng and research assistant David Llewellyn, who focus on research into LED lighting technology and cultivation applications. Heliospectra and the team are currently studying how a crop's performance is affected by different light wavelengths and the times

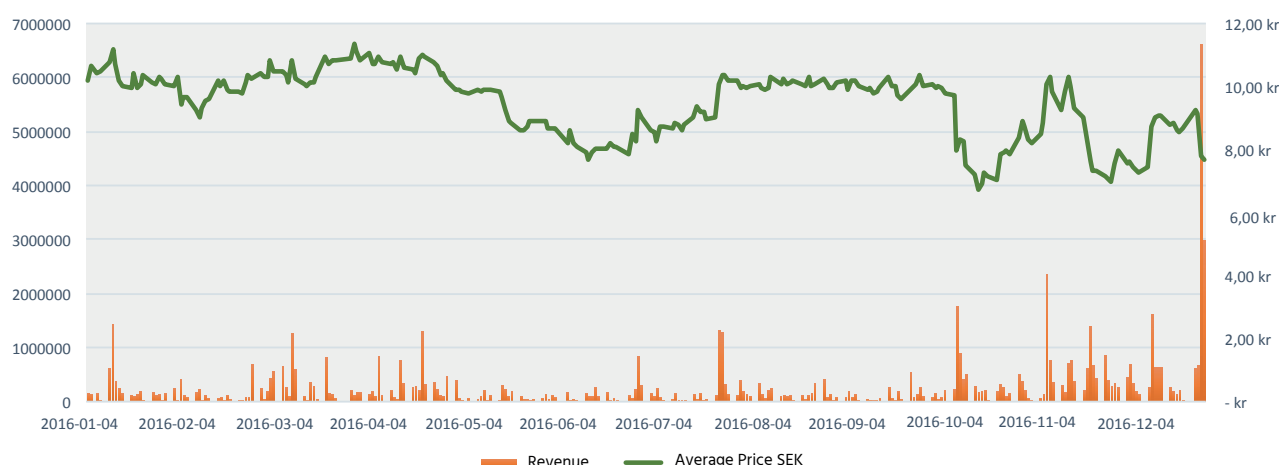
at which different combinations of wavelengths are applied. Heliospectra and the University of Guelph also collaborate on the development of Heliospectra's feedback control system to optimize the use of intelligent LED lighting systems that save energy and improve the quality of crops in greenhouse production.

The share

Heliospectra's share was listed on NASDAQ First North Stockholm on June 18, 2014. Registered share capital as of December 31, 2016 amounted to SEK 3,511,158, split between 35,111,576 shares at a quota value of SEK 0.10. All shares in Heliospectra carry one vote per share. All outstanding shares are common shares and confer the same right to Heliospectra's assets and profits.

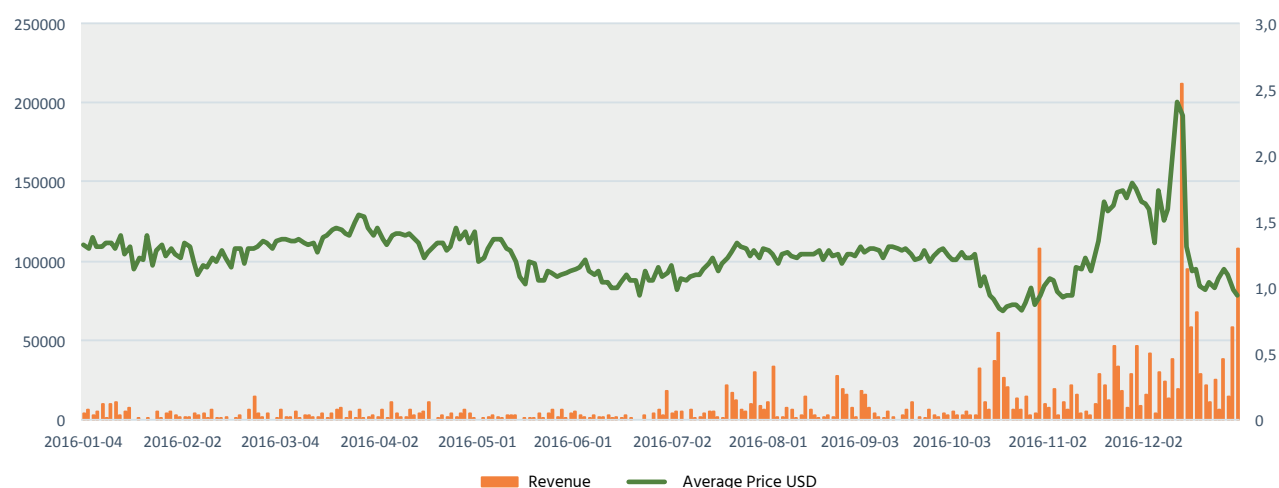
SHARE STATISTICS 2016 (FIRST NORTH)

Heliospectra's share closed at SEK 8.74 on the first day of trading in 2016. The last price paid in 2016 was SEK 7.70, corresponding to a market capitalization of SEK 251 million. The highest price paid in 2016 was SEK 11.00 and was noted on November 16 and the lowest was SEK 5.55 on October 19. Heliospectra shares were traded for approximately SEK 76 million during the year. Average trading in the share was approximately SEK 302,000 per day and the turnover rate was 39 percent.



AMERICAN DEPOSIT RECEIPTS (ADR)

Heliospectra has established an American Deposit Receipt (ADR) program in the United States with the Bank of New York Mellon as Depository. The company's ADR is traded in the United States on the over-the-counter (OTC) market under the ticker symbol HLSPY. An ADR program allows U.S. investors to trade in the company's shares through a special depository held by the depository. Each ADR corresponds to a share issued in the Swedish market. The Bank of New York Mellon has hired a special asset manager to hold the underlying share in the Swedish market.



SHARE CAPITAL GROWTH

Since the beginning of 2005 until December 31, 2016, parent company share capital grew as shown in the table below.

	REGISTRATION DATE	SHARE CAPITAL	ACCUMULATED SHARE CAPITAL	NUMBER OF SHARES	NUMBER OF ACCU- MULATED SHARES	QUOTA VALUE
The company's formation	12/27/2005	100,000	100,000	1,000	1,000	100
New share issue	1/10/2007	36,000	136,000	360	1,360	100
New share issue	3/12/2009	82,500	218,500	825	2,185	100
New share issue	3/23/2011	47,100	265,600	471	2,656	100
New share issue	9/29/2011	180,500	446,100	1,805	4,461	100
New share issue	8/20/2012	105,900	552,000	1,059	5,520	100
New share issue	5/13/2013	61,000	613,000	610	6,130	100
New share issue	8/6/2013	61,000	674,000	610	6,740	100
New share issue	10/8/2013	59,100	733,100	591	7,331	100
New share issue	12/9/2013	47,300	780,400	473	7,804	100
New share issue	1/30/2014	15,600	796,000	156	7,960	100
New share issue	2/28/2014	72,000	868,000	720	8,680	100
Share split	4/7/2014		868,000		8,680,000	0.1
New share issue	6/16/2014	511,120	1,379,120	5,111,195	13,791,195	0.1
New share issue	8/22/2015	100,000	1,479,120	1,000,000	14,791,195	0.1
New share issue	9/10/2015	150,000	1,629,120	1,500,000	16,291,195	0.1
New share issue	9/10/2015	8,000	1,637,120	80,000	16,371,195	0.1
New share issue	9/30/2015	225,100	1,862,220	2,251,001	18,622,196	0.1
New share issue	12/28/2016	1,648,938	3,511,158	16,489,380	35,111,576	0.1

NEW SHARE ISSUE

A rights issue in December provided Heliospectra with funds totaling SEK 107 million before issue costs. Share capital increased by SEK 1,648,938 to SEK 3,511,158 while the number of shares increased by 16,489,380 to 35,111,576. The subscription price was SEK 6.50.

