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VARIAN MEDICAL SYSTEMS' ACQUISITION BY SIEMENS HEALTHINEERS

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A PRELIMINARY ANALYSIS OF THE TARGET COMPANY

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Abstract

In an era marked by high-value mergers and acquisitions in the MedTech industry, Siemens Healthineers (SH) contemplated the strategic acquisition of Varian Medical Systems (VMS), a pivotal event in the medical technology industry, particularly in oncology. The group part provides a comprehensive overview of both companies, their historical backgrounds, market positions, and the pre-acquisition synergy that developed from their collaboration. It further explores the intricacies of the medical device industry, the competitive landscape, and the significance of cancer care. The individual contribution uniquely addresses two specific aspects: a pre-evaluation analysis of the target company and a cultural compatibility assessment. Collectively, the study offers a multidimensional analysis of this landmark acquisition, shedding light on the complexities of cross-border M&As in the healthcare sector.

Keywords (Cross-Border M&A, Due Diligence, Financial Statement Analysis, Organizational Culture, M&A Integration).

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Table of Contents

Group Part	5
Introduction	5
Siemens Healthineers' Background	7
Siemens Healthineers' Business Overview – Current	9
Varian Medical Systems' Background	11
Varian Medical Systems' Business Overview - Current	14
Pre-Acquisition Partnership	17
Medical Device Industry	18
Competitive Landscape	20
Cancer Care	23
Radiation Oncology	24
Oncology systems/software	25
Stakeholders	27
Acquisition Decision	29
Individual Part	30
Table of Figures	46
Appendix	47
References	60

Group Part

Introduction

In the winter morning hours of December 2019, Dr. Bernd Montag, the visionary CEO of SH, found himself at the board of directors' room, standing on the precipice of a decision that would echo through the realms of the healthcare industry, particularly the oncology field.

It all started in 2011, when Siemens AG., a German multinational technology conglomerate with operations ranging from the rail transportation and energy systems to the healthcare and radiation therapy markets, decided to selectively exit the oncology sector. Competitors solely focused on cancer treatment had been consistently completing acquisitions, this way solidifying their place in the market. Not to any surprise, Siemens found itself lagging and decided to leave the playing field to the experts, but not without a plan of revival.

A year after, Siemens AG. announced a partnership with VMS, one of the competitors that drove them out of the sector, envisioning the creation of a world without fear of cancer. "As part of this collaboration, Siemens will continue to serve the global radiation oncology markets. We will help improve cancer care worldwide through high-quality imaging and therapy systems, bringing our core competencies for excellence in imaging engineering to the table" - Walter Märzendorfer, CEO of Radiation Oncology and Computed Tomography at Siemens AG. The "EnVision Better Cancer Care" endeavor skillfully integrated Siemens' diagnostic imaging strengths with VMS therapeutic expertise. This collaboration sought to establish a holistic approach to oncology, weaving together diagnostics, treatment planning, and therapeutic execution. This partnership gained international recognition and would significantly impact the healthcare landscape.

Not long after, with the healthcare division growing immensely and exhibiting higher profit margins than other divisions (Siemens AG 2014), Siemens AG. decided it was time to devote extra attention to the division. Thus, a newly and separately managed company called Siemens Healthineers was created, bringing Bernd Montag to lead the company. Dr. Montag had been at Siemens for 20 years already and was holding a variety of essential positions within the medical imaging landscape, ultimately steering the Imaging & Therapy Systems division, and later transitioning to the top role as CEO.

Moreover, his extensive travels from SH headquarters in Erlangen, Germany brought him to VMS base in California on numerous occasions to discuss and improve the strategic collaboration. The experiences and insights he gained from those visits played a critical role in shaping the future trajectory of the company and its alliance with VMS.

A couple of years down the line, Bernd started to intensely observe the industry dynamics and identified a potential opportunity with VMS. The partnership had been going quite well and both parties were benefiting immensely from the mutual representation of products and equipment. With this in mind, he consulted his CFO, Jochen Schmitz, to evaluate the feasibility and implications of making VMS part of SH living organism.

In late 2018, Montag met with SH Board of Directors to lay out the facts, benefits, and challenges, aiming to provide a clear and unbiased overview of the potential acquisition. With almost 25 years of experience, Montag approached the acquisition idea with both enthusiasm and caution as he was no stranger to the complexities of the medical technology world. As he contemplated the acquisition of VMS, he was acutely aware of the myriad considerations that laid ahead. He recognized the immense challenge of strategic, financial, and cultural integration: complexities of cross-border company mergers; VMS financial response; the potential market volatility, cultural

clashes, and regulatory challenges. Furthermore, the implications of distinct technologies and potential unknown liabilities remained at the forefront of his decision-making process.

One year later, in the early morning hours of December 2019, Dr. Montag was sipping his steaming coffee in the executive boardroom while waiting for the rest of the board to vote on the potential acquisition. The forthcoming board meeting wasn't just a typical agenda item for Dr. Montag; it was a moment where his vote would have immense significance. He knew this decision would shape the trajectory of the company as he contemplated the fundamental question – would this acquisition become the pivotal catalyst for a synergistic future, where SH and VMS would advance in the universal effort of creating a world without fear of cancer, or would it potentially damage the healthy tissue of the collaboration, ultimately affecting SH vitality?

Siemens Healthineers' Background

In 1847, within the industrious atmosphere of Berlin, Werner von Siemens and Johann Georg Halske established Siemens AG., marking the beginning of an organization that would grow to have a significant impact on various industries globally. Before it was restructured, Siemens AG. operated through nine divisions, each playing a critical role in the company's overall operations. These were Power and Gas, Wind Power and Renewables, Energy Management, Building Technologies, Mobility, Digital Factory, Process Industries and Drives, Financial Services, and Healthcare. Among these, the Healthcare division, later known as SH, was particularly noteworthy. It held the highest profit margins, ranging from 15-19%, in contrast to the other divisions, such as Power and Gas, which had margins of 11-15% (Siemens AG 2014). The Healthcare division's performance was a reflection of its importance within Siemens AG. portfolio and its position in the market, characterized by a strong presence in medical imaging and laboratory diagnostics.

A significant shift occurred in 2014 when Siemens Healthcare announced its decision to divest its hospital information systems business to Cerner Corp and its Audiology Solutions division to EQT and the Strüngmann family. Despite these changes, the division maintained strong financial performance, with revenues reaching €12.429 billion as reported in the 2014 annual report. The strategic chapter unfolded further when Joe Kaeser, the Chief Executive Officer of Siemens AG., announced during the annual results press conference in May 2014, the intention to establish Siemens Healthcare GmbH. Marked by its official foundation on May 1, 2015 (Siemens AG 2015), this development signaled Siemens AG. robust strategy to strengthen its position in the healthcare sector, adeptly navigating through the intricate healthcare landscape with a dedicated subsidiary, while also underscoring its steadfast commitment to addressing global healthcare challenges.

The transformation into an independent entity, SH, was formalized through a spin-off agreement on October 1, 2015 (Siemens AG 2015) followed by a rebranding on May 1, 2016. The company's financial and market growth post-separation was underscored by its Initial Public Offering (IPO) in March 2018, with shares initially priced at €28 and the company valued at approximately €28 billion (Siemens Healthineers 2018). SH first Annual General Meeting on February 6, 2019 (Siemens Healthineers 2019), in Erlangen, and its inclusion in the MDAX in September 2018 and the DAX in August 2020, further signaled its robust position in the MedTech sector (Deutsche Börse Group 2020/2021).

SH segments include Imaging, Advanced Therapies and Diagnostics. The Imaging segment stands out for its revenue contributions, driven by strong sales in advanced imaging technologies. Advanced Therapies delivers crucial medical devices for cardiology and surgery, while Diagnostics provides a broad spectrum of clinical laboratory equipment and tests, vital for patient care.

Together, these divisions reflect SH dedication to shaping the future of healthcare by offering state-of-the-art medical solutions.

Siemens Healthineers' Business Overview – Current

SH has established itself as one of the foremost global MedTech companies, boasting a workforce of more than 52,000 employees and conducting business in 180 countries, with a direct presence in 75 of them. In FY2019, it has reported sales of €14.5 billion, an adjusted profit of €2.5 billion, and an adjusted net income of €1.6 billion (Siemens Healthineers 2019). The company has made a significant impact in the healthcare industry, with over 240,000 patients connecting to their network of more than 600,000 active systems every hour. Furthermore, they have formed partnerships with over 90% of the world's leading 100 healthcare providers (European Association for Hospital Managers 2019).

The company's business operations are diversified and can be divided into three segments. Imaging is the largest segment, accounting for 63% of revenues and 74% of adjusted profit in the fiscal year of 2019 (Siemens Healthineers 2019). The Food & Drug Administration (FDA) defines medical imaging as “different technologies that are used to view the human body in order to diagnose, monitor, or treat medical conditions”. The company's Imaging portfolio includes equipment for magnetic resonance, computed tomography, x-ray systems, molecular imaging and ultrasound (Siemens Healthineers 2019). Diagnostics is the company's second largest segment and constitutes 28% of revenues and 15% of adjusted profit. Products from this segment are targeted at healthcare providers in the fields of laboratory, molecular and point-of-care diagnostics. They cover testing disciplines in many different areas such as immunochemistry, hematology, coagulation, urinalysis, blood gas and PCR testing (Siemens Healthineers 2019). Lastly, the Advanced Therapies segment accounts for 11% of the company's revenue and 13% of adjusted profit (Siemens Healthineers

2019). This segment offers devices for image guided minimally invasive treatments across many fields such as cardiology, interventional radiology, surgery and radiation oncology. Two leading products are angiography systems and mobile C-arms (Siemens Healthineers 2019).

