## LEADING THE WAY IN CANCER TREATMENT ANNUAL REPORT 2009

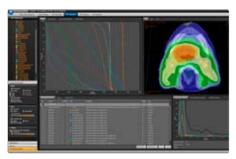


### RAYSEARCH IN BRIEF.



### **A BETTER LIFE FOR PEOPLE**

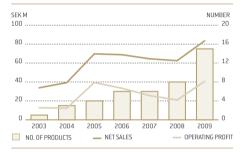
RaySearch develops advanced software that is critical in radiation treatment of cancer. The products are used to optimize the radiation dose for each individual cancer patient. The more efficient treatment planning, the more effective radiation therapy. RaySearch leads the innovative development in treatment planning systems and thereby plays an important role in the fight against cancer. Our vision is to improve people's lives and health.



### WHAT IS TREATMENT PLANNING?

Based on a three-dimensional image of the patient, the doctor marks out the tumor area and organs that are in the risk zone. Based on this, a radiation treatment is generated that meets the patient's needs. This is performed with a treatment planning system. RaySearch offers such systems for various kinds of radiation therapy, from the most basic to the most advanced.

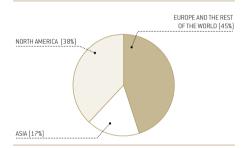
#### PROFIT, SALES AND NUMBER OF PRODUCTS



### FROM SCRATCH TO WORLD LEADER IN TEN YEARS

RaySearch was founded in 2000 as a spinoff from Karolinska Institutet. Today, the founders are still major shareholders in the company. In cooperation with the company's partners, 15 products have been launched on the market since the beginning. Seven of the products were introduced in 2009. In addition, RaySearch has signed licensing agreements concerning some 20 other products, that will be launched commercially in the next few years. These not only involve treatment planning, so they will lead to an expansion into related and complementing areas.

#### LICENSE SALES BY REGION 2009

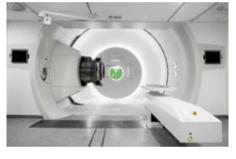


### **1,500 CLINICS IN 30 COUNTRIES**

RaySearch's products are widely used and can mainly be found in hospitals and clinics in North America and Europe. Today, their use in Asia is primarily concentrated to Japan, but China and India are large, potential growth markets. In total, more than 1,500 clinics in over 30 countries currently use RaySearch's products. Altogether, hundreds of thousands of treatments are provided annually based on RaySearch's products.

#### OUR PARTNERS





### SALES THROUGH PARTNERS

RaySearch has six leading commercial partners. RaySearch's solutions are included as integrated components in their respective treatment planning systems. These partners jointly control more than three quarters of the market for treatment planning systems. Thanks to this, RaySearch reaches out to a large part of all cancer clinics worldwide. As a result of these commercial partnerships, RaySearch does not need a global sales force, but can rather focus its resources on research and development.

### FOCUS ON RESEARCH AND DEVELOPMENT

The basis of RaySearch's leading position is close cooperation with scientific institutions worldwide. In addition, RaySearch also collaborates closely with clinical partners to ensure RaySearch's practical expertise. One example is the development project in proton therapy together with the German clinic, WPE. This cooperation has resulted in extremely advanced solutions that will benefit the other forms of therapy on both the long and short term.

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### LEADING THE WAY IN CANCER TREATMENT.

Last year, nearly eight million people died of cancer worldwide. More than 12 million new cancer cases were also discovered. The fight against cancer is without a doubt one of the greatest challenges facing medical science.

There is hope, however. Since the 1970s, the proportion of patients that survive cancer long term has risen by 50 percent. Today, nearly two out of three cancer patients survive. This is due in part to an increase in the resources for fighting cancer and in part to improving treatment techniques.

In this development, radiation therapy has emerged as the most common treatment thanks to its clinical advantages and its cost-effectiveness. Today, more than half of all cancer patients are treated with radiation therapy. The key to success for this method is the possibility of adapting the radiation dose to each individual patient with high accuracy.

RaySearch is a world leader in developing advanced software for radiation therapy. Today, our solutions are used successfully in more than 1,500 clinics in over 30 countries. Our expertise is at the cutting edge in the fight against cancer.

### RAYSEARCH Plays an important role

### 1 DIAGNOSIS

First, the cancer patient undergoes a comprehensive examination. The type, origin and extent of the tumor are carefully mapped. This is performed with methods including computed tomography, which provides a three-dimensional image of the tumor and the surrounding organs. This image plays a crucial role in the upcoming radiation treatment.

### (2)

### PRESCRIPTION

The physician then formulates a radiation treatment prescription. It includes information about what areas are to be treated, what total dose is required, how many treatment sessions are needed and which healthy organs must be taken into special consideration.



### FOLLOW-UP

After a treatment is concluded, it is followed up in a structured manner. An extended period of time may pass before the spread of cancer can be ruled out and the patient can thereby be given a clean bill of health. By carefully documenting the planning and implementation of radiation treatment, an important basis is created for evaluation and knowledge exchange.

RaySearch's challenge is to support radiation therapy clinics so they can provide better treatments to more patients with increasingly better precision. This figure describes the complex workflow in such a clinic and where RaySearch's products are used.



RAYSEARCH IS INVOLVED HERE

### SIMULATION

When treatment planning and dose optimization are complete, the radiation treatment is simulated and controlled in a full-scale model of the linear accelerator. With the help of various aids, tests are used to work out the best way to position the patient so that each treatment can be performed with the patient in exactly the same position.



### TREATMENT PLANNING

Based on the 3D image, the physician marks out the tumor area and organs at risk. Nurses and hospital physicists then create a radiation treatment that meets the physician's requirements. This is achieved with the help of a treatment planning system. RaySearch offers treatment planning products for various kinds of radiation therapy, from the most basic to the most advanced.

### TREATMENT

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The treatment is provided in fractions, usually once a day, five days a week, over six weeks. Each treatment session takes a few minutes. Before the first treatment, quality assurance is carried out to verify that the planned dose matches the real dose that will be provided by the linear accelerator. Quality assurance is a part of RaySearch's expertise.



### AT THE FOREFRONT OF DEVELOPMENT, WHICH IS ONLY IN ITS INFANCY.

FOLLOWING SEVERAL YEARS OF INTENSE DEVELOPMENT WORK, a large number of new products were launched with our partners in 2009. These new products began generating substantial revenues toward the end of the year, while at the same time our existing products continued to sell well, thereby enabling us to exceed all of our prior financial results. During the fourth quarter of 2009, revenues increased to SEK 36.4 M, up a full 70 percent compared with the fourth quarter of 2008, which at that point was the strongest quarter ever experienced in RaySearch's history. As a result, the full-year as a whole was also strong, with net sales up 33 percent to SEK 83.7 M. The profit for the year rose to SEK 30.1 M, corresponding to an increase of 65 percent compared with 2008.

### LAUNCH OF SEVEN NEW PRODUCTS

The most important new product was our solution for volumetric modulated arc therapy (VMAT), which is currently the most important trend in the market. Our partner Philips began marketing the new product as an integrated module in their system in April. An order backlog was accumulated during the summer and autumn, and the roll-out to clinics began in November. Thanks to strong demand for VMAT, the launch was highly successful and generated favorable volumes. RaySearch has a large installed base among Philips' clinics so this product will remain one of RaySearch's key products for a long time. Nucletron also launched a version of our VMAT solution in September. In parallel, they launched another product for model-based segmentation (MBS). Both products are now being sold as integrated modules in Nucletron's treatment planning system. Deliveries commenced in December and were met by favorable demand, particularly for the VMAT solution. In addition, three new products were launched in June as part of our partnership with Varian. The products, which comprise treatment planning modules for the optimization of conventional 3D-CRT, radiobiological evaluation and radiobiological optimization, are integrated modules in the latest version of Varian's treatment planning system. An important milestone was reached when deliveries of these products commenced toward the end of the year. Although volumes have been small to date, Varian has a very large installed base, which means the potential is substantial. We have a strong relationship with Varian and maintain a very close dialog, so I am confident that sales of these products will gain momentum in 2010.

Finally, TomoTherapy also began to accumulate an order backlog for the new product from RaySearch, which was launched in 2009. Deliveries will start during the first six months of 2010.

### MIXED TREND FOR EXISTING PRODUCTS

As for our portfolio of existing products, we experienced a volume increase for the products we sell through IBA Dosimetry and a downturn in the products sold through Philips, while sales through Nucletron remained largely unchanged compared with the preceding year.

In the summer, IBA Dosimetry launched a new version of our jointly developed quality assurance system. The new version offers support for VMAT treatments, making the system even more competitive. Thanks to this expansion, "The year 2009 was extremely successful for RaySearch, with several exciting product launches. The new products began generating substantial revenues toward the end of the year, leading to a revenue increase of a full 70 percent in the fourth quarter. I can therefore state that we have entered a new phase of growth and are very well prepared for the future."

we are now starting to experience an improvement in sales. We are also working to expand the system in 2010 to include advanced adaptive functionality which will further increase the sales potential.

The decline in sales through Philips was not unexpected, since it was largely attributable to the US market being hit hardest by the financial crisis in 2009. The products have also been on the market for a long time, so a certain decline is natural. Support revenues from the first product we developed declined from the second quarter, since the product requires less maintenance after nearly nine years on the market.

### **PIONEERING AGREEMENT**

One of our most important projects during the year was the development of a treatment planning system for proton therapy for the German clinic, Westdeutsches Protonentherapiezentrum Essen (WPE). Proton therapy is one of the most advanced forms of radiation therapy and is a key future area for Ray-Search. The agreement with WPE represents our first commercial proton order and was signed in June, when the first part-delivery took place.

The system will not be integrated into any partner system, but is based on RaySearch's proprietary RayStation platform. In addition to the optimization of proton treatments, the system will contain comprehensive support for adaptive radiation therapy. By adapting the treatment to changes occurring in the anatomy during and between treatment sessions, the precision of the treatment can be further improved. Adaptive therapy has been a prioritized research area for RaySearch for many years and this will be the first time that our expertise in the field will benefit clinics. The project is progressing as planned and a major part-delivery was made in December. The system is scheduled to be fully developed and clinically operational during 2010, at which point it will be the most advanced proton treatment planning system in the market.

In the area of proton therapy, we also participated in a tender process during the year for a treatment planning system for the Skandion Clinic, a proton therapy center being built in Sweden. The tender was initially won by another supplier. The results were contested and the decision was overturned so a new procurement process will thus be carried out. We will participate in this new tender, which is expected to be decided in 2010.

### **COMPREHENSIVE COOPERATION WITH SIEMENS**

Another project to which we are currently allocating major resources is the partnership with Siemens, which commenced in May. Siemens is one of the leading global suppliers of radiation therapy equipment. Under the agreement with Siemens, RaySearch will provide several different advanced treatment planning modules. The modules are integrated into Siemens' integrated workflow solution for radiation therapy. In November, this collaboration was expanded to include a number of additional modules and the release date was brought forward. The collaboration is now expected to generate revenues for RaySearch in the second half of 2010.

### LONG-TERM VENTURE

During 2009, we boosted our development capacity by recruiting new developers. Combined with the resources freed up following the conclusion of several projects, this will enable us once again to invest resources in more long-term development work, which is necessary if RaySearch is to strengthen its position as the leading developer of advanced radiation therapy software. Another cornerstone of this strategy is to collaborate directly with a few selected leading research-intensive clinics, such as WPE, as a complement to our existing partner-based business model. This type of collaboration will give RaySearch the freedom to develop innovative solutions directly in a clinical environment, which is a prerequisite for securing the company's long-term position as a leading supplier.

### **FAVORABLE CONDITIONS FOR CONTINUED GROWTH**

Looking forward to 2010, we have now entered a new phase and are much stronger than we were a year ago. The product portfolio has doubled in size and our new products should enable us to continue to grow. However, during the next few quarters, it will be difficult to match the record-breaking sales reported in the fourth quarter, which included deliveries of an order backlog that had been accumulated during most of 2009. On the other hand, the most severe effects of the financial crisis appear to have receded and the uncertainty concerning reimbursement levels in the US healthcare system has waned, paving the way for better conditions for a favorable underlying market trend than in 2009.

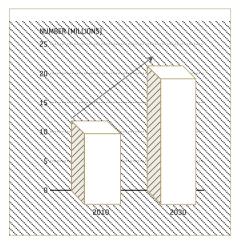
We also have many exciting products scheduled for completion in 2010, including our first products for Siemens and the complete delivery of our proprietary system to WPE. Moreover, we are discussing the possibility of expanding several of our partnership agreements and are currently developing a number of new, highly attractive solutions that have not yet been unveiled. All of this combined gives us a strong foundation for continued long term growth.

With our cutting-edge expertise, we are well positioned to remain at the forefront of continued development, with the ambition of improving people's lives and health.

Johan Löf President, RaySearch Laboratories AB

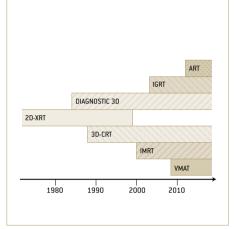
### STRONG DRIVING FORCES BOTH EXTERNALLY AND INTERNALLY.

RaySearch's business concept is to develop and provide innovative software for more effective radiation therapy of cancer. The business is founded on the ambition of improving people's health and lives by shortening the time required for the deployment of new scientific achievements in radiation therapy in clinical applications. The overall objective is to make RaySearch the leading supplier of advanced software in radiation therapy. The business model has been developed to support this goal.



### A GROWING NEED

Cancer is one of the major global public health problems. At present, more than 12 million people are afflicted by cancer every year. According to various estimates, this figure will rise to approximately 20 million by 2030. Radiation therapy is the most cost-effective way of treating cancer. The key to successful radiation therapy is for treatment planning systems to be developed so that they provide increasingly more accurate treatment.



### **BROADER RANGE OF PRODUCTS**

Since the beginning, RaySearch has been focused on treatment planning systems in the radiation therapy area called intensity modulated radiation therapy (IMRT). Here, RaySearch is currently the world leader. Gradually, RaySearch has also successively expanded into other areas, including conventional radiation therapy and the increasingly complex methods being introduced. RaySearch is a world leader here too. The high pace of product development that RaySearch maintains is possible thanks to a flexible software platform.

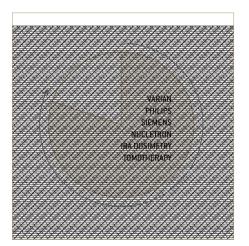
### **CURRENT POSITION**

RaySearch's treatment planning system is used at more than 1,500 cancer clinics in over 30 countries.

### **CURRENT POSITION**

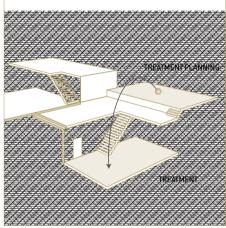
RaySearch has 15 different products in all areas of radiation therapy.

Growing numbers of people are being afflicted by cancer and the methods for treatment must continuously be improved. RaySearch's driving force is to develop leading treatment planning solutions for all kinds of radiation therapy. By cooperating with leading commercial partners, sales can increase without increasing costs. The strong position held by RaySearch in treatment planning provides a platform for expansion into other areas of the treatment chain.



### WORLD-LEADING PARTNERS

RaySearch has three kinds of partners: commercial partners, research partners and cutting-edge clinical partners. RaySearch's overall business model is based on a commercial partnership with leading medical technology companies. These partners are responsible for global sales and service to end customers. The basis of RaySearch's leading position is close research cooperation with scientific institutions worldwide. In addition, cooperation is pursued with clinical partners to safeguard RaySearch's cutting-edge expertise in practice.



### **EXPANSION IN THE THERAPY CHAIN**

RaySearch's traditional platform in treatment planning provides considerable opportunities to broaden the business. There are many applications in the treatment chain where RaySearch can constitute a strategic supplier based on its expertise and technical platform, for example in areas such as quality assurance, image processing in diagnostics and products in adaptive radiation therapy. RaySearch has begun this journey towards a broader product range.



In the early 1970s, only around 40 percent of all cancer patients survived. By improving the diagnosis and treatments, the survival rate has increased to around 60 percent today. This positive trend is expected to continue. More people will be afflicted by cancer, but a larger proportion is expected to be cured of their disease through further refinement of the techniques. With its unique expertise, Ray-Search seeks to be a driver of this development.

### **CURRENT POSITION**

RaySearch currently has licensing agreements with six commercial partners, whose combined market share accounts for more than three quarters of the global treatment planning market.

### **CURRENT POSITION**

RaySearch has launched market leading products for quality assurance and is in the final phase of development with the first products for adaptive therapy.

#### **CURRENT POSITION**

RaySearch invests 60 percent of its sales in research and development.

A GROWING NEED

### MORE PEOPLE GET CANCER, BUT TWO OUT OF THREE SURVIVE.

More than 12 million people worldwide were afflicted by cancer last year. This number is estimated to increase to approximately 20 million per year by 2030. At the same time, improved diagnosis and treatments enable growing numbers of cancer patients to survive. At the beginning of the 1970s, 40 percent survived cancer. Today, the corresponding figure is around 60 percent and is expected to rise.

THE SPREAD OF CANCER has grown continuously since the 1950s which is the starting point for available statistics. In the Western World, twice as many cancer cases are registered today as 50 years ago.

More than 12 million people worldwide were afflicted by cancer last year. Various estimates indicate that the number of cancer cases in the world is continuing to rise. According to the estimates, more than 20 million people will be afflicted by cancer every year in 20 years' time. This is an increase of 70 percent compared with today.

The rise will be significantly lower in the US, Europe and Japan than in the emerging markets, which are beginning from a lower level. In Brazil, Russia, India and China (BRIC), an annual increase of 4.5 percent can be compared with the global increase of 3 percent, for instance. This higher level is based on a longer anticipated life expectancy and the fact that lifestyle will change increasingly towards the Western way of living.

### **GROWING NUMBERS SURVIVE CANCER**

Statistically, 7.6 million people died from cancer last year. This accounts for 13 percent of registered fatalities in the world. The number of deaths due to cancer is expected to continue to rise and to reach 12.9 million by 2030. This is an increase of 60 percent, but is lower than the rate of increase for new cancer cases. Consequently, it is forecast that we will become more successful in the fight against cancer.

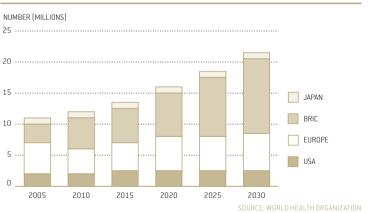
This expectation is based on increasing resources being mobilized in this area. The methods of diagnosing cancer are becoming more effective and better utilized. The treatment techniques will be refined. Today, 60 percent of all cancer patients survive, a significant increase compared with the early 1970s when the proportion was only around 40 percent. This positive trend is expected to continue.

### **CHINA AND INDIA DRIVERS**

Demand for resources will be particularly strong in China and India. The cancer care in these countries is generally not on a high level today, but the anticipated strong economic growth in this part of the world will create opportunities in this area.

Today, 52 percent of all cancer cases are recorded in low and middle-income countries, where the possibilities of diagnosis and treatment are limited as yet. This is reflected in these countries accounting for a larger proportion of deaths, at 59 percent. This should be placed in relation to the significant increase in the number of cancer cases that have been discovered, treated and cured in the wealthier part of the world in recent decades.

#### CANCER PATIENTS, WORLDWIDE 2005–2030



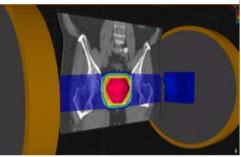
# *"Treatment with proton therapy minimizes the side effects."*





STIG STÅLHAND was diagnosed with prostate cancer in the spring of 2008. To avoid side-effects, Senior Physician Kristina Nilsson at Uppsala University Hospital decided, in consultation with Stig, that the treatment should include proton therapy. The treatment took place in early 2009.

**RADIATION THERAPY** was provided for a period of six weeks. Stig received proton treatment over these weeks. He was one of the first patients to receive improved cancer treatment planned with RaySearch's system for proton treatment planning.





**SINCE THE TREATMENT**, Stig has undergone three followup examinations. Today, he has recovered completely from the cancer and has no symptoms at all.

### RADIATION THERAPY IS GROWING AND BECOMING MORE ADVANCED.

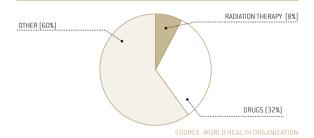
Radiation therapy is the most common and most cost-effective way of treating cancer. Today, there are over 9,000 linear accelerators for radiation therapy throughout the world. In order to provide effective treatment, increasingly more advanced treatment planning systems are needed. RaySearch is a world-leading innovator and developer in this area.

THERE ARE THREE MAIN techniques for treating cancer: surgery, radiation therapy and chemotherapy. Of these, radiation therapy is the method that has grown the most in the past 10-15 years. Today, about half of the cancer patients in the industrialized world are estimated to be treated with radiation therapy, often in combination with surgery or chemotherapy.

In the US, which leads development in this area, the use of radiation therapy accounts for approximately 60 percent of treatments. In Europe, the level is 30-50 percent and, in Japan, it is only 25 percent to date.

Radiation therapy is a cost-effective way of treating cancer compared with other methods. A Swedish study from 2003 shows that radiation treatment accounts for less than 10 percent of the costs of combating cancer. This should be placed in relation to the fact that nearly half of the cancer patients are treated with this method.

COSTS OF CANCER TREATMENT IN THE WESTERN WORLD

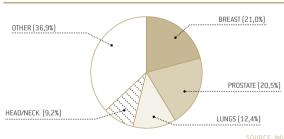


#### SIX WEEKS' TREATMENT

Radiation therapy can be used to treat nearly all kinds of cancer. The most common areas of use are breast, prostate, lungs and head/throat. These areas account for approximately 2/3 of all radiation treatments.

The objective of radiation therapy is to damage DNA in the cancer cells. This can be done with photons, electrons, protons, neutrons or ions. When the DNA in a cell is damaged, the cell attempts to repair itself. Cancer cells have an impaired capacity to do so. Consequently, their ability to survive and divide also decreases after radiation treatment. Although healthy cells have a greater chance of recovering and surviving the radiation dose, the objective is of course to focus the radiation to the greatest possible extent on the cancer cells. The radiation treatment is given to the patient with the help of a linear accelerator. The treatment is divided up into fractions (treatment sessions). Treatment is usually carried out once a day, five days a week, for approximately six weeks.

#### TREATMENT LOCATIONS ON THE BODY



### **A USD 3.5 BILLION MARKET**

In total, the market for radiation therapy equipment is estimated to generate sales of USD 3.5 billion annually. Linear accelerators account for around half. The remainder relates to other hardware and software, such as treatment planning and information systems.

Today, just over 9,000 linear accelerators are installed throughout the world. The largest manufacturers are Varian from the US, Elekta from Sweden and the Siemens from Germany. Increasingly advanced hardware is the trend. However, the area of treatment planning represents an equally large challenge in radiation therapy. The precision and effectiveness of the machines are closely tied to the methods for the actual treatment being, refined and made more exact. RaySearch plays a leading role in this development.

### NEW TREATMENT TECHNIQUES DRIVING DEVELOPMENT



### WHAT IS A TREATMENT PLANNING SYSTEM?

Put simply, a treatment planning system consists of software that is used to more exactly and accurately control the radiation treatment. It is a combination of a CAD tool, a simulator and a database.

Planning starts with radiologic images of the cancer usually generated through computed tomography. Using the images, the physician defines the extent and shape of the tumor in three dimensions and prescribes the radiation dose with which it will be treated.

With the help of the treatment planning system, all treatment parameters can then be simulated and are visualized so that the treatment can be optimized. This results in a control program for the radiation machine.

### **RAYSEARCH'S ROLE**

Worldwide, the four companies Philips, Varian, Elekta and Nucletron jointly account for the predominant share of sales of treatment planning systems. Today, RaySearch has partnerships with all but Elekta.