OWNERSHIP STRUCTURE

As of December 31, 2016 the number of shareholders was 3,137.
The 10 largest shareholders in Heliospectra as of December 31, 2016.

SHAREHOLDERS	NUMBER OF SHARES	EQUITY INTER- EST,%
Weland Värdepapper AB	6,952,841	19.8
Weland Stål AB	5,114,811	14.6
Midroc New Technology AB	3,547,686	10.1
Stiftelsen Industrifonden	2,393,409	6.8
Insurance company Avanza Pension	2,151,769	6.1
Nordnet Pensionsförsäkring AB	1,031,738	2.9
Bank of New York, NQI	1,013,412	2.9
Piba AB	386,000	1.1
Magowny Invest AB	340,689	1
Belmondo AB	260,800	0.7
Other owners	11,918,421	33.9
TOTAL	35,111,576	100

SHARE-BASED INCENTIVE PROGRAMS, SHARE WARRANTS AND CONVERTIBLES

The 2015 AGM resolved to implement a share warrant program for senior executives and personnel. It comprises 400,000 warrants, where each warrant confers the right to subscribe for one new share at the price of SEK 20 during the period January 1, 2018 through June 30, 2018. At full subscription, the dilution effect may amount to around 2.8 percent.

The Extraordinary General Meeting on March 30, 2015, resolved to issue no more than 137,912 warrants. The subscription right to the warrants, with the exception of shareholders' preferential rights, belongs to Viridian Capital & Research, LLC. Each warrant confers the right to subscribe for one new share at the price of SEK 17.88 during the period February 27, 2015 through February 27, 2020. At full subscription, the dilution effect may amount to around 0.7 per cent.

DISTRIBUTION OF SHAREHOLDINGS

HOLDING	NUMBER OF SHARE- HOLDERS
1–500	982
501–1000	747
1001–5000	1,024
5001–10000	184
10001–15000	55
15001–20000	37
20001–	108
TOTAL	3,137

AUTHORIZATIONS

The extraordinary general meeting of November 8, 2016 resolved to authorize the Board to pass resolutions on the new issue of shares and or share warrants and or convertibles on one or more occasions during the period leading up to the next AGM. Under the authorization, a maximum of 3,621,000 new shares may be issued in the company, corresponding to a maximum dilution effect of around 10.0 percent. The issue price will be competitive with regard to market-rate issue discount where applicable.

DIVIDEND POLICY

Heliospectra's Board does not intend to propose any dividend in the next few years. The intention is for any future profits to be reinvested in the business.

Administration report

HELIOSPECTRA AB (PUBL) Corp. ID No. 556695-2205

The Board and CEO of Heliospectra AB (publ), with its registered office in Gothenburg, herewith present the Annual Report for the financial year 2016.

OPERATIONS

Heliospectra develops, manufactures, produces and sells lighting system for cultivating plants in greenhouses and indoor environments. The lights are fitted with light-emitting diodes (LEDs) with different light frequencies (colors). The different light frequencies can be individually regulated wirelessly from a central system, thereby creating different light spectra. Using different light recipes, crop growers can produce high quality plants, better taste, longer life and reduce spoilage while also saving energy.

THE SHARE AND OWNERSHIP STRUCTURE

The Heliospectra share has been listed on NASDAQ First North Stockholm since June 18, 2014. In October 2014, trading in the Heliospectra share also began in the United States through an ADR program. The main owners of the company are the Weland Group, Midroc New Technology AB and Stiftelsen Industrifonden. As of December 31, 2016, Heliospectra's share capital amounted to SEK 3,511,158 and comprised 35,111,576 shares with a quota value of SEK 0.10.

SIGNIFICANT EVENTS DURING THE FINANCIAL YEAR

During the year, Heliospectra received a number of orders from both new customers and repeat orders from existing customers. The single largest of them comprised a repeat order for E60 LED grow lights worth around SEK 4.6 million from a major international AgTech company in the United States. New customers were mainly growers of medicinal plants in the United States. A Scandinavian algae producer purchased LX60 series lights. The introduction of LED lighting into algae production improves both light quality and its penetration into the water.



Three key recruitments were carried out. Caroline Nordahl Wells was hired as Director of Sales and Marketing in the United States, Peter Eastman was hired as Supply Chain Director and Ali Ahmadian was recruited as the new Chief Commercial Officer.

Heliospectra participates in a number of studies and research projects in both academic and commercial research. A grant of SEK 500,000 was obtained from the Swedish Energy Agency to develop energy-efficient and water-efficient cultivation in the Middle East. A study conducted in collaboration with Gothenburg University and biotechnology companies CropTailor and OlsAro shows it to be possible to grow staple foods such as oats and barley in a controlled environment using only Heliospectra's LED lighting. At an international symposium in Michigan, USA, representatives from Chalmers University of Technology and the Swedish University of Agricultural Science presented results from research carried out with the help of Heliospectra's lighting systems. The research results are part of a project in progress funded by Mistra, a Swedish organization that seeks to promote sustainable development. A system for safe food production in space was developed with EDEN ISS in a collaborative project. Heliospectra's task was to create a water-cooled LED solution based on the LX60 series. In another collaboration with the Swedish University of Agricultural Science research facility in Alnarp, RX30 lights were installed in two different chambers to simulate the spectral composition of light that occurs at the equator. Before the preparation of the interim report for the third quarter, the Board had reason to fear that the company's equity was less than half of the registered share capital. Accordingly, a control balance sheet for liquidation purposes was prepared and it was found there was no shortage of capital. A rights issue was carried out, providing Heliospectra with around SEK 107 million and a little fewer than 1,200 new shareholders.

FINANCIAL TRENDS

Sales and performance

Net sales amounted to SEK 23,053 thousand (13,686). The operating loss amounted to SEK -42,784 thousand (-32,360), signifying a negative operating margin. The loss after tax was SEK -45,763 thousand (minus 33,954), equivalent to SEK -1 (-2) per share.

Financial position

Operating cash flow was SEK -39,377 thousand (-30,876). Total cash flow was SEK 54,092 thousand (12,721). A rights issue provided the company with approximately SEK 107 million before issue expenses. All bridging loans raised in 2016 were repaid in conjunction with the issue. At the end of the period, the Group's cash and cash equivalents amounted to SEK 72,940 thousand (18,848). As of December 31, 2016, equity assets ratio was 77 per cent (56).



Shareholders' equity

CHANGE IN EQUITY		SHARE CAPITAL	OTHER CAPITAL CONTRIBUTED	OTHER S.C. INCL. PROFIT FOR THE YEAR
Group				
Opening balance	1/1/2016	1,862	142,134	-115,849
Loss for the year				-45,763

Changes in carrying amounts recognized directly in equity

Issuance expenses			-8,091	
Capital changes				
New share issue		1,649	105,532	
Total shareholders' equity	12/31/2016	3,511	239,575	-161,612

Parent company		SHARE CAPITAL	SHARE PREMIUM RESERVE	PROFIT BROUGHT FORWARD
Opening balance	1/1/2016	1,862	142,051	-115,442
Loss for the year				-45,818

Changes in carrying amounts recognized directly in equity

Retained share premium reserve			-142,051	142,051
Issuance expenses			-8,091	
Capital changes				
New share issue		1,649	105,532	
Total shareholder's equity	12/31/2016	3,511	97,441	-19,209

Investments

Investments during the year totaled SEK 5,158 thousand (4,136). The investments can be divided into SEK 3,971 thousand (4,107) for intangible assets and SEK 1,187 thousand (29) for tangible assets. The investments into intangible assets refer to capitalized R&D expenses and patents. The investments in PP&E concern office equipment.

iLightproject, partially funded by the Mistra Innovation foundation. Heliospectra owns all rights to the project results. Internally, Heliospectra has at its disposal a private plant laboratory where it cultivates various types of plants under different conditions to investigate the effect of different types of lighting.