Revenue of Siemens Healthineers by segment for the fiscal years of 2018 and 2019

(In € millions)	2018	2019
Siemens Healthineers	13,429	14,518
Imaging	8,153	8,938
Diagnostics	3,962	4,133
Advanced Therapies	1,479	1,606

Table 1: Revenue of Siemens Healthineers by segments for fiscal years of 2018 and 2019 (SH Annual Report 2019)

From a geographical perspective, the company also exhibits diversification as their sales are spread across different regions. The percentage of revenues generated in EMEA, Americas and Asia-Australia are 32%, 40% and 28%, respectively. Over the past two years, the key geographical markets have remained in a relatively favorable condition, resulting in a slight uptick in market growth in the EMEA region and the Americas (Siemens Healthineers 2019).

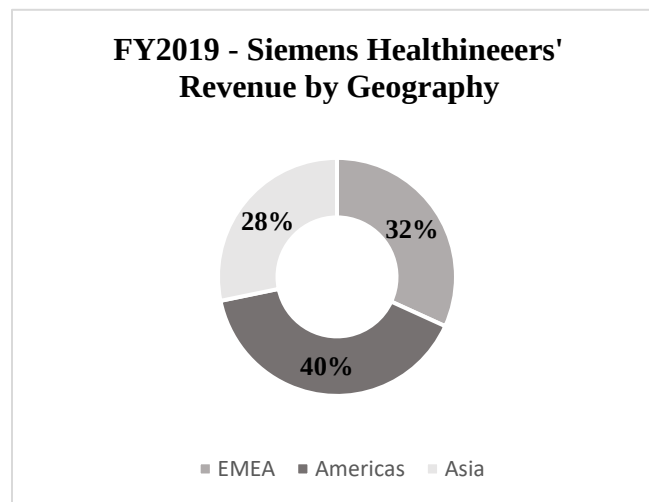


Figure 1: Siemens Healthineers' Revenue by Geography in FY2019 (SH Annual Report 2019)

It is crucial to highlight that the company's business model doesn't solely depend on equipment sales. The company's approach goes beyond product sales; it encompasses a comprehensive strategy that involves offering value-added services to meet customer needs. These services are split into three fields: customer services such as education and skills management, enterprise services such as asset management, and digital services such as population health management. These three services make up around 40% of their total revenue (Siemens Healthineers 2019). Levering on these, the company can provide value all along the customer value chain.

Additionally, throughout the period from January 2019 to December 2019, SH delivered a commendable Total Shareholder Return (TSR) of 18.23%, despite trailing behind the S&P 500's more substantial return of 31.49% for the same interval (S&P Global 2019).

Varian Medical Systems' Background

On August 30 of 1937, in the midst of growing international tension, Sigurd and Russel Varian unveiled the klystron tube, a high-frequency amplifier that was designed to generate microwaves holding a unique purpose – warning the population about potential Nazi bombing raids (Varian Medical Systems n.d.). Little did they know that this invention would become a linchpin in the global development of microwave technology in cancer treatment.

Ten years later, Varian Associates was founded. This new venture emerged from the collective brilliance of a group of scientists, including the Varian brothers themselves. With a modest initial capital of \$22,000 and just six full-time employees, the company set out to explore uncharted technological frontiers (Varian Medical Systems n.d.).

In its first decade of existence, Varian Associates had already set in motion a wave of advancements. They introduced four new klystrons (Varian Medical Systems n.d.), laying the

foundation for the development of nuclear magnetic resonance (NMR) instruments which are used, for example, to supply biochemical information at molecular levels for tumor research (Li Deng 2017). By the end of 1950s, Varian Associates' linear accelerator (LINAC) found its first application in examining the structural integrity of rocket motors (Varian Medical Systems n.d.). The LINAC technology would ultimately become machines that aim radiation at cancer tumors with pinpoint accuracy, sparing nearby healthy tissue (Mercy n.d.). Their LINAC line of radiotherapy systems would eventually become the company's most successful product line (Mote and Stansell n.d.). In 1959, Varian Associates achieved another significant milestone, becoming a listed company on the New York Stock Exchange with shares priced at 1 dollar and a valuation of \$1.56 million (Securities and Exchange Commission 1959).

The 1960s were marked by Varian Associates' entry into the medical equipment domain by introducing their first fully rotational radiotherapy LINAC (Mote and Stansell n.d.). The 1970s brought further advancements in the LINAC technology, offering unprecedented control over radiation dosage and higher energy X-rays without the need for larger machines (Varian Medical Systems n.d.).

The 1980s presented a period of restructuring and diversification, requiring new leadership to bring their balance sheet in line with their technological capabilities. By 1989, Varian Associates reported \$1.3 billion in sales and a workforce spanning international borders (Mote and Stansell n.d.). One year later, J. Tracy O'Rourke came on board as chairman and CEO and continued with the restructuring by creating 3 divisions based upon marketing similarities instead of technological similarities. By 1994, earnings had increased from \$45 million in 1991 to \$60 million in 1993, and total corporate debt was reduced from about \$110 million in 1989 to almost zero in 1993 (Mote and Stansell n.d.).

In 1999, the previous internal division was deemed insufficient, and Varian Associates underwent a transformative restructuring, reorganizing into three independent public companies. The resulting companies were Varian Inc., Varian Semiconductor Equipment Associates Inc., and Varian Medical Systems (VMS) (Varian Medical Systems 1999). VMS entered the 21st century with revenues of \$590 million (Securities and Exchange Commission 2001).

In the early 2000s, VMS introduced software for managing patient data, entering the domain of oncology data management and, around 2007, entered the market for proton therapy, an alternative to the popular radiation therapy (Varian Medical Systems n.d.). It is in the same year, that VMS enters the FORTUNE 1000 and becomes a member of the S&P 500 stock index with a stock price of roughly \$46, the closing price of 2007 (Macrotrends n.d.).

In 2012, after Siemens AG. decision to “selectively exit” the radiotherapy (Tirrel 2011), VMS and Siemens AG. signed a strategic global partnership to provide advanced diagnostic and therapeutic solutions for cancer treatment (Varian Medical Systems 2012), setting high expectations for the future global radiation oncology business.

One year later, VMS celebrated its 65th birthday with an international team of 6,200 employees located at manufacturing sites in North America, Europe, and China, approximately 70 sales and support offices around the world (Varian Medical Systems 2013) and holding over 520 active patents worldwide (Varian Medical Systems n.d.).

For the next handful of years, VMS focused mainly on developing its software solutions through the acquisition of Velocity’s software platform, Noona Healthcare, Mobius Medical Systems and Evinance Innovation, Inc., refining its offer of cancer care management and delivery and enhancing its end-to-end cancer treatment capabilities (Varian Medical Systems n.d.). VMS proton therapy

systems also pioneered patient treatment in proton therapy centers of various countries such as United States, the Netherlands and Thailand, showing the company's commitment to this cancer treatment alternative.

In 2019, VMS entered the market for interventional cancer care expanding its portfolio with acquisitions that added technologies for microwave ablation, cryotherapy, and microsphere embolization (Varian Medical Systems 2019). To accelerate innovation and broaden its status to a global cancer care solution provider, VMS acquired Cancer Treatment Services International (CTSI), an entity that operated the American Oncology Institute in Hyderabad and 10 multidisciplinary cancer centers across the Indian subcontinent as well as a U.S.-based Oncology Solutions division that provides cancer care professional services to healthcare providers worldwide (Varian Medical Systems 2019).

As of 2019, VMS operates mainly in two segments that focus on the manufacturing and selling of physical apparatus and digital software in the fields of Oncology Systems (radiotherapy focused) and Proton Therapy for cancer treatment. Proton therapy segment constitutes a minor percentage of the revenues when compared to Oncology Systems. VMS improved its revenues from \$2.9 billion to \$3.2 billion during this time, maintaining its status as a colossus player in the cancer treatment market.

Varian Medical Systems' Business Overview - Current

Currently, VMS is one of the global leaders in radiation therapy, being the player with the highest market share in the global Radiation Therapy market (Prescient & Strategic Intelligence 2020) and having as direct competitors Elekta AB and Accuray Incorporated (Varian Medical Systems 2019). As of FY2019, VMS reported sales of \$3.23 billion, an adjusted profit of \$386.2 million, and

adjusted net income of \$291.9 million (Varian Medical Systems 2019). The company has over 10,000 employees worldwide, conducts business in all five continents and presents manufacturing facilities for their products in North America, Europe, and China (Varian Medical Systems 2019).