These large medical technology companies have the option of developing software in-house or outsourcing development work, to RaySearch for instance. These companies usually focus on the areas in which they have the greatest expertise and seek a partner with complementing competencies. The more advanced solutions RaySearch can offer to develop, the greater the likelihood that these companies will commission RaySearch for assignments based on the specialist expertise the company possesses.

There is a trend towards commercial partners being more open to cooperation. This is because development is accelerating, new treatment techniques are being introduced and new forms of cooperation have evolved in this area. Since our commercial partners are responsible for both sales and service to end customers, RaySearch does not need a global sales organization. We can focus our full resources on advanced research and development.

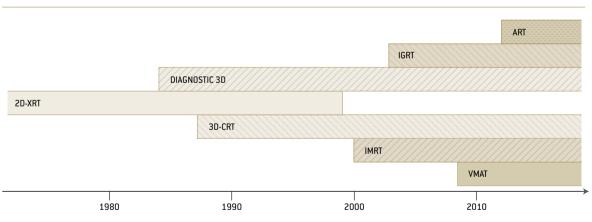
The market size for treatment planning systems was USD 390 million in user sales in 2009. RaySearch had sales of SEK 83 million.

### **NEW METHODS DRIVING DEVELOPMENT**

Development is rapidly moving towards more advanced methods for radiation therapy. Traditional 3D-CRT is still the most common method, but in the US, which is at the cutting edge of radiation therapy, 30-40 percent of all treatments are already performed using newer techniques. The new treatment techniques that are rapidly emerging have the objective of avoiding the compromises that 3D-CRT entails. The challenge is increasing the dose to the tumor without increasing the risk of damaging healthy tissue.

RaySearch is a leader in terms of developing advanced software that supports these new techniques. Even within 3D-CRT, however, much more remains to be done to improve this treatment method. Treatment planning for 3D-CRT is very time-consuming, since it involves a considerable amount of manual labor to identify the right treatment parameters. Accordingly, in partnership with Varian, RaySearch has developed a product that automatically calculates optimal parameters, thus saving time and improving treatment plans.

The table below provides an overview of various treatment methods and their principal characteristics and advantages. The methods are described in greater detail in the section below the table.



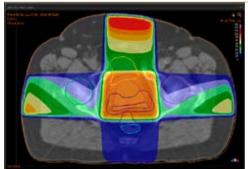
### **DEVELOPMENT OF RADIATION TREATMENT TECHNIQUES**

Until the mid-1980s, the technology was driven by only twodimensional images being available as a basis.

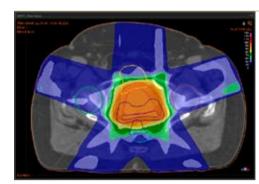
In connection with the introduction of 3D systems, it became possible to begin treating with more beams with adjusted beam angles and thereby better protecting adjacent healthy organs. With the introduction of the multileaf collimator, it also became possible to more easily adjust the shape of the beam to the tumor.

Intensity Modulated Radiation Therapy (IMRT) also became possible thanks to new advanced software. By modulating the intensity of the beams, treatment can be better adapted to the tumor's shape. Volumetric Modulated Arc Therapy (VMAT) is a refinement of IMRT. The machine rotates at the same time as the beam is activated and the treatment process can thereby be shortened.

Image Guided Radiation Therapy (IGRT) is based on imaging systems (2D or 3D) integrated with the linear accelerators. This makes it possible to make adjustments in relation to the tumor's actual position in connection with each treatment. In adaptive radiation therapy, the dose distribution is adapted to the tumor's position and shape at the time of each treatment. In addition to integrating the 3D imaging system into the linear accelerator, more advanced software is required.



Beams with adapted angles of approach to protect organs at risk.



Intensity modulation of the beams provides more possibilities of adapting to the tumor's shape.

### **3D-CRT** TODAY'S STANDARD METHOD

Until the 1980s, radiation therapy was administered according to the 2D-XRT technique (external beam radiotherapy). Two dimensional x-ray images formed the basis of treatment. The shape of the beam was determined by a template customized to each occasion. This was a very time consuming and expensive process.

The breakthrough for three-dimensional conformal radiation therapy (3D-CRT) was based on two crucial developments. The first was computed tomography and its possibilities of showing a three-dimensional image of the cancer. The second was the introduction of the multileaf collimator (MLC) in the mid-1990s, which replaced the customized templates and created entirely new possibilities for more effective treatment. The collimator has an ingenious system of metal leafs that can be steered and changed to adapt the cross-section of the beam with the help of software.

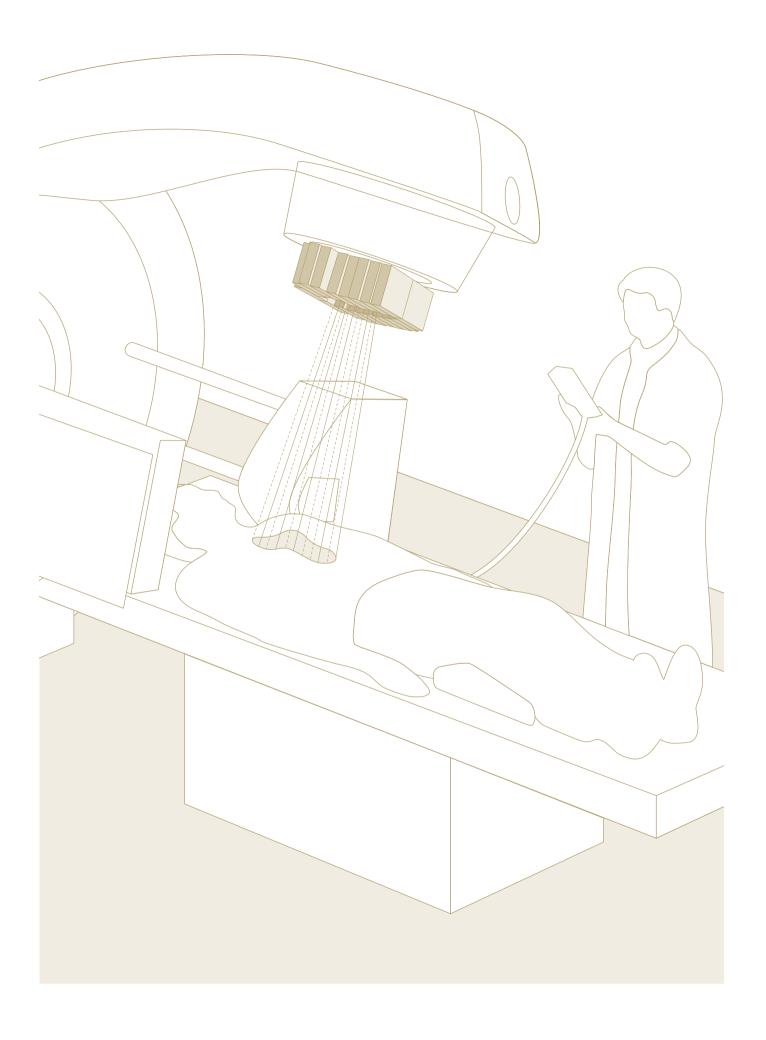
Three-dimensional conformal radiation therapy is the standard treatment of today and currently 80–90 percent of all radiation therapy is performed with 3D-CRT. The tumor is homogeneously radiated from multiple fixed angles and each beam is shaped to match the tumor's cross-section from that particular direction. 3D-CRT is often effective, but has limitations. Physicians are forced to compromise when treating tumors with a complex shape. The compromise is between reducing the dose to protect adjacent healthy tissue and increasing the dose to improve control of the tumor, but at the risk of damaging surrounding healthy tissue.

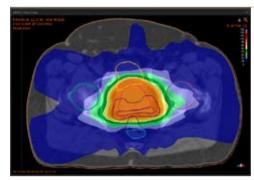
### MRT A MAJOR STEP FORWARD

Intensity modulated radiation therapy (IMRT) was introduced at the beginning of the millennium. This method is a refinement of 3D-CRT and is performed with the same hardware. The radiation is still applied from fixed beam angles. The improvement lies in the possibility to divide each beam into segments of different shapes and intensity. The intensity can thereby be controlled and varied over the cross-section of the beam. The precision increases so that the actual tumor can be given a higher dose even if it has a complex shape. Healthy tissue is saved in a controlled manner.

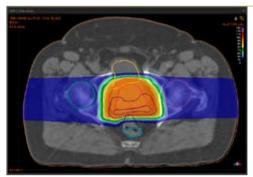
IMRT demands a more advanced treatment planning system. IMRT was actually the starting point and the springboard for the establishment of RaySearch. It was in this area that the company launched its first products. Today, RaySearch's IMRT products are installed at more than 1,500 clinics in more than 30 countries. Consequently, they are the most widespread IMRT products in the world and have established a standard in this area.

Most of the products are used in the US, where IMRT has made the most rapid breakthrough. This is due largely to good reimbursement levels from insurance companies that view this method as being more effective than 3D-CRT. Approximately 40 percent of all radiation treatments in the US are performed using IMRT. In Europe, the proportion of IMRT treatments has not yet passed 15 percent. The method is well established, but large national variations in the acceptance of the technology exist.





The beam is activated at the same time as the machine rotates, enabling more rapid treatments.



The physical characteristics of protons allow more precise dose distributions with greater protection for surrounding organs.

### **VMAT** INCREASES CAPACITY

Development is progressing rapidly. In 2007, the hardware suppliers Varian and Elekta launched the solutions that enable volumetric modulated arc therapy (VMAT). The hardware is the same as for IMRT. The difference is that the tumor is continuously radiated at the same time as the radiation source rotates in one or several arcs around the patient. The major advantage compared with IMRT, where the radiation source stops and the beam is turned on at a number of fixed angles, is that treatment with VMAT can take place much faster. The quality of the treatment remains the same. Compared with IMRT, VMAT enables the treatment of an additional 6–8 patients a day with each linear accelerator with the time gained. This means a 10–20 percent capacity improvement.

The market has shown great interest in VMAT. In 2009, RaySearch launched products with both Philips and Nucletron that enable the planning of VMAT treatments with their respective systems.

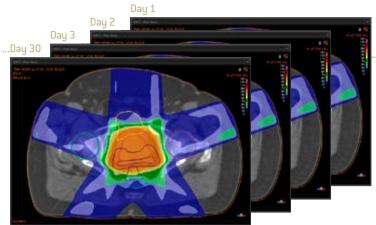
### PROTON HIGHEST PRECISION

Conventional radiation therapy is carried out with photons. Using protons or carbon ions instead of photons is a very promising form of therapy that is gaining ground. The advantage of protons is that they can be controlled to deliver the dose with millimeter precision without damaging posterior tissue. The treatments thereby become even more precise and effective than with IMRT.

The disadvantage is the cost. Particle acceleration requires advanced equipment and considerable space. The total investment to establish a proton center is extensive, on a scale of SEK 500 million to over SEK 1 billion. A carbon ion center is even more expensive. Today, there are around 30 proton centers throughout the world. An additional 20 or so are being built or are being planned. To date, approximately 60,000 patients have been treated with proton therapy. Emerging price pressure on accelerators and additional evidence of clinical benefits will further increase the number of centers and thereby also the demand for treatment planning systems for them.

RaySearch sees several reasons to lead the development in this area. On the one hand, the order value for planning and optimization systems for these centers is on a very high level. On the other, it gives us the possibility of further flexing our innovative muscles and showing that we have true cuttingedge expertise in treatment planning.

RaySearch has treatment planning agreements for proton therapy with both Varian and Nucletron. Since 2008, our system has been used in clinical practice by Uppsala University Hospital for the proton treatments provided at the Svedberg Laboratory. One major breakthrough is the licensing and partner agreement signed in 2009 with Westdeutsches Protonentherapiezentrum Essen (WPE), under which RaySearch is supplying a complete treatment planning system for patient treatments. It is without a doubt the most advanced proton solution on the market and contains the most modern tools and algorithms for dose calculation and optimization that are necessary to fully utilize the potential of proton therapy.



Adaptive radiation therapy adjusts the dose distribution to the tumor's position and shape over the course of treatment.

### IGRT/ART NEXT STEP: ADAPTIVE RADIATION THERAPY

A month-long treatment course is based on diagnostic images generated before the first treatment. However, over the course of treatment, changes can occur with regard to the shape and position of both the tumor and the surrounding healthy tissues, resulting in a risk that healthy tissue is damaged unnecessarily or that the tumor does not receive a sufficient dose of radiation.

Traditionally, these uncertainty factors have been handled by defining the treatment area with a sufficiently large margin around the tumor. This ensures that the tumor really receives a sufficient dose over the six weeks that the treatment normally takes. The disadvantage is that healthy tissue is irradiated. With adaptive radiation therapy, the changes in the patient's anatomy that occur during ongoing treatment can be taken into account and adjusted for. Corrections can also be made for any errors that may occur during the treatment process.

Many linear accelerators already have integrated systems for patient imaging in connection with the treatment. This is a prerequisite for being able to monitor changes. Prior to each treatment, a new image of the patient is generated. This image is matched with the original diagnostic image. If deviations occur, the position of the treatment couch is automatically adjusted so that the radiation can be applied with greater precision. This is called image-guided radiation therapy (IGRT).

IGRT involves no changes of the treatment plan supplied, but is an important first step toward adaptive radiation therapy. By introducing adaptive therapy, even greater adaptation is ensured with regard to the patient's movements, such as breathing, and the tumor's movement and change in shape – both between treatments and during each specific treatment session. Intensive development work is anticipated in this area in the next 5-10 years. The speed of this process will be determined by the proven clinical benefit and how the US insurance system allocates its resources. In the foreseeable future, this development will be a complement to IMRT and will not negatively affect the revenue potential for RaySearch in this area. Adaptive radiation therapy will demand greater integration of planning and treatment. In turn, this will place greater demands on advanced software.



**WPE** (Westdeutsches Protonentherapiezentrum Essen) is a proton therapy center being built adjacent to the University Hospital in Essen, Germany.

### The world's most advanced system for proton therapy.

treatment planning solution with full support for adaptive therapies, taking full advantage of the latest 4D imaging technology. In the end RaySearch was the only supplier that could live up to our demands. We feel that they share our vision of the future of radiation therapy so I must say it feels very rewarding to collaborate with them to break new ground in our field. Jonathan Farr, Chief Physicist WPE



**THE FACILITY AT WPE** is scheduled to be fully developed and in clinical use in 2010.







**"WE ARE CONVINCED** that this will provide considerable clinical benefits, especially for patients with moving tumors, which have been difficult to treat to date."

Professor Martin Stuschke, Clinical Director, WPE

**WPE WILL BE** one of the most advanced clinics in the world with a vision of offering treatments that are truly pioneering. RaySearch is responsible for development and support of the center's software solution. It is the most advanced proton solution on the market. A GLOBAL SUPPLIER

### RAYSEARCH IS PRESENT AT 1,500 CLINICS IN MORE THAN 30 COUNTRIES.

Users of RaySearch's products are found in clinics that perform radiation treatment of cancer. They are physicians, nurses and medical physicists who all strive to offer their cancer patients the best possible treatment. RaySearch's mission is to help clinical staff over both the short and long term to improve the results, safety and effectiveness of radiation therapy.

**IN TOTAL, RAYSEARCH'S** solutions are used at more than 1,500 clinics in over 30 countries. The distribution of these clinics is shown in the world map on the next page. As can be seen, radiation therapy is most common in the US, Europe and Japan. China and India are among the major growth markets. Altogether, hundreds of thousands of radiation treatments are provided annually based on RaySearch's products.

### DRIVING FORCES IN THE MARKET

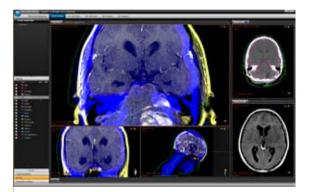
The clinics' physicians, physicists and nurses want to optimize radiation treatments, make the therapy flow more efficient and limit side effects. With the help of new, efficiency-enhancing solutions, primarily involving software, the clinical staff can treat more patients, and at the same time devote more time to each patient. Better care, to put it simply.

For the clinics, the ability to offer the latest technology for radiation treatment is a competitive advantage. It creates a sense of security among the patients, but the most important factor is of course that with more modern technology, the precision increases and better tools are provided to control the tumor. The risk of relapse and side effects is reduced. The high introduction pace for new and more effective treatment techniques is a strong driver of the development of clinics.

### MANY DECISION INFLUENCERS

In the clinics, several different personnel groups influence decisions regarding the treatment tools to be purchased. Physicians are often the primary decision makers with respect to the treatment provided and the equipment and techniques used by the hospital. It is also the physician who presents and discusses the treatment alternatives and treatment plans for the patient and is ultimately responsible for the treatment.

The hospital physicist plays a very important role in the treatment chain by developing the treatment plan and, as part of quality assurance, ensuring that the doses are administered in the manner prescribed by the plan. Accordingly, the hospital physicist often has great influence when a hospital chooses treatment planning and quality assurance systems.



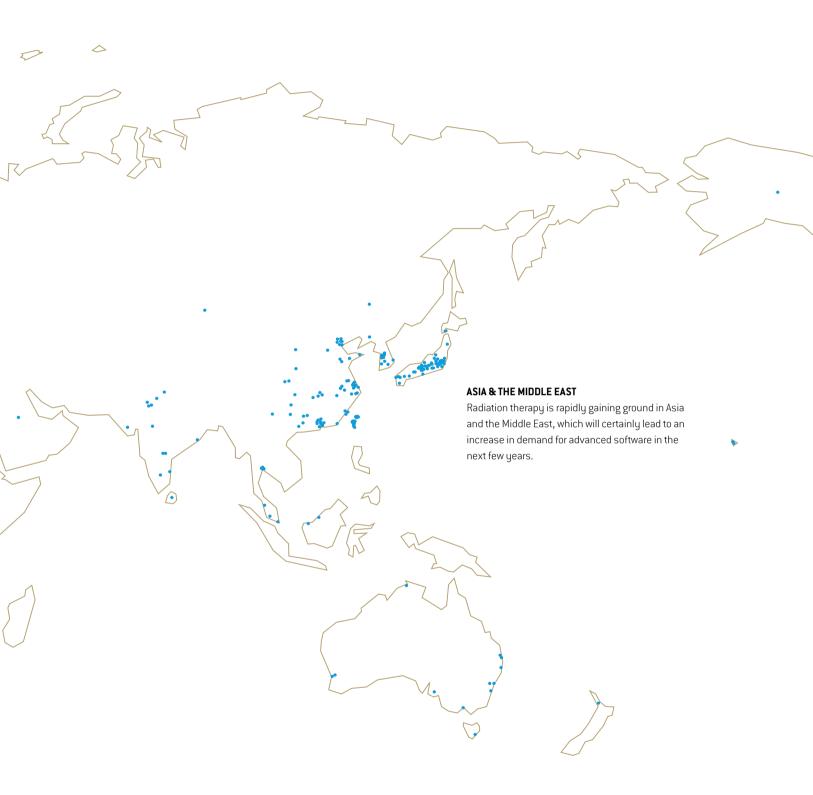
Images of the patient are produced with the help of two different technologies – computed tomography (CT) and magnetic resonance tomography (MR). RaySearch offers an automatic process for synchronizing the patient's position in the two images. This synchronization is necessary to be able to effectively combine the information from the images during treatment planning.

Oncology nurses are the persons who physically perform the radiation treatment of the patient and also plan the treatments when they become routine. Their main role is to take care of patients and ensure that the treatment progresses rapidly and effectively according to plan. For these oncology nurses, system reliability and efficiency are extremely important.

Another important target group is the clinics' technical support departments. Their specifications place indirect requirements on RaySearch's products.

In addition to the operative personnel groups, hospital management, which is responsible for income and finances, also participates in decisions. Management evaluates the financial and practical implications of investments in new technology.

RaySearch's products increase the efficiency of radiation therapy and the entire treatment process, thus strengthening the company's commercial partners in their sales to the clinics.



### EUROPE

In Europe, the rate of development in radiation therapy techniques varies greatly between clinics. A number of clinics have been providing IMRT treatments for some time, while others still need to improve their work methods before this thechnique can be taken into use.

### NORTH AMERICA

Development of radiation therapy is spearheaded by North America, since the US and Canada are very advanced in the implementation of IMRT.

### **15 PRODUCTS. 6 PARTNERS.**

Since RaySearch was founded in 2000, a total of 15 products have been launched on the market in cooperation with the company's partners. In addition to the introduced products, RaySearch has signed licensing agreements concerning another 20 products that are scheduled to be commercially launched in the next few years.

**IN 2009, SEVEN NEW RAYSEARCH PRODUCTS** were launched on the market. Three of them were related to the established partnerships with Philips and Nucletron, and four concerned the new partnerships with Varian and TomoTherapy. In one move, this resulted in a doubling of the number of RaySearch products on the market. Agreements concerning approximately 20 other products have been reached with existing partners and Siemens as a new partner. This will result in the continued expansion of the number of products. For example, the first products with Siemens are scheduled to be launched in 2010.

### A STRONG BASE IN TREATMENT PLANNING

Of the 15 products that have been launched commercially, 13 are related to treatment planning for various treatment methods – 3D-CRT, IMRT, VMAT and proton therapy. RaySearch is an innovative market leader in all of these areas. Treatment planning of IMRT was the starting point for the establishment of RaySearch and is an area in which the company has strengthened its position step by step through advanced research and product development. RaySearch's treatment planning products for IMRT are currently the most widespread in the world. In terms of treatment planning for proton radiation therapy, RaySearch's in-depth development work for the German WPE center has resulted in an extremely advanced solution. This work will also benefit other types of therapy, both long term and short term.

Based on its leading position in IMRT, RaySearch has taken the step back in the development chain and developed a solution for 3D-CRT, and also adapted the IMRT solution to VMAT. RaySearch's current development projects are for example related to the adaptive area.

### **EXPANSION INTO RELATED AREAS**

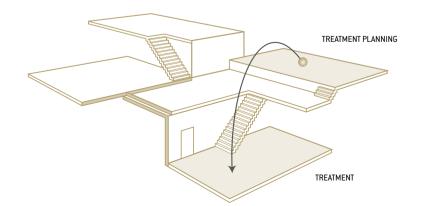
The unique expertise in the optimization of treatment plans possessed by RaySearch provides considerable opportunities for natural expansion into related and complementary areas. Examples of such areas include radiobiology, automatic treatment planning, clinical dose calculation, quality assurance and segmentation. RaySearch conducts extensive development work in all of these areas, which has already resulted in a number of products that are currently installed as integrated modules in our customers' treatment planning systems.

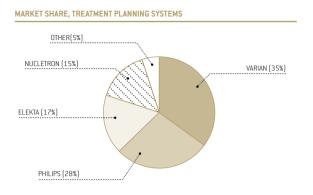
With the help of RaySearch's tools for radiobiological models, the physician can evaluate the probability of controlling a tumor and how large the risk is that a specific treatment plan will harm healthy tissue.

Automatic treatment planning entails automation of the actual preparation of treatment plans. This saves a great deal of time at the clinics and enables more time to be spent on evaluating and comparing multiple treatment alternatives.

To ensure that the correct radiation dose is provided to the patient, a large number of control measurements are made at the clinic to quality assure treatment before it is provided. This is time consuming and costly. RaySearch has developed a system that enables quality assurance by conducting control measurements in real time. This increases patient safety.

Segmentation is the process where a three-dimensional model of the tumor and the surrounding organs is created before the actual treatment is planned. This is a manual, time-consuming process. RaySearch has developed a product that radically enhances the efficiency of this process and improves the consistency from case to case.





### SIX COMMERCIAL PARTNERS

RaySearch's commercial partners are companies that develop and sell treatment planning or quality assurance systems to hospitals and clinics that treat cancer with radiation therapy. RaySearch's solutions are included as integrated components in the respective partner's treatment planning systems. Today, RaySearch has six partners that jointly control more than three quarters of the global treatment planning market. In total, RaySearch currently has eight licensing agreements with its partners, covering more than 30 products. Of these, 15 have been launched to date.