EMPLOYEES

At year-end, the number of employees totaled 26 (21).

RESEARCH AND DEVELOPMENT

Continuous product development forms the basis of Heliospectra's ability to maintain its uniqueness in the market. Research is conducted both internally and externally. The external research is conducted largely in collaboration with customers, but also with other partners. Continuous further development takes place regarding both hardware and the software for the lights and related systems. The patented sensor technology is developed together with researchers from Chalmers University of Technology in the

NEW SHARE ISSUE

A rights issue in December provided Heliospectra with funds totaling SEK 107 million before issue costs. Share capital increased by SEK 1,648,938 to SEK 3,511,158 while the number of shares increased by 16,489,380 to 35,111,576. The subscription price was SEK 6.50.

AUTHORIZATION

The extraordinary general meeting of November 8, 2016 resolved to authorize the Board to pass resolutions on the new issue of shares and or share warrants and or convertibles during the period leading up to the next AGM. Under the authorization, no more than 3,621,000 new shares may be issued in the company, corresponding to a maximum dilution effect of around 10.0 percent. The purpose of the authorization, and any departure from shareholders' preferential rights, is to enable share issues to be made for the financing of operations, commercialization and the development of products and markets, and/or the acquisition of operations or companies, or part of a company, or to enable a broadening of the ownership base. The issue price must be competitive with regard to a market rate issue discount where applicable.

OUTLOOK

Heliospectra will continue to concentrate on commercialization and adapting the organization to meet this goal. The company has secured production capacity that can handle large volumes and negotiates directly with its major, strategic customers. Europe and America are two priority markets where growth is strong, especially in North America. Product development continues to be a very important area and development is constantly in progress to meet market demands. Heliospectra will increase its cooperation with a number of strategic players in the market to create long-term partnerships that strengthen its presence and provide more ways to access the market. Generally, Heliospectra is well positioned to begin capitalizing on its product portfolio and market potential.

SIGNIFICANT EVENTS SINCE FINANCIAL YEAR-END

- Ali Ahmadian was appointed CEO. Ali comes from his position as Chief Commercial Officer at Heliospectra.
- TCG Retro Market on Hawaii placed an order for a total of approximately SEK 2.5 million.
- Macedonia's first licensed cannabis farm placed an initial order for Heliospectra's E60 LED lighting for SEK 1.3 million.
- Heliospectra appointed Redeye to new Certified Adviser.

PROPOSAL FOR THE ALLOCATION OF THE COMPANY'S PROFIT OR LOSS

The Board and CEO propose that non-restricted equity

Profit brought forward	124,050,164
Loss for the year	-45,818,141
Total	78,232,023

To be appropriated as follows

Carried forward	78,232,023
Total	78,232,023

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

RISKS

Competition

The industry Heliospectra operates in is research intensive. General research and development in the areas where the company seeks to do business can negatively affect the company's ability to sell its products, as other methods or technologies may prove more successful. Moreover, several of the competitors may have greater financial resources than Heliospectra.

Employees and key individuals

Heliospectra's business depends on its ability to recruit, train and retain qualified employees. If key employees leave the company, this may, at least in the short term, have a negative impact on the business.

Research and Development

Heliospectra's research into plants and light may produce unexpected and undesirable results. This may lead to reconsideration of the concept and its development, and that additional research and development must be carried out at significant expense, or cease altogether.

Components and supplier dependency

Heliospectra is extremely dependent on one particular component and currently has production located with one specific provider. Price increases for the component or problems with the supplier can affect production negatively.

Regulatory decisions

The marketing of products based on Heliospectra's technology may require the company, its collaborative partners and/or subcontractors, relevant permits from the competent authorities. There is no guarantee that such permits will be granted, issued in time or that they have the anticipated scope.

Intellectual property rights and patents

Among the things Heliospectra's competitiveness is dependent on is the company's ability to obtain, maintain and defend patents and intellectual property rights for the protection of its products. Patentability criteria for inventions in the field of lighting technology and intelligent lighting systems are generally difficult to assess. There is a risk that Heliospectra cannot obtain patents for its technology and that patents and other intellectual property rights do not provide adequate protection. Any disputes concerning patents can be costly. Heliospectra is also dependent on its developed software and it can be difficult to protect itself fully against unauthorized dissemination of information regarding the company's trade secrets.

Product liability and production capacity

The sale of products is always associated with risks that the products do not measure up, or that customers in some other way become dissatisfied with results after using the product. Customers may well have claims for compensation based on product warranties to an extent greater than Heliospectra's calculations anticipate. Larger sales volumes in the future may cause delivery problems, as there could be a risk that the company is unable to meet a major order from a customer before industrial production is set up.

Additional financing needs

Heliospectra has reported operating losses since the business was started and cash flow is expected to remain negative until steady revenues are generated. This means additional capital injections may be needed. It is not certain that capital can be obtained and there is a risk that the terms become unfavorable.

Currency risks

Heliospectra operates in a global market with much of its sales and purchases in currencies other than SEK. The sale and purchase of raw materials takes place primarily in USD and EUR, but also in other currencies. The Group's purchases of services take place partly in SEK, but also in other currencies.

Credit risk

Heliospectra has adopted policies whereby sales may only take place to customers with satisfactory payment histories and/or who are considered to be adequately solvent. However, the risk that the company will suffer credit losses can never be excluded.

CORPORATE GOVERNANCE

Heliospectra AB is a Swedish public company listed on NASDAQ First North Stockholm since June 18, 2014. The company is a public limited company and is regulated by Swedish law, mainly by the Swedish Companies Act and the Swedish Annual Accounts Act. Additional rules and recommendations regarding corporate governance are found above all in the Stock Exchange's regulations, the Swedish corporate governance code (the Code) as well as in the statements of the Swedish Securities Council. In addition to legislation and the rules and recommendations, it is the articles of association that form the basis for the governance of the company's operations. At present, the Code need not be applied by companies whose shares are listed on First North. While it is not mandatory for Heliospectra, the company is committed to comply with the Code's principles.

Shareholders

Heliospectra's share capital amounted to SEK 35,111,158 split between 35,111,576 shares, each with a quota value of SEK 0.10. All carry one vote per share. Heliospectra's main owners are the Weland Group, Midroc New Technology AB and Stiftelsen Industrifonden. As of December 31, 2016 the number of shareholders was 3,137 (1,646).

Annual General Meeting

The Annual General Meeting (AGM) must be held no later than six months from the end of the financial year. Shareholders who are

registered in the shares ledger and who have notified their participation in time have the right to take part in the meeting. Heliospectra's AGM took place on June 14 in Gothenburg. The AGM passed resolutions on the approval of financial statements, the election of Board members and auditors, and a resolution on remunerations to Board members and auditors, guidelines for remunerations to the company's senior executives, guidelines for the appointment of a nomination committee and authorization for the Board to issue a maximum of 12,000,000 new shares. A resolution was also passed on the introduction of an incentive program, comprising share warrants, directed at management and other key employees.

Extraordinary General Meeting

At an extraordinary general meeting on November 8, new articles of association were adopted with higher limits on the company's share capital and the number of shares. The meeting also passed a resolution on a rights issue for a maximum of 17,000,000 new shares and the revocation of the authorization for the share issue that was resolved at the AGM. A new authorization was granted to the Board to resolve on the issuance of 3,621,000 new shares, involving a dilution of approximately ten per cent.

Nomination committee

The Nomination Committee is tasked with preparing proposals for the following matters for submission to the AGM for resolution:

Proposals for Chairman of the meeting; for Board members and Board Chairman, remunerations for Board members for committee work; proposals to auditors, fees for the company's auditors and proposals for the composition of the nomination committee.