The company's business surrounds solutions in radiation therapy, medical oncology and interventional oncology, an emerging area of cancer care. It engages in the creation, production, marketing, and maintenance of hardware and software items for cancer treatment through radiation and proton therapy. Its software offerings encompass patient care administration, treatment preparation, and medical oncology practice decision support (Varian Medical Systems 2019). VMS operates under two reportable segments: Oncology Systems and Proton Solutions. The prior is focused on the manufacturing, and delivery of hardware, software and services that relate to cancer treatment via radiation-based practices. The latter focuses on products and systems for delivering proton therapy, another form of external beam radiotherapy using proton beams (Varian Medical Systems 2019). VMS has a non-reportable third segment, Interventional Solutions, that focuses on products for interventional oncology procedures and treatments. Oncology Systems is VMS main source of revenue, accounting for 95% of the revenues, while Proton Solutions is responsible for almost 5%. The complexity and high cost of proton therapy which requires significant education, and the rapidly evolving pricing pressure explain the discrepancy in the revenue percentages of the two segments (Varian Medical Systems 2019). However, as technology evolves and further research on proton therapy is done, the revenue ratio between the two segments may be subject to change as proton therapy shows promise of having fewer side effects than conventional radiation-based therapy.

Revenue of Varian Medical Systems by segment for the fiscal years of 2018 and 2019

(In \$ millions)	2018	2019
Varian Medical Systems	2,919	3,225
Oncology Systems	2,770	3,062
Proton Solutions	149	144
Other (Interventional Solutions)	-	19

Table 2: Revenue of Varian Medical Systems by segment for the fiscal years of 2018 and 2019 (VMS Annual Report 2019)

Services within the reported segments of VMS are provided and encompass hardware phone support, repairment on linear accelerators, obsolescence protection of hardware, software support, software upgrades, hosting as a service and clinical consulting services. As of 2019, product sales accounted for 55% of total revenues while services for 45% (Varian Medical Systems 2019).

In terms of geography, the majority of VMS revenues are brought about by the Americas' region with 47%, followed by EMEA (Europe, Middle East and Africa) including India, with 33% and lastly, APAC (Asia Pacific) with 20% (Varian Medical Systems 2019).

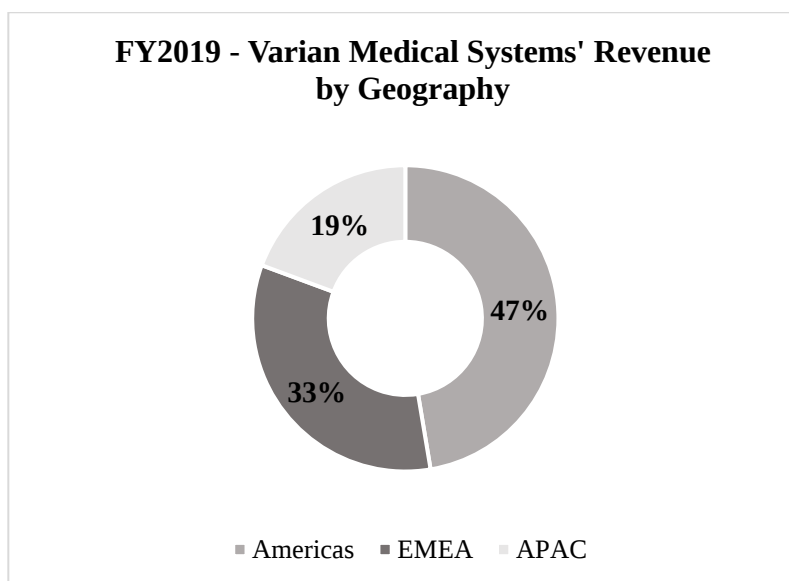


Figure 2: Varian Medical Systems' Revenue by Geography (VMS Annual Report 2019)

Additionally, despite being founded over seven decades ago, VMS continues to experience growth in recent years, increasing their revenue from \$2.491 billion in 2015 to \$3.225 billion in 2019, a

nearly 30% rise. Furthermore, from October 2017 to the end of 2019, VMS Total Shareholder Return (TSR) outperformed the S&P 500 TSR in the same period, delivering a 42% total return to investors compared to the S&P 500's 34% return. Moreover, in the last 3 years, VMS has significantly expanded its reach to over 4 million cancer patients, representing a growth of over 40%, from 2.8 million patients (Fortuna Advisors 2020). In light of this, we can observe that VMS has a pivotal role within the cancer care and radiation oncology sector and is set to sustain its growth trajectory within the industry.

Pre-Acquisition Partnership

In 2012, VMS and Siemens AG. embarked on a global strategic partnership with the common goal of improving clinical capabilities and treatment offerings within the fields of image-guided radiotherapy and radiosurgery (Varian Medical Systems 2012). More than a one-time deal, this partnership led to a long and fruitful alliance between both companies that resulted in significant advancements.

An important factor within such a partnership was the joint marketing and representation of products for imaging and treatment in the radiation oncology sector. That would enable both companies to offer comprehensive solutions that cover the entire clinical workflow. VMS agreed to represent Siemens AG. diagnostic imaging products worldwide, including CT (computer tomography), PET/CT (positron emission tomography with computed tomography), and MRI (magnetic resonance imaging). In exchange, Siemens AG. would have to include VMS radiotherapy and radiosurgery products within its line (Varian Medical Systems 2012). That would massively benefit healthcare professionals and patients.

The partnership went beyond marketing and representation. VMS and Siemens AG. attempted to harness the strength and technologies to create new solutions that would translate into further impact. Solutions such as ARIA connectivity, which enabled the integration of VMS IT networks and Siemens AG. discontinued linear accelerators, were co-developed (Fitt 2021). When announced, Tim Guertin, president and CEO of VMS at the time stated, “This is an exciting development that will enable VMS to enhance and expand its clinical offerings for the benefit of cancer patients around the globe” (Varian Medical Systems 2012).

Fast forward to today, and the partnership, known as the “EnVision” partnership, remains strong (Fitt 2021). It marked the beginning of an enduring collaboration between the two companies, serving as a true testament to their commitment to innovation. The focus remains on their common purpose of shaping the future of cancer and saving people’s lives.

Medical Device Industry

Medical devices have a deep-rooted history in human civilization. Human beings have been fabricating tools for thousands of years to treat a multitude of health-related problems. What began as rudimentary tools has evolved into a sophisticated field of medical care thanks to breakthrough technological advancements. Nowadays, through these revolutionary advancements, the medical equipment industry continues to push the boundaries of what is possible in improving the quality of healthcare and enhancing the overall well-being of individuals worldwide.

The medical device industry (also known as the medical technology industry) is comprised of instruments and machines intended for the prevention, detection, treatment, and correction for health purposes of structures of the body, illnesses, and diseases. The industry is poised for steady growth, with global annual sales forecast to rise by over 5% a year and reach nearly \$800 billion

by 2030 (KPMG 2018). Medical devices are sold in the market with a broad price range, from a couple hundred to up to multiple million. These price variations are influenced by factors like the type of device, the reputation of the brand, technological innovations, and the condition in which they are sold. The price of medical equipment is one that is on a constant rise yearly due to the increasing cost of raw materials like chemicals, metals, and plastics that is driving production costs up. According to the US Bureau of Labor Statistics time series data, the average price increase in 2019 was approximately 1.4%. The useful life of these medical devices ranges from 5 years to 15 years, with diagnostic imaging and radiotherapy ranging from 7 years to 10 years (Queensland Health 2021). With the systematic rise of the geriatric population, the industry needs to continue breaking the barriers of health science to keep up. These projections reflect increasing demand for innovative new devices and services, as lifestyle diseases become more prevalent, and economic development unlocks the huge potential in emerging markets.

The European Commission classifies medical devices based on their risks and regulatory controls required for adequate safety and performance that include Class I, IIa, IIb, and III devices. The risk variance is categorized as low, medium, medium to high, and high. Class I and class II do not need premarket approval, only premarket notification (also known as 510-K) (Hattangadi et al, 2012). In the United States, the regulatory process is controlled by the Food and Drug Administration (FDA), and in Europe by the European Medicines Agency (EMA). The average cost to bring a medical device to market through the 510(k) pathway is \$31 million compared to the PMA pathway with average costs of \$94 million. In addition, the approval process for a new medical device can range from weeks to many months, depending on its complexity and risks (Drugwatch 2023). Medical devices can be broken down into multiple different market segments, in which the top 5 include In Vitro Diagnostics (IVD), Cardiology, Diagnostics imaging, Orthopedics, and

Ophthalmics (Evaluate 2016). Through these segment streams, companies can then look to generate revenue through several different means. The first is by selling their products to hospitals, healthcare facilities, and to government, research, and educational institutions. Another way is by providing services such as equipment repair and maintenance, consultancy, and IT and software to healthcare facilities and institutions to assist and improve their operations. Companies can diversify their portfolio by acquiring other businesses with different medical products and services, allowing them to have a competitive advantage (Nieves 2022). By stepping out of their conventional manufacturing role and exploring holistic solutions, medical device companies can strengthen their value chain.