By cooperating with so many leading partners, RaySearch reaches out to a large share of all clinics worldwide. These partnerships are well defined: Based on its technology platform RaySearch focuses on developing products that provide increasingly better functionality and are adapted to today's and tomorrow's various radiation therapy techniques. The commercial partners are responsible for sales and service to end customers. This means that Ray-Search does not need a global sales organization, but can instead focus its resources on pioneering research and development. Philips, Varian, Nucletron and Elekta are the four leading suppliers of treatment planning systems. Together, they cover a large majority of the global market for these products. RaySearch has cooperation agreements with all of them except Elekta, which means RaySearch's products can be used in the majority of treatment planning systems used worldwide.

### PHILIPS: WORLD LEADER WITH A BROAD PORTFOLIO

Philips Medical Systems of the Netherlands is one of the world's leading suppliers of medical diagnostic equipment. Its product portfolio includes equipment for several different application areas. Philips' treatment planning business unit, Philips Radiation Oncology Systems, collaborates with RaySearch in the area of radiation therapy.

Philips was RaySearch's first commercial partner. The first agreement concerned an IMRT product launched in 2001. Supplemental products in this area have since been added and a product for VMAT treatments has also been introduced. In 2006, a long-term agreement was also entered into regarding a suite of

SUMMARY OF RAYSEARCH'S PARINERS	HIP5*				
	Philips	Nucletron	IBA Dosimetry	Varian	TomoTherapy
3D-CRT					
IMRT					
VMAT					
Adaptive radiation therapy			<b></b>		
Proton therapy		<b></b>		<b></b>	
Radiobiology			•		
Automated treatment planning					
Dose calculation	-				
Quality assurance					
Segmentation			•		<b></b>
			••••••		

### SUMMARY OF RAYSEARCH'S PARTNERSHIPS\*

Launched products

Licensing agreements

Excluding Siemens, for whom the first products are scheduled for launch in 2010.

### **"THE PARTNERSHIP WITH RAYSEARCH**

has been very fruitful for us and our customers. The combination of RaySearch's unique software expertise with our Dosimetry market and application knowledge has enabled us to develop a state of the art solution that has already now set a new standard in the dosimentry field. Together with RaySearch we plan exciting new future releases that will further increase safety and efficiency in Radiation Oncology."

Rob Plompen, President, IBA Dosimetry





Software from RaySearch, together with the new detector from IBA Dosimetry shown here, improves and enhances the efficiency of the quality assurance of IMRT that has been labor intensive until now.

products in adaptive radiation therapy. In total, Philips and Ray-Search currently have agreements concerning seven products.

#### NUCLETRON: A STRONG OFFERING IN RADIATION THERAPY

Nucletron has its head office in the Netherlands. The company specializes in products for cancer treatment. Its core competence is in the areas of brachytherapy and treatment planning.

RaySearch signed a license agreement with Nucletron in 2004 concerning a suite of products in the IMRT area. The package also included products for biological evaluation and optimization. In 2009, the agreement was expanded with products for VMAT treatment planning and model-based segmentation. The cooperation with Nucletron also encompasses a long-term development and licensing agreement concerning proton radiation therapy.

### **IBA DOSIMETRY: LEADER IN DOSIMETRY**

German-Belgian IBA Dosimetry is a leading player in advanced dosimetry and quality assurance solutions for clinical and industrial applications of radiation physics. The company supplies effective, reliable solutions for the diagnosis and treatment of cancer.

In 2006, RaySearch signed a long-term development and licensing agreement with IBA Dosimetry relating to three products for the quality assurance of IMRT and one for adaptive therapy. This agreement represented an important expansion of Ray-Search's business area and the first products reached the market in late 2007.

### VARIAN: MARKET LEADER IN CANCER TREATMENT

Varian Medical Systems, based in California, is the world-leading supplier of equipment for radiation therapy of cancer.

In 2007, a long-term strategic licensing agreement was signed between Varian and RaySearch, covering a total of four products. In 2009, two IMRT products for radiobiological evaluation and optimization and one product for optimization of conventional 3D-CRT plans were launched. The agreement also includes a product for proton therapy that has not been launched.

#### TOMOTHERAPY: A PARTNER WITH GROWTH AMBITIONS

The US firm, TomoTherapy, develops, manufactures and sells a unique, advanced radiation therapy system for the treatment of a variety of cancer forms.

RaySearch signed a license agreement with TomoTherapy in 2007. The agreement comprises the development of a suite of IMRT products that facilitate the transfer of treatment plans between a TomoTherapy system and conventional linear accelerators. This leads to a better balance in terms of the workload at clinics possessing different types of accelerators. The capacity of the clinics increases and more patients can be treated. The first product was launched in 2009.

#### SIEMENS: A GIANT IN MEDICAL TECHNOLOGY

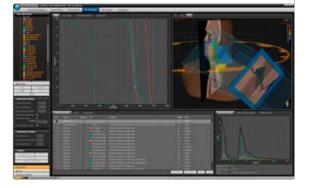
The German company, Siemens Healthcare, is one of the world's largest suppliers of medical equipment, including radiation treatment of cancer. The company supplies solutions that encompass the entire value chain – from preventive care and early discovery to diagnosis, treatment and post-treatment care.

In 2009, RaySearch signed an agreement with Siemens concerning the development of a number of planning modules. The market launch is scheduled to take place in 2010.

# *"Treatment planning is problem solving. Consequently, having the best tools is essential."*



"DEVELOPMENT IN TREATMENT planning is ongoing continuously," says Elizabeth Morhed, oncology nurse at Uppsala University Hospital. She works with RaySearch's products for both photon and proton therapy. "Consequently, it is important to always have access to the latest software." **"IT PROVIDES THE PATIENTS** with a sense of security that we can offer the most modern technology for radiation therapy," says Elizabeth Morhed.





"A GOOD PLAN is one that ensures that as little dose as possible ends up outside the tumor. Achieving this demands team work between doctors, physicists and oncology nurses together with a good system for treatment planning."



**ULF ISAKSSON IS A HOSPITAL PHYSICIST AT** Uppsala University Hospital. This is what he says about the collaboration with RaySearch: "Development in the therapy field is rapid. One of the problems is that the hardware sometimes cannot keep up when new software is introduced. We have a close relationship with RaySearch and are often involved in discussions, trying new ideas and making sure we can get the practical aspects to work."



### A GREENHOUSE FOR STATE-OF-THE ART EXPERTISE.

RaySearch's research is conducted both in house, and in close collaborations with leading hospitals and universities. The objective is to conduct long-term studies of new methods and technologies in the field of radiation therapy. The development of new products is usually based on licensing agreements with a partner. The aim is to create commercially successful products in the shortest time possible by applying the research results.

RAYSEARCH'S RESEARCH DEPARTMENT is the actual heart of the company's operations. It feeds product development. The department is separated from the development department organizationally, thus creating a genuine purely creative environment for work of a more long-term nature.

Research results are gradually transferred to the development department in the form of reports, new product concepts and proposals for improvements of existing products. Externally, the results are presented at international conferences and in the scientific press. This is an important channel for the marketing of RaySearch; new partners can be attracted and the market can be prepared for new treatment techniques.

#### **UNIQUE EXPERTISE**

Each year, RaySearch invests a large part of its sales in various research projects. RaySearch's staff has world-leading expertise with regard to various technologies for radiation treatment. Most of the employees in the research department have doctoral degrees or are conducting doctoral studies.

RaySearch's expertise makes the company a very attractive research partner for hospitals and universities endeavoring to be at the cutting edge of development. An important strength in this context is that RaySearch was originally spun off from Karolinska Institutet. This provides an understanding of and close connection to the academic community. Agreements with various research institutions enable research results to be more rapidly translated into products. Moreover, it provides opportunities for influencing the direction in which research is conducted.

RaySearch currently cooperates with a number of universities and clinics that are leaders in the radiation therapy field. This is done in the form of sponsored research collaborations, support of industrial doctoral studies and participation in large, more comprehensive research projects.

#### RESEARCH PARTNERSHIPS Massachusetts General Hospital

#### Assashusette Conevel Hearital in De

Massachusetts General Hospital in Boston is one of the foremost cancer clinics in the US. MGH and RaySearch collaborate in the multi-criteria optimization field.

#### **Princess Margaret Hospital**

Princess Margaret Hospital in Toronto, Canada, is considered one of the world's foremost cancer clinics and cooperates with RaySearch in adaptive radiation therapy. The clinic has access to considerable resources for measurements of the changes in patient geometry that form the basis of adaptive radiation therapy.

#### Karolinska Institutet

The Department of Medical Radiation Physics at Karolinska Institutet in Stockholm is RaySearch's oldest research partner. Cooperation focuses on biological models and is possible through cooperative agreements and industrial doctoral projects.

#### **Royal Institute of Technology**

Together with the Department of Optimization Science and Systems Theory at the Royal Institute of Technology in Stockholm, research into more comprehensive optimization of radiation therapy is conducted in the form of two industrial doctoral projects.

#### **Clatterbridge Centre for Oncology**

Cooperation on the evaluation of RaySearch's IMRT solutions for biological optimization.

#### **Herlev Hospital**

Cooperation regarding the evaluation of multi-criteria optimization.

# RESEARCH AND DEVELOPMENT AT THE CUTTING EDGE

#### **CLINICAL PARTNERSHIPS**

#### Westdeutsches Protonentherapiezentrum Essen

The development of a complete treatment planning system for proton therapy based on RayStation. Also comprises advanced adaptive functionality.

#### The Svedberg Laboratory

Uses RaySearch's solution for treatment planning of proton treatments in clinical practice.

#### **BASIS OF PRODUCT DEVELOPMENT**

RaySearch's research projects often involve concept studies of algorithms or development of prototype software for developing new treatment techniques. A key task for the department is monitoring scientific developments and thereby being able to minimize the time from scientific publication to finished clinical product.

RaySearch's research is long-term with a result perspective of two to five years. It is conducted in a goal-oriented manner in the areas that company management has identified as being the most attractive from a commercial and technical standpoint. When a commercial partner shows interest in RaySearch, research results are often used in the product development phase. Specialists from the research department are then temporarily transferred to product development, thus making the process of transforming research into finished products more efficient.

#### A PLATFORM FOR RAPID COMMERCIALIZATION

RaySearch's products are usually integrated in a partner's treatment planning system, but RaySearch also cooperates directly with a few selected leading research-intensive clinics. The aim of these clinical collaboration projects is to develop new methods and tools for radiation therapy. The partner contributes its clinical expertise and RaySearch provides the software tools, and we jointly test new methods directly in a clinical environment. In these collaboration projects, RaySearch can supply an entire treatment planning system based on its proprietary RayStation platform. The solutions developed complement the clinical partner's existing systems and can subsequently be made available to more clinics together with our commercial partners.

When RaySearch signs a collaboration agreement with a part-

ner, dedicated development work begins. The collaboration can either be initiated by the partner facing a special challenge that requires advanced efforts, or by RaySearch approaching a specific partner to obtain help in commercializing a new concept. The goal for the development work is always to create a commercially viable and clinically useful product for the partner in the shortest time possible.

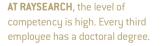
The development work is based on RaySearch's research results and well-tested methods. It may include both the development of new products and upgrades and maintenance of existing products. The basis of the development work is RaySearch's ORBIT software platform, whose unique functionality enables the reuse of a well-tested code base for many products. The finished basic functionality is a strength factor for RaySearch in negotiations with partners and prior to new projects.

The ORBIT platform offers a development environment that is independent of the operating system, enabling the use of the developed product with both Windows and Unix. It is also independent of the host system, which simplifies integration with multiple treatment planning systems.

#### WELL-ESTABLISHED PROCESS

Most development projects extend over one to three years with subsequent enhancement of functionality. As in the research department, the product development department has a welldefined role and its own management.

Development work is divided into sub-projects, which are in turn allocated to specific development groups with expertise suitable to the assignment. The functionality developed in every sub-project is evaluated and then further refined in an iterative







**"RAYSEARCH** combines the software expertise of a large comapny and the curiosity and nimbleness of a start-up. That enables them to stay at the forefront of development and to be a disruptive force in the treatment planning arena."

David Jaffray, Director of Radiation Physics at Princess Margaret Hospital, Toronto, Canada

process. Strong group dynamics are one of the principal factors for successful product development. This is created through a favorable mix of competencies combined with a structured development methodology based on a uniform platform.

#### **EXPANDING DEVELOPMENT PORTFOLIO**

As new partnerships are established and existing ones are expanded, the product portfolio is also broadened.

Historically, IMRT has been the core of much of the development work that took place during RaySearch's build-up phase. Today, IMRT is just one of many areas in which the company works. Development work involving IMRT still provides continuous improvements and efficiency enhancements of the basic technology and surrounding technologies. Examples include radiobiological optimization, VMAT and automatic plan generation.

RaySearch also conducts extensive development work involving conventional 3D-CRT radiation therapy. After all, 3D-CRT is still by far the most used radiation therapy technique and thus represents considerable efficiency enhancement potential. By developing the treatment planning functionality, manual and time-consuming efforts can be reduced while treatment quality is improved.

Proton therapy is a successful technique that provides new opportunities for advanced, accurate treatment. This area demands continued development of the basic technology for treatment planning and optimization. Adaptive therapy is another upcoming area in which RaySearch is investing considerable resources. Very advanced image processing technology is required to effectively manage the large amount of data involved. RaySearch is at the very leading edge of this area.

Lastly, RaySearch devotes development resources to the area

of quality assurance. By developing new products that enhance efficiency and improve the process that the clinics follow, the precision of radiation treatment can be better ensured.

#### WORLD-LEADING EXPERTISE

Although saying "our workforce is our principal asset" may be a cliché, in RaySearch's case it is nonetheless completely true. Ray-Search is a knowledge company in the true meaning of the word. A number of leading theoreticians and practitioners in various technical disciplines related to radiation therapy are gathered under a single roof. Specialists with cutting-edge expertise are given the opportunity to flex their intellectual muscles in cooperation with their peers. The duties and challenges are at an extremely advanced level.

This creative environment is one of the main reasons underlying RaySearch's success. It is also a prerequisite for the company's ability to continue attracting leading experts. Today, virtually all of the employees have at least a university education. Around one out of three employees also holds a doctoral degree. The average age is low at 34 years. Sickness absenteeism is 1 percent.

Most of the work in RaySearch is organized in the form of specialized teams that are responsible for well-defined projects. Each team is led by a project manager who reports directly to company management.

The employees' expertise is mainly developed through continuous experiential exchange. The company's extensive cooperation with leading clinics, institutions and customers means that they are involved in virtually every conceptually and creatively innovative aspect. This is what constitutes the actual soul of Ray-Search's operations.



# STRONG CASH FLOW A STABLE BASE FOR CONTINUED SUCCESS.

RaySearch maintains a high pace and invests considerable resources in continuously developing new, improved products. This is a crucial success factor for the company. A key prerequisite for this focused emphasis is RaySearch's strong financial base. Thanks to this, it is possible to persistently conduct innovative projects past the uncertain initial phases.

RAYSEARCH'S FINANCIAL STRENGTH also facilitates the recruitment of employees that have the necessary cutting-edge expertise. In a stable, resource-rich company, the highly trained specialists are safe and can fully concentrate on the important task of developing new products. There are also resources for exciting new projects, which is important at a knowledge company.

#### **EXPANSION WITHOUT EXTERNAL FINANCING**

RaySearch's financial strength over time has enabled the rapid expansion pursued since 2003 to be fully financed using the strong cash flow generated from operating activities. Growth has taken place without any external borrowing or any new share issues.

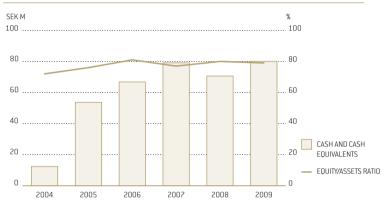
The company's business model has also contributed to building up the financial strength. The model means that sales are almost entirely conducted through partners. Consequently, Ray-Search has not needed to invest in the build-up of a sales organization. A large part of the cash flow has thereby been available for research and development and for increasing the financial assets on the balance sheet.

#### **SEK 80 M IN CASH AND CASH EQUIVALENTS**

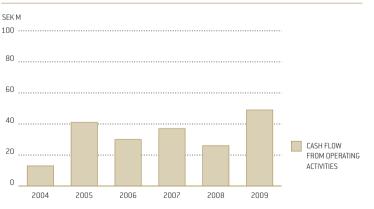
As a result of its strong financial position, RaySearch currently has no interest-bearing liabilities. Cash and cash equivalents amount to SEK 80 M, a level corresponding to one year's revenues.

The company's equity/assets ratio has constantly remained high. This combined with the favorable liquidity provides Ray-Search with significant sustainability and room to maneuver in efforts to retain employees and continue to conduct important research projects without change. This would remain true even if sales and cash flow for some unknown reason were to temporarily be negatively impacted for one or more years. Accordingly, RaySearch's strong financial position constitutes a stable and important base for the company's continued success.

#### EQUITY/ASSETS RATIO AND CASH AND CASH EQUIVALENTS







# SHARES AND OWNERSHIP

#### SHARE CAPITAL

As of December 31, 2008, the number of shares was 34,282,773, distributed among 12,638,724 Class A shares and 21,644,049 Class B shares. During 2009, at the request of shareholders, 252,756 Class A shares were converted to Class B shares. Accordingly, the total number of registered shares in the company as of December 31, 2009 was 34,282,773, of which 12,385,968 shares were Class A and 21,896,805 Class B shares. The quotient value per share is SEK 0.50. All shares carry equal rights to the company's assets and earnings. Each Class A share carries ten votes and each Class B share carries one vote at the Annual General Meeting. At December 31, 2009, the total number of votes in the company was 145,756,485. All shareholders entitled to vote at the Annual General Meeting may vote for the full number of shares owned or represented by them, with no restrictions on voting rights.

There has been a shift in ownership from non-Swedish to Swedish shareholders. Foreign owners' shareholdings in RaySearch decreased from 32.6 percent at December 31, 2008 to 26.2 percent at December 31, 2009. The number of shareholders increased in 2009. At December 31, 2009, there were 4,928 (4,473) shareholders.

#### 

STREASTIN STREETORE		
- SHAREHOLDER CATEGORIES, %	Capital	Votes
Foreign shareholders	26,1	6,1
Swedish shareholders	73,9	93,9
of which, institutions	23,0	5,4
individuals	50,9	88,5

#### STATEMENT FROM CERTAIN OF THE PRINCIPAL SHAREHOLDERS

Principal shareholders Johan Löf, Erik Hedlund and Anders Brahme intend to continue as significant long-term shareholders of RaySearch.

#### SHAREHOLDER AGREEMENTS

To the knowledge of the Board of Directors of RaySearch, there are no shareholder agreements for Class B shares. However, there is a shareholder agreement among the Founders (Johan Löf, Erik Hedlund, Anders Brahme, Carl Philip Bergendahl, Bengt Lind and Anders Liander) regarding their Class A shares. Among other points, this agreement stipulates the obligation to offer shares to existing shareholders prior to sales of shares to an outsider and the right for Founders in certain cases to acquire the shares of another Founder, for

0 0 0 0 903 12,385,968	384,682 384,108 380,550 333,575 299,628 284,093 9,484,133 21,896,805	384,682 384,108 380,550 333,575 299,628 284,093 9,485,036	1.1 1.1 1.1 1.0 0.9 0.8 27.7 100	0.3 0.3 0.2 0.2 0.2 0.2 6.5 <b>100</b>
0 0 0 0	384,108 380,550 333,575 299,628	384,108 380,550 333,575 299,628	1.1 1.1 1.0 0.9	0.3 0.3 0.2 0.2
0 0 0	384,108 380,550 333,575	384,108 380,550 333,575	1.1 1.1 1.0	0.3 0.3 0.2
0	384,108 380,550	384,108 380,550	1.1 1.1	0.3
0	384,108	384,108	1.1	0.3
-	,	,	•	
0	384,682	384,682	1.1	0.3
0	204.00	204.002		
0	425,000	425,000	1.2	0.3
0	440,786	440,786	1.3	0.3
0	567,206	567,206	1.7	0.4
0	678,150	678,150	2.0	0.5
0	737,310	737,310	2.2	0.5
0	744,000	744,000	2.2	0.5
1,061,577	0	1,061,577	3.1	7.3
1,061,577	154,920	1,216,497	3.6	7.4
1,061,577	185,157	1,246,734	3.6	7.4
1,390,161	200,400	1,590,561	4.6	9.7
1,567,089	228,699	1,795,788	5.2	10.9
0	2,005,933	2,005,933	5.9	1.4
0	3,135,082	3,135,082	9.2	2.2
6,243,084	843,393	7,086,477	20.7	43.4
Class A shares	Class B shares	Total shares	Capital, %	Votes, %
	6,243,084 0 0 1,567,089 1,390,161 1,061,577 1,061,577 1,061,577 0 0 0 0 0 0 0 0 0 0 0 0 0	6,243,084843,39303,135,08202,005,9331,567,089228,6991,390,161200,4001,061,577185,1571,061,577154,9201,061,57700744,0000737,3100678,1500567,2060440,7860425,000	6,243,084843,3937,086,47703,135,0823,135,08202,005,9332,005,9331,567,089228,6991,795,7881,390,161200,4001,590,5611,061,577185,1571,246,7341,061,577154,9201,216,4971,061,57701,061,5770744,000744,0000737,310737,3100678,150678,1500567,206567,2060440,786440,7860425,000425,000	6,243,084843,3937,086,47720.703,135,0823,135,0829.202,005,9332,005,9335.91,567,089228,6991,795,7885.21,390,161200,4001,590,5614.61,061,577185,1571,246,7343.61,061,577154,9201,216,4973.61,061,57701,061,5773.10744,000744,0002.20678,150678,1502.00567,206567,2061.70440,786440,7861.3

# 

example if the latter should declare bankruptcy. Bengt Lind and Anders Liander are, however, completely free to transfer their shares to an outsider without any restrictions. The percentage of total voting rights in RaySearch formally covered by this agreement is about 70.4 percent (about 29.9 percent of capital). The shareholder agreement does not contain any provisions about exercising voting rights. When a Founder no longer holds Class A shares, the Founder is no longer a party to the agreement.

The shareholder agreement also includes an undertaking from the Founders in relation to Philips to the effect that, in the event of a public takeover offer for RaySearch from another party, the Founders shall offer their Class A shares to Philips if Founders with a majority of Class A shares believe that the offer is reasonable and will be accepted.

As a result of RaySearch's licensing agreement with Nucletron, Johan Löf, Erik Hedlund, Anders Brahme and Carl Filip Bergendal have also undertaken, in relation to Nucletron, to retain, through their Class A shares, voting control over RaySearch. This undertaking in relation to Nucletron shall remain in effect until January 2012 at the latest. Unlike their relationship to Philips, Johan Löf, Erik Hedlund, Anders Brahme and Carl Filip Bergendal do not have any obligation to offer their shares in RaySearch to Nucletron before selling them to a third party.

As a result of RaySearch's licensing agreement with IBA Dosimetry, Johan Löf, Erik Hedlund, Anders Brahme and Carl Filip Bergendal have also undertaken, in relation to IBA Dosimetry, to retain, through their Class A shares, voting control over RaySearch. This undertaking in relation to IBA Dosimetry shall remain in effect until June 2012 at the latest. Unlike their relationship to Philips, Johan Löf, Erik Hedlund, Anders Brahme and Carl Filip Bergendal do not have any obligation to offer their shares in RaySearch to IBA Dosimetry before selling to a third party.

RaySearch's agreement with TomoTherapy gives each party the right to cancel the agreement if a competitor gains significant influence over the other party through the acquisition of shares.