The 2016 AGM passed a resolution on guidelines for the establishment of a nomination committee. The nomination committee must comprise four persons. Each of the company's three biggest shareholders in terms of voting rights as of September 30, 2016, is entitled to appoint one member of the Committee. None of the three people appointed in this regard may be a member of the Board. Additionally, the nomination committee must include one Board member appointed by the Board, who will also be the convener. Should any of the three members of the nomination committee leave their assignment prematurely, the [relevant] shareholder must appoint a new representative. Should a shareholder sell all, but not part, of its shares in the company before the nomination committee has completed its assignment, then the fourth largest shareholder in terms of votes must appoint a new member instead.

The nomination committee's mandate runs until a new nomination committee is appointed. No compensation will be paid to nomination committee members, but they have the right to reimbursement for reasonable and necessary expenses incurred for nomination committee work.

The nomination committee for the 2017 AGM consists of:

- > Staffan Gunnarsson, Weland Group.
- > Åsa Knutsson, Stiftelsen Industrifonden.
- > Oscar Ahlgren, Midroc Group
- > Andreas Gunnarsson, convener, Chairman of Heliospectra AB.



NAME*	INDEPENDENT OF THE COMPANY	INDEPENDENT OF MAJOR SHAREHOLDERS	BOARD MEETINGS	FEE, SEK	HOLDING, NUMBER OF SHARES AND SHARE WARRANTS
Andreas Gunnarsson	YES	NO	16	177,200	22,968 SHARES
Anders Ludvigson	YES	YES	16	88,600	–
Martin Skoglund	YES	YES	16	88,600	47,437 SHARES
Göran Larsson	YES	YES	16	88,600	–

* In addition to the regular Board members, there is also one alternate, Göran Linder (0 shares). The alternate has participated in some of the ordinary Board meetings and will be remunerated at an hourly rate of SEK 1,500.

Auditor

The company's auditor is Mikael Glimstedt, practicing at Frejs Auditors AB in Gothenburg, authorized public accountant and member of FAR.

The Board

Board composition

According to the articles of association, the Board of Heliospectra AB must comprise no fewer than three and no more than nine members, with a maximum of five alternates.

Board members are appointed one year at a time. In 2016, Heliospectra's Board comprised four members and one alternate. Andreas Gunnarsson was Chairman. Of the regular Board members, four are independent of the company and company management and three are independent of the company's major shareholders.

The work of the Board

The Board oversees the work of the CEO and is responsible for ensuring that the organization, management and guidelines for the company are properly set up. The Board is also responsible for ensuring the company's compliance with laws, regulations and internal policies. Furthermore, the Board is responsible for developing and monitoring the company's strategies and major investments, and for approving the budget and annual accounts.

In 2016, the Board held six ordinary meetings and ten extraordinary meetings. The work of the Board follows the rules of procedure adopted at the statutory meeting. Each ordinary Board meeting discusses the minutes from the previous meeting, business developments since the previous meeting and the company's financial position and its financial performance. The Board receives written information on an ongoing basis concerning the business and external issues that are important for the company.

In 2016, the Board paid particular attention to financing, market expansion and measures to improve the margin.

Rules of procedure

In accordance with the Swedish Companies Act, the Board has adopted written rules of procedure for its work and written instructions on reporting to the Board. The rules of procedure and reporting instructions are evaluated, updated where necessary and approved annually.

Any allocation of responsibilities among Board members must be described in the rules of procedure. The Board holds ordinary meetings that follow a program established by the rules of procedure that includes fixed decision points as well as other items as necessary. When necessary, the Board also holds extraordinary meetings upon request of a Board member or the CEO.

The reporting instructions make clear when and how information that is necessary for the Board's ongoing assessment of the company's and the Group's financial situation must be assembled and reported to the Board. Reporting instructions provide the Board with data for following up plans and budgets etc.

According to the current rules of procedure, the Board must, after the statutory Board meeting following the AGM, meet on at least six scheduled occasions during the fiscal year.

Processes for evaluating board performance

The Chairman is responsible for the evaluation of the work of the Board. The evaluation is performed annually. Among the items examined are the Board's working methods, the number of meetings and their effectiveness, the time for preparation, available specific expertise and opportunities for individual Board members to influence the work of the Board. The findings are taken into account in the nomination process for the subsequent year's AGM.

CEO and management

Group management in Heliospectra consists of the Chief Executive Officer, Chief Financial Officer, Head of Commercial Operations, Supply Chain Director and the Director of Sales and Marketing in the United States.

The CEO is responsible for day-to-day [operations], preparing and implementing strategies, addressing organizational issues and following financial developments.

Measures that are of an unusual nature or of great importance with regard to the scope and nature of the company's business, fall outside of day-to-day management and must therefore be prepared and presented to the Board for resolution. The work and role of the CEO and the division of responsibilities between the Board and the CEO are described in more detail in a written instruction approved by the Board (known as the CEO Instructions).

Together with the Board Chairman, the CEO draws up a notice to



attend and a proposal for the agenda, assembles necessary decision data and participates in Board meetings.

Remunerations to senior executives

The Board as a whole has chosen to take responsibility for remuneration issues in the company.

Salary and other benefits

Remunerations to senior executives must comprise a fixed salary and a pension. The fixed salary is usually reviewed once per calendar year. No variable salaries are paid. In addition, senior executives have the right to customary non-monetary benefits such as occupational health services. Other benefits may be offered in individual cases.

Pension

Senior management should be offered pension terms that include a defined contributions scheme with premiums based on the full basic salary. Pension provisions are individual and must be in relation to basic salary.

Severance benefits

The period of notice may not exceed one year if the termination takes place on the part of the company, or no more than six months if the termination takes place on the part of the senior executive. In case of termination on the part of the company, severance pay may also be paid in an amount equal to no more than six months' salary. The Board has the right to deviate from the guidelines if there are particular reasons for this in individual cases.

Salaries and remunerations to the CEO and other senior executives in 2016 are described in Note 6 on page 37.

Remunerations to the Board

The fee to the Board approved in 2016, amounted to SEK 443,000, distributed within the Board as shown in the table below. The 2016 AGM resolved that the remuneration to the Board Chairman will be paid as 4 × price base amounts equivalent to SEK 177,200 per year, and to the other Board members as 2 × price base amounts equivalent to SEK 88,600 per Board member per year.

Auditors' fees

Compensation for Heliospectra's auditors is paid at approved hourly rates. In 2016, fees paid to Frey's Revisorer AB were in the amount of SEK 195,000.

Internal controls

The Board must make sure that the company has good internal control and formalized procedures ensuring that the policies established for financial reporting and internal control are complied with and that the company's financial reporting is set up in accordance with the law, applicable accounting standards and other requirements resulting from the company's status as listed.

The company's internal control structure is based on the allocation of responsibilities between the Board and the CEO. The CEO must, through the good offices of the CFO, ensure that the members of the Board are provided with special financial reports on a monthly basis along with any other information necessary for tracking the company's financial situation.