Competitive Landscape

The medical device industry is characterized by continuous growth, intense competition, and a strong emphasis on innovation, backed by significant investments in research and development (R&D). In the global market landscape of 2019 and recent years leading up, the United States maintained its leadership position, boasting a substantial 43% market share, while Europe followed closely with a 27% market share. Within Europe, Germany continued as the dominant player, commanding a significant 27.1% market share, and displaying a strong focus on export activities. Notably, the field of medical technology exhibited remarkable dynamism in terms of intellectual property, with nearly 14,000 patent applications filed at the European Patent Office (EPO) during the year. This marked a substantial 0.9% increase in patent applications compared to the previous year, positioning medical technology as the second highest sector in Europe. Impressively, 39% of all medical device patent applications hailed from EPO member countries, with an additional 40% originating from the United States (MedTech Europe 2020). Prominent companies within this industry comprise well-established, financially strong manufacturers with a longstanding presence

in the market. They boast diverse product portfolios, cutting-edge technologies, and robust global sales and marketing networks, contributing to their prominent position. SH, together with its top competitors, maintain the leading market positions in the large and high growth markets within most of its business segments. These competitors of SH can be categorized based on the three-segment markets. Within the Imaging market and the Advanced Therapies market, GE Healthcare (US) and Philips (Netherlands) stand out as the other two major competitors (Siemens Healthineers 2019). Among these three big players, SH holds the global top spot in both Imaging and Advanced Therapies with market shares of 31% and 32%, respectively (Siemens Healthineers 2018). The Diagnostics market is characterized by a range of global players competing internationally across various market segments. These entities also face challenges from regional competitors and specialized companies that focus on niche technologies. (Siemens Healthineers 2019). In this segment, SH is the second-largest global player in Diagnostics with a 15% market share (Siemens Healthineers 2018). Significant entry barriers exist in these markets due to stringent regulatory factors and the intricate nature of device development. As a result, market segments are dominated by key players, with the top three holding substantial shares of 68%, 48%, and 80% in the accessible markets for Imaging, Diagnostics, and Advanced Therapies, respectively (Deutsche Bank Markets Research 2018).

Out of the three segments, the Imaging market is one of which sparks the heaviest competition due to the segment having the highest revenue out of its segments for several fiscal years (Siemens Healthineers 2019). The top competitors of the imaging market, GE Healthcare and Philips, are of similar global strength and are also spin-offs of corporate conglomerates. In alignment with the boundless notion to diversify their portfolios and the evolving landscape of healthcare, where data-driven approaches and AI integration are becoming increasingly vital, both GE Healthcare and

Philips Healthcare have taken significant steps to digitalize healthcare by introducing their respective data solutions platforms. For instance, GE Healthcare is poised to launch its intelligence platform, Edison, in 2022. Meanwhile, Philips Healthcare has been consistently enhancing its own platform, unveiling its IntelliSpace Radiation Oncology solution on April 26, 2019 (Phillips 2019).

The partnership SH has had with VMS since 2012 allowed them to provide advanced diagnostic and therapeutic solutions and services for treating cancer with image-guided radiotherapy and radiosurgery. Although the partnership was one of prosperity and great mutual success, exemplifying their commitment to innovation in the healthcare industry, VMS was continuing to grow as the leader in the radiation oncology sector alongside Accuray Inc. and Elekta AB (Varian Medical Systems 2019). In fact, SH exited the area of radiotherapy a year prior to their partnership in 2012, because of VMS strong foothold in the business area in combination with its strength in oncology and innovation power in healthcare AI. Consequently, if SH ever wanted to fully reenter the radiotherapy market again, they would encounter internal competition from their trusted strategic ally and market share leader VMS.

As stated, the medical device industry is characterized by a significant concentration of employment and revenue within a selected group of major companies. These leading medical device companies consistently seek opportunities to enhance their product offerings, actively exploring the prospect of acquiring smaller firms specializing in specific therapeutic areas. This has prompted consideration of whether acquiring VMS is a strategic move, not only to harness its AI-assisted analytics for competition with GE Healthcare and Philips but also to redefine cancer diagnosis and care, solidifying its role as a comprehensive healthcare partner. In this competitive landscape, strategic developments are essential for MedTech companies to maintain their relevance and competitive edge.

Cancer Care

Cancer is the second leading cause of death in the world. In 2019, it was responsible for 9.7 million deaths around the world, representing nearly 1 in every 6 deaths worldwide (Our World in Data 2019). There were an estimated 23.6 million diagnosed cancer cases in 2019, indicating a 26.3% increase since 2010 (JAMA Oncology 2021). Additionally, it is projected that by 2030, there will be 26 million new cancer cases and 17 million cancer deaths annually. The main factor contributing to this increase is the growth and aging of the population, driven by the rise in life expectancy and low fertility rates. The majority of cases, around 80.2%, occur in individuals aged 55 and above, and those who are 65 and older make up 55% of the newly diagnosed cases. As humans grow older, their immune system's effectiveness declines and cells gradually deteriorate, increasing the risk of defective cells that lead to cancer (Cancer Center 2023). Moreover, as people live longer, everyday exposure to risk factors and carcinogenic substances accumulates, increasing the likelihood of developing cancer. In 2019, the leading cause of cancer-related fatalities were tracheal, bronchial, and lung cancer types, accounting for 21% of deaths, followed by colon and rectal cancer at 11%, stomach cancer at 10%, and breast cancer at 7%, with the remaining cancer types representing each less or equal to 5% of the total deaths (Our World in Data 2019).

Fortunately, the rapid progress in science and technology over the last decades has yielded several cancer treatments, including radiation therapy, chemotherapy, immunotherapy, and others. Even though the absolute number of cancer deaths has increased worldwide by 75% since 1990, the age standardized death rate from cancer decreased by 15% in the same period, showing that cancer is less lethal now due to more effective treatments (Our World in Data 2019). In the United States of America, the number of deaths per 100,000 population reduced from 193.9 in 1950 to 146 in 2019, registering an approximately 25% decrease (Statista 2023).

Nevertheless, as the world's population ages and there is no cure for the disease, the cancer care market is set to grow, with the radiation oncology segment expected to see a surge in demand.

Radiation Oncology

Radiation therapy, also known as radiotherapy, works by using radiation to destroy cancer cells, allowing for the careful targeting of the tumor. This minimizes the harm done to the surrounding healthy tissue, reducing secondary effects when compared to more invasive therapies such as chemotherapy. Radiation therapy is used to treat almost all types of cancer, with more than 50% of all people with cancer obtaining it as part of their treatment (Mayo Clinic 2023).

The global radiation oncology market size reached \$7.2 billion in 2019 and is expected to grow at a compounded annual growth rate (CAGR) of 8.4% until 2030, reaching a \$17.19 billion market size by then (Prescient & Strategic Intelligence 2020). The market growth will be driven by higher demand for radiotherapy, as the number of cancer cases is expected to increase. Furthermore, the advancements in its technology have also improved the precision and applicability of radiotherapy, potentially expanding its use across a broader spectrum of cases. Moreover, most of the anticipated increase in new cancer diagnoses until 2030 is expected to occur in low- and middle-income countries, such as India and China. These regions currently experience a shortage of radiotherapy equipment, resulting in patients often enduring prolonged wait times for treatment. It is estimated that these countries alone will require over 12,000 additional radiotherapy treatment machines, contributing to the growth of the radiation oncology global market (Varian Medical Systems 2020).

The radiation oncology market can be further segmented into two categories: External Beam Radiation Therapy (EBRT), which uses a device called medical linear accelerator to create and direct high-energy beams into a precise point of the patient's body, thus killing the cancer cells,

and Internal Beam Radiation Therapy (IBRT), also known as brachytherapy, which uses an implanted metal radioactive seed to distribute the radiation to the patient's body. The first, EBRT, is the most common, followed by IBRT. VMS offers an array of EBRT devices and technologies. These encompass technologies such as Intensity-Modulated Radiation Therapy (IMRT), Volumetric Modulated Arc Therapy (VMAT), Stereotactic Radiosurgery (SRS), and Stereotactic Body Radiation Therapy (SBRT). Additionally, the company produces proton therapy devices, an alternative EBRT modality utilizing proton particles generated through a cyclotron, in contrast to X-ray beams emanating from a linear accelerator. Moreover, the company also specializes in brachytherapy, a form of IBRT, and offers devices such as BRAVOS, GammaMedplus iX, in this segment (Varian Medical Systems 2020).