	Number of	Number of	Number of	Percentage	Percentage
OWNERSHIP STRUCTURE – SIZE OF HOLDING	shareholders	Class A shares	Class B shares	of capital	of votes
1-500	3,063	153	447,735	1.31	0.31
501-1,000	672	750	554,853	1.62	0.39
1,001-2,000	471	0	768,967	2.24	0.53
2,001-5,000	423	0	1,413,231	4.12	0.97
5,001-10,000	126	0	920,199	2.68	0.63
10,001-20,000	75	0	1,054,403	3.08	0.72
20,001-50,000	47	0	1,465,543	4.27	1.01
50,001-100,000	14	0	1,055,132	3.08	0.72
100,001-500,000	25	0	6,136,130	17.90	4.21
500,001-1,000,000	3	0	2,124,153	6.20	1.46
1,000,001-5,000,000	8	6,141,981	5,113,066	32.83	45.65
5,000,001-10,000,000	1	6,243,084	843,393	20.67	43.41

#### CHANGES IN SHARE CAPITAL OF RAYSEARCH

			Change in					
		Quotient	number of	Change in	Number of	Number of	Total number	Total share
Year	Transaction	value	shares	share capital	Class A shares	Class B shares	of shares	capital, SEK
2005	Opening balance	1.50			4,237,604	6,275,457	10,513,061	15,769,591.50
	Non-cash issue (B)		914,530	1,371,795	4,237,604	7,189,987	11,427,591	17,141,386.50
2005	Reclassification 2005				-24,596	24,596		
	Closing balance	1.50			4,213,008	7,214,583	11,427,591	17,141,386.50
2006	Reclassification 2006				-100	100		
	Closing balance	1.50			4,212,908	7,214,683	11,427,591	17,141,386.50
2007	Closing balance	1.50			4,212,908	7,214,683	11,427,591	17,141,386.50
2008	3:1 share split, 2008		22,855,182		8,425,816	14,429,366		
_	Closing balance	0.50			12,638,724	21,644,049	34,282,773	17,141,386.50
2009	Reclassifications				-252,756	252,756		
	Closing balance	0.50			12,385,968	21,896,805	34,282,773	17,141,386.50

KEY RATIOS <sup>1]</sup>	Dec. 31, 2009	Dec. 31, 2008	Dec. 31, 2007	Dec. 31, 2006	Dec. 31, 2005
Number of shares before full dilution <sup>4]</sup>	34,282,773	34,282,773	34,282,773	34,282,773	34,282,773
Equity per share, SEK <sup>4]</sup>	5.39	4.39	4.00	3,44	2.39
Earnings per share, SEK <sup>4]</sup>	0.88	0.53	0.58	1.06 <sup>2)</sup>	0.85
Earnings per share after full dilution, SEK <sup>4]</sup>	0.88	0.53	0.57	1.05 <sup>2)</sup>	0.85
Share price, SEK <sup>4]</sup>	29.50	11.50	63.30	50.00	59.00
P/E-ratio before dilution	34	22	110	47	69
P/E-ratio after dilution	34	22	110	47	69
Dividend, SEK <sup>4]</sup>	0.50 <sup>3)</sup>	-	0.17	_	-
Price/Adjusted equity per share, multiple <sup>4]</sup>	5.5	2.6	5.2	4.8	8.2

<sup>1)</sup> Definitions of key ratios, page 42.<sup>2</sup> SEK 0.73 and SEK 0.72, excl. capitalization of loss carry-forwards for tax purposes as of December 31, 2006.<sup>3</sup> Proposed dividend.<sup>4</sup> Adjusted for 3:1 share split.

#### LISTING ON THE OMX NORDIC EXCHANGE LIST

RaySearch is listed for trading on the NASDAQ OMX Nordic Exchange in Stockholm in the Small Cap segment.

#### SHARE TRADING AND SHARE PRICE TREND

During 2009, a total of 13,056,953 (7,956,062) RaySearch shares were traded at a value of SEK 321.3 M (193.1). This corresponds to an average price of SEK 24.61 (24.27). The highest price paid during 2009 was SEK 32.80 on July 6. The lowest paid price during 2009 was SEK 11.70 on January 2. On the last trading day of the year, December 30, the final price per share was SEK 29.50 (11.50). During 2009, the share price increased 157 percent (down 82 percent) for RaySearch's shares, while OMXS showed an increase of 47 percent (down 42 percent) for 2009. Between July 1, 2003 and December 31, 2009, the share price rose 446 percent. On December 31, 2009, RaySearch's market value was SEK 1,011 M (394). In these calculations, Class A shares, which are not listed on the stock exchange, were assigned the same value as the listed Class B shares.

#### SHARE PRICE TREND

The diagram shows the share price for RaySearch from January 2005 to December 2009, as well as the number of shares traded per month.

#### LIQUIDITY PROVIDER

To increase the liquidity of its share, RaySearch has an agreement with Erik Penser Bankatiebolag. The implication is that the liquidity provider undertakes to quote buy and sell prices on the NASDAQ OMX Stockholm Exchange for Ray-Search's Class B shares on a daily basis. The liquidity provider shall endeavor to ensure that the difference between the buy and sell prices for RaySearch shares does not exceed 2 percent.

#### **OPTION PROGRAMS**

RaySearch has issued option programs to more easily attract, motivate, and retain personnel. See Note 6.

#### **DIVIDEND POLICY**

The Board of Directors' intention is to pay as dividends approximately 20 percent of the Group's profit after tax on condition that a healthy capital structure is retained.



#### SHARE PRICE TREND

# **KEY FIGURES**

#### **KEY FIGURES AND CONDENSED FINANCIAL DATA**

The summary shows how the core business developed between 2000 and 2009. The years 2004-2009 were prepared in accordance with IFRS. Figures in the income statement, balance sheet and cash-flow statement for the full-

year 2002 and 2003 refer to the previously prepared pro forma accounts, since this comparison provides a more accurate picture of how operations have progressed. Additional information regarding the pro forma accounts is available in the Annual Report for 2003.

GROUP	2009	2008	2007	2006	2005	2004	2003 <sup>1)</sup>	20021]	2001 <sup>2)</sup>	2000 <sup>2)</sup>
Net sales, SEK M	83.7	62.7	64.7	69.0	69.9	39.5	34.0	31.0	21.1	-
Growth in sales, %	33.5	-3.0	-6.2	-1.3	77.0	16.0	9.7	46.9	_	_
Operating profit/loss, SEK M	40.9	21.1	25.8	33.5	39.6	12.5	12.9	8.0	11.1	-1.3
Operating margin, %	48.8	33.6	39.8	48.6	56.7	31.6	37.8	25.9	52.8	_
Profit margin, %	49.3	38.5	43.3	50.5	57.3	32.0	38.5	26.8	53.1	_
Net profit/loss, SEK M	30.1	18.2	19.8	36.2	29.1	11.2	8.7	3.9	6.4	-1.3
Earnings per share, SEK *	0.88	0.53	0.58	1.06	0.85	0.36	0.28	0.12	0.20	-0.04
Cash flow per share *	1.44	0.76	1.10	0.883)	1.21	0.41	0.38	0.53	0.23	-0.10
Dividend per share, SEK *	0.54)	_	0.17	_	_	_	_	0.06	0.06	_
Capital employed, SEK M	184.9	150.4	137.9	118.1	81.9	39.4	28.3	23.6	14.1	5.0
Interest-bearing liabilities, SEK M	—	—	-	_	_	_	-	_	_	0.2
Total assets, SEK M	233.1	188.1	173.2	146.2	107.2	54.8	42.5	31.8	18.1	5.5
Equity per share, SEK*	5.39	4.39	4.0	3.44	2.39	1.25	0.90	0.75	0.36	0.15
Equity/assets ratio, %	79.3	80.0	79.6	80.7	76.4	72.0	66.5	74.5	73.2	86.5
Share of risk-bearing capital, %	94.3	93.9	92.8	92.9	89.3	88.6	81.9	84.2	77.4	86.5
Return on capital employed, %	24.6	16.8	22.2	34.9	66.1	37.5	50.7	44.2	117.7	_
Return on total capital, %	19.6	13.4	17.8	27.5	49.5	26.1	35.5	33.5	94.1	_
Return on equity, %	18.0	12.6	15.5	36.2	48.0	33.1	33.7	21.3	71.5	_
Share price at year-end, SEK *	29.50	11.50	63.30	50.00	59.00	16.20	8.33	_	_	_
Average number of employees	52	48	37	28	27	23	19	16	8	2

<sup>1)</sup> Proforma in accordance with Swedish Financial Accounting Standards Council Recommendations, see Annual Report for 2003.
<sup>2)</sup> Pertains to RaySearch Medical AB in 2000 and 2001 in accordance with the general directives of the Swedish Accounting Standards Board.

<sup>3]</sup> SEK 0.73, excl. capitalization of tax loss carry-forwards in 2006.

<sup>4]</sup> Proposed 2009 dividend.

\* Adjusted for 3:1 share split.

# **DEFINITIONS OF KEY DATA**

# CAPITAL EMPLOYED

Total assets less non-interest-bearing liabilities including deferred tax liability.

**CASH FLOW PER SHARE** Cash flow from current operations divided by average number of shares during the year.

**DIVIDEND PER SHARE, SEK** Dividend divided by number of shares at year-end.

**EARNINGS PER SHARE** Net earnings divided by average number of shares during year.

**EQUITY/ASSETS RATIO** Equity as a percentage of total assets.

EQUITY PER SHARE Equity divided by number of shares at end of year.

**OPERATING MARGIN** Operating profit, expressed as a percentage of net sales.

# P/E-RATIO

Share price divided by earnings per share, before and after dilution.

# SHARE PRICE/ADJUSTED EQUITY PER SHARE

Share price divided by adjusted equity per share at year-end.

**PROFIT MARGIN** Income after financial items expressed as a percentage of net sales.

# RETURN ON CAPITAL EMPLOYED

Operating profit plus financial income expressed as a percentage of average capital employed.

# **RETURN ON EQUITY,%**

Net income after taxes expressed as a percentage of average shareholders' equity.

# RETURN ON TOTAL CAPITAL,%

Operating profit plus financial income expressed as a percentage of total assets.

SHARE OF RISK-BEARING CAPITAL Equity plus deferred tax liabilities expressed as a percentage of total assets.

There are no minority interests within the Group for accounting purposes.

# **MULTI-YEAR OVERVIEW**

CONSOLIDATED INCOME STATEMENTS						
Amounts in SEK 000s	2009	2008	2007	2006	2005	2004
Net sales	83,687	62,690	64,705	68,976	69,855	39,479
Cost of goods sold	-1,013	-661	-863	-849	-1,121	-1,238
Gross profit	82,674	62,029	63,842	68,127	68,734	38,241
Research and development costs	-24,718	-29,183	-24,225	-17,379	-16,069	-13,147
Other operating expenses	-17,094	-11,788	-13,836	-17,208	-13,058	-12,634
Operating profit	40,862	21,058	25,781	33,540	39,607	12,460
Result from financial items	421	3,048	2,260	1,320	408	158
Profit/loss before tax	41,283	24,106	28,041	34,860	40,015	12,618
Tax	-11,137	-5,883	-8,262	1,359	-10,873	-1,403
Profit for the year	30,146	18,223	19,779	36,219	29,142	11,215
Earnings per share before full dilution	0,88	0,53	0,58	1,06	0,85	0,36
Earnings per share after full dilution	0,88	0,53	0,57	1,05	0,85	0,33
CONSOLIDATED STATEMENT OF FINANCIA	AL POSITION					
Amounts in SEK 000s	Dec 31, 2009	Dec 31, 2008	Dec 31, 2007	Dec 31, 2006	Dec 31, 2005	Dec 31, 2004
ASSETS						
Intangible fixed assets	112,323	81,705	62,738	45,397	34,876	25,707
0.1						

Cash flow for the year	9,369	-8,491	12,303	13,221	40,032	1,029
Cash flow from financing activities	3,310	-4,996	_	_	13,279	
Cash flow from investing activities	-43,148	-29,540	-25,559	-16,872	-14,640	-11,843
Cash flow from operating activities	49,207	26,045	37,862	30,093	41,393	12,872
Amounts in SEK 000s	2009	2008	2007	2006	2005	2004
CONSOLIDATED CASH-FLOW STATEMENT	S					
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES	233,098	188,091	173,233	146,274	107,181	54,795
Liabilities	48,240	37,656	35,382	28,202	25,327	15,320
Shareholders' equity attributable to the Parent Company's shareholders	184,858	150,435	137,851	118,072	81,854	39,475
SHAREHOLDERS' EQUITY AND Liabilities						
TOTAL ASSETS	233,098	188,091	173,233	146,274	107,181	54,795
Total current assets	110,491	93,891	96,909	88,645	70,954	25,138
Total fixed assets	122,607	94,200	76,324	57,629	36,227	29,657
Other fixed assets	10,284	12,495	13,586	12,232	1,351	3,950
Intangible fixed assets	112,323	81,705	62,738	45,397	34,876	25,707
ASSEIS						

# **ADMINISTRATION REPORT 2009**

The Board of Directors and President of RaySearch Laboratories AB (publ), corporate registration number 556322-6157, hereby submit the annual report and consolidated financial statements for the 2009 fiscal year.

#### **OPERATIONS**

RaySearch Laboratories is a medical technology company that develops advanced software solutions for improved radiation therapy of cancer. Ray-Search's products are sold primarily through license agreements with leading partners such as Philips, Varian, Nucletron, IBA Dosimetry and TomoTherapy. 15 products have been released to date, and RaySearch's software is used at more than 1,500 clinics in over 30 countries. In addition, existing license agreements cover more than 15 other products that are scheduled to be launched in the coming years. RaySearch was founded in 2000 as a spin-off from Karolinska Institutet in Stockholm and the company is listed in the Small Cap segment of the NASDAQ OMX Nordic Exchange Stockholm.

Development work focuses on translating market demands, customer preferences and research results into products. This involves the creation of new products as well as enhancements and maintenance of existing products and is frequently pursued in cooperation with the company's six partners. Development work in 2009 focused on treatment planning of rotational therapy and conventional radiation therapy, radiation therapy with protons, automatic generation of treatment plans, biological treatment evaluation and quality assurance of radiation treatments. A total of seven new products were launched during the year in cooperation with the company's partners.

Research is more future-oriented and forms the basis of the next generation of products. Research primarily focuses on the following areas: adaptive radiation therapy, multi-criteria optimization and radiobiological models and tools. Research operations are conducted in close cooperation with such organizations as Karolinska Institutet in Solna, Stockholm, the Royal Institute of Technology in Stockholm, Princess Margaret Hospital in Canada, and Massachusetts General Hospital in the US.

#### **HIGHLIGHTS OF THE YEAR**

# The new VMAT product from the collaboration with Philips began to generate revenues

Installation of RaySearch's new VMAT (Volumetric Modulated Arc Therapy) treatment planning solution, which received 510(k) clearance from the FDA in April, began to be installed in clinics in November. The product has been under development since 2008 as part of the long-term partnership between RaySearch and Philips and is marketed under the name SmartArc, as a module in Philips' Pinnacle<sup>3</sup> treatment planning system. VMAT is an advanced form of intensity modulated radiation therapy (IMRT), in which the tumor is continuously irradiated while the source of the beam rotates around the patient in single or multiple arcs. This concept enables faster treatment delivery compared with traditional IMRT, where the patient is irradiated only from a few selected angles. The new product is the first planning solution that can be used with any VMAT-capable treatment machine in the market. In addition to being able to handle the latest treatment machines, in which the dose rate is variable, the new product can also support constant dose rate delivery. This allows clinicians to explore the benefits of VMAT delivery without the expense and downtime associated with an upgrade of their treatment machines.

### Two new products from the collaboration with Nucletron began to generate revenues

Deliveries of two new products from the collaboration with Nucletron began to clinics in December. The products, which had been under development by Ray-Search since January and were launched in September, are integrated modules in Nucletron's Oncentra® treatment planning system. One of the products is used for VMAT planning and the other for model-based segmentation (MBS). MBS facilitates the segmentation process when three-dimensional models of the tumor and surrounding organs are created prior to the treatment planning process. Traditionally, this is a highly time-consuming task since the contours of the relevant structures have to be outlined manually. The new MBS software module uses three-dimensional organ models that automatically adapt to the particular patient's image data. The product will be available for the treatment planning of external radiotherapy and brachytherapy, and has the potential to significantly reduce the time spent on segmentation and also improve consistency in the process.

#### Collaboration with Varian began to generate revenues

The collaboration with Varian Medical Systems began to generate revenues in December. The collaboration comprises three software solutions that are integrated modules in the latest version of Varian's Eclipse™ treatment planning system. The products are treatment planning modules for the optimization of conventional 3D-CRT, radiobiological evaluation and radiobiological optimization. Although 3D-CRT is a well-established form of treatment and is used in most radiation therapy, developing a 3D-CRT treatment plan is a relatively complex and time-consuming process. The new 3D-CRT module uses advanced algorithms to automate this process, thereby saving considerable time and offering the potential to significantly improve treatment quality. The other two modules for radiobiological evaluation and optimization use models to predict how healthy tissue and tumors will react when irradiated. The tool for radiobiological evaluation enables assessments of the probability that a tumor can be controlled or the risk of damaging healthy tissue for a specific treatment plan. The module for radiobiological optimization enables doctors to prescribe treatment directly in clinical terms stating, for example, the probability of controlling a tumor or the risk of radiation-induced complications. This is a very useful complement to traditional techniques based on physical treatment, which does not take biological response into consideration.

#### Launch of the first product from the collaboration with TomoTherapy

In August 2007, a collaboration commenced with TomoTherapy and in January 2009, the first product from the collaboration gained 510 (k) clearance from the FDA and could therefore be launched in April. The product – marketed under the name SharePlan<sup>™</sup> – permits the transfer of treatment plans from TomoTherapy's Hi-Art system to conventional linear accelerators. By using highly sophisticated algorithms, the product automatically generates a selection of deliverable IMRT plans based on the existing Hi-Art plan. This time-saving concept is a key tool in optimizing value for patients and treatment capacity in clinics that install a Hi-Art system in a mixed environment with conventional linear accelerators. The potential to automatically generate treatment plans for IMRT is a unique feature that is not available in any other system in the market.

#### RaySearch secured breakthrough order for treatment planning of radiation therapy with protons

In June, RaySearch signed a license and partnership agreement with Westdeutsches Protonentherapizentrum Essen gGmbh (WPE). WPE is a proton therapy center that is under construction at the university hospital in Essen, Germany. The agreement means that RaySearch will deliver a comprehensive treatment planning system that will be used for patient treatments at WPE. The system will include all the most modern tools and algorithms for dose calculation and optimization required to utilize the full potential of proton therapy.

It will also include software tools for adaptive therapy that take due consideration of organ movements during and between treatment sessions. Precision can be further improved by adjusting treatment to suit anatomical changes that arise. RaySearch will have full responsibility for further development and support of the software solution, which will be based on RaySearch's proprietary treatment planning platform, RayStation. The system is planned to be fully developed and in clinical use during 2010.

#### Collaboration agreement concluded with Siemens

In May, RaySearch signed a long-term development and licensing agreement with Siemens Healthcare. The collaboration entails that RaySearch will provide a number of treatment planning modules aimed at improving radiation therapy. The software modules will be integrated into Siemens' *syngo®* Suite for Oncology, which is Siemens' integrated workflow solution for radiation therapy. In November, the collaboration was expanded to include more modules. The project was also accelerated, and is thus expected to start generating revenues for RaySearch in the second half of 2010.

#### SALES AND EARNINGS

For 2009, net sales rose 33.5 percent compared with 2008 to SEK 83.7 M (62.7). Sales mainly derive from license revenues via partners and support revenues. The number of licenses sold via partners totaled 656 (634), while license revenue in 2009 totaled SEK 60.6 M (39.0). The rise in license revenue

was primarily attributable to new products via Philips and Nucletron starting to generate revenue. License sales were also positively affected by a delivery within the framework of the new agreement with WPE and higher revenue from IBA Dosimetry. Sales were adversely affected by the decline in 2009 of support revenue by 2.5 percent to 23.1 (23.7). Since support revenue is based on the accumulated license sales, it expanded continually in the past. However, beginning in the second quarter of 2009, support revenue for RaySearch's first product, p-RayOptimizer, began to decline because the product has been on the market since 2001 and now requires less maintenance.

Operating profit in 2009 amounted to SEK 40.9 M (21.1), corresponding to an operating margin of SEK 48.8 (33.6) percent.

Profit after tax totaled SEK 30.1 M (18.2), corresponding to earnings per share of SEK 0.88 (0.53).

### OPERATING EXPENSES AND CAPITALIZATION OF DEVELOPMENT COSTS

Operating expenses excluding currency effects increased SEK 1.8 M compared with the preceding year to SEK 41.0 M. Other operating revenue and other operating expenses pertain to exchange rate gains and losses, with the net of these amounting to an expense of SEK 0.8 M (income: 1.8). The decrease in operating costs was mainly attributable to lower research and development costs. In turn, this was attributable to a larger share of costs for research and development costs being capitalized during 2009.

As of December 31, 2009, 54 (45) employees were engaged in research and development. Research and development costs include payroll costs, consulting fees, computer equipment and premises. Before capitalization and amortization, research and development costs totaled SEK 55.9 M (48.1). This increase was offset by the increase in the capitalization of development costs in 2009 to SEK 43.3 M (29.6). The higher capitalization figure derived from a large share of the research department's resources during the year being focused on participating in product development projects for which costs are capitalized, as opposed to research products, for which costs are not capitalized. Amortization of capitalized development costs in 2009 totaled SEK 12.1 M (10.7). The increase was due to amortization of capitalized development costs for the company's new products beginning during the third and fourth quarters in pace with the installation of the new products in clinics. Research and development costs, after adjustment of capitalization and amortization of development costs, totaled SEK 24.7 M [29.2]. See Note 16.

#### LIQUIDITY AND FINANCIAL POSITION

At December 31, 2009, cash and cash equivalents totaled SEK 80.0 M, compared with SEK 70.6 M on December 31, 2008. At December 31, 2009, current receivables totaled SEK 30.5 M compared with SEK 23.2 M at December 31, 2008. RaySearch has no interest-bearing liabilities.

### **CASH FLOW**

Cash flow from operating activities in 2009 was SEK 49.2 M (26.0), while overall cash flow for the year totaled SEK 9.4 M (negative: 8.5). The increase was primarily attributable to profit before tax advancing to SEK 41.3 M compared with SEK 24.1 M in the preceding year. Cash flow from investing activities declined to a negative SEK 43.1 M (neg: 29.5), due to higher development expenditure. This was partly offset by the increase in cash flow from financing activities to SEK 3.3 M, which derived from the exercise of options, while cash flow from financing activities in 2008 totaled a negative SEK 5.0, which derived from the payment of dividends and option premiums.

#### **CURRENCY EXPOSURE**

The company is dependent on trends in USD and EUR exchange rates against the SEK, since invoicing to Philips and Varian is in USD and invoicing to Nucletron and IBA Dosimetry and WPE is in EUR. During 2009, revenues in USD were reported at an average exchange rate of SEK 7.48, compared with SEK 6.69 during 2008. In 2009, revenues in EUR were reported at an average exchange rate of SEK 10.49, compared with SEK 9.86 in 2008. Thus, exchange rate changes had a positive impact on sales. With unchanged exchange rates, sales would have risen by 21.7 percent, compared with 2008, which is 11.8 percent lower than the actual outcome. A sensitivity analysis of currency exposure shows that the effects on operating profit in 2009 of a change in the average USD exchange rate by +/-10 percent would have been +/-SEK 5.1 M. The sensitivity analysis shows that the corresponding effect of a change in the average EUR exchange rate of +/-10 percent amounts to SEK +/-3.1 M. The company complies with a currency policy established by the Board of Directors. Refer to Sensitivity analysis in Note 27.

#### INVESTMENTS

Fixed assets primarily comprise capitalized development costs. Investments in intangible fixed assets in 2009 totaled SEK 43.3 M (30.2), with investments in tangible fixed assets amounting to SEK 1.1 M (0.5). Refer to Notes 16, 17 and 18.

#### **EMPLOYEES**

At December 31, 2009, the number of RaySearch employees was 58 (50). The average number of employees was 52 (48).