The Board



Andreas Gunnarsson

Board Chairman since 2016

Born: 1974, **Elected:** 2011 **Education:** Studied at Jönköping International Business School **Other assignments:** Board chairman of Air to Air Sweden AB, A board member of WRAP International AB, Lamera AB, SolarWave AB, Crossborder Technologies AB, Alternate at Jensen Devices AB, PromorePharma AB, Minesto AB, Powercell Sweden AB, and Pergamum AB. **Shareholding:** 22,968 shares

Göran Larsson

Board member

Born: 1944 **Elected:** 2015 **Education:** MA, Political Science **Other assignments:** Chairman of Hestra Handsken AB, Hestraviken AB, Kungsleden AB, Mappa Invest AB, Board member of Göran Larsson i Malmö AB and Bratt International AB. **Shareholding:** -

Anders Ludvigson

Board member

Born: 1970 **Elected:** 2007 **Education:** MSc Production Management and Investment Analysis at LiTH **Other assignments:** And board member of Ludvigson Invest AB, Aktiebolaget Olga Ludvigson and Aktiebolaget Ludvig Svensson (CEO) **Shareholding:** -

Göran Linder

Alternate

Born: 1962 **Elected:** 2011 **Education:** MSc in Electrical engineering, Royal Institute of Technology in Stockholm **Other assignments:** CEO Midroc New Technology AB, Midroc Invest AB and Midroc Finans AB. Board member of Midroc New Technology AB, Midroc Invest AB, Midroc Finans AB, Powercell Sweden AB, Crunchfish AB, Nilsson Special Vehicles company, Minesto AB, Minesto Warrants One AB, Airgrinder AB, Jensen Devices AB, Promore Pharma AB, Dermagen AB, M&J by Malin & Johanna AB, alternate in Lamera AB, Air to Air Sweden AB, Crossborder Technologies AB, Heliospectra AB and Solarwave AB. **Shareholding:** -

Martin Skoglund

Board member

Born: 1966 **Elected:** 2006 **Education:** MBA, School of Business, Economics and Law at the University of Gothenburg **Other assignments:** Chairman of Wood & Hill Investment AB, Stallet Fastighets Holding AB, Board member of AB Blåbergsholmen, Haga Hem Holding AB, Oakridge AB, Alternate at Natstone AB and Wood & Hill Fastigheter AB. **Shareholding:** 47,437 shares

Accounts

CONSOLIDATED BALANCE SHEET (SEK thousand)

	NOTE	2016	2015
Operating income	2		
Net sales		23,053	13,686
Other operating income		3,189	2,244
Total operational income		26,242	15,930
Operating expenses	2		
Goods for resale		-15,763	-12,109
Other external expenses	3-4	-30,742	-19,668
Payroll expenses	5-6	-18,147	-12,438
Depreciation of tangible and and amortization of intangible assets	7	-4,338	-3,887
Other operating expenses		-36	-188
Operating loss		-42,784	-32,360
Profit/loss from financial items			
Interest income and similar items	8	58	188
Interest expenses and similar income statement items	9	-3,037	-1,782
Loss before tax		-45,763	-33,954
TAX		0	0
LOSS FOR THE YEAR		-45,763	-33,954
OF WHICH ATTRIBUTABLE TO			
Parent company's shareholders		-45,763	-33,954
Minority shareholding		0	0

CONSOLIDATED BALANCE SHEET (SEK thousand)

	NOTE	12/31/2016	12/31/2015
ASSETS	1		
Non-current assets			
Intangible assets			
Capitalized expenditure for development and similar items	10	16,519	16,083
Total intangible assets		16,519	16,083
Tangible assets			
Property, plant and equipment	11	1,586	1,239
Total tangible assets		1,586	1,239
Total assets		18,105	17,322
Current assets			
Inventories			
Finished goods and goods for resale		8,178	6,846
Total inventories		8,178	6,846
Current receivables			
Accounts receivable		1,908	5,663
Current tax assets		78	128
Other receivables		2,587	560
Prepaid expenses and accrued income	13	1,427	579
Total current receivables		6,000	6,930
Cash and cash equivalents		72,940	18,848
Total current assets		87,118	32,624
TOTAL ASSETS		105,223	49,946

CONSOLIDATED BALANCE SHEET (SEK thousand)

	NOTE	12/31/2016	12/31/2015
SHAREHOLDERS' EQUITY AND LIABILITIES			
Shareholders' equity			
Share capital	14	3,511	1,862
Other capital contributed		239,575	142,134
Other shareholders' equity		-115,849	-81,895
Loss for the year		-45,763	-33,954
Equity attributable to parent company shareholders		81,474	28,147
Total equity		81,474	28,147
Non-current liabilities			
Other liabilities	16, 18	10,900	11,400
Total non-current liabilities		10,900	11,400
Current liabilities			
Advance payments from customers		642	2,577
Accounts payable		3,534	3,292
Other liabilities	18	1,106	1,279
Accrued expenses and deferred income	17	7,567	3,251
Total current liabilities		12,849	10,399
TOTAL SHAREHOLDER'S EQUITY AND LIABILITIES		105,223	49,946

PARENT COMPANY INCOME STATEMENT (SEK thousand)

	NOTE	2016	2015
Operating income	2		
Net sales		23,302	14,449
Other operating income		2,734	1,543
Total operational income		26,036	15,992
Operating expenses	2		
Goods for resale		-15,763	-12,110
Other external expenses	3-4	-37,166	-20,782
Payroll expenses	5-6	-11,731	-11,060
Depreciations, amortizations and impairments of and amortization of intangible assets	7	-4,338	-3,887
Other operating expenses		-36	-187
Operating loss		-42,998	-32,034
Profit/loss from financial items			
Interest income and similar items	8	217	14
Interest expenses and similar income statement items	9	-3,037	-1,782
Loss before tax		-45,818	-33,802
TAX		0	0
LOSS FOR THE YEAR		-45,818	-33,802

PARENT COMPANY BALANCE SHEET (SEK thousand)

	NOTE	12/31/2016	12/31/2015
ASSETS	1		
Non-current assets			
Intangible assets			
Capitalized expenditure for development and similar items	10	16,519	16,083
Total intangible assets		16,519	16,083
Tangible assets			
Property, plant and equipment	11	1,586	1,239
Total tangible assets		1,586	1,239
Financial assets			
Participations in subsidiaries	12	82	82
Total financial assets		82	82
Total assets		18,187	17,404
Current assets			
Inventories			
Finished goods and goods for resale		8,178	6,846
Total inventories		8,178	6,846
Current receivables			
Accounts receivable		2,174	5,663
Receivables from subsidiaries		1,270	1,119
Other receivables		2,659	688
Prepaid expenses and accrued income	13	1,427	579
Total current receivables		7,530	8,049
Cash and cash equivalents		71,597	18,063
Total current assets		87,305	32,958
TOTAL ASSETS		105,492	50,362

PARENT COMPANY BALANCE SHEET (SEK thousand)

	NOTE	12/31/2016	12/31/2015
SHAREHOLDERS' EQUITY AND LIABILITIES			
Shareholders' equity			
Restricted equity			
Share capital	14	3,511	1,862
Total restricted equity		3,511	1,862
Non-restricted equity			
	15		
Share premium reserve		97,441	142,051
Profit brought forward		26,609	-81,640
Loss for the year		-45,818	-33,802
Total non-restricted equity		78,232	26,609
Total equity		81,743	28,471
Non-current liabilities			
	16, 18		
Other liabilities		10,900	11,400
Total non-current liabilities		10,900	11,400
Current liabilities			
Advance payments from customers		642	2,577
Accounts payable		3,534	3,384
Other liabilities	18	1,106	1,279
Accrued expenses and deferred income	17	7,567	3,251
Total current liabilities		12,849	10,491
TOTAL SHAREHOLDER'S EQUITY AND LIABILITIES		105,492	50,362