Oncology systems/software

In addition to radiation oncology hardware (i.e., the EBRT or IBRT devices used to deliver radiotherapy), software has been playing an increasingly crucial role in cancer treatments. Artificial intelligence (AI), which according to Oxford Languages is defined as “(...) computer systems able to perform tasks normally requiring human intelligence (...)”, has allowed to increase quality and consistency throughout the various phases of cancer treatment. Cancer survival rates increase if the tumor is detected in its early stage. As Dr. Chris Sander, professor in residence of cell biology at Harvard Medical School, told ABC News, “The more we can do gradually to move cancer treatment to an earlier stage where it's detected earlier and treated earlier, that should be a major change in the way we deal with the cancer problem” (ABC News 2023). Currently, artificial intelligence and machine learning algorithms are used in the early detection of cancer by aiding radiologists in reading medical images. The use of this technology can aid both the speed and accuracy of early detections, although some figures in the industry, such as Dr. Britany Fasy who

is an associate professor of computational topology at Montana State University, fear that it might lead to overdiagnosis – “If you’re on the lookout for something, then, if you look in enough places, you’ll start to see it” (ABC News 2023). Additionally, AI is being used for other tasks that were previously done by humans, such as therapy planning. The traditional approach, known as forward planning, involves a manual trial-and-error process where the planner specifies and adjusts plan parameters based on their experience and decisions. The outcome, however, largely depends on the planner’s expertise and effort. With AI it is possible to create a more consistent plan, with a process called inverse planning, therefore reducing the human experience variability factor. According to a preliminary study published in the International Journal of Radiation Oncology, Biology, Physics in 2018, in 88% of the cases AI treatment plans were preferred or found equivalent to human-generated treatment plans (UHN Research n.d.), (International Journal of Radiation Oncology, Biology, Physics 2018).

SH invested about €1.3 billion in R&D in FY2019, with a heavy focus on AI, having now more than 40 AI-supported products and applications. In the past year the company released the AI-Rad Companion Chest CT, a software that used AI to analyze image data, aiding radiologists by automatically detecting and marking lung nodules on CT images, potentially leading to a sooner discovery and to earlier treatment.

VMS offers a range of software products, including Eclipse™ Treatment Planning System, a treatment planning software that provides 3D image viewing, treatment simulation, radiation dosage calculation, and verification. It utilizes AI in the form of "inverse planning" to assist physicians in quickly developing optimal treatment plans based on desired radiation dose outcomes for tumors and surrounding tissues. It also includes RapidPlan, a knowledge-based planning tool

that uses machine-learned statistical models to predict the quality of an IMRT treatment based on a patient's anatomy (Varian Medical Systems 2019).

Stakeholders

In the event of a potential acquisition of VMS by SH, a multitude of stakeholders might find themselves at a crossroads of change and opportunity. This prospective strategic move, particularly influential in the oncology sector, could significantly alter the dynamics of the medical technology industry. Employees of SH and VMS could face a future of transformative change. They might encounter shifts in corporate culture and management, along with possible reevaluations of their roles. This hypothetical merger could open doors to new professional opportunities, although it may also bring challenges, including the risk of job redundancies due to overlapping functions. The Boards of Directors of both companies, if the acquisition were to proceed, would find themselves steering a complex integration process. Their decisions could shape the strategic trajectory and competitive stance of the combined entity, influencing its future in the global market. From a customer standpoint, healthcare providers using products from these companies could potentially see an expanded and integrated range of solutions. Such a merger could enhance treatment options in cancer care, potentially leading to more effective and efficient patient outcomes. The CEOs and executive leadership teams of both companies would play a crucial role in this hypothetical scenario. Their vision and decision-making would be instrumental in navigating the integration process, with the goal of realizing the potential benefits of the acquisition. Competitors in the medical technology and oncology sectors, such as GE Healthcare, Philips, Elekta AB, and Accuray Incorporated, might need to reassess their strategies in response to a strengthened SH in the oncology market. Investors and shareholders of both SH and VMS could anticipate potential impacts on stock performance, closely monitoring the prospective financial benefits like revenue

growth and cost synergies. Regulatory bodies would be key players in this scenario, scrutinizing the acquisition for compliance with antitrust laws and market fairness. Their rulings could significantly influence the feasibility and terms of the potential deal. Patients and the general public could ultimately benefit from such a merger. The combined research and development capabilities of SH and VMS could lead to advancements in cancer care technologies and treatments, improving healthcare outcomes. Suppliers and business partners of the two companies might also find themselves adjusting to new dynamics. This prospective merger could lead to changes in existing relationships and create opportunities for new collaborations.

In essence, the potential acquisition of VMS by SH could represent a transformative moment in the medical technology field, particularly in oncology. It presents a scenario filled with possibilities, challenges, and significant implications for a wide range of stakeholders, from the internal teams of both companies to the broader healthcare community and patients worldwide.

Affected stakeholders by the potential acquisition

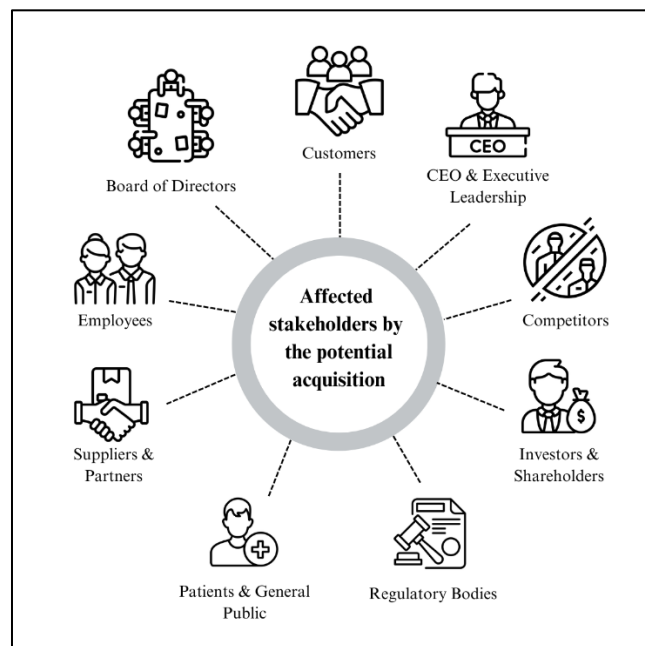


Figure 3: Affected stakeholders by the potential acquisition

Acquisition Decision

On a brisk December morning, the winter sun casts its rays into the board meeting room, as they reached a crucial juncture demanding a decision. The air of the room was charged with anticipation as they deliberated on the next chapter of their enduring alliance with Varian Medical Systems (VMS). Dr. Montag reflected on the fruitful partnership that had evolved over the years, considering its positive impact on both the MedTech industry and the oncology sector. With cancer being a leading cause of death and the number of new cases expected to rise in the next decades, VMS mission of a world without fear of cancer resonated deeply with Siemens Healthineers (SH) strategic goals. The long tenured CEO was clear about his desire to uphold his company's connection with them. The uncertainty, however, revolved around which way the connection should continue. While he recognized the growth potential in oncology and SH capacity to contribute, he couldn't shake off concerns about the strategic, financial, and cultural challenges posed by a cross-border acquisition of such magnitude. After all, putting 8 years of mutual company success at risk was no easy decision.

It was the moment for Dr. Montag to make a yes or no definitive decision on the acquisition. Could this acquisition be the catalyst for a united and synergistic future, propelling SH and VMS toward their common goal of a cancer-free world, or will it entail potential risk to their collaboration, possibly affecting the overall vitality of SH?

As the pivotal question of whether SH should proceed with the acquisition loomed, several related queries emerged – what would be the correct valuation of VMS? How should they structure and finance the deal? What would be the strategic implications for SH and the broader MedTech industry? What regulatory risks does a cross-border acquisition like this carry? What elements of synergies and value creation could arise?

Individual Part

Case Synopsis

The CEO of Siemens Healthineers (SH), Dr. Bernd Montag, faces a transformative decision about the potential acquisition of Varian Medical Systems (VMS), a key player in oncology. SH, a renowned German medical technology company with global influence, has been a leading provider of innovative healthcare solutions in the areas of Imaging, Diagnostics, and Advanced Therapies. The acquisition decision, weighing heavily on Dr. Montag, signifies a critical crossroads for SH, contemplating a strategic leap into the oncology sector that could alter its market trajectory. Dr. Bernd Montag is considering pursuing a preliminary, pre-evaluation, financial analysis of VMS to grasp important aspects of its financial situation. Then, the cultural compatibility of both companies would be assessed. Such a holistic approach would enable him to prepare for financial and integration challenges that could arise if the acquisition is pursued.

Learnings Objectives

This case study offers a unique learning journey into the world of financial analysis and cultural dynamics. It invites students to think critically and analyze their findings, going beyond surface-level insights. Students are challenged to think like financial analysts and HR strategists, giving them a platform for debate. They will be exposed to the multifaceted nature of decision-making, where quantitative and qualitative considerations are put together. By the end of the case study, they should have an understanding of how to assess a target company's financial health, as well as of the organizational culture considerations that are necessary leading up to an M&A deal.

Target audience

This case study is intended for undergraduate and postgraduate students pursuing a finance-related study program within the topics of strategic decision-making and M&As.

Assignment Questions

Section 1:

1. What insights do the cash conversion cycle and liquidity ratios of VMS provide about its financial management and stability?
2. What insights do the profitability margins and efficiency ratios of VMS provide about its profitability from operations and assets?
3. How can one derive more valuable insights into VMS value creation?
4. What implications do our findings have on the potential acquisition?

Section 2:

1. Discuss the relevance of Hofstede's Cultural Dimensions Theory in assessing acquirer and target cultural compatibility, referring to our case study setting.
2. How might the cultural traits of the United States and Germany impact the organizational behaviors of VMS and SH?
3. Why can one not rely entirely on a national culture-based analysis to assess the corporate cultures of SH and VMS? Perform online research of both companies' organizational cultures to scrutinize our findings.
4. What implications do our findings have on the potential acquisition?