The workforce has a high academic background, with 31 percent holding PhDs and 67 percent with degrees from universities/technology institutes. Of the company's workforce, 22 percent are women and 78 percent men. Ray-Search has an equal opportunities plan.

#### **ENVIRONMENT**

RaySearch's products consist of software, which has no environmental impact. The company has no environmental policy.

#### **OPTIONS AND OPTION EXERCISE**

The company has established an options program to ensure that RaySearch can more easily attract, motivate and retain its staff. The subsidiary company, Ray-Incentive, holds shares in RaySearch Laboratories for established and future options programs. RayIncentive's holdings of shares in RaySearch Laboratories amounted at December 31, 2008 to 449,628. Of these, 346,500 pertained to the 2004:1 options program and 103,128 to the 2008:1 options program.

The 2004:1 options program expired on December 31, 2009, whereby options for 150,000 shares were exercised at a strike price of SEK 26.95 and the remaining options on 196,500 shares were repurchased at market price, meaning the share price less the strike price. The net effect of these transactions resulted in a capital contribution of SEK 3.3 M. Following exercise, Ray-Incentive's holding of shares in RaySearch Laboratories totaled 299,628, of which 103,128 shares are covered by existing options programs.

#### **BONUS AND PROFIT-SHARING FOUNDATION**

In 2008, the bonus was removed for all employees except the President and replaced by a profit-sharing foundation. The profit-sharing foundation covers all employees including senior executives, except the President. An allocation to the profit-sharing foundation is made in a given year if the operating profit for the preceding year reached a level in excess of an operating margin of 20 percent. In such a case, the amount reserved is 10 percent of the part of the operating profit above the limit. The allocation has a maximum outcome of 30 percent of the dividend paid. If a dividend is not paid or if the operating margin does not reach 20 percent, no allocation is made. No dividend was paid in 2009, and thus no allocation was made to the profit-sharing foundation. If the AGM approves the proposed dividend for the 2009 fiscal year, an allocation of SEK 2.4 M will be made during 2010.

#### THE WORK OF THE BOARD

RaySearch's Board of Directors, which consists of four directors and a deputy, was elected by the shareholders at the AGM on May 26, 2009. The company's President is a member of the Board. The Board held eight meetings in 2009. The Board conducts its work according to special rules of procedure and instructions regulating the division of work between the Board and the President. At each scheduled meeting, the Board reviews specific reports and decision points. The Board considers strategic, structural and organizational issues, as well as research and development issues. The Board also addresses cooperation agreements, interim reports, annual financial statements, as well as audit and budget-related issues. In addition to the President, who is the reporting party during Board meetings, other company employees also participate as required.

The Board of Directors approved the President's remuneration and benefits package for the 2009 fiscal year. The President, in consultation with the Chairman of the Board, approved remuneration of other senior executives. The Board does not have remuneration or nomination committees.

The company's auditor attends at least one Board meeting annually. Ray-Search applies the Swedish Code of Corporate Governance.

#### PARENT COMPANY

The Group's Parent Company is RaySearch Laboratories AB (publ).

The financial statements of the Parent Company correspond in all significant respects to the financial statements of the Group, meaning that the comments for the Group also apply to a considerable degree to the Parent Company. Capitalization of development costs is recognized in the Group, but not in the Parent Company. Earnings before tax amounted to SEK 8.1 M (17.3) M. The decrease in profit was due to a dividend of SEK 12.0 M from the subsidiary RayIncentive having been paid in 2008 while no dividend was paid in 2009. As of December 31, 2009, the Parent Company had cash and cash equivalents amounting to SEK 72.7 M (54.5 M).

#### **OFFICES OUTSIDE SWEDEN**

RaySearch has no branch offices outside Sweden.

#### HOLDINGS OF OWN SHARES (TREASURY STOCK)

The holdings of treasury stock at December 31, 2009 totaled 299,628 shares, which are held by RayIncentive AB. The quotient value of these shares is SEK 0.50. These shares correspond to 0.9 percent of the share capital. The payment made for these shares totals SEK 184,000.

During the fiscal year, 150,000 shares of treasury stock were transferred within the framework of the 2004:1 options program, which expired in December. The exercise price per share amounted to SEK 26.95.

#### SHARES AND OWNERSHIP

As of December 31, 2008, the number of shares was 34,282,773, distributed among 12,638,724 Class A shares and 21,644,049 Class B shares. During 2009, and at the request of shareholders, 252,756 Class A shares were converted to Class B shares. Accordingly, the total number of registered shares in the company as of December 31, 2009 was 34,282,773, of which 12,385,958 shares were Class A and 21,896,805 Class B shares. The quotient value per share is SEK 0.50. All shares carry equal rights to the company's assets and earnings. Each Class A share carries ten votes and each Class B share carries one vote at the Annual General Meeting. As of December 31, 2009, the total number of votes in the company was 145,756,485. All shareholders entitled to vote at the Annual General Meeting may vote for the full number of shares owned or represented by them, with no restrictions on voting rights.

At year-end 2009, the largest shareholders in RaySearch were Johan Löf, who owns 20.7 percent of the capital and 43.4 percent of the votes; State Street Bank, which own 9.2 percent of the capital and 2.2 percent of the Class B shares; AFA Försäkring which own 5.9 percent of the capital and 1.4 percent of the votes; Wasatch funds which own 5.2 percent of the capital and 10.9 percent of the votes; and Erik Hedlund who owns 5.2 percent of the capital and 10.9 percent of the votes.

To the knowledge of the Board of Directors of RaySearch, there are no shareholder agreements governing Class B shares. However, there is a shareholder agreement among Johan Löf, Erik Hedlund, Anders Brahme, Carl Filip Bergendal, Bengt Lind and Anders Liander (the Founders) concerning their Class A shares. This agreement stipulates the obligation to offer shares to existing shareholders prior to sales of shares to an outsider and the right for Founders in certain cases to acquire the shares of another Founder. The percentage of total voting rights in RaySearch formally covered by this agreement is 70.4 percent (29.9 percent of the capital). The shareholder agreement also includes an undertaking from the Founders in relation to Philips to the effect that, in the event of a public bid for RaySearch from another party, the Founders shall offer their Class A shares to Philips if Founders with a majority of Class A shares believe that the bid is reasonable and will be accepted.

As a result of RaySearch's licensing agreement with Nucletron, Johan Löf, Erik Hedlund, Anders Brahme and Carl Filip Bergendal have also undertaken, in relation to Nucletron, to retain, through their Class A shares, voting control over RaySearch. This undertaking in relation to Nucletron remains in effect until January 2012 at the latest.

As a result of RaySearch's licensing agreement with IBA Dosimetry, Johan Löf, Erik Hedlund, Anders Brahme and Carl Filip Bergendal have also undertaken, in relation to IBA Dosimetry, to retain, through their Class A shares, voting control over RaySearch. This undertaking in relation to IBA Dosimetry remains in effect until June 2012 at the latest.

RaySearch's agreement with Tomotherapy gives each party the right to cancel the agreement if a competitor gains significant influence over the other party through the acquisition of shares.

There are no special rules in the Articles of Association regarding appointment and removal of Board members or about amendments of the Articles of Association. The General Meeting of shareholders has not authorized the Board to decide on the company issuing new shares or acquiring own shares. Should a public offer be tendered to acquire shares in the company, there is no agreement between the company and Board members or employees prescribing any payments if these persons resign, are given notice without reasonable grounds or if their employment ceases. Refer also to shares and ownership on page 38.

#### **GUIDELINES FOR REMUNERATION TO SENIOR EXECUTIVES**

The starting point for the Board is that remuneration and other conditions of employment for company management shall be on market terms. The principles for remuneration and other employment conditions applied during 2009 are described below.

#### Salary and other remuneration

The President has a fixed basic salary and variable remuneration. The variable remuneration amounts to 2.0 percent of the Group's profit before tax, but with a maximum equivalent to six months' salary. The bonus for 2009 was SEK 894,000. In addition, the President has a company car as a benefit.

The President's salary is reviewed annually. This is performed through negotiations between the President and the Chairman of the Board, after which the Chairman presents a proposal to the other Board members. The President is not present when the Board decides on this matter.

In 2009, the other senior executives comprised the CFO, Director of Research, Director of Development and Director of Technology. These persons have a fixed basic salary. They are also covered by a profit-sharing foundation that encompasses all employees except the President. The conditions underlying allocations to the profit-sharing foundation are described above under the section entitled "Bonus". The salaries of other senior executives are reviewed annually. This is carried out in negotiations between the President and each employee.

### Incentive program

There is no incentive program aimed at the company's management.

#### Pension

All pension undertakings are defined-contribution plans. Retirement age for the President and the other senior executives is 65 and the pension premium is equivalent to the Swedish ITP plan.

#### Termination of employment

If the President chooses to terminate his employment, his term of notice is six months; if the employer terminates the employment, the term of notice is 12 months. In both cases, the President receives pay during the term of notice. The company and the other senior executives have a mutual term of notice of three months during which the other senior executives receive salary.

#### Severance pay

Neither the President nor the other senior executives are entitled to any severance pay, in the formal sense, if their employment ceases. However, as stated above, the President and the other senior executives have a right to salary during the notice period.

#### Proposal for guidelines in 2010

The Board proposes that the above guidelines shall remain valid for the period following the 2010 Annual General Meeting. The Board proposes that it should be able to deviate from the guidelines if there are special reasons for such deviation.

#### SIGNIFICANT EVENTS AFTER THE CLOSE OF THE FINANCIAL YEAR

No significant events occurred after the close of the financial year.

#### **RISKS AND UNCERTAINTIES**

#### Financial risk management

The Board has formulated the Group's financial risk management policy, which serves as a framework of guidelines and regulations in the form of risk mandates and limits for financial activities. RaySearch is primarily exposed to exchangerate risk. All of the Group's net sales have been in USD or EUR to date. In accordance with the established financial policy, no currency hedging is employed.

#### **Operational risks**

As a result of its operations, the Group is exposed to various operational risks, including the following: dependence on key persons, competition and strategic partnerships. RaySearch currently has partnerships with Philips, Varian, Siemens, Nucletron, IBA Dosimetry and Tomotherapy. RaySearch also has several research partnerships and pursues clinical cooperation with WPE. If RaySearch were to lose one or more of these partners, this could have a major impact on the company's sales, profit and financial position. However, this risk is declining with the growing number of business partners. RaySearch is engaged in continuous discussions with a number of medical technology companies in respect of new collaborations.

Refer to the Accounting Policies, Note 1 on page 63, for more information on risks and risk management.

#### **FUTURE PROSPECTS**

The agreement with Siemens means that RaySearch has six partners. All collaboration programs are continuing and gaining depth. During 2009, seven new products were launched and the number of revenue-generating products has almost doubled. During the year, RaySearch also secured its first order for RaySearch's proprietary system, RayStation, directly from a German proton therapy clinic. Parallel with these efforts, more long-term research is in progress that is focused on additional products that may be launched in the years ahead.

Combined, these developments offer favorable potential for RaySearch to continue to build up a world-leading company in treatment planning for radiation therapy.

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

The Board of Directors and the President propose that the available earnings of SEK 21,688,000 be allocated as follows:

SEK 000s	
Dividend of SEK 0.50 per share	17,141
To be carried forward	4,547

With reference to the above and what has otherwise been made known to the Board of Directors, the Board believes that an overall assessment of the financial position of the Company and the Group leads to the conclusion that the dividend is permissible with reference to the requirements that the nature, scope and risks of operations impose on the size of the Company's and Group's shareholders' equity and the Company's and Group's consolidation requirements, liquidity and general financial position.

The Group's earnings and financial position are presented in the following income statements, balance sheets, and cash flow statements with accompanying notes to the financial statements.

# **INCOME STATEMENT**

SEK 000s	Note	2009	2008
Net sales	2.3	83,687	62,690
Cost of goods sold		-1,013	-661
Gross profit	27	82,674	62,029
Other operating income	8	-	2,012
Selling expenses		-3,604	-2,563
Administrative expenses	10	-12,691	-11,031
Research and development expenditure	10	-24,718	-29,183
Other operating expenses	9	-799	-206
Operating profit	4.5.7.11	40,862	21,058
Financial income		425	3,097
Financial expenses		-4	-49
Net financial income	12	421	3,048
Profit before tax		41,283	24,106
Тах	14	-11,137	-5,883
Profit for the year <sup>1)</sup>		30,146	18,223
-			
Earnings per share before dilution	15	0.88	0.53
Earnings per share after dilution	15	0.88	0.53

50 RAYSEARCH LABORATORIES

# STATEMENT OF COMPREHENSIVE INCOME

SEK 000s	2009	2008
Profit for the year	30,146	18,223
Other comprehensive income	-	-
Comprehensive income for the year <sup>1)</sup>	30,146	18,223

<sup>1]</sup> 100 percent attributable to the Parent Company's shareholders.

# STATEMENT OF FINANCIAL POSITION

SEK 000s	Note	Dec. 31, 2009	Dec. 31, 2008
ASSETS			
FIXED ASSETS			
Intangible fixed assets			
Capitalized development expenses	16	111,687	80,484
Software	17	636	1,221
		112,323	81,705
Tangible fixed assets			
Equipment, tools, fixtures and fittings	18	2,068	1,926
		2,068	1,926
Deferred tax assets	23	8,216	10,569
Total fixed assets		122,607	94,200
CURRENT ASSETS			
Accounts receivable	20	25,064	19,732
Tax receivable		1,144	-
Other receivables		11	1
Prepaid expenses and accrued income	21	4,259	3,514
Cash and cash equivalents	22	80,013	70,644
Total current assets	28	110,491	93,891
TOTAL ASSETS		233,098	188,091

SEK 000s	Note	Dec. 31, 2009	Dec. 31, 2008
SHAREHOLDERS' EQUITY			
Share capital		17,141	17,141
Other contributed capital		1,975	1,975
Retained earnings including net profit for the year		165,742	131,319
Shareholders' equity attributable to the Parent Company's shareholders		184,858	150,435
Total equity		184,858	150,435
LIABILITIES			
Deferred tax liabilities	23	34,949	26,240
Other long-term liabilities	25	642	1,610
Total long-term liabilities		35,591	27,850
Accounts payable		5,525	4,283
Tax liabilities		13	725
Other liabilities		974	855
Accrued expenses and deferred income	26	6,137	3,943
Total current liabilities	28	12,649	9,806
Total liabilities		48,240	37,656
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES		233,098	188,091
Pledged assets	29		
Chattel mortgages		5,000	5,000
Contingent liabilities		None	None

# STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

SEK 000s	Share capital	Other contributed capital	Retained earnings, including net profit for the year	Total
Opening equity January 1, 2008	17,141	1,975	118,735	137,851
Comprehensive income for the year			18,223	18,223
Dividend paid			-5,639	-5,639
Closing equity Dec. 31, 2008	17,141	1,975	131,319	150,435
Comprehensive income for the year			30,146	30,146
Share options redeemed by personnel			4,467	4,467
Repurchase of share options (net)			-190	-190
Closing equity Dec. 31, 2009	17,141	1,975	165,742	184,858

#### **CAPITAL MANAGEMENT**

RaySearch has the following dividend policy. The Board of Directors' intention is to distribute to the shareholders dividends of approximately 20 percent of the Group's profit after tax on condition that a healthy capital structure is retained. RaySearch has no external loans. The Board proposes that a dividend of SEK 0.50 per share, totaling SEK 17.1 M, be paid for 2009.

A number of employees own shares and/or options in RaySearch. The Board has no authorization from the Annual General Meeting to repurchase shares. The Group has not repurchased shares. During the year, there was no change in the Group's capital management. Shareholders' equity is defined as share capital, statutory reserve and non-restricted shareholders' equity. The Group is not subject to any external capital requirements. The quotient value is SEK 0.50 per share.

RayIncentive's holding of shares in RaySearch Laboratories amounted to 299,628 shares at December 31, 2009. Of this total, RayIncentive has issued options on 103,128 shares to RaySearch employees. The consolidated carrying amount of these 299,628 shares in RaySearch Laboratories AB is SEK 0.

# **STATEMENT OF CASH FLOWS**

SEK 000s	Note	2009	2008
Operating activities			
Profit before tax		41,283	24,106
Adjustments for items not included in cash flow*		12,389	10,981
Taxes paid		-1,933	1,439
Cash flow from operating activities before changes in working capital		51,739	36,526
Cash flow from changes in working capital			
Increase (-)/Decrease (+) in operating receivables		-6,087	-8,116
Increase (-)/Decrease (+) in operating liabilities		3,555	-2,365
Cash flow from operating activities		49,207	26,045
Investing activities			
Capitalized development expenditure		-42,062	-29,043
Acquisition of tangible fixed assets		-1,086	-497
Cash flow from investing activities		-43,148	-29,540
Financing activities			
Option premiums received		-	643
Repurchase of treasury stock		-732	-
Transfer of treasury stock		4,042	-
Dividend paid		-	-5,639
Cash flow from financing activities		3,310	-4,996
Cash flow for the year	31	9,369	-8,491
Cash and cash equivalents at the beginning of the year		70,644	79,135
Cash and cash equivalents at year-end		80,013	70,644

\* These amounts include amortization of capitalized development expenses.

# PARENT COMPANY

INCOME STATEMENT			
SEK 000S	Note	2009	2008
Net sales	2,3	83,687	62,690
Cost of goods sold		-1,013	-661
Gross profit	27	82,674	62,029
Other operating income	8	-	2,012
Selling expenses		-3,604	-2,563
Administrative expenses	10	-14,491	-12,461
Research and development		- 4 0 0 -	10.005
expenditure	10	-54,095	-46,635
Other operating expenses	9	-799	-206
Operating profit	4,5,7,11	9,685	2,176
Interest income and similar items		349	14,454
Interest expense and similar items		-4	-37
Profit after financial items	12	10,030	16,593
Appropriations	13	-1,909	743
Profit before tax		8,121	17,336
Tax	14	-2,416	-2,303
Profit for the year		5,705	15,033

CASH FLOW STATEMENT			
SEK 000S	Note	2009	2008
Operating activities			
Profit before tax		10,030	16,593
Adjustments for items not included in cash flow		1,566	-10,513
Taxes paid		-1,743	1,558
Cash flow from operating activities before changes in working capital		9,853	7,638
Cash flow from changes in working capital			
Increase (-)/Decrease (+) in operating receivables Increase (-)/Decrease (+)		-6,096	-8,107
in operating liabilities		3,556	-2,364
Cash flow from operating activities		7,313	-2,833
Investing activities			
Investments in software		-37	-640
Acquisition of tangible fixed assets		-1,086	-497
Acquisition of financial assets		_	_
Cash flow from investing activities		-1,123	-1,137
Financing activities			
Dividend received from subsidiaries		12,000	-
Dividend paid		_	-5,713
Cash flow from financing activities		12,000	-5,713
Cash flow for the year	31	18,190	-9,683
Cash and cash equivalents at the beginning of the year		54,534	64,217
Cash and cash equivalents at year-end		72,724	54,534

STATEMENT OF FINANCIAL POSITION			
		DEC. 31,	DEC. 31,
SEK 000S	Note	2009	2008
ASSETS			
FIXED ASSETS			
Intangible fixed assets			
Software	17	636	1,221
Tanaikle (ived essets			
Tangible fixed assets	10	2.000	4.000
Equipment, tools, fixtures and fittings	18	2,068	1,926
Financial fixed assets			
Participations in Group companies	19	2,160	2,160
Deferred tax assets	23	8,216	10,569
		10,376	12,729
Total fixed assets		13,080	15,876
CURRENT ASSETS			
Current receivables			
Accounts receivable	20	25,064	19,732
Receivables from Group companies		-	12,000
Tax receivable		1,144	-
Other receivables		11	1
Prepaid expenses and accrued income	21	4,259	3,505
Total current receivables		30,478	35,238
Current investments		0	19,980
Cash and bank balances	22	72,724	34,554
Total current assets	28	103,202	89,772
TOTAL ASSETS		116,282	105,648

SHAREHOLDERS' EQUITY AND LIABILITIES			
		DEC. 31,	DEC. 31,
SEK 000S	Note	2009	2008
SHAREHOLDERS' EQUITY			
Restricted equity			
Share capital (12,638,724 Class A shares, 21,644,049 Class B shares)		17,141	17,141
Statutory reserve		43,630	43,630
		60,771	60,771
Non-restricted equity			
Retained earnings		15,983	951
Profit for the year		5,705	15,033
		21,688	15,984
Total equity		82,459	76,755
Untaxed reserves	24	21,199	19,290
Current liabilities			
Accounts payable		5,525	4,283
Current tax liabilities		-	535
Other liabilities		974	855
Accrued expenses and deferred income	26	6,125	3,930
Total current liabilities	28	12,624	9,603
TOTAL SHAREHOLDERS' EQUITY			
AND LIABILITIES		116,282	105,648
Pledged assets	29		
Chattel mortgages		5,000	5,000
Contingent liabilities		None	None

STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY			Retained earnings, ncluding net profit	
SEK 000s	Share capital	Statutory reserve	for the year	Total
Opening equity January 1, 2008	17,141	43,630	6,665	67,436
Dividend paid			-5,714	-5,714
Profit for the year			15,033	15,033
Closing equity Dec. 31, 2008	17,141	43,630	15,983	76,755
Profit for the year			5,705	5,705
Closing equity Dec. 31, 2009	17,141	43,630	21,688	82,459

# NOTE **1** ACCOUNTING POLICIES

#### COMPLIANCE WITH STANDARDS AND LAWS

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and interpretative statements issued by the International Financial Reporting Interpretations Committee (IFRIC) as adopted by the EU. In addition, the Swedish Financial Reporting Board's recommendation RFR 1:2 Supplementary Accounting Rules for Groups has been applied.

The Parent Company implements the same accounting policies as the Group except in those instances specified below under the section "Parent Company's accounting policies." The differences that exist between the Parent Company's and the Group's policies result from limitations in the ability to implement IFRS in the Parent Company due to the Swedish Annual Accounts Act and the Pension Obligations Vesting Act, as well as, in certain instances, for tax reasons.

# ASSUMPTIONS WHEN PREPARING THE PARENT COMPANY'S AND THE CONSOLIDATED FINANCIAL STATEMENTS

The Parent Company's functional currency is the Swedish krona (SEK), which also constitutes the reporting currency for the Parent Company and Group. This means that financial statements are presented in SEK. All amounts, unless otherwise specified, are rounded off to the nearest thousand. Assets and liabilities are recognized at their historical cost, except for certain financial assets and liabilities that are measured at fair value. Financial assets and liabilities measured at fair value comprise assets classified as financial assets measured at fair value in profit and loss.

Preparing financial statements in accordance with IFRS requires that company management make assessments and estimates as well as assumptions that impact the application of the accounting policies and the recognized amounts of assets, liabilities, revenues and expenses. Estimates and assumptions are based on historical experience and a number of other factors that, under existing circumstances, appear reasonable. The result of these estimates and assumptions is then used to measure the carrying amounts of assets and liabilities that would otherwise not clearly appear from other sources. Actual results may vary from these estimates and assumptions.

The estimates and assumptions are reviewed regularly. Changes to estimates are recognized in the period the change is made if the changes affect only that period and in the current period and future periods if the changes affect both current period and future periods.

In implementing IFRS, estimates made by company management that have a significant impact on the financial statements and estimates made that could involve significant adjustments to subsequent years' financial statements are described in greater detail on page 64.

The accounting policies specified below for the Group have been applied consistently during all periods presented in the Group's financial statements,

unless otherwise stated below. The Group's accounting policies have been applied consistently in regards to the recognition and consolidation of the Parent Company and the subsidiaries.

#### **REVISED ACCOUNTING POLICIES**

The following new and changed standards and interpretations were applied in preparing the 2009 financial statements: the Group has applied the amended IAS 1 Presentation of Financial Statements since January 1, 2009. Under this amendment, income and expenses that were previously recognized directly in shareholders' equity are now recognized in other comprehensive income instead, which the company presents in a separate statement entitled "Statement of comprehensive income" directly after the income statement. The company has decided to use the new terminology for the statements introduced by IAS 1, namely "Statement of comprehensive income," "Statement of financial position," "Statement of changes in shareholders' equity" and "Statement of cash flows." Comparative periods have been changed throughout the Annual Report to conform to the new presentation. Since these amendments only affect the presentation of information, amounts for earnings per share or any other items in the financial statements have not been changed.