STATEMENT OF CASH FLOWS

	CONSOLIDATED		PARENT COMPANY	
	2016	2015	2016	2015
OPERATING ACTIVITIES				
Loss after financial items	-45,763	-33,954	-45,818	-33,802
Adjustments for items not included in cash flow				
Impairment, depreciation and amortization, assets	4,338	3,887	4,338	3,887
Cash flow from operating activities before changes in working capital	-41,425	-30,067	-41,480	-29,915
Cash flow from changes in working capital				
Change in inventories	-1,332	-2,597	-1,332	-2,597
Change in operating receivables	930	-2,829	519	-3,802
Change in operating liabilities	2,450	4,617	2,358	4,711
Cash flow from operating activities	-39,377	-30,876	-39,935	-31,603
INVESTMENT ACTIVITIES				
Activation of capitalized expenditures	-3,971	-4,107	-3,971	-4,107
Acquisition of property, plant and equipment	-1,187	-29	-1,187	-29
Disposals of property, plant and equipment	37	33	37	33
Cash flow from investing activities	-5,121	-4,103	-5,121	-4,103
FINANCING ACTIVITIES				
New share issue	99,090	46,004	99,090	46,004
Change in non-current liabilities	-500	1,696	-500	1,696
Cash flow from financing activities	98,590	47,700	98,590	47,700
Cash flow for the year (Cash and cash equivalents)	54,092	12,721	53,534	11,994
Cash and cash equivalent at beginning of year	18,848	6,127	18,063	6,069
Cash and cash equivalents at year-end	72,940	18,848	71,597	18,063

Notes

NOTE 1 ACCOUNTING POLICIES

This annual report has been prepared in accordance with the Swedish Annual Accounts Act and also in accordance with the Swedish Accounting Standards Board's general guidelines BFAR 2012:1 Annual Accounts and Consolidated Accounts (K3).

The accounting policies are unchanged from those of the preceding year.

Assets, provisions and liabilities have been valued at cost unless otherwise stated.

Consolidated Accounts

Subsidiaries

Subsidiaries are companies in which the parent company, either directly or indirectly, has more than 50 percent of the votes, or in some other way has a controlling influence. Control exists when the parent company has a right to affect the financial and operating policies of a company in order to gain benefits from its activities. Accounting for business combinations based on the unit principle. This means the acquisition analysis is prepared at the time the acquirer gains a controlling influence. As of this point in time, the acquirer and the acquired unit are regarded as an accounting unit. Applying the unit principle means that all assets (including goodwill), liabilities, income and expenses are included in their entirety even in the case of partly-owned subsidiaries.

The cost of the subsidiary is estimated to be the sum of the fair value at the acquisition date for paid assets with the addition of incurred and assumed debt and equity instruments, expenditures that are directly attributable to the acquisition, and any additional purchase sum. Fair value is determined in the acquisition analysis, with some exceptions, at the time when the identifiable assets, liabilities and minority interest are acquired. Minority interest is measured at fair value at the acquisition date. The acquired company's earnings and expenditure, identifiable assets and liabilities, and any goodwill or negative goodwill, are included in the consolidated financial statements as of the date of acquisition.

Elimination of transactions between Group companies and associated companies

Intra-group receivables and liabilities, income or expenses, and unrealized gains or losses arising from transactions between Group companies, are eliminated in their entirety.

Intangible assets and property plant and equipment

Intangible assets and tangible assets are reported at cost less accumulated amortization, depreciation and impairment charges. Cost also includes expenses directly attributable to the acquisition in addition to the actual purchase price.

Capitalized expenditure for development and similar items

Development expenses calculated as an average cost in the opera-

tion are capitalized and booked by project (new product/projects). Once sales of an object begin, its capitalized expenditures are depreciated. Depreciation continues during the object's sales life, however no more than 5 years. In the event of the withdrawal/termination of an object, and impairment charge is made for the entire remaining balance for the object and its cost is reversed to the income statement.

Subsequent expenditure

Subsequent expenditure that fulfils the asset criterion is included in the asset's carrying amount.

Expenses for ongoing maintenance and repairs are recognized as costs when incurred.

Depreciation

Straight-line depreciation is made over asset's estimated useful life since it reflects the expected depletion of the asset's future financial distributes. Depreciation is recognized as a cost in the income statement.

Consideration has been given to the estimated residual value, determined at the time of acquisition at the then prevailing price level.

Impairments – property, plant and equipment; intangible assets and participations in Group

USEFUL LIFE.

Capitalized expenditure for development and similar items

5 YEARS

Property, plant and equipment

5 YEARS

companies

At each closing date, appraisals are made as to whether there is any indication that an asset's value is lower than its carrying amount. If such an indication exists, the recoverable amount of the asset is calculated.

The recoverable amount is the higher of fair value less selling expenses or value-in-use. When calculating value-in-use, the present value is calculated based on the future cash flows that the asset is expected to generate in operating activities as well as when it is sold off or scrapped. The discount rates used are pre-tax and reflect current market assessments of the time value of money and the risks relating to the asset. A previous impairment loss is reversed only if the reasons that formed the basis for the calculation of the recoverable value at the latest impairment have changed.

Foreign currency

Monetary items denominated in foreign currencies are translated at the closing rate. Non-monetary items are not restated but presented at the price at the time of acquisition.

Foreign currency differences that arise when settling or translating monetary items are reported in the income statement for the financial year during which they arise.

Inventories

Inventories are entered at cost or net realizable value, whichever is the lower. Obsolescence is thus taken into account. Cost is calculated according to the first-in, first-out principle. In addition to expenditures for the purchase, cost also includes expenses for bringing the goods to their present location and condition.

Financial assets and liabilities

Financial assets and liabilities are reported in accordance with Chapter 11 (Financial instruments valued at cost) of BFAR 2012:1.

Recognition and derecognition on the balance sheet

A financial asset or financial liability is recognised in the balance sheet when the company becomes a party to the contractual provisions of the instrument. A financial asset is derecognized in the balance sheet when the contractual right to the cash flow from the asset has ceased or been settled. The same applies when the bulk of the risks and benefits associated with the holding are transferred to another party and the company no longer exerts control over the financial asset. A financial liability is derecognized in the balance sheet when the agreed obligation has been fulfilled or ceased.

Valuation of financial assets

Financial assets are measured at cost at initial recognition, including any transaction expenses that are directly attributable to the acquisition of the asset.

Accounts receivable and other receivables that constitute current assets are valued individually at the amount expected to be received.

Financial assets are valued after initial recognition at cost less any impairment losses and plus any appreciation.

Valuation of financial liabilities

Non-current financial liabilities are measured at accrued cost. Expenditures directly attributable to the raising of loans have been used to adjust loan costs. Current liabilities are recognized at cost.

Remunerations to employees

Employee benefits Post-employment Classification

Post-employment benefits are classified as defined contribution plans.

In defined contribution plans fixed fees are paid to another company, usually an insurance company, and [Heliospectra] no longer has any obligation to the employee once the fee is paid. The size of the employee's post-employment benefits is dependent on the fees paid to the plan and the return on capital generated by the contributions.

Defined contribution plans

The charges for defined contribution plans are expensed. Unpaid fees are reported as liabilities.

Provisions

A provision is recognized in the balance sheet when the company has

a legal or informal obligation resulting from a previous event and it is likely that an outflow of resources is required to settle the obligation and a reliable estimate of the amount can be made.

At initial recognition, provisions are measured at the best estimate of the amount required to settle the obligation on closing day. Provisions are reviewed on each closing date.

A provision is measured at the present value of the future payments necessary to settle the commitment.

Income

The inflow of economic benefits that the company has received or will receive for its own account is recognized as revenue. Income is recognized at the fair value of the consideration received or which will be received, less any discounts.

Sale of goods

When goods are sold, revenue is recognized when the following criteria are met:

- it is probable that the economic benefits associated with the transaction will flow to the company,
- the revenue can be calculated in a reliable way,
- the company has transferred the significant risks and benefits associated with ownership of the goods to the purchaser,
- the company no longer has a level of involvement in day-to-day management usually associated with ownership and nor does it exercise any real control over the goods sold, and
- the expenditures incurred or which can be anticipated to occur as a result of the transaction can be measured reliably.

NOTE 2 GROUP DISCLOSURES

Intra-group sales and purchases

Of the parent company's total purchases and sales measured in SEK, 18.2 per cent (5.7) of purchases and 0 percent (0) of sales were with other companies in the entire group of companies to which the company belongs.