Teaching plan

The case study is taught in two days. For the first section, students should be provided with the complimentary Excel file in advance. They are encouraged to inspect it and try to derive insights by themselves, with the help of online research to understand the key calculations and captions. Then, the professor should go over the questions with them in class. For the second section,

students should be provided with the questions in advance, so that they can do online research on the main theoretical frameworks and the companies' cultures. Then, an in-class discussion should take place.

Analysis

Section 1

This section entails a preliminary financial statement analysis of the target company, designed to gauge its financial health and operational efficiency. We aim to uncover the underlying trends and metrics that signal VMS performance and prospects, something critical for informed decision-making. Elekta and Accuray are utilized as benchmark companies for the purpose of comparative analysis. The two are prominent players in the industry, with significant market presence and recognition for their technological contributions to the oncology treatment field. Detailed methodology and calculations are available in a complimentary Excel file.

1. What insights do the cash conversion cycle and liquidity ratios of VMS provide about its financial management and stability?

The Cash Conversion Cycle (CCC) is an important metric for assessing a company's efficiency in managing its working capital and short-term liquidity. It measures the time (in days) it takes for the company to convert its investments in inventory and other resources into cash flows from sales (Hayes 2022). The CCC of VMS has been calculated by summing up its Average Holding Period (AHP) and Average Collection Period (ACP) and then subtracting its Average Payable Period (APP). In 2019, the CCCs of VMS, Elekta, and Accuray were 354 days, 177 days, and 228 days respectively (see Exhibit 3). Those are relatively long and could reflect the complexity and long production cycles of medical equipment products. However, that of VMS is notably longer than the rest's. Thus, more execution risk can be associated with the company's activities. The main

driver is VMS longer ACP, which may be a result of several factors. The company seems to offer extended terms to qualified customers (Varian Medical Systems 2019). This likely translates into longer sales cycles and carries significant risk, especially in the case of customers in underdeveloped legal systems for securing debt. Furthermore, some hardware products are offered at a variable purchase price which is dependent on patient usage (Varian Medical Systems 2019). This adds an additional layer of complexity, potentially causing the actual revenue figure to take longer to collect. An uncertain economic environment, with Brexit taking effect in February 2020, magnifies the risks embedded in VMS long CCC. However, it is also true that the company does take measures to mitigate such risks. Firstly, it checks the creditworthiness of its customers before authorizing shipment and it often requires payment of a portion of the total amount when the purchase order is signed (Varian Medical Systems 2019). Moreover, a quarterly evaluation of receivables is performed to identify aged items and manage the risk of uncollectible ones (Varian Medical Systems 2019).

A liquidity analysis of the company and its competitors provides further insights into their short-term financial health. The current, quick, and cash ratios are calculated for each of them, as well as the net working capital (NWC) (see Exhibit 4). VMS current ratio of 1.27 in 2019 indicates that the company can meet its short-term obligations when using all of its current assets (Hayes 2023). However, there is still a risk involved if it is not able to execute such current assets. That is portrayed in quick and cash ratios lower than one. The former excludes the least liquid current asset, inventories, from the calculation and the latter only includes cash and equivalents (Hayes 2023). Such low values can be mainly attributed to several factors. The industry in which VMS operates has an impact, as evidenced by low cash ratios across its two competitors. As already mentioned, medical equipment products tend to have long production cycles. That can result in

high levels of inventories and a reduction in the proportion of a company's immediate liquid assets. At the individual company level, factors accounting for VMS long CCC also apply to its low quick and cash ratios. The low values might also be explained by the company's usage of external financing as an alternative to maintaining high levels of cash and cash equivalents for liquidity. VMS levers on credit facilities to meet its cash needs and "expects to continue to do so in the future" (Varian Medical Systems 2019, 62).

2. What insights do the profitability margins and efficiency ratios of VMS provide about its profitability from operations and assets?

Profitability margins are useful metrics to assess a company's ability to generate profit from the sales it makes. These have been calculated for VMS and its competitors (see Exhibit 5). The gross margin reflects the percentage of revenue exceeding the costs of goods sold (bdc 2023). In 2019, VMS had a gross margin of 0.42, a slight decline from 0.44 in 2018. Such a decline indicates that the company is selling its products at a lower markup over its costs. Nonetheless, this seems to be a trend among competitors; Elekta's gross margin decreased from 0.44 to 0.42 and Accuray's decreased from 0.40 to 0.39. Intense competition in the market for cancer treatment and services is likely leading to pricing pressure (Varian Medical Systems 2019). VMS seems to have a strong control over its production costs, as evidenced by the largest gross margin among competitors. The EBIT margin looks at the profits made from a company's core operations, or operating earnings as a percentage of revenue (Hayes 2022b). VMS EBIT margin declined from 0.15 in 2018 to 0.12 in 2019. This is driven by an increase in all operating expenses (see Exhibit 1), as well as a decrease in gross margin. The increase in SG&A expenses can be largely attributed to an increase in headcount to support sales and marketing for recent acquisitions, as well as product management within the Oncology Systems business (Varian Medical Systems 2019). Despite negatively

affecting the EBIT margin in the short term, that increase in SG&A expenses indicates that the company is investing in its growth and future competitive position. Finally, net margin measures net income as a percentage of expenses (Murphy 2022). That of VMS increased from 0.05 in 2018 to 0.09 in 2019. Nonetheless, this is not driven by the company's operational performance; a decrease in taxes on earnings and various operational adjustments are the root causes (see Exhibit 1). VMS has indeed, however, improved its competitive position in terms of profitability; Elekta's net margin decreased from 12% to 9% between 2018 and 2019, while Accuray's was negative in both years.

Companies do not only spend on costs, but they also do so on assets. It is important to consider VMS ability to generate revenue utilizing these. For that purpose, return on assets (ROA) and asset turnover are ideal metrics. These have been calculated for VMS and its competitors (see Exhibit 7). ROA measures net income as a percentage of assets and asset turnover measures revenue as a percentage of assets (Indeed Editorial Team 2022). The ROA of VMS increased from 0.05 in 2018 to 0.07 in 2019, and its asset turnover fell from 0.90 to 0.79. That is primarily because, as previously explained, net income increased at a greater rate than sales due to taxes and adjustments.

3. How can one derive more valuable insights into VMS value creation?

Return on invested capital (ROIC), return on new invested capital (RONIC), and growth rate (g) are essential metrics for this purpose. These have been calculated using the core operating items of VMS, that are specific to its main activity (see Exhibit 7). That is crucial to ensure that factors unrelated to the company's operating activities do not distort the insights (Koller, Goedhart, and Wessels 2005). A reformulation of the financial statements has already been carried out, following the steps taught in the Financial Statement Analysis module at Nova SBE, which should be explored by students in advance (see complimentary Excel file).

The ROIC has been calculated as the ratio of NOPLAT (net operating profit less adjusted taxes) to invested capital (see Exhibit 7). It brings together the analyses performed in the last question to assess the return of VMS on all of the capital invested (Koller, Goedhart, and Wessels 2005). The ROIC of VMS increased from 10.14% in 2018 to 15.68% in 2019. This indicates that the company has become more efficient at using its capital to generate earnings. The fact that the ROIC of VMS is growing at the same time as its invested capital might also indicate that its operations are scalable.

The RONIC is a variation of the ROIC where only newly invested capital is taken into account. It has been calculated for 2019 as the ratio of the change in NOPLAT from 2018 to 2019 to the change in invested capital from 2017 to 2018 (see Exhibit 7). The 1-year lag accounts for the fact that invested capital will not affect NOPLAT immediately. VMS had a core RONIC of 1.06 in 2019, which is significantly higher than the ROIC. This could indicate that the company has become more efficient in its use of capital from 2018 to 2019.

The growth rate (g) is simply calculated as the rate of change in the core result (see Exhibit 10). It grew substantially in 2019 but also decreased substantially in 2018. Such volatility is driven by changes in tax adjustments (see reformulated statement of earnings in complimentary Excel file). Therefore, it makes sense to exclude these from the calculation and use core EBT instead of the core result to obtain clearer insights into the growth of the company that is due to its own merit. The calculations of ROIC and RONIC have also been adjusted in that way (see Exhibit 8). The adjusted ROIC decreased from 2018 to 2019. Moreover, the adjusted RONIC and the growth became negative in 2019. That could point to a decline in operational performance from 2018 to 2019. Nonetheless, that needn't necessarily be a worrying sign. From 2017 to 2018, the increase in adjusted ROIC and the growth rate were extremely large. Therefore, one can assume that the high

performance in that period was exceptional and could set an inflated baseline that makes 2019 seem a weak year by comparison.

4. What implications do our findings have on the potential acquisition?

The analysis of VMS financial metrics reveals several opportunities and challenges. There is a need to enhance operational efficiency and manage financial risks, as evidenced by the long CCC and low liquidity ratios. Nonetheless, the company has a strong position among its peers that might offer strategic value to SH. In terms of value creation and efficiency in capital use, the insights derived should be taken with caution due to their high volatility. If the acquisition was to take place, SH should try to leverage VMS market strengths and address its financial challenges.