Since January 1, 2008, the Group has applied IFRS 8 Operating Segments, which replaces IAS 14 Segment Reporting. IFRS 8 introduces a management perspective on the division and presentation of operation segments. The new policies are described in more detail below under the heading "Segment reporting" in this Note. The standard has been applied in accordance with the transitional rules, meaning that figures for the comparative year have been adjusted to the requirements of IFRS 8. The application of IFRS 8 did not involve any change to the company's division of segments since the segments identified under IAS 14 correspond to the segments monitored by Group management. The company continues to apply the same accounting policies (IFRS) to its operating segments as those applied to the consolidated financial statements. Accordingly, none of the recognized amounts have been changed compared with previously recognized amounts.

The amendments to IFRS 7 Financial Instruments: Disclosures primarily entail new disclosure requirements regarding financial instruments measured at fair value in profit and loss. Since RaySearch does not have any such instruments, this amendment has no effect on the company.

The Group has applied IAS 23 Borrowing Costs since January 1, 2009. Under the amendment, the Group is to capitalize the borrowing costs inherent in the cost of qualifying assets for which the commencement date is on or after January 1, 2009. Borrowing costs were previously charged to earnings. Since RaySearch had no borrowing costs in 2009, the amendment does not affect the company.

Amendments to IFRS 2 Share-based Payment did not affect RaySearch Laboratories' income statements, balance sheet, cash flow or equity.

#### NEW IFRS AND INTERPRETATIONS NOT YET APPLIED

A number of new standards or changes in standards and interpretations become effective as of the 2011 fiscal year and have not been applied in preparing these financial statements. New standards or amendments are not planned to be applied in advance. In cases where expected effects on the financial statements of the application of the following new or amended standards and interpretations are not described below, RaySearch Laboratories has yet to make an assessment of their effects.

Revised IFRS 3 Business Combinations, IFRS 9 Financial Instruments that will replace IAS 39, the amendment to IFRIC 16 Hedges of a Net Investment in a Foreign Operation, IFRS 2 Share-based Payment, IAS 24 Related Party Disclosures, IAS 32 and IAS 39 Financial Instrument, IFRIC 12, 15, 17, 18 and 19 are not deemed to have any effect on RaySearch Laboratories' income statements, balance sheet, cash flow or equity.

#### **SEGMENT REPORTING**

An operating segment is a part of the Group that conducts business activities from which it generates income and incurs costs and for which independent financial information is available. The results of an operating segment are also monitored by the company's chief operating decision maker. In accordance with IFRS 8, segment information is provided for the Group only. The Group's internal reporting system is based on the follow-up of returns from the Group's products and since these products have similar economic properties, they are recognized in a single segment.

#### **CLASSIFICATION, ETC.**

Fixed (non-current) assets and long-term liabilities in the Parent Company and Group essentially comprise amounts that are expected to be recovered or paid more than twelve months after the balance sheet date. Current assets and current liabilities in the Parent Company and Group essentially only comprise amounts that the company expects to recover or receive payment for within twelve months of the balance sheet date.

#### **CONSOLIDATION PRINCIPLES**

#### Subsidiaries

Subsidiaries are companies that are under the controlling influence of Ray-Search Laboratories. Controlling influence means, directly or indirectly, a right to formulate a company's financial and operational strategies for the purpose of achieving economic benefits. Shares carrying potential voting rights that can be used or converted without delay are taken into consideration when determining whether a controlling influence exists.

The Group includes the Parent Company RaySearch Laboratories AB (publ), Corporate Registration Number 556322-6157, which owns 90.8 percent of the capital and 49.7 percent of the voting rights in RayIncentive AB, whose only function is to own the shares set aside to cover outstanding and future employee option programs.

#### Consolidation of special-purpose entities

Special-purpose entities (SPE) are included in the consolidated financial statements when the economic consequences of business connections between a Group company and an SPE indicate that the Group company exerts a controlling influence over an SPE. When determining whether an SPE exerts a controlling influence, consideration is given to whether operations in the SPE are conducted in a predetermined manner. RaySearch Laboratories owns 90.8 percent of the capital and 49.7 percent of the votes in RayIncentive. RaySearch Laboratories has control over the company and no minority interests are recognized. Any potential dividend from RayIncentive shall, in its entirety, go to RaySearch Laboratories. These circumstances mean that RayIncentive is considered to be an SPE.

RayIncentive's sole function is to own shares in RaySearch Laboratories on which options have been issued or will be issued. RayIncentive is recognized in accordance with the purchase method. According to this method, the acquisition of a subsidiary is viewed as a transaction through which the Group indirectly acquires the subsidiary's assets and assumes its liabilities and contingent assets and liabilities. The consolidated cost is determined through an acquisition analysis conducted in conjunction with the acquisition of the operation. In the analysis, the cost is determined for the shares or operations, as well as the fair value of the acquired identifiable assets and assumed liabilities and contingent assets and liabilities. The difference between the cost of subsidiary shares and the fair value of acquired assets, assumed liabilities and contingent assets and liabilities constitutes consolidated goodwill, or negative goodwill.

#### Elimination of transactions between Group companies on consolidation

Receivables and liabilities, and revenues or costs and unrealized gains and losses arising from intra-Group transactions are eliminated in their entirety in the consolidated financial statements.

#### **FOREIGN CURRENCY**

#### Transactions in foreign currency

Transactions in foreign currency are translated to the functional currency at the exchange rate prevailing on the transaction date. The functional currency is the currency in the primary economic environments in which the companies conduct their business operations. Monetary assets and liabilities in foreign currency are recalculated to the functional currency at the exchange rate prevailing on the closing day. Exchange rate differences arising in translation are recognized in profit for the year. Non-monetary assets and liabilities that are recognized at historic cost are translated at the exchange rate prevailing on the transaction date.

#### REVENUE

#### Licenses and support sales

Revenue is recognized in profit and loss when it is likely that future economic benefits will accrue to the company and that these benefits can be reliably calculated. Revenues are recognized at the fair value of what was received or will be received with deduction for discounts granted. The Group reports its license revenue when software is installed at the customer and the rights to use the software are transferred to the customer. Revenue from support sales is based on accumulated license sales and, thus, tracks license revenue.

#### **OPERATING EXPENSES AND FINANCIAL INCOME AND EXPENSES**

#### **Operating lease agreements**

Expenses relating to operating lease agreements are recognized in profit for the year straight-line over the leasing period. Benefits received in conjunction with signing a contract are recognized in profit for the year as a decrease in leasing fees straight-line over the term of the lease agreement. Variable fees are expensed in the periods in which they arise.

#### Government assistance

The company has received a grant from the EU through Karolinska Institutet for a research project and from the Swedish Research Council regarding two industrial doctorates. The contributions are recognized net against research and development expenditure. The contributions received do not add up to any significant amount.

#### Financial income and expenses

Financial income and expenses comprise interest income on bank balances and receivables and interest-bearing securities, and interest expense on loans, dividend income, exchange rate differences, unrealized and realized gains on financial investments. Interest income on receivables and interest expense on liabilities are calculated by applying the effective interest method. Effective interest is the interest that makes the present value of all future deposits and payments during the fixed interest term the same as the carrying amount of the receivable or liability.

#### **FINANCIAL INSTRUMENTS**

Financial instruments are measured and recognized in the Group in accordance with the regulations in IAS 39.

Financial instruments recognized in the statement of financial position include, on the assets side, cash and cash equivalents, accounts receivable and loan receivables. Accounts payable and loan liabilities are recognized on the liabilities side.

Financial instruments are recognized initially at the cost corresponding to the instrument's fair value plus transaction costs for all financial instruments except when they are part of the category known as financial assets measured at fair value in profit and loss, which are measured at fair value excluding transaction costs. Subsequent recognition is based on how they are classified as below.

A financial asset or financial liability is recognized in the statement of financial position when the company becomes a party in accordance with the contractual terms and conditions of the instrument. Accounts receivable are recognized in the statement of financial position when the invoice is sent. Liabilities are recognized when the counterparty has performed and there is a contractual obligation to pay, even though the invoice has not yet been received. Accounts payable are recognized when the invoice is received.

A financial asset is derecognized from the statement of financial position when the rights of the contract are realized, expire or the company loses control over them. The same applies for components of a financial asset. A financial liability is derecognized from the statement of financial position when the obligation in the contract is fulfilled or extinguished in some other manner. The same applies for components of a financial liability.

The fair value of listed financial assets corresponds to the listed bid price on the balance sheet date. At each reporting date, the company performs tests to determine if there is any objective indication that a financial asset or a group of financial assets requires impairment.

IAS 39 classifies financial instruments in categories. The classification depends on the intention behind the acquisition of the financial instrument. Company management determines the classification at the original time of acquisition. The following categories are held by the company:

#### Loan receivables and accounts receivable

"Loan receivables and accounts receivable" are financial assets that have determined or determinable payments that are not listed on an active market. These items are measured at cost.

#### Financial assets measured at fair value in profit and loss

This category includes the financial assets that are current investments equivalent to cash and cash equivalents.

#### Other financial liabilities

Comprises financial liabilities not held for trading. The Group's accounts payable are included in this category. These items are measured at cost.

#### Cash and cash equivalents

Cash and cash equivalents comprise cash funds and balances at banks and comparable institutions that are immediately available as well as short-term liquid investments with a duration from the date of acquisition of less than three months, which are subject to only a negligible risk of value fluctuations. Changes in value are recognized in net financial items. Current investments are recognized in the category "Financial assets measured at fair value in profit and loss."

#### **TANGIBLE FIXED ASSETS**

#### Assets owned

Tangible fixed assets are recognized in the consolidated financial statements at cost less accumulated depreciation and any impairment. The cost includes the purchase price and costs directly attributable to the asset to deliver it in place and in condition to be used in the manner intended by the acquisition. The accounting policies for impairment are presented below.

NOTES

Tangible fixed assets comprising components with varying useful lives are treated as separate components of tangible fixed assets. The carrying amount of a tangible fixed asset is derecognized from the statement of financial position upon disposal or divestment or when no future economic benefit is expected from use or disposal/divestment of the asset. The gain or loss arising from the disposal or divestment of an asset is the difference between the selling price and the asset's carrying amount less direct selling expenses. Gains and losses are recognized as "Other operating income/expenses."

## Leased assets

IAS 17 applies to leased assets. Lease agreements are classified in the consolidated financial statements as a finance or operating lease. A finance lease is a lease that essentially transfers all the risks and rewards associated with ownership of an asset to the lessee. If this is not the case, it is an operating lease. Under an operating lease, the leasing fee is expensed over the term based on use, which can differ from what is paid de facto as leasing fees during the year. In accordance with these rules, all leases in the Group are recognized as operating leases.

# Depreciation principles

Depreciation is based on the original cost less any residual value. Depreciation is straight-line over the estimated useful life of the asset. Estimated useful lives:

- computers 3–5 years
- equipment, tools, fixtures and fittings 5 years
- The residual value and useful life are assessed annually.

# INTANGIBLE FIXED ASSETS

### Research and development

Expenditure for research activities that relate to obtaining new scientific or technical knowledge is recognized as an expense as incurred.

Expenditure for development activities, whereby the research results or other knowledge is applied to achieve new or improved products or processes, is recognized as an intangible asset in the statement of financial position, provided the product or process is technically and commercially feasible and the company has sufficient resources to complete development, and is subsequently able to use or sell the intangible asset. The carrying amount includes all directly attributable expenses, such as personnel costs and cost of premises. Other expenses for development are expensed in profit for the year as they arise. In the statement of financial position, capitalized development expenditure is recognized at cost less accumulated amortization and any impairment losses. Deferred taxes are taken into account.

#### Additional costs

Additional costs for capitalized intangible assets are recognized as an asset in the statement of financial position only when they increase the future economic benefits of the specific asset to which they are attributable. All other costs are expensed when they arise.

#### Other intangible assets

Other intangible assets acquired by the company are recognized at cost less accumulated amortization and any impairment losses. Expenditure for internally generated goodwill and brands is recognized in profit for the year when the cost is incurred.

#### Amortization principles

Amortization is recognized in profit for the year on a straight-line basis over the estimated useful lives of intangible assets, unless such useful lives are indeterminable. The useful lives are reviewed at least once annually. Capitalized development expenditure on which amortization has not commenced is tested for impairment annually or as soon as there is an indication that the asset may require impairment. Intangible assets with determinable useful lives are amortized from the date the asset is available for use. The following amortization periods are used:

- Capitalized development expenditure 5 years
- Software 3–5 years

#### **IMPAIRMENT LOSSES**

The carrying amount of the Group's assets is tested on each balance sheet date to determine whether there is any indication that an impairment loss has arisen. If any such indication is found, the recoverable amount of the asset is calculated as the higher of the value in use and the net selling price. An impairment loss is recognized if the recoverable amount is less than the carrying amount. The recoverable amount is determined by discounting the estimated future cash flow from the cash-generating units.

#### SHARE CAPITAL

### Treasury stock

Holdings of own shares (treasury stock) and other equity instruments are recognized as a reduction of shareholders' equity. Acquisitions of such instruments are recognized as deductions from shareholders' equity. Proceeds from the divestment of equity instruments are recognized as an increase in shareholders' equity. Any transaction costs are charged directly against shareholders' equity.

#### Dividends

Dividends are recognized as a liability after approval of the dividend by the Annual General Meeting.

### **EMPLOYEE BENEFITS**

#### Defined-contribution plans

Plans in which the company's commitment is limited to the fees the company has undertaken to pay are classified as defined-contribution plans. In such cases, the size of the employee's pension depends on the fees the company pays into the plan or to an insurance company and the capital return the fees generate. Accordingly, it is the employee who carries the actuarial risks (that the remuneration will be lower than expected) and the investment risk (that the invested assets will be adequate to provide the expected remuneration). The company's commitments to the plans are expensed against profit for the year as they are vested by the employees performing the services for the company over a period of time. The Group only has defined-contribution pensions. The Group's obligation for each period is the amount that the Group shall contribute for the specific period.

#### Severance pay

A cost for severance pay for employees is recognized only when the company is demonstrably committed to terminating employment before the normal date.

#### Option programs

The company's option programs are such that on each occasion employees have paid a market price for the options. The market price was determined in accordance with the Black & Scholes model.

#### TAXES

Income tax comprises current and deferred tax and is recognized in profit for the year except when the underlying transactions are recognized in other comprehensive income or in shareholders' equity, whereby the associated tax effect is recognized in other comprehensive income or in shareholders' equity.

Current tax is the expected tax payable on taxable income for the year, using tax rates enacted or substantially enacted on the balance sheet date. Current tax also includes any adjustment to tax payable in respect of previous years.

Deferred tax is calculated using the balance sheet method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Temporary differences in subsidiaries and associated companies are not taken into account when they will probably not be reversed in the foreseeable future. The amount of deferred tax is based on the expected manner of realization or settlement of the underlying assets and liabilities. Deferred tax is computed using tax rates enacted or substantially enacted on the balance sheet date.

A deferred tax asset relating to deductible temporary differences and loss carry-forwards is recognized only to the extent that it is probable that future taxable profits will be available against which the asset can be utilized. The value of deferred tax assets is reduced when it is no longer probable that the related tax benefit will be realized. Any additional income taxes that arise from the distribution of dividends are recognized at the same time as the liability to pay the related dividend arises in the distributing company.

#### **CONTINGENT LIABILITIES**

A contingent liability is recognized when there is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events or when there is a present obligation that cannot be recognized as a liability or provision because it is not probable that an outflow of resources will be required.

#### PARENT COMPANY'S ACCOUNTING POLICIES

The Parent Company prepared its Annual Report in accordance with the Annual Accounts Act (1995:1554) and the Swedish Financial Reporting Board's recommendation RFR 2:2 Accounting for Legal Entities. The Board's statements pertaining to listed companies were also applied. Under RFR 2:2, the Parent Company in its annual report for the legal entity shall apply all the IFRS and interpretations approved by the EU to the extent possible within the framework of the Annual Accounts Act and the Pension Obligations Vesting Act, also considering the relationship between financial reporting and taxation. The recommendation states the exceptions from and additions to IFRS that should be made. The differences between the accounting policies applied in the consolidated financial statements and those applied by the Parent Company are presented below. The accounting policies presented below for the Parent Company have been applied consistently in all periods presented in the Parent Company's financial statements.

#### Dividends

Dividend revenues are recognized when the right to receive the payment is deemed certain.

#### Research and development

All expenditures for research and development are recognized in the Parent Company's income statement. Such reporting is permitted in accordance with RFR 2:2, point 68. In the consolidated financial statements, these development expenditures are recognized as assets in accordance with IAS 38.

#### Taxes

Untaxed reserves in the Parent Company are recognized including deferred tax liabilities. In the consolidated financial statements, untaxed reserves are divided into deferred tax liabilities and shareholders' equity.

#### Group contributions and shareholders' contributions in legal entities

The company recognizes Group contributions and shareholders' contributions in accordance with the statements of the Swedish Financial Reporting Board. Shareholders' contributions are recognized directly in the recipient's

equity whereas the contributor capitalizes the contribution with shares and participations, to the extent that the recognition of an impairment loss is not required. Group contributions are recognized in accordance with their financial substance. This means that Group contributions paid to minimize the Group's overall income tax burden are recognized directly in retained earnings net of the related tax effect. Group contributions that are equivalent to a dividend are recognized as dividends, meaning that Group contributions received and their actual tax effect are recognized in profit and loss. Group contributions paid and the actual tax effect are recognized directly in retained earnings.

Group contributions that are equivalent to shareholder contributions are recognized against retained earnings at the recipient, taking into account the current tax effect. The contributor recognizes Group contributions and their current tax effect as investments in participations in Group companies, insofar as recognition of an impairment loss is not required.

#### **RISKS AND RISK MANAGEMENT**

#### Financial risk management

The Group is exposed to various types of financial risks through its operations. The term "financial risks" refers to fluctuations in the company's earnings and cash flow as a result of changes in exchange rates, interest rates, refinancing, and credit risks. The Board has formulated the Group's financial risk management policy, which constitutes a framework of guidelines and regulations in the form of risk mandates and limits for financial activities.

#### Foreign-exchange risk

Foreign-exchange risk refers to the risk of fluctuations in the value of a financial instrument because of changes in exchange rates. Foreign-exchange risk is related to changes in expected and contracted cash flow (transaction exposure), receivables and liabilities in foreign currency (translation exposure), and financial exposure in the form of currency risk associated with cash flow and investments. To date, the Group has mainly had payments in USD and EUR entailing a foreign exchange risk. No hedging has been performed.

#### Interest-rate risk

Interest-rate risk refers to the effect on earnings that a change in interest rates would cause. Since RaySearch does not have any interest-bearing loans, the interest risk is limited to short-term investments with short fixed interest periods.

#### Financing risk

Financing risk refers to the risk that the company would need to borrow funds in a strained credit market. The Group's operations are financed with equity and are currently not exposed to any financing risk.

#### Credit risk

The Group's credit risk consists of credit risk for receivables from Philips, Nucletron, IBA Dosimetry and Varian, the company's four commercial partners with which products have been launched to date, and from WPE to which the company has sold a system directly. No loan losses have occurred to date, and the Group considers that its credit risk will continue to be very low. See Note 27 for a description of the significance of financial risks.

#### Operational risks

As a result of its operations, the Group is exposed to various operational risks, including the following:

#### Exposure to foreign currencies

Movements in exchange rates could have a relatively substantial impact on the company in general. Note 27 provides a detailed analysis of the exposure to foreign currencies and the risks associated with changes in exchange rates.

#### Dependence on key personnel

RaySearch's future progress is partly dependent on the continuation in the organization of a number of key personnel with specific skills. The loss of one or more of these key people could have an adverse impact on the Group's operations. Part of the personnel has participated in incentive programs and many employees currently hold shares or options in RaySearch.

#### Competition

RaySearch's competitors are primarily the in-house development departments of potential commercial partners. These large medical technology companies have always elected to develop software within their own organization or outsource development work. The more advanced the solutions achieved by RaySearch, the greater the probability that major companies will refrain from proprietary development and instead outsource the task to RaySearch.

#### Strategic cooperation

RaySearch currently has partnerships with Philips, Varian, Nucletron, IBA Dosimetry, Siemens and TomoTherapy. RaySearch has also sold a system directly to WPE, which is a clinical partner, and has several research partnerships. If RaySearch were to lose one or more of these partners, this could have a major impact on the company's sales, profit and financial position. RaySearch is engaged in continuous discussions with a number of medical technology companies in respect of new collaborations.

#### Alternative treatment methods

Of the three primary forms of cancer treatment – surgery, radiation therapy and chemotherapy – radiation therapy is the form that has grown most for curative groups over the past twenty years. RaySearch believes that radiation therapy will continue to be a key treatment form in the future.

## US insurance system

Any decision by the US insurance system not to compensate clinics for treatment in adaptive radiation therapy would adversely affect RaySearch.

#### Official approval

Medical technology products require official approval. RaySearch would be adversely affected if any product scheduled to be sold by its business partners failed to receive official approval.

#### Product development

RaySearch develops highly advanced products, in which RaySearch assumes risk in the development effort through to launch, which could result in higher costs than estimated. This is offset through continuous project follow-up and quality assurance.

#### Fair value

Fair value is synonymous to carrying amount in the Group.

#### Critical estimates and assessments

Executive management has discussed developments, selection and information regarding the Group's critical accounting policies and estimates, as well as the applications of these policies and estimates.

#### Critical assessments in the application of the Group's accounting policies

Certain critical estimates for accounting purposes made in the application of the Group's accounting policies are described below.

### Significant sources of uncertainty in estimates Capitalized development expenses

In calculating the cash-generating units' value for the assessment of any impairment requirements for capitalized development expenses, certain assumptions regarding future circumstances and parameter estimates have been made, as presented in Note 16.

#### Income recognition

The allocation of license sales and support sales over the various periods is crucial for income recognition and for ensuring that allocation is performed uniformly over time.

#### Information regarding the Parent Company

RaySearch Laboratories AB (publ) is a Swedish-registered limited liability company with its registered office in Stockholm. The Parent Company's shares are listed on the NASDAQ OMX Nordic Exchange in the Small Cap segment. The address of the head office is Sveavägen 25, SE-111 34 Stockholm.

# NOTE C SEGMENT REPORTING

# **OPERATING SEGMENTS**

The Group's operations comprise a single segment since the Group's products have similar economic properties. The company's sources of income are heavily interdependent and share the same customer base. Accordingly, the company has deemed that the operations comprise a single operating segment.

### GEOGRAPHIC AREAS

RaySearch's products are primarily sold through partners. The information presented regarding the segment's revenue pertains to the geographic areas grouped on the basis of the location of the end customers.

North America Asia					Europe a rest of th	
PERCENT	2009	2008	2009	2008	2009	2008
Sales	38	44	17	19	45	37

The division of sales is based solely on license revenues and not on support revenues since no regional information is available for support revenues. Of the company's six commercial partners, Philips and Nucletron accounted for the largest share of sales. In 2009, sales through Philips totaled SEK 52,654,000 (45,131,000) and through Nucletron to SEK 20,094,000 (16,519,000).

NOTE 3 INCOME DISTRIBUTION				
	GRO	)UP	PARENT (	OMPANY
SEK 000s	2009	2008	2009	2008
License revenue	60,579	39,032	60,579	39,032
Support revenue	23,108	23,658	23,108	23,658
	83,687	62,690	83,687	62,690

# NOTE 4 EMPLOYEES, PERSONNEL COSTS AND SENIOR EXECUTIVES

The Group company RayIncentive had no employees or personnel costs.