NOTE 3 AUDITOR'S FEES AND COMPENSATION

	GROUP		PARENT COMPANY	
	2016	2015	2016	2015
Audit assignment	121	129	121	129
Tax advice	9	11	9	11
Other services	65	57	65	57
Total	195	197	195	197

NOTE 4 OPERATIONAL LEASING

Leasing contracts where the company are lessees

	GROUP		PARENT COMPANY	
	12/31/2016	12/31/2015	12/31/2016	12/31/2015
Within 1 year	755	755	755	755
Between one and five years	0	0	0	0
Later than five years	0	0	0	0
Total	755	755	755	755
The financial year's expensed leasing fees including rent	941	801	941	801

Future minimum lease charges in respect of non-cancelable operating leases

NOTE 5 EMPLOYEES AND COMPANY MANAGEMENT

	GROUP		PARENT COMPANY	
	2016	2015	2016	2015
Average number of employees				
Men	19	18	17	16
Women	11	5	7	4
Total	30	23	24	20
The gender balance in senior management				
Board members			4	5
Of whom men			4	5
CEO and company management	5	5	4	4
Of whom men	4	5	4	4

NOTE 6 SALARIES, OTHER REMUNERATIONS AND SOCIAL COSTS, INCLUDING PENSION COSTS

	GROUP		PARENT COMPANY	
	2016	2015	2016	2015
Pay and other remunerations				
Members of the Board and CEO	1,039	1,036	1,039	1,036
Other employees	12,781	8,136	7,440	6,971
Total salaries and benefits	13,820	9,172	8,479	8,007
Pension costs in respect of members of the Board and CEO	111	112	111	112
Pension costs relating to other	175	191	175	191
Other social security charges	2,651	2,246	2,365	2,176
Total social security charges	2,937	2,549	2,651	2,479
Obligations for pensions and similar				
benefits to Board members and the CEO	0	0	0	0



NOTE 7 AMORTIZATION OF INTANGIBLE ASSETS AND DEPRECIATION OF TANGIBLE ASSETS

	GROUP		PARENT COMPANY	
	2016	2015	2016	2015
Capitalized expenses for development and similar items	3,535	3,140	3,535	3,140
Property, plant and equipment	803	747	803	747
Total	4,338	3,887	4,338	3,887

NOTE 8 INTEREST INCOME AND SIMILAR ITEMS

	GROUP		PARENT COMPANY	
	2016	2015	2016	2015
Interest income, other	1	14	1	14
Exchange rate differences	57	174	216	0
Total	58	188	217	14

NOTE 9 INTEREST EXPENSES AND SIMILAR PROFIT/LOSS ITEMS

	GROUP		PARENT COMPANY	
	2016	2015	2016	2015
Income statement items				
Interest expenses, other	3,036	966	3,036	966
Other income statement items	1	816	1	816
Total	3,037	1,782	3,037	1,782

NOTE 10 CAPITALIZED EXPENDITURE FOR DEVELOPMENT AND SIMILAR WORKS

	GROUP		PARENT COMPANY	
	12/31/2016	12/31/2015	12/31/2016	12/31/2015
Opening cost	23,879	19,772	23,879	19,772
Acquisitions	3,971	4,107	3,971	4,107
Closing accumulated costs	27,850	23,879	27,850	23,879
Opening depreciations	-7,796	-4,656	-7,796	-4,656
Depreciations for the year	-3,535	-3,140	-3,535	-3,140
Closing accumulated depreciations	-11,331	-7,796	-11,331	-7,796
Closing carrying amount	16,519	16,083	16,519	16,083

NOTE 11 PROPERTY, PLANT AND EQUIPMENT

	GROUP		PARENT COMPANY	
	12/31/2016	12/31/2015	12/31/2016	12/31/2015
Opening cost	5,654	5,676	5,654	5,676
Acquisitions	1,187	29	1,187	29
Disposals and retirements	-226	-51	-226	-51
Closing accumulated cost	6,615	5,654	6,615	5,654
Opening depreciations	-4,415	-3,686	-4,415	-3,686
Disposals and retirements	189	18	189	18
Depreciations for the year	-803	-747	-803	-747
Closing accumulated depreciations	-5,029	-4,415	-5,029	-4,415
Closing carrying amount	1,586	1,239	1,586	1,239

NOTE 12 SHARES AND PARTICIPATIONS IN GROUP COMPANIES

	GROUP	PARENT COMPANY	
		12/31/2016	12/31/2015
Opening cost		82	82
Closing accumulated cost		82	82
Closing carrying amount		82	82

The corporate ID numbers and registered offices of subsidiaries are set out below.

COMPANY, CORPORATE ID NUMBER, HEAD OFFICE	NUMBER OF SHARES	PARTICIPATION %	CARRYING AMOUNT
Heliospectra Personal AB, 556904-7243, Gothenburg	1,000	100	50
Heliospectra Inc, 5290422, USA	5,000,000	100	32

Refers to the equity interest of capital, which also corresponds to the percentage of votes of the total number of shares.

NOTE 13 PREPAID EXPENSES AND ACCRUED INCOME

	12/31/2016	12/31/2015	12/31/2016	12/31/2015
PREPAID RENTS/LEASING	189	222	189	222
OTHER ITEMS	1,238	357	1,238	357
TOTAL	1,427	579	1,427	579

NOTE 14 SHARE CAPITAL

	12/31/2016	12/31/2015
Number of shares	35,111,576	18,622,196
Quota value	SEK 0.10	SEK 0.10

NOTE 15 PROPOSED APPROPRIATION OF PROFITS

The Board and CEO propose that non-restricted equity, including share premium reserve, SEK 78 232 023, To be appropriated as follows

Carried forward	78,232,023
Total	78,232,023

NOTE 16 NON-CURRENT LIABILITIES

	GROUP		PARENT COMPANY	
	12/31/2016	12/31/2015	12/31/2016	12/31/2015
With maturities longer than five years from closing date	9,000	9,000	9,000	9,000
Total	9,000	9,000	9,000	9,000

NOTE 17 ACCRUED EXPENSES AND DEFERRED INCOME

	12/31/2016	12/31/2015	12/31/2016	12/31/2015
Salaries and vacation pay	1,521	1,151	1,521	1,151
Accrued social security charges	547	656	547	656
Other items	5,499	1,444	5,499	1,444
Total	7,567	3,251	7,567	3,251

NOTE 18 PLEDGED ASSETS

	12/31/2016	12/31/2015	12/31/2016	12/31/2015
Other pledged assets	6,050	6,050	6,050	6,050
Total pledged assets	6,050	6,050	6,050	6,050

Gothenburg, April 28, 2017

Andreas Gunnarsson
Chairman

Ali Ahmadian
Chief Executive Officer

Martin Skoglund

Anders Ludvigson

Göran Larsson

Our audit report was issued on Friday, April 28, 2017

Frejs Revisorer AB

Mikael Glimstedt
Certified Public Accountant

Audit report

TO THE ANNUAL GENERAL MEETING OF HELIOSPECTRA AB (PUBL) CORPORATE ID 556695-2205

REPORT ON THE ANNUAL ACCOUNTS AND CONSOLIDATED FINANCIAL STATEMENTS

Opinion

We have audited the annual accounts and consolidated financial statements of Heliospectra AB (publ) for the financial year 2016.

The company's annual accounts and consolidated financial statements are included in the printed version of this document on pages 21–44.

In our opinion the annual accounts and consolidated financial statements have been prepared in accordance with the Swedish Annual Accounts Act and in all material respects fairly present the parent company's and Group's financial position as of 12/31/2016 and their financial performance and cash flows for the year in accordance with the Swedish Annual Accounts Act. The administration report is consistent with the other sections of the annual accounts and the consolidated accounts.