Section 2

Organizational culture is a multifaceted concept, for which one unique definition does not exist. We will think of it as the way things are done within a company. That entails a set of values, principles, philosophies, and guidelines that employees tend to follow. Culture is what makes a company unique and sets it apart, and it is often what creates loyal, long-term employees (Lehot, Diamond, and Chow 2023).

According to most studies, between 70 and 90 percent of acquisitions fail (Kenny 2020). A common theme used to explain the high failure rate is the incompatibility of the cultures of organizations and how those are integrated. When two companies combine, a cultural clash can arise. If not managed appropriately, it can put the success of the transaction at risk. Since the early 1990s, such an idea has been contrasted by several researchers and practitioners (Denison and Ko 2016). Most company leaders nowadays seem to be aware of it.

A survey by Graham et al. (2022) revealed that, when facing a target that is not culturally aligned, 54% of acquirer executives express a willingness to abandon, and 33% request a substantial price discount. Another survey by Aon Hewitt (2011) depicted cultural integration issues as the second most cited cause of M&A deal failure by leaders of 123 companies. Nonetheless, cultural disparities are not always destructive. They could be a source of enrichment, enhancing post-acquisition performance. It is possible to take the best of each culture and make a winning combination, but solid integration capabilities are crucial (Chami and Vinterskog 2021).

Before deciding whether a target is to be acquired, one must consider if its culture is compatible with that of the acquirer. This section entails a comparative assessment of the cultures of VMS and SH. It should serve as a ground base on which to build a plan of action that overcomes potential integration challenges.

1. Discuss the relevance of Hofstede's Cultural Dimensions Theory in assessing acquirer and target cultural compatibility, referring to our case study setting.

Hofstede's Cultural Dimensions Theory is a crucial framework within the field of cross-cultural psychology. It was originally developed by psychologist Geert Hofstede (1980) to understand cultural differences across countries, based on a large-scale survey of IBM employees. He identified four measurable national culture dimensions: power distance, uncertainty avoidance, individualism, and masculinity. More recent research by Michael Minkov allowed the addition of two dimensions: long-term orientation and indulgence (Hofstede, Hofstede, and Minkov 2010) (Minkov 2007). Today, the refined version of this theory stands as a validated system to grasp the impact of national cultures on business practices.

Existing literature suggests that organizational culture is often shaped by national culture. Robbins (2003) points out that the organizational culture of an organization tends to be rooted in its founders' ideologies, which are in turn influenced by their countries of origin. Therefore, it may be possible to make inferences about an organization's culture based on that of its country of origin. In the case study's context, examining cultural parallels and distinctions between the United States and Germany provides a provisional understanding of how well the organizational cultures of VMS and SH align.

Table 3 provides a comparative view of Germany and the United States across Hofstede's dimensions, sourced from The Culture Factor Group (2023). Each country is given a score from 0 to 100 in each of the dimensions, portraying how strongly it is reflected in their culture. These are based on studies from several researchers and practitioners.

Germany vs US scores in Hofstede's Cultural Dimensions

	Germany	United States
Power Distance	35	40
Uncertainty Avoidance	65	46
Individualism	79	60
Masculinity	66	62
Long Term Orientation	57	50
Indulgence	40	68

Table 3: Germany vs. US scores in Hofstede's Cultural Dimensions (The Cultural Factor Group 2023)

2. How might the cultural traits of the United States and Germany impact the organizational behaviors of VMS and SH?

This question can be tackled by sequentially exploring each dimension and drawing preliminary conclusions based on the countries' scores.

1. Power Distance

This dimension refers to the unequal distribution of power between parties, and the level of acceptance of that inequality (Hofstede 1980). German and American societies are not power-distant. Pertaining organizations do not feel the urge to centralize power among a few people and subordinates do not show a preference for being told what to do (Hofstede, Hofstede, and Minkov 2010). VMS and SH probably have loose and flat hierarchical structures. Subordinates might expect to be involved in any decision that concerns them and to be trusted (Uzun 2020). Therefore, managers are likely “resourceful democrats” who promote collaboration and the generation of ideas (Hofstede, Hofstede, and Minkov 2010).

2. Uncertainty Avoidance

This second dimension addresses a society’s intolerance for ambiguity and the discomfort of its members in unstructured situations (Hofstede 1980). German organizations tend to be more uncertainty-avoidant than American ones. SH’s workforce can be presumably more dependent on guidelines and well-defined protocols than that of VMS (Dragūns 2007). In that case, a more consistent and structured communication style may be required within the company. SH’s workforce may also be more risk-averse and less inclined to explore new approaches to problem-solving, potentially leading to less innovative activities. They might also be more hesitant to switch jobs because of associated risks, which would result in more stability and a superior perception of organizational loyalty (Milner, Fodness, and Speece 1993). Finally, SH might depend more heavily on the expertise of its workforce and give greater importance to precision and punctuality (Hofstede, Hofstede, and Minkov 2010).

3. Individualism

Individualism captures the extent to which the members of a society integrate into groups (Hofstede 1980). German and American societies are individualistic, with low levels of interdependence

among their members. Autonomous work is probably prioritized over team cohesion within VMS and SH, and rewards are likely linked to performance on an individual basis (Hofstede, Hofstede, and Minkov 2010) (Blodgett, Bakir, and Rose 2008). The German culture is, however, more individualistic than the American one in the sense that communication among German individuals is more direct. SH employees are likely to follow the premise of being “honest, even if it hurts”, whereas VMS employees might be more inclined to make their counterparts feel good about themselves (Yin 2002).

4. Masculinity

This dimension denotes a society’s embracement of masculine values over feminine ones. German and American individuals tend to cherish masculine values. Money and personal accomplishments are often prioritized over quality of life and caring for others (Blodgett, Bakir, and Rose 2008). Consequently, employees at SH and VMS might be competitive and ambitious, willing to work long hours.

5. Long-term orientation

Long-term orientation measures the extent to which a society places significance on long-term goals, perseverance, thrift, and adaptation to evolving circumstances. German companies tend to be slightly more long-term oriented than American ones, which lie at the exact mid-point of the spectrum. Nonetheless, the difference seems to be insignificant; both SH and VMS are probably moderately long-term oriented.

6. Indulgence

Indulgence conveys the free gratification of natural human desires related to enjoying life and having fun (Hofstede 2011). Americans tend to be indulgent and Germans restrained. Thus, VMS

employees are probably more appreciative of flexible working hours, lenient norms, and freedom of speech than SH's (Enkh-Amgalan 2016).

3. Why can one not rely entirely on a national culture-based analysis to assess the corporate cultures of SH and VMS? Perform online research of both companies' organizational cultures to scrutinize our findings.

There is an important limitation of using a national culture-based analysis in isolation that may arise in our case study. VMS and SH have extremely diverse workforces spanning different countries and cultural backgrounds. Existing research shows that employees of the subsidiaries of multinational companies can be highly influenced by their own national cultures (Jung et al. 2008). Thus, our findings might be biased. Research on the specific company cultures of SH and VMS to check them is a must.

In the realm of power distance, evidence is in line with the findings. Leaders at SH are expected to be more than directive figures; they are seen as catalysts for engagement and feedback, embodying the role of a resourceful democrat (Siemens Healthineers 2019). The company's commitment to open communication is also discussed by Marco Pardini, the head of human resources at SH Brazil, in an interview (Odgers Berndtson Brasil 2020). He claims that it is important for employees to give their opinions without fearing rejection. VMS has a similar leadership style. According to internal employee surveys, there is a perception among the workforce that managers help them prioritize work and provide feedback that helps them grow and feel engaged (Varian Medical Systems 2020). SH's commitment to minimizing controls and decentralizing responsibilities is also a reality (Dunne 2019).

The national cultures analysis concluded that SH was likely more uncertainty-avoidant than VMS. Evidence suggests that, in reality, this is not completely true. Rachel Robinson, a talent acquisition partner at SH, suggests in a webinar that employees are encouraged to “think big and fail fast”, portraying a certain degree of innovation and risk-taking (thegrbteam 2020). That ties perfectly with the Principle of Healthineers “Missed opportunities are our biggest risk” (see Exhibit 9) and comes unsurprisingly, given that the company operates in a very dynamic industry, where it is necessary to stay up-to-date with the newest technological advances. The same is true for VMS. Steve Pullen, a manufacturing engineering manager from Crawley, claims in a Q&A session with students that they look for people who can think a bit differently and come up with something radical (LoveLocalJobs.com 2014). Another aspect in which both companies are very similar is in terms of their reliance on expertise, of which VMS was predicted to have less according to the national cultures analysis. In the same Q&A session, Steve Pullen explains that qualified personnel are necessary, something that one would expect given the technical nature of some jobs. As predicted, managers at SH have the organizational duty to carefully select employees by considering their qualifications and skills (Siemens Healthineers 2019). Moreover, one of the four roles in SH’s leadership model is the expert, who must advise others, share challenges, and share experiences (Siemens Healthineers 2019).