## COSTS FOR REMUNERATION OF PARENT COMPANY AND GROUP EMPLOYEES

SEK 000s	2009	2008
Salaries and remuneration, etc.	28,183	26,582
Pension costs, defined-contribution plans	5,439	4,946
Social security expenses	9,070	8,418
	42,692	39,946

### AVERAGE NUMBER OF EMPLOYEES

The Parent Company had an average of 52 (48) employees, with 39 (36) men and 13 (12) women.

# GENDER DISTRIBUTION IN MANAGEMENT

	-	Percentage of women	
PERCENT	DEC. 31, 2009	DEC. 31, 2008	
Parent Company			
Board of Directors	0	0	
Other senior executives	0	0	
Group total			
Board of Directors	0	0	
Other senior executives	0	0	

# SALARIES AND OTHER REMUNERATION DISTRIBUTED BETWEEN SENIOR EXECUTIVES AND OTHER EMPLOYEES AS WELL AS SOCIAL SECURITY EXPENSES IN THE PARENT COMPANY AND GROUP.

	2009		2008	
	Senior executives and Board (8)	Other employees	Senior executives and Board (9)	Other employees
Salaries and other remuneration	7,353	20,831	6,510	20,072
(of which, bonus)	(894)	_	(11)	_
Social security expenses	3,829	10,679	3,758	9,606
(of which, pension costs)	(1,443)	(3,996)	(1,568)	(3,378)
Parent Company and Group, total	11,182	31,510	10,268	29,678

Salaries and remuneration pertain solely to personnel in Sweden.

### REMUNERATION OF BOARD MEMBERS AND SENIOR EXECUTIVES IN THE PARENT COMPANY AND GROUP

	Basic salary,	Variable			
2009	Board fees	remuneration	Other benefits	Pension costs	Total
Chairman of the Board Erik Hedlund	330	-	-	-	330
Board member Carl Filip Bergendal	110	_	_	_	110
Board member Hans Wigzell	110	_	_	_	110
Board deputy Thomas Pousette <sup>1</sup>	_	_	_	_	_
President Johan Löf	2,570	894	242	459	4,165
Other senior executives (4)	3,339	_	_	984	4,323
Total	6,459	894	242	1,443	9,038

	Basic salary,	Variable			
2008	Board fees	remuneration	Other benefits	Pension costs	Total
Chairman of the Board Erik Hedlund	330	-	-	-	330
Board member Carl Filip Bergendal	110	_	_	_	110
Board member Hans Wigzell	110	_	_	_	110
Board deputy Thomas Pousette <sup>1</sup>	_	_	_	_	_
President Johan Löf	2,169	11	245	383	2,808
Other senior executives (5)	3,781	_	1	1,184	4,966
Total	6,500	11	246	1,567	8,324

No financial instruments or other remuneration was distributed.

<sup>1)</sup> Advokatfirman DLA Nordic KB, in which Board deputy Thomas Pousette was a partner in 2008 and 2009, received SEK 1,391,000 (1,1520,000) in legal fees in 2008 and 2009.

#### VARIABLE REMUNERATION

Variable remuneration paid to the President is based on the Group's earnings and amounts to 2 percent of earnings before tax but may not exceed six months' pay. In 2008, the bonus was removed for all employees except the President and replaced by a profit-sharing foundation. The profit-sharing foundation covers all employees including senior executives except the President. A provision to the profit-sharing foundation is made in a given year if the operating profit for the preceding year reached a level in excess of an operating margin of 20 percent. In such a case, the amount reserved is 10 percent of the part of the operating profit above the limit. The provision has a maximum outcome of 30 percent of the dividend paid. If a dividend is not paid or if the operating margin does not reach 20 percent, no provision is made. If the Annual General Meeting approves the Board's motion regarding dividends for the 2009 fiscal year, a provision of SEK 2.4 M will be established in 2010.

#### PENSIONS

All pension undertakings are defined-contribution plans. The age of retirement for the President is 65 and the pension premium is equivalent to the Swedish ITP plan. The pension commitments for other senior executives shall be equivalent to the Swedish ITP plan. The age of retirement is 65 for all other senior executives. No other pension commitments exist.

#### **SEVERANCE PAY**

If the President chooses to terminate his employment, his term of notice is six months; if the employer terminates employment, the term of notice is 12 months. In either case, the President is not entitled to any special severance pay, but in both cases, the President receives salary during the term of notice. The company and other senior executives have a mutual term of notice of three months during which salary is paid. Members of the Board do not receive any severance pay.

#### **DECISION-MAKING PROCESS**

The decision-making process regarding remuneration and benefits is described in greater detail in the Administration Report.

See Note 6 for information regarding the outstanding option program.

#### SICKNESS ABSENCE, PARENT COMPANY

PERCENT	2009	2008
Sickness absence as a percentage of ordinary working hours	1.1	1.0
Percentage of sickness absence pertaining to long-term sickness absence of 60 days or longer	-	-
Sickness absence as percentage of each group's ordinary working hours:		
Sickness absence by gender:		
Men	1.1	0.9
Women	1.0	1.4

#### SICKNESS ABSENCE BY AGE CATEGORY:

PERCENT	2009	2008
29 years of age and younger	0.4	1.2
Between 30 and 49	1.2	1.0
50 years of age and above	_1]	_1]

<sup>1)</sup> There are no employees in the 50 years of age and above category.

# NOTE **D** AUDITORS' FEES AND COMPENSATION FOR EXPENSES

2009	2008	2007
526	540	599
48	53	50
515	529	584
48	53	50
	526 48 515	526         540           48         53

Auditing assignments refer to the examination of the Annual Report and accounts, the administration by the Board and President, and other duties incumbent on the company's auditors or other matters arising from observations during such examination or implementation of such other duties. Everything else is defined as other assignments.

NOTE O OPTION PROGRAM

#### **OPTIONS**

RaySearch offers option programs to facilitate its ability to attract, motivate, and retain personnel. The subsidiary RayIncentive AB owns shares in RaySearch Laboratories to cover options issued and future option programs. RayIncentive held 449,628 shares in RaySearch Laboratories at December 31, 2008. Of this figure, 365,500 shares pertained to the 2004:1 option program and 103,128 to the 2008:1 option program.

The 2004:1 option program expired on December 31, 2009, whereby options pertaining to 150,000 shares were exercised at an exercise price of SEK 26.95 and the remaining options pertaining to 196,500 shares were repurchased at market price, which is the share price less the exercise price. The net effect of these transactions was a contribution of SEK 3.3 M to the company.

Following redemption, RayIncentive's holding of shares in RaySearch Laboratories amounted to 299,628, of which 103,128 shares were encompassed by existing option programs.

<b>OPTION PROGRA</b>	M, RAYSEARCH LABOR	ATORIES	
			EXERCISE
	EXERCISE PERIOD	SHARES INCLUDED	PRICE (SEK)
	Dec. 31, 2011–		
2008:1	Dec. 31, 2012	103,128	46.50

## **OPERATING EXPENSES SPECIFIED BY TYPE OF COSTS**

	GROUP		PARENT COMPANY	
SEK 000s	2009	2008	2009	2008
Cost of goods sold	-1,013	-661	-1,013	-661
Personnel costs	-13,536	-17,984	-49,090	-42,354
Depreciation/amortization		-10,965		-1,470
Exchange-rate losses	-799	-180	-799	-180
Other operating expenses		-13,854		
		-43,644		

NOTE 8 OTHER OPERATING INCOME

	GROUP		P PARENT COMPANY	
SEK 000s	2009	2008	2009	2008
Exchange-rate gains on operating receivables/liabilities	_	1,912	_	1,912
Other operating income	_	100	_	100
	_	2,012	_	2,012

# NOTE 9 OTHER OPERATING EXPENSES

	GROUP		ROUP PARENT COMPANY	
SEK 000s	2009	2008	2009	2008
Exchange rate losses on operating receivables/liabilities	-799	-188	-799	-188
Other operating expenses	_	-18	_	-18
	-799	-206	-799	-206

# NOTE **10** DEPRECIATION AND AMORTIZATION OF TANGIBLE AND INTANGIBLE FIXED ASSETS

	GROUP PARENT COM		OMPANY	
SEK 000s	2009	2008	2009	2008
Intangible fixed assets				
Amortization according to plan and function				
Administrative expenses	-116	-116	-116	-116
Research and development	-12,103	-10,702	-506	-467
	-12,219	-10,818	-622	-583
Tangible fixed assets				
Depreciation according to plan and function				
Administrative expenses	-168	-141	-358	-345
Research and development	_	-4	-586	-541
	-168	-145	-944	-886
Total amortization and depreciation	-12,387	-10,963	-1,566	-1,469

NOTE 11 OPERATING LEASES

	GR	GROUP		COMPANY
SEK 000s	2009	2008	2009	2008
Leasing agreements in which the company is the lessee				
Rent of premises	6,846	5,393	6,846	5,393
Other leasing	480	813	480	813
Total lease costs	7,326	6,206	7,326	6,206
Contractual future lease fees for leases that expire:				
Within one year	7,339	7,568	7,339	7,568
Later than one but within five years	13,663	14,178	13,663	14,178
Later than five years	_	_	_	_
	21,002	21,746	21,002	21,746

None of the leasing fees are variable.

INTEREST INCOME AND INTEREST EXPENSE ON FINANCIAL
INSTRUMENTS

GROUP		PARENT C	OMPANY
2009	2008	2009	2008
364	2,061	297	1,542
59	712	49	600
423	2,773	346	2,142
-3	-18	-3	-18
-3	-18	-3	-18
420	2.755	343	2.124
	2009 364 59 423 -3 -3 -3	2009 2008 364 2,061 59 712 423 2,773 -3 -18 -3 -18	2009         2008         2009           364         2,061         297           59         712         49           423         2,773         346           -3         -18         -3           -3         -18         -3

NOTE 13 APPROPRIATIONS		
SEK 000s	2009	2008
Tax allocation reserve, provision for the year	-2,983	-1,919
Tax allocation reserve, reversals for the year	747	2,491
Accelerated depreciation for tax purposes, equipment	327	171
	-1,909	743



	GROUP	
SEK 000s	2009	2008
Current tax expense		
Tax expense for the period	-2,366	-1,802
Adjustment of tax attributable to prior years	-63	-8
	-2,429	-1,810
Deferred tax expense/income		
Deferred tax for temporary differences		
capitalized development expenditure	-8,206	-5,295
allocation of untaxed reserves	-502	208
deferred tax resulting from changes in the tax rate	-	1,014
	-8,708	-4,073
Total tax expense/income recognized in the Group	-11,137	-5,883

<b>RECONCILIATION OF EFFECTIVE TAX</b>	GROUP			
	20	09	200	)8
SEK 000s	Percent	Amount	Percent	Amount
Profit before tax		41,283		24,106
Swedish tax rate	26.3	-10,857	28.0	-6,750
Non-taxable income	0.0	1	-0.2	55
Other non-deductible costs	0.2	-113	0.4	-89
Standard interest on tax				
allocation reserve	0.3	-105	0.7	-168
Tax pertaining to prior years	0.1	-63	0.0	-8
Other items	-	-	-0.3	63
Deferred tax resulting from				
changes in the tax rate	-	-	-4.2	1,014
Recognized effective tax	26.9	-11,137	24.4	-5,883

PARENT COMPANY		
2009	2008	
-2,353	-1,612	
-63	-8	
2,416	-1,620	
_	-683	
_	-683	
-2,416	-2,303	
	2009 -2,353 -63 <b>2,416</b> -	

RECONCILIATION OF EFFECTIVE TAX	PARENT COMPANY			
	20	09	200	)8
SEK 000s	Percent	Amount	Percent	Amount
Profit before tax		8,121		17,336
Swedish tax rate	26.3	-2,136	28.0	-4,854
Non-taxable income	0.0	1	-19.8	3,436
Other non-deductible costs	1.4	-113	0.5	-89
Standard interest on tax				
allocation reserve	1.3	-105	1.0	-168
Tax pertaining to prior years	0.7	-63	0.0	-8
Other items	-	-	-0.4	63
Deferred tax resulting from				
changes in the tax rate	-	-	3.9	-683
Recognized effective tax	29.7	-2,416	13.3	-2,303

# NOTE **15** DIVIDEND PER SHARE, EARNINGS PER SHARE AND NUMBER OF SHARES

Profit for the year attributable to Parent Company shareholders (before or after dilution)	30,146	18,223
Earnings per share after dilution*	0.88	0.53
Weighted average number of shares after dilution*	34,282,773	34,282,773
Effect of options outstanding*	-	-
Weighted average number of shares before dilution*	34,282,773	34,282,773
Number of shares used in calculating earnings per share		
Dividend per share <sup>1)</sup>	0.50	None
	2009	2008

<sup>1)</sup> Proposed for 2009. \* Corrected for 3:1 share split.

# NOTE 16 CAPITALIZED DEVELOPMENT EXPENSES

	GRO	UP
	DEC. 31,	DEC. 31,
SEK 000s	2009	2008
Accumulated cost		
Opening balance	112,261	82,652
Internally developed assets	43,307	29,609
Closing balance	155,568 11	
Accumulated amortization according to plan		
Opening balance	-31,777	-21,078
Amortization according to plan for the year	-12,104	-10,699
Closing balance	-43,881	-31,777
Closing carrying amount	111,687	80,484

# NOTE 17 SOFTWARE

	GROUP		PARENT C	OMPANY
	DEC. 31,	DEC. 31,	DEC. 31,	DEC. 31,
SEK 000s	2009	2008	2009	2008
Accumulated cost				
Opening balance	3,459	2,818	3,459	2,818
New acquisitions	37	641	37	641
Closing balance	3,496	3,459	3,496	3,459
Accumulated depreciation				
according to plan				
Opening balance	-2,238	-1,654	-2,238	-1,654
Amortization according to				
plan for the year <sup>1]</sup>	-622	-584	-622	-584
Closing balance	-2,860	-2,238	-2,860	-2,238
Closing carrying amount	636	1,221	636	1,221
		•	•••••••••••••••••••••••••••••••••••••••	

<sup>1)</sup> Of the Group's amortization, SEK 506,000 (464,000) was capitalized.

# NOTE 18 TANGIBLE FIXED ASSETS

	GROUP PARENT COMPANY			
SEK 000s	2009	2008	2009	2008
Equipment, tools, fixtures and fitting				
Accumulated cost				-
Opening balance	7,464	7,733	7,464	7,733
New acquisitions	1,122	512	1,122	512
Divestments and disposal	-243	-781	-243	-781
Closing balance	8,343	7,464	8,343	7,464
Accumulated depreciation according to plan				
Opening balance	-5,538	-5,400	-5,538	-5,400
Divestments and disposal	207	754	207	754
Depreciation according to plan for the year <sup>1)</sup>	-944	-892	-944	-892
Closing balance	-6,275	-5,538	-6,275	-5,538
Closing carrying amount	2,068	1,926	2,068	1,926

 $^{\rm 1]}$  Of the Group's depreciation for the year, SEK 776,000 (741,000) was capitalized.

	PARENT COMPANY		
	DEC. 31, DEC. 3		
SEK 000s	2009	2008	
Accumulated cost			
Opening and closing balance	2,160 2,160		

Specification of Parent Company's and Group's holdings of participations in Group companies.

Subsidiary/Corp. Reg. No. / Reg. office	Number/participa- tions in percent <sup>1)</sup>	Adjusted equity/Profit for the year <sup>2]</sup>	Carrying amount
RayIncentive AB, 556635-8247, Stockholm	9,080/90.8	6,180/3,834	2,160
			2,160

<sup>1]</sup> Pertains to ownership share of capital; voting rights total 49.7 percent.

<sup>2</sup> Adjusted equity refers to the share of the company's equity, including the equity share of untaxed reserves. Profit for the year refers to the ownership share of the company's earnings after tax, including the capital share in the change for the year in untaxed reserves.

## NOTE **20** ACCOUNTS RECEIVABLE

No bad debt losses and no impairments related to accounts receivable were recognized during the year.

The company's credit risk consists of credit risk for receivables from Philips, Nucletron, IBA Dosimetry and Varian, which to date are the company's four commercial partners with which products have been launched. The company estimates that the credit risk will remain very low and the credit quality is high.

Total	25,064	19,732
Past due more than 30 days	_	576
Past due 0–30 days	838	2,905
Not past due	24,226	16,251
AGE ANALYSIS OF CARRYING AMOUNT	2009	2008
	DEC. 31,	DEC. 31,

The past due receivables were paid after the balance sheet date.

# NOTE **21** PREPAID EXPENSES AND ACCRUED INCOME

	0.00		DADENT COMDANY		
	GRUUP		PARENT COMPANY		
	DEC. 31,	DEC. 31, DEC. 31,		DEC. 31,	
SEK 000s	2009	2008	2009	2008	
Prepaid rent	1,721	1,712	_,	1,712	
Prepaid insurance	575	484	575	484	
Accrued interest income	-	22	-	13	
Otheritems		1,296			
	4,259	3,514	4,259	3,505	

## NOTE 22 CASH AND CASH EQUIVALENTS

	GROUP		PARENT COMPANY		
SEK 000s	09-12-31	08-12-31	09-12-31	08-12-31	
The following components are included in cash and cash equivalents:					
Cash and bank balances		50,664			
Current investments equivalent to cash and cash equivalents	_	19,980	_	19,980	
	80,013	70,644	72,724	54,534	

The above items have been classified as cash and cash equivalents on the basis that:

- They represent insignificant risk for changes in value.
- They are easily converted into cash.
- They have a lifetime of a maximum three months from the acquisition date.

# NOTE 23 DEFERRED TAX ASSETS AND TAX LIABILITIES

#### GROUP DEC. 31. DEC. 31. SEK 000s 2009 2008 Deferred tax liabilities for: Intangible assets 21,167 17,241 Opening balance Change during the year 8,207 3,926 29,374 **Closing balance** 21,167 Untaxed reserves Opening balance 5,073 5,609 Change during the year 502 -536 5,575 5,073 **Closing balance** Carrying amount 34,949 26,240 **GROUP AND** PARENT COMPANY DEC. 31, DEC. 31, SEK 000s 2009 2008 Deferred tax assets in respect of loss carry-forwards 11,253 Opening balance 10,569 -2,353 -684 Change during the year

Valuation is based on the nominal tax rate. The change in 2008 was due to the tax rate being changed from 28 percent to 26.3 percent.

8,216

10,569

# NOTE **24** UNTAXED RESERVES

	PARENT (	COMPANY
	DEC. 31,	DEC. 31,
SEK 000s	2009	2008
Accumulated depreciation/		
amortization in excess of plan:		
Opening balance, January 1	53	224
Reversals/ depreciation/amortization		
in excess of plan for the year	-326	-171
Closing balance, December 31	-273	53
Untaxed reserves		
Allocated at taxation in 2004	_	747
Allocated at taxation in 2005	1,443	1,443
Allocated at taxation in 2006	5,673	5,673
Allocated at taxation in 2007	6,167	6,167
Allocated at taxation in 2008	3,288	3,288
Allocated at taxation in 2009	1,919	1,919
Allocated at taxation in 2010	2,982	_
	21,199	19,290

# NOTE 25 OTHER LONG-TERM LIABILITIES

	KONCERNEN		
	DEC. 31, DEC. 31		
SEK 000s	2009	2008	
Opening balance	1,610	967	
Change during the year	-968	643	
Closing balance	642 1,610		

The amount pertains to the premiums for the options recognized as a liability. No liabilities fall due for payment later than five years from the balance sheet date.

**Closing balance** 

# NOTE 26 ACCRUED EXPENSES AND PREPAID INCOME

	<b>GROUP</b> DEC. 31, DEC. 31,		PARENT COMPANY	
			DEC. 31,	DEC. 31,
SEK 000s	2009	2008	2009	2008
Social security expenses and vacation costs	2,650	2,307	2,650	2,307
Other personnel-related costs	1,260	43	1,260	43
Auditing expenses	427	313	414	300
Annual report	1,200	909	1,200	909
Prepaid income	146	146	146	146
Other items	454	225	455	225
	6,137	3,943	6,125	3,930



### EFFECTIVE RATE OF INTEREST AND LOAN-MATURITY STRUCTURE

RaySearch's cash and cash equivalents are liquid funds in bank accounts carrying an effective rate of interest of 0.58 percent as well as interest-bearing securities with a term shorter than three months carrying an effective rate of interest of 0.88 percent. Under the company's financial policy, investments are made in K1-rated interest-bearing securities.

#### TRANSACTION EXPOSURE

Translated to SEK, the Group's transaction exposure is distributed among the following currencies:

	2009		2009 2008		)8
	SEK	Percent	SEK	Percent	
EUR	30,860	37	17,559	28	
USD	51,814	63	44,470	72	
	82,674		62,029		

The Group's income statement includes exchange-rate losses in a net amount of SEK 799 (gain: 1,723) in operating profit and SEK 0 (0) in net financial items. Translation exposure was not hedged.

## SENSITIVITY ANALYSIS

The company is dependent on trends in the USD and EUR exchange rates against the SEK, since invoicing to Philips and Varian is in USD and invoicing to Nucletron, IBA Dosimetry and WPE is in EUR. In 2009, revenues in USD were recognized at an average exchange rate of SEK 7.48, compared with SEK 6.69 in 2008. Revenues in EUR were recognized at an average exchange rate of SEK 10.49, compared with SEK 9.86 in 2008. A sensitivity analysis of currency exposure indicates that the impact on operating profit in 2009 of a change in the average USD exchange rate of +/-10 percent is +/- SEK 5.1 M. The sensitivity analysis shows that the corresponding effect of a change in the average EUR exchange rate of +/- 10 percent amounts to SEK +/- 3.1 M.

At December 31, 2009, a change in interest rates of 1 percent would increase Group profit before tax by approximately SEK 0.8 M (0.7).

# NOTE 28 MEASUREMENT OF FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE

FAIR VALUE AND CARRYING AMOUNT RECOGNIZED IN	Financial assets				
THE BALANCE SHEET BELOW:	measured at				
	fair value in	Accounts and	Other financial		
SEK 000s	profit and loss	loan receivables	liabilities	Carrying amount	Fair value
Group					
Dec. 31, 2009					
Accounts receivable		25,064		25,064	25,064
Cash and cash equivalents		80,013		80,013	80,013
Total		105,077		105,077	105,077
Accounts payable			5,525	5,525	5,525
Total			5,525	5,525	5,525
Dec. 31, 2008					
Accounts receivable		19,732		19,732	19,732
Cash and cash equivalents	19,980	50,664		70,644	70,644
Total	19,980	70,396		90,376	90,376
Accounts payable			4,283	4,283	4,283
Total			4,283	4,283	4,283
Parent Company					
Dec. 31, 2009					
Accounts receivable		25,064		25,064	25,064
Cash and cash equivalents		72,724		72,724	72,724
Total		97,788		97,788	97,788
Accounts payable			5,525		5,525
Total			5,525		5,525
Dec. 31, 2008					
Accounts receivable		19,732		19,732	19,732
Short-term investments	19,980	· · · · · · · · · · · · · · · · · · ·		19,980	19,980
Cash and cash equivalents		34,554		34,534	34,534
Total	19,980	54,286		74,266	74,266
Accounts payable			4,283	4,283	4,283
Total			4,283	4,283	4,283

## OTE **29** PLEDGED ASSETS AND CONTINGENT LIABILITIES

	DEC. 31,	DEC. 31,
SEK 000s	2009	2008
Pledged assets		
Chattel mortgages	5,000	5,000
Total	5,000	5,000

The company has a credit limit on its overdraft facilities of SEK 5,000,000 which was not utilized in 2009 or 2008.

Contingent liabilities	None

## NOTE 30 TRANSACTIONS WITH CLOSELY RELATED PARTIES

For a description of transactions with senior executives, refer to Note 4. Otherwise, there were no transactions with closely related parties. No sales or purchases were undertaken among Group companies.