We therefore recommend that the AGM adopt the income statement and balance sheet for the parent company and the Group.

Basis for our opinion

We have conducted the audit in accordance with International Standards on Auditing (ISA) and auditing standards generally accepted in Sweden. Our responsibility according to these standards is described in more detail in the section entitled Auditor's responsibility. We are independent of the parent company and the Group in accordance with professional ethics in Sweden and we have otherwise fulfilled our professional ethical responsibilities under these requirements.

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

Information other than financial statements and consolidated financial statements

The annual accounts are drawn up in two versions; a formal version that only contains the statutory sections and a printed version, which in addition to the statutory sections also contains other information on pages 1–20. The formal version is sent to the Swedish Companies Registration Office and registered. The printed version is communicated to the market through printed documents and via the website. The Board and the CEO are responsible for the other information.

Our opinion in respect of the annual accounts and consolidated financial statements does not cover this information, and we make no substantiating statement concerning this other information.

In the context of our audit of the annual accounts and consolidated financial statements, it is our responsibility to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated financial statements. In this review, we also take into account the knowledge we otherwise obtained during the audit as well as assesses whether the information otherwise seems to contain material misstatements.

If, based on the work that has been done with regard to this information, we conclude that the second information contains a material misstatement, we are obliged to report it. We have nothing to report in this regard.

Responsibilities of the Board and the Chief Executive Officer

The Board and CEO are responsible for ensuring the annual accounts and the consolidated financial statements are prepared and that they give a true and fair view in accordance with the Swedish Annual Accounts Act. The Board and the CEO are also responsible for the internal control they deem necessary for the preparation of annual accounts and consolidated financial statements that do not contain material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board and the CEO are responsible for assessing the ability of the company and the Group to continue operations. They inform, as appropriate, on the conditions that may affect the ability to continue operations and to make a going concern assumption. However, the going concern assumption does not apply if the Board and CEO intend to liquidate the company, cease operations or have no realistic alternative but to do so.

Auditor's responsibility

Our goal is to achieve a reasonable degree of certainty as to whether the annual accounts and consolidated financial statements as a whole do not contain any material misstatement, whether due to fraud or error, and to submit an audit report that contains our opinions. Reasonable assurance is a high degree of certainty, but there is no guarantee that an audit performed in accordance with ISA and other generally accepted auditing standards in Sweden will always detect a material misstatement, should such be present. Misstatements may occur due to fraud or error, and are considered to be material if they severally or jointly can be reasonably expected to affect the economic decisions that users make on the basis of the annual accounts and the consolidated financial statements.

As part of an audit under ISA, we use professional judgment and maintain a professionally skeptical attitude throughout the audit. We also:

- identify and assess the risks of material misstatement in the annual accounts and consolidated financial statements, whether due to fraud or error; draw up and carry out audit procedures, inter alia on the basis of these risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinion. The risk of failing to detect a material misstatement due to fraud is greater than for a material misstatement due to error, because the fraud may include conduct in collusion, falsification, deliberate omissions, incorrect information or waived internal controls.
- gain an understanding of the part of the company's internal controls that is relevant to our audit in order to draw up audit measures that are appropriate with regard to the circumstances, but not in order to express an opinion on the effectiveness of the internal controls.
- evaluate the suitability of the accounting policies used and the reasonableness of the Board and CEO's assumptions in the annual accounts and their related disclosures.



- draw a conclusion concerning the suitability of the Board and CEO's use of the going concern assumption when preparing the annual accounts and the consolidated financial statements. We also draw a conclusion based on the audit evidence obtained, as to whether there is any material uncertainty factor relating to events or conditions that may cast significant doubt on the company's and the Group's ability to continue operations. If we conclude that there is a significant uncertainty factor, we must use the audit report to draw attention to the information in the annual accounts and consolidated financial statements about the significant uncertainty factor or, if such information is insufficient, modify our opinion on the annual accounts and the consolidated financial statements. Our conclusions are based on the audit evidence obtained up to the date of the audit report. However, future events or circumstances may mean that a company and a group can no longer continue operations.

- evaluate the overall presentation, structure and content of annual accounts and consolidated financial statements, including the information, and whether the annual accounts and consolidated financial statements reflect the underlying transactions and events in a way that gives a true and fair view.

- obtain sufficient and appropriate audit evidence with respect to the financial information for the units or business activities within the group in order to provide an opinion with regard to the consolidated financial statements. We are responsible for the control, supervision and execution of the Group audit. We are solely responsible for our opinion.

We have to inform the Board about, inter alia, the date, planned scope and direction of the audit. We must also inform about significant observations made during the audit, including any significant weaknesses in internal control that we may identify.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

Opinion

In addition to our audit of the annual accounts and the consolidated financial statements, we have also audited the Board and CEO's management of Heliospectra AB (publ) for the year 2016 and also the proposed appropriation of the profit or loss.

We recommend to the AGM that the profit be allocated in accordance with the proposal in the administration report and that the members of the Board and the Chief Executive Officer be discharged from liability for the financial year.

Basis for our opinion

We have conducted the audit in accordance with auditing standards generally accepted in Sweden. Our responsibility in this regard is described in detail in the section entitled Auditor's responsibility. We are independent of the parent company and Group in accordance with good professional ethics in Sweden and we have otherwise fulfilled our professional ethical responsibilities under these requirements.

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

Responsibilities of the Board and the Chief Executive Officer

The Board is responsible for the proposal for the appropriation of the company's profit or loss. Among the things considered in the proposal are an assessment of whether the dividends are justified with regard to the requirements that the company's and Group's business nature,

scope and risks place on the size of the parent company's and the Group's equity, the need for consolidation, liquidity and general position.

The Board is responsible for the company's organization and the administration of its affairs. This includes ongoing assessment of the company's and the Group's financial situation and ensuring that the company's organization is structured such that bookkeeping, asset management and the company's financial affairs are otherwise monitored in a reliable way. The CEO takes care of day-to-day administration under the Board's guidelines and instructions and must, among other things, take measures necessary for ensuring that the company's accounting is completed in compliance with legislation and that assets are managed in a satisfactory manner.

Auditor's responsibility

Our goal with regard to the management audit, and therefore our opinion concerning discharge from liability, is to obtain audit evidence that with a reasonable degree of certainty enables us to determine whether any member of the Board or the CEO in any material respect:

- has carried out any act or been guilty of any omission that could give rise to liability for damages against the company, or

- has in some other way acted in contravention of the Swedish Companies Act, the Swedish Annual Accounts Act or the articles of association.

Our goal in regard to the proposal for the allocation of the company's profit or loss, and thus our opinion on this, is to assess with a reasonable degree of certainty whether the proposal is in compliance with the Swedish Companies Act.

Reasonable assurance is a high degree of certainty, but no guarantee that an audit performed in accordance with generally accepted auditing standards in Sweden will always detect the actions or omissions that may give rise to liability for damages against the company, or to a proposal for allocation of the company's profit or loss that is not in accordance with the Swedish Companies Act.

As part of an audit under ISA and good auditing practice, we use professional judgment and maintain a professionally skeptical attitude throughout the audit. The management review and the proposed appropriations of the company's profit or loss are based mainly on the audit of the accounts. Any additional procedures are performed according to our professional judgment based on risk and materiality. This means we focus our examination on such measures, areas and conditions as are essential for the operation and where deviations and non-compliance would have special significance for the company's situation. We review and examine decisions, decision support data, actions taken and other conditions that are relevant for our opinion concerning discharge from liability. As the basis for our opinion on the Board of Directors' proposed appropriations of the company's profit or loss, we assessed whether the proposal is in accordance with the Swedish Companies Act.

Gothenburg, Friday, April 28, 2017

Frejs Revisorer AB

Mikael Glimstedt
Authorized Public Accountant,



heliospectra™