# NOTE **31** CASH-FLOW STATEMENT

INTEREST PAYMENTS AND DIVIDEND						
RECEIVED	GROUP		GROUP PAR		PARENT COMPAN	
	DEC. 31,	DEC. 31,	DEC. 31,	DEC. 31,		
	2009	2008	2009	2008		
Dividend received	_	_	12,000	_		
Interest received	441	3,074	364	2,431		
Interest paid	7	18	7	18		

The Board of Directors provides assurance that the Annual Report was prepared in accordance with generally accepted accounting policies in Sweden and that the consolidated financial statements were prepared in accordance with the international accounting standards referred to in the European Parliament and Council regulation (EC) no. 1606/2002 dated July 19, 2002 on the application of international accounting standards. The Annual Report and the consolidated financial statements provide a true and fair view of the Group's and Parent Company's financial position and earnings. The Administration Report for the Parent Company and the Group's operations, financial position and earnings, and describes the significant risks and uncertainties faced by the Parent Company and the companies in the Group.

As stated above, the Annual Report and the consolidated financial statements were approved for publication by the Board of Directors on April 9, 2010. The consolidated income statement, statement of comprehensive income and statement of financial position, and the Parent Company's income statement and balance sheet will be submitted for adoption at the Annual General Meeting on May 25, 2010.

> Erik Hedlund Chairman of the Board

Carl Filip Bergendal Board member Johan Löf President/CEO and Board member

> Hans Wigzell Board member

My audit report was submitted on April 9, 2010

# **AUDIT REPORT**

## TO THE ANNUAL MEETING OF THE SHAREHOLDERS OF RAYSEARCH LABORATORIES AB (PUBL)

#### Corporate Registration Number 556322-6157

I have audited the annual accounts, the consolidated financial statements, the accounting records and the administration of the Board of Directors and the President of RaySearch Laboratories AB (publ) for the year 2009. The annual report and consolidated financial statements are included in the printed version of this document on pages 44–75. The Board of Directors and the President are responsible for these accounts and the administration of the company as well as for the application of the Annual Accounts Act when preparing the annual accounts and the application of International Financial Reporting Standards (IFRS) as adopted by the EU and the Annual Accounts Act when preparing the consolidated financial statements. My responsibility is to express an opinion on the annual accounts, the consolidated financial statements and the administration based on my audit.

I conducted my audit in accordance with generally accepted auditing standards in Sweden. Those standards require that I plan and perform the audit to obtain high but not absolute assurance that the annual accounts and the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the accounts. An audit also includes assessing the accounting policies used and their application by the Board of Directors and the President and significant estimates made by the Board of Directors and the President when preparing the annual accounts and the consolidated financial statements as well as evaluating the overall presentation of information in the annual accounts and the consolidated financial statements. As a basis for my opinion concerning discharge from liability, I examined significant decisions, actions taken and circumstances of the company in order to be able to determine the liability, if any, to the company of any Board member or the President. I also examined whether any Board member or the President has, in any other way, acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association. I believe that my audit provides a reasonable basis for my opinion set out below.

The annual accounts have been prepared in accordance with the Annual Accounts Act and give a true and fair view of the company's financial position and results of operations in accordance with generally accepted accounting policies in Sweden. The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and the Annual Accounts Act and give a true and fair view of the Group's financial position and results of operations. The statutory Administration Report is consistent with the other parts of the annual accounts and the consolidated financial statements.

I recommend to the Annual Meeting of shareholders that the income statement and balance sheet of the Parent Company and the statement of comprehensive income and statement of financial position of the Group be adopted, that the profit of the Parent Company be dealt with in accordance with the proposal in the Administration Report and that the members of the Board and the President be discharged from liability for the fiscal year.

Stockholm, April 9, 2010

Anders Linér Authorized Public Accountant

# **CORPORATE GOVERNANCE REPORT**

#### GENERAL

All companies listed on NASDAQ OMX Stockholm have been obligated to apply the Swedish Code of Corporate Governance (referred to below as "the Code") since July 1, 2008. However, RaySearch started applying the Code before it became mandatory. The aim of the Code is to improve the governance of Swedish companies, and in particular to ensure that companies are managed in the best interests of their owners. In turn, a high level of corporate governance enhances confidence in the companies among the general public and in the capital market.

The term "apply the Code" means companies actively making a decision on their standpoints in relation to the various regulations of the Code. If a company chooses to deviate from the Code's rules, it must explain why in accordance with the principle of "comply or explain." Since the Code's rules are primarily designed for larger companies with diversified ownership, they may be unnecessarily burdensome and difficult to apply for smaller companies with a more concentrated ownership structure. RaySearch is a small company with a clear principal owner who is also actively involved in the company by serving as the President. In the vast majority of cases, this is why RaySearch has opted not to follow a specific Code regulation.

This corporate governance report has not been audited.

#### **QUALITY ASSURANCE OF THE FINANCIAL STATEMENTS, ETC**

The Board of Directors is responsible for ensuring that an efficient internal control and risk-management system is in place. The Board has delegated this responsibility to the President who works with such issues. Responsibilities and authorities are defined in policies and instructions, for example a Finance Policy and an attestation manual. The company's auditor participates in a Board meeting at least once annually.

#### **ANNUAL GENERAL MEETING**

Following proposals by the owners, the Board of Directors is elected at the Annual General Meeting (AGM) for a term of office until the conclusion of the following AGM. Auditors are elected at the AGM for a period of four years. The date of the AGM is announced not later than in conjunction with the third-quarter interim report and is simultaneously published on the company's website. Shareholders representing 34.5 percent of the total number of shares and 55.5 percent of the total number of votes in the company participated in RaySearch's AGM held on May 26, 2009 in Stockholm. RaySearch's President, Board and auditors attended the Meeting.

#### NOMINATION COMMITTEE

The company deviates from the Code's rules by not appointing a nomination committee. The Board believes that considering RaySearch's ownership structure, a nomination committee would not serve a purpose and would only generate unnecessary costs.

#### **BOARD OF DIRECTORS**

RaySearch's Board of Directors makes decisions on matters regarding the company's strategic direction, structure and organization, and research and development. The Board also discusses partnership agreements, interim reports, the annual accounts, auditing issues, the budget and key policies. In addition, it is the Board's duty to ensure that correct information is provided to the stock market. The Board's work is regulated in such documents as the Companies Act, the Articles of Association and the formal work plan adopted by the Board. Under the Articles of Association, the Board shall comprise no fewer than three and no more than eight members, with no more than three deputies.

In 2009, the RaySearch Board comprised four members elected by the AGM, with one deputy. RaySearch deviates from the Code by appointing a deputy. This is because the reason usually cited for not appointing a deputy (i.e. that deputies often receive less information than regular Board members) does not apply to RaySearch since the deputy also serves as the Secretary of the Board and always attends the meetings and receives the same material as the regular Board members.

Nevertheless, it can be mentioned that no deputy will be proposed for election at the 2010 AGM. This is because deputy Board member Thomas Pousette has been employed as General Counsel at RaySearch since January 2010 and because the President already serves as a Board member. Although the Board does not believe that if Thomas Pousette were to remain a deputy member it would contravene the wording of the Code (the Code stipulates that a maximum of one member of management may be a Board member), the Board does not want RaySearch to be perceived as contravening the spirit of the Code. Furthermore, the need for a deputy has proven to be very little.

The AGM held on May 26, 2009 elected Erik Hedlund as Chairman of the Board until the following AGM. The Board fulfills the requirement for independent Board members as imposed by NASDAQ OMX Stockholm and the Code. The Board evaluates its work once per fiscal year. This review forms the basis of the Board's future

working methods. Although the Board also evaluates the work of the President, the company deviates from the Code in this respect in that the President may be participate in this evaluation. The reason is that the President is a Board member and the Board believes that the presence of the President does not have a negative effect on the evaluation.

#### WORK OF THE BOARD IN 2009

The Board's work is governed by a formal work plan that is adopted annually and regulates such issues as the decision-making structure in the company, the Board meeting schedule and the duties of the Chairman. The internal control issues that are the responsibility of the Board are addressed by the Board as a whole. In addition, the company's auditors personally report their observations from their audit and their assessment of the internal control to the Board every year. The Board held eight meetings during the year. Erik Hedlund, Carl Filip Bergendal and Hans Wigzell attended all Board meetings and Johan Löf seven. Deputy member Thomas Pousette attended all meetings. Considering the size of the Board, it was not deemed necessary to introduce a separate delegation of duties between the Board members. For the same reason, no committees were established.

#### **REMUNERATION COMMITTEE**

RaySearch deviates from the Code by not establishing a remuneration committee. This is because the size of the Board (and the company) does not warrant any such committee. The remuneration of the President is determined by the Board (without the participation of the President) following negotiations between the President and the Chairman of the Board, while remuneration of other senior executives is determined following negotiations between the President and the individual members of management.

#### **AUDIT COMMITTEE**

In addition, RaySearch deviates from the Code by not establishing an audit committee. This is due to the fact that the size of the Board (and the company) does not warrant any such committee. The Board as a whole performs the work of an audit committee.

#### **INTERNAL CONTROL**

No report on the internal control at RaySearch has been prepared. The Board believes it is sufficient that the company's auditors participate in at least one Board meeting per year. Also, the size of the company does not justify the increased costs that would be caused by preparing a separate report.

#### FURTHER INFORMATION

For further information regarding the Board and the President, refer to page 81 and Note 4 of the Annual Report. For further information regarding the auditors, refer to page 79 and Note 5 of the Annual Report.

Stockholm, April 9, 2010 The Board of Directors

# SENIOR MANAGEMENT AND AUDITORS



## 1. JOHAN LÖF, PRESIDENT AND CEO

Member of the RaySearch Board since 2000. Other directorships: RayIncentive AB. Born: 1969.

**Educational background:** M.Sc. in Engineering Physics from the Royal Institute of Technology and Ph.D. from the Department of Medical Radiation Physics at the Department of Oncology-Pathology, Karolinska Institutet. As a doctoral student he worked with mathematical models for optimization of radiation therapy and also developed the prototype for ORBIT.

**Professional experience:** President and CEO of RaySearch since 2000. **Shareholding:** 6,243,084 Class A and 843,393 Class B shares.

## 2. ANDERS MARTIN-LÖF, CHIEF FINANCIAL OFFICER

#### Born: 1971.

**Educational background:** M.Sc. in Engineering Physics from the Royal Institute of Technology and ENSIMAG in Grenoble, France. B.Sc. in Business Administration and Economics from the Stockholm University.

**Professional experience**: Before joining RaySearch, Anders Martin-Löf served as Director of Investor Relations and held various business development positions for the biotech company Biovitrum. Prior to that he was a management consultant with the Boston Consulting Group, Cell Network and co-founder and CEO of ScienceCap, a consulting firm focused on small companies in the biotech and medtech sectors. He has also attended the Swedish Army Language School and worked at the Swedish Consulate General in St. Petersburg, Russia. Joined RaySearch in 2007.

**Shareholding:** 0. Options: Options on 15,000 Class B shares in RaySearch Laboratories.

#### **3. ANDERS MURMAN, DIRECTOR OF DEVELOPMENT**

#### Born: 1967.

**Educational background:** M.Sc. in Engineering Physics from the School of Engineering at Uppsala University, majoring in systems development and radiation science.

**Professional experience**: Anders Murman has worked in radiation therapy throughout his professional career. He worked for twelve years at Helax, MDS Nordion, and Nucletron in a number of positions, including research, development, service, support, sales, marketing, and business development in both Uppsala and California. Most recently, before joining RaySearch, he worked as senior designer for Nucletron's product suite Oncentra MasterPlan. He has been employed at RaySearch since 2004.

Shareholding: 900 Class B shares. Options: 0.

## 4. HENRIK REHBINDER, DIRECTOR OF RESEARCH

### Born: 1972.

**Educational background:** M.Sc. in Engineering Physics. In 2001, he received his Ph.D. in Optimization and Systems Theory from the Royal Institute of Technology, Stockholm. His Ph.D. studies focused mainly on mathematical methods for autonomous robot systems and biomechanical models of the human body.

**Professional experience:** Employed at RaySearch since 2002. **Shareholding:** 32,400 Class B shares.

## 5. ANDERS LIANDER, CHIEF TECHNOLOGY OFFICER

### Born: 1971.

Educational background: M.Sc. in Electrical Engineering from the Royal Institute of Technology, Stockholm, with a focus on medical technology. Professional experience: He began at the Division of Medical Radiation Physics at the Department of Oncology-Pathology, Karolinska Institutet, in 1996 and was employed for two years as a doctoral student with the main task of developing ORBIT together with Johan Löf. Subsequently, he worked in product development at Elekta. He has been employed by RaySearch since the company was founded in 2000.

Shareholding: 1,061,577 Class A and 185,157 Class B shares.

#### 6. THOMAS POUSETTE, GENERAL COUNSEL

General Counsel at RaySearch since January 2010. Deputy member of the RaySearch Board since 2004 and Secretary of the Board since 2000. **Other directorships:** None.

Born: 1964.

Educational background: LLM; (Stockholm University), LLM; (King's College London).

**Professional experience:** County Administrative Court, Jämtland County (1991–1993), Administrative Court of Appeal in Sundsvall (1993–1994), Advokatfirman DLA Nordic (1994–2009) and General Counsel of RaySearch since January 2010. He is not an independent Board member in relation to RaySearch but is independent in relation to major shareholders in the company.

Shareholding: 12,000 Class B shares.

#### AUDITOR

## Anders Linér Auditor at RaySearch Laboratories since 2003. Authorized Public Accountant, KPMG AB. Born: 1952

## DEPUTY AUDITOR

Lena Krause Deputy auditor at RaySearch Laboratories since 2003. Authorized Public Accountant, KPMG AB. Born: 1961

# **BOARD OF DIRECTORS**



### **1. ERIK HEDLUND**

Chairman and member of the Board of RaySearch Laboratories since 2000. President and member of the Board of C-RAD AB, as well as chairman of the three subsidiaries C-RAD Positioning AB, C-Imaging AB and C-RAD Innovation AB. **Other directorships:** Chairman of the Boards of Scandiflash AB, Scandiflash Holding AB, hhDesign AB, RayIncentive AB and XRF Analytica, and member of the Board of Ramsta Robotics AB.

Born: 1948.

Educational background: M.Sc. in Electrical Engineering from the Royal Institute of Technology (KTH) and MBA from Stockholm University.

**Professional experience:** Erik Hedlund has held a number of senior positions in major international groups, including Siemens and Saab, as well as in small and mid-sized companies during his career. He has concentrated on high-tech companies with the focus on medical technology. Since 1994, his main focus has been on radiation therapy and radiation physics. He is an independent Board member in relation to RaySearch Laboratories but not in relation to major shareholders in the company.

Shareholding: 1,567,089 Class A and 228,699 Class B shares.

#### 2. JOHAN LÖF

President and CEO. Member of the RaySearch Board since 2000. **Other directorships:** RayIncentive AB.

## Born: 1969.

**Educational background:** M.Sc. in Engineering Physics from the Royal Institute of Technology and Ph.D. from the Department of Medical Radiation Physics at the Department of Oncology-Pathology, Karolinska Institutet. As a doctoral student, he worked with mathematical models for optimization of radiation therapy and also developed the prototype for ORBIT.

**Professional experience:** President and CEO of RaySearch since 2000. He is not an independent Board member in relation to RaySearch Laboratories or in relation to major shareholders in the company.

Shareholding: 6,243,084 Class A and 843,393 Class B shares.

## **3. CARL FILIP BERGENDAL**

Member of the RaySearch Board since 2000. Other directorships: RayIncentive AB. Born: 1945.

**DUIII:** 1943

**Educational background:** M.Sc. in Engineering Physics from the Royal Institute of Technology and MBA from the Stockholm School of Economics.

**Professional experience:** A number of senior positions in subsidiaries of the Modo Group (1972–1980) and in the medical technology company Stille-Werner (1980–1987), with the two final years as President and CEO. He has worked since 1988 as a certified process manager in Lots® and has also provided support for managers in large and mid-size companies undergoing restructuring processes. Partner of the Scandinavian Leadership AB since 2003. Independent Board member in relation to RaySearch Laboratories and in relation to major shareholders in the company.

Shareholding: 1,061,577 Class A and 154,920 Class B shares.

## 4. HANS WIGZELL

Member of the RaySearch Board since 2004. Professor at Karolinska Institutet in Solna.

**Other directorships:** Chairman of Karolinska Innovations AB, Karolinska Development AB, Karolinska Development II AB and Board member of Biovitrum AB, Diamyd AB and Intercell AG.

**Other assignments:** Member of the Royal Swedish Academy of Science and the Academy of Engineering Science.

Born: 1938.

Educational background: Doctor of Medicine.

Professional experience: Dean of Karolinska Institutet in Solna, 1995–2003. Independent Board member in relation to RaySearch Laboratories and in relation to major shareholders in the company. Shareholding: 0. Options: 0.

### **5. THOMAS POUSETTE**

General Counsel at RaySearch since January 2010. Deputy member of the RaySearch Board since 2004 and Board Secretary since 2000. **Other directorships:** None.

Born: 1964.

Educational background: LLM; (Stockholm University), LLM; (King's College London).

**Professional experience:** County Administrative Court, Jämtland County (1991–1993), Administrative Court of Appeal in Sundsvall (1993–1994), Advokatfirman DLA Nordic (1994–2009) and General Counsel of RaySearch since January 2010. He is not an independent Board member in relation to RaySearch but is independent in relation to major shareholders in the company.

Shareholding: 12,000 Class B shares.

# **GLOSSARY**

Accelerator Also sometimes referred to as linear accelerator or linac. The accelerator is used to create and shape the radiation beams used in radiation therapy. Usually there are one to ten accelerators per cancer clinic. Major manufacturers are Elekta, Siemens, and Varian.

Adaptive Radiation Therapy (ART) Radiation therapy in which information extracted from image studies (CT, MRI or PET scans) acquired during the course of treatment is used to correct the treatment. This method reduces the effects of uncertainties and erroneous information during planning and improves treatment outcome. Refer also to IGRT.

**Algorithms** A method for solving a problem in a number of steps, for example, a calculation procedure.

**Algorithm development** The process of formulating algorithms. Algorithm development focuses on the method itself and not on programming, although programming accounts for a substantial share of algorithm development.

ART Refer to Adaptive Radiation Therapy.

Biological optimization Refer to Radiobiological optimization.

**Brachytherapy** Local radiation treatment using radioactive isotopes, usually radium, iridium or cobalt, placed directly on or in the patient.

**Carbon ions** By accelerating carbon atoms to speeds approaching half the speed of light, the carbon atom is ionized and can be used for radiation therapy that has a unique biological effect, in addition to the favorable properties that the type of radiation shares with protons.

**Collimator angles** The collimator used to limit the flow profile's broadening can be rotated around its own axis.

**Computer tomography (CT scan)** The usual diagnostic method for cancer today. A method that uses X-rays to produce a 3D image of the internal density of the body.

**Cone-beam CT** Technology for taking computer tomography (CT) images by means of a cone-formed X-ray beam, permitting images to be acquired promptly; is used when CT is integrated with the treatment machine.

**Conventional three-dimensional conformal radiation therapy (3D-CRT)** The treatment method used today when IMRT is not used. Involves shaping the beams to conform to the contour of a tumor using an MLC, while the intensity of the beam remains constant.

CT (Computer tomography) Refer to computer tomography.

**Curative radiation therapy** Therapy in which clinicians decide to treat patients in an effort to cure the cancer, in other words, completely eradicate the tumor. The opposite is palliative treatment. See below.

**Detector technology** Technology used to measure radiation magnitudes. Technical examples include ion chambers, diodes or electrometers.

**Direct optimization of machine parameters** The basis of RayMachine. During optimization, direct optimization of machine parameters entails the use of a detailed model of the accelerator with its physical and technical limitations.

**Dose calculation algorithms** Algorithms for calculating the radiation dose that the patient receives, given a specific machine setting.

Dose response relationships How tissue reacts to radiation.

**Dosimetry** An area of science dealing with the measurement of absorbed doses in materials from ionizing radiation.

Fluence optimization A method used for calculating IMRT plans in which the photon fluence is permitted to vary randomly across each beam's crosssection. The photon fluences are then recomputed to machine settings in a stage that adversely impacts on treatment quality. A better method is "Direct optimization of machine parameters."

**Fraction** Radiation therapy is usually divided into 30–40 sessions known as fractions.

**Gantry angle optimization** Optimization method that, in addition to computing the optimal collimator setting or fluence profiles, also simultaneously calculates optimal beam angle.

**IGRT – Image-Guided Radiation Therapy** Radiation therapy in which information extracted from images of patients in the treatment position is used for basic geometric corrections such as the patient positioning. Typical imaging modalities are portal imaging and CT scanners integrated with the treatment machine (see Cone-beam CT). By means of this procedure, positioning errors can be reduced and a better treatment gained. Refer also to Adaptive radiation therapy.

**IMRT** (Intensity Modulated Radiation Therapy) is a technique in which the intensity of the beam is varied spatially using a multi-leaf collimator. Traditional radiation therapy uses only homogeneous intensity.

**Light ions** An ion is an atom with a negative or a positive charge due to an excess or deficit of electrons. Ions with a lower atomic number, such as helium (2), beryllium (4) and carbon (6) are referred to as being light.

Magnetic Resonance (MR) An increasingly common diagnostic technique that can be used on the entire body, using the magnetic resonance of the body's molecules. Since MR provides very good contrast imagery of the bodies' soft tissues, it is superior to CT in assessing the tumor's position and spread.

MLC Multileaf collimator The multileaf collimator is a device that shapes the radiation beam and is installed in the treatment head of a linear accelerator. Used to shape the beams to conform to the tumor instead of using only a rectangular field. Essentially always used in conjunction with the supply of IMRT.

**Modularity** A property of software entailing that parts of the software can be reused in contexts and products other than the purpose for which they were initially developed.

**Model-based segmentation (MBS)** Time-saving technology that automatically adapts three-dimensional organ models to the individual imaging data of each patient (see organ segmentation).

MR Refer to Magnetic Resonance.

**Multi-criteria optimization** Technology for intuitively and efficiently creating and evaluating a number of different treatment/therapy options.

Multileaf collimator Refer to MLC.

**Optimization algorithms for radiation therapy** Algorithms for calculating the radiation therapy that gives the best quality of treatment. Quality of treatment is defined by the doctor in terms of various requirements.

**ORBIT Optimization of Radiation therapy Beams by Iterative Techniques** The core of RaySearch's software, which works as a framework and a toolbox for the software products that RaySearch develops.

**Organ segmentation** The manual process of creating three-dimensional models of tumors and the surrounding tissue.

**Palliative radiation therapy** Therapy in which clinicians cannot cure the disease, but only alleviate it or slow its progress. The opposite is referred to as curative therapy. See above.

**Plug-in module** Software that can be plugged into a larger software system and provide enhanced functionality.

**Positron emission tomography (PET)** A more recent diagnostic technique, in which tumor markers are labeled with radioactive isotopes that are injected in the blood. Markers move in the circulatory system to the intended position and radioactivity shows where a tumor is positioned.

**Protons** A type of particle with a substantially larger static mass than electrons and which, accelerated to half the speed of light, has superior radiation therapy properties than traditional photon or electron radiation.

Quality assurance Extensive checks conducted in hospitals of all systems included in the radiation process. Certain checks are conducted daily, others before the treatment of each patient commences. These processes are referred to as quality assurance and are aimed at ensuring that the patients receive exactly the planned dose.

**Radiobiological optimization** Optimization of radiation therapy in which mathematical models of how tissue reacts to radiation are used to help the user to assess quality of treatment.

**Software modules** A software package to solve a specific host system's needs for functionality.

**Treatment planning** Using a computer to find one or more recommendations for radiation therapy of the tumor. Usually includes work with CT images, tumor and organs at risk delineation, application of radiation type and beam angle, optimization (manual or automatic) of dose results, as well as evaluation and approval of best recommendation (plan).

Tumor response How the tumor reacts to radiation treatment.

VMAT (Volumetric modulated arc therapy) Advanced form of IMRT where the treatment machine rotates around the patient once or several times while the treatment beam is activated. Enables quicker treatment.



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