Moving on to the next dimension, the evidence seems to exacerbate the findings that SH is a more individualistic organization. Its workforce’s abidance to a direct communication style, based on the premise of being “honest, even if it hurts”, holds. One of the company’s core values for successful collaboration is to deal openly with mistakes, giving and seeking feedback (Siemens Healthineers 2019). In his interview, Marco Pardini also highlights the importance of managers providing sincere feedback to subordinates. Furthermore, evidence shows that autonomy in the workplace is

encouraged by the company and appreciated by employees. At the organizational level, a role within its leadership model is the coach. He must create autonomy, enable problem-solving, and support self-learning (Siemens Healthineers 2019). In the webinar starring Rachel Robinson, she also expresses an appreciation of the autonomy that was given to her from day 1. VMS, on the other hand, seems to place more emphasis on teamwork at the organizational level. One of the company's values is "Partner for Life", which involves collaboration within the workforce and with customers (see Exhibit 10). Steve Pullen touches upon this point in the Q&A session, as he suggests that the ideal candidate for VMS has good social skills and is competent working in a team.

Evidence is also majorly against findings derived within the masculinity dimension. We see that both SH and VMS embrace feminine values at the organizational and employee levels. In the case of SH, the first Principle of Healthineers is "A day without passion for healthcare is a lost day" (see Exhibit 9). As Bernd Montag says, employees are committed to the "common purpose of helping people live healthier and longer" (Siemens Healthineers 2019). There is a sense of nurturing and caring that transcends financial rewards. The same is true in the case of VMS, as evidenced by the slogan "Imagine A World Without Fear of Cancer" (see Exhibit 11).

Finally, findings seem to point to the prediction that VMS is a more indulgent organization than SH, even though both are fairly indulgent. The top review among SH employees highlighted by sentiment in Glassdoor is "work-life balance is good" (see Exhibit 12). Among VMS employees, that is the third one (see Exhibit 13). Nonetheless, VMS seems to put additional attention on the well-being and health of its employees. VMS offices in Japan offer seminars to teach employees how to best eat and live healthily. On top of that, in many of the U.S. locations, the company provides state-of-the-art fitness facilities (Siemens Healthineers 2019). These are probably greatly

appreciated by employees, as evidenced by the fact that the second top review in Glassdoor is actually “good benefits, including cafeteria and gym perks” (see Exhibit 13).

4. What implications do our findings have on the potential acquisition?

The findings portray key implications for the acquisition decision. Firstly, both VMS and SH are accustomed to a democratic and collaborative leadership style. That could result in an easier integration of their decision-making structures. On top of that, the workforce in both companies seems to have innovation-prone and risk-taking profiles, as well as a commitment to improving the lives of patients. Communication with employees throughout the integration process could emphasize such a shared vision. However, differences in both companies’ individualism could present integration challenges. There would be a need to balance SH’s encouragement of autonomous working and direct communication with VMS focus on collaboration. Moreover, VMS emphasis on improving the well-being and health of its workforce should likely be taken as a best practice to prevent workforce retention issues. Finally, continuous cultural assessment should be carried out to adapt the integration strategy according to evolving circumstances and workforce responses.

Table of Figures

Figures

Figure 1: Siemens Healthineers' Revenue by Geography in FY2019 (SH Annual Report 2019) ..	10
Figure 2: Varian Medical Systems' Revenue by Geography (VMS Annual Report 2019)	16
Figure 3: Affected stakeholders by the potential acquisition	28

Tables

Table 1: Revenue of Siemens Healthineers by segments for fiscal years of 2018 and 2019 (SH Annual Report 2019)	10
Table 2: Revenue of Varian Medical Systems by segment for the fiscal years of 2018 and 2019 (VMS Annual Report 2019)	16
Table 3: Germany vs. US scores in Hofstede's Cultural Dimensions (The Cultural Factor Group 2023)	39

Appendix

Exhibit 1: Consolidated Statement of Earnings of VMS

Consolidated Statements of Earnings			
In millions of \$, except per share amounts			
Fiscal Years	2019	2018	2017
Revenues:			
Product	1784,1	1569,9	1394
Service	1441	1349,2	1225,3
Total revenues	3225,1	2919,1	2619,3
Cost of revenues:			
Product	1169,9	1024,4	950,9
Service	684,9	621,1	554,5
Total cost of revenues	1854,8	1645,5	1505,4
Gross margin	1370,3	1273,6	1113,9
Operating expenses:			
Research and development	247,6	233,9	210
Selling, general and administrative	623,1	543,5	552,8
Impairment charges	50,6	22,4	51,4
Acquisition-related expenses and	62,8	36,4	1,9
Total operating expenses	984,1	836,2	816,1
Operating earnings	386,2	437,4	297,8
Interest income	15,1	17,3	13,6
Interest expense	-8,8	-6,8	-10,7
Other income, net	28,3	4,2	2,4
Earnings from continuing operations	420,8	452,1	303,1
Taxes on earnings	128,6	301,8	77,1
Net earnings from continuing operations	292,2	150,3	226
Net loss from discontinued operations	-	-	-6,8
Net earnings	292,2	150,3	219,2
Less: Net earnings attributable to	0,3	0,4	0,7
Net earnings attributable to VMS	291,9	149,9	218,5
Net earnings (loss) per share - basic			
Continuing operations	3,21	1,64	2,44
Discontinued operations	-	-	-0,08
Net earnings per share - basic	3,21	1,64	2,36
Net earnings (loss) per share - diluted			
Continuing operations	3,18	1,62	2,42
Discontinued operations	-	-	-0,07
Net earnings per share - diluted	3,18	1,62	2,35
Shares used in the calculation of net earnings per share:			
Weighted average shares out	91	91,5	92,5
Weighted average shares out	91,9	92,5	93,2

Source: VMS Annual Report 2019

Exhibit 2: Consolidated Balance Sheets of VMS

Consolidated Balance Sheets 2019		
In millions of \$, except par values		
Fiscal Year Ended	September 27, 2019	September 28, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	531,4	504,8
Trade and unbilled receivables, net of allowance	1106,3	1009,9
Inventories	551,5	438,1
Prepaid expenses and other current assets	206,2	233,3
Current assets of discontinued operations	-	2,3
Total current assets	2395,4	2188,4
Property, plant and equipment, net	311,5	274,6
Goodwill	612,2	293,6
Intangible assets, net	300,7	101,1
Deferred tax assets	84,7	102,2
Other assets	397,2	292,8
Total assets	4101,7	3252,7
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	248,5	190,3
Accrued liabilities	459,5	419,7
Deferred revenue	766	729,7
Short-term borrowings	410	-
Total current liabilities	1884	1339,7
Other long-term liabilities	440,1	324,3
Total liabilities	2324,1	1664
Commitments and contingencies (Note 9)		
Equity:		
Preferred stock of \$1 par value: 1.0 shares authorized	-	-
Common stock of \$1 par value: 189.0 shares	90,8	91,2
Capital in excess of par value	845,6	778,1
Retained earnings	934	780,4
Accumulated other comprehensive loss	-102,1	-65,3
Total Varian stockholders' equity	1768,3	1584,4
Non-controlling interests	9,3	4,3
Total equity	1777,6	1588,7
Total liabilities and equity	4101,7	3252,7

Source: VMS Annual Report 2019

Exhibit 3: Cash Conversion Cycle analysis of VMS and competitors

CCC Analysis - Varian (USD M)			CCC Analysis - Elekta (SEK M)		
Fiscal Year Ended	2019	2018	Fiscal Year Ended	2019	2018
Inventories	551,5	438,1	Inventories	2634	2560
Cost of revenues	1854,8	1645,5	Cost of revenues	7875	6517
Average holding period (AHP)	108,53	97,18	Average holding period (AHP)	122,08	143,38
% of Change	11,68%		% of Change	-14,85%	
Receivables	1106,3	1009,9	Receivables	4514	4470
Sales	1370,3	1273,6	Sales	13555	11573
Average collection period (ACP)	294,68	289,43	Average collection period (ACP)	121,55	140,98
% of Change	1,82%		% of Change	-13,78%	
Payables	248,5	190,3	Payables	1427	1132
Cost of revenues	1854,8	1645,5	Cost of revenues	7875	6517
Average payable period (APP)	48,90	42,21	Average payable period (APP)	66,14	63,40
% of Change	15,85%		% of Change	4,32%	
Average holding period	108,53	97,18	Average holding period	122,08	143,38
Average collection period	294,68	289,43	Average collection period	121,55	140,98
Average payable period	48,90	42,21	Average payable period	66,14	63,40
Cash conversion cycle (CCC)	354,31	344,39	Cash conversion cycle (CCC)	177,49	220,96
% of Change	2,88%		% of Change	-19,67%	

CCC Analysis - Accuray (USD K)		
Fiscal Year Ended	2019	2018
Inventories	120823	108540
Cost of revenues	256134	243202
Average holding period (AHP)	172,18	162,90
% of Change	5,70%	
Receivables	111885	65994
Sales	418785	404897
Average collection period (ACP)	97,52	59,49
% of Change	63,92%	
Payables	29562	19694
Cost of revenues	256134	243202
Average payable period (APP)	42,13	29,56
% of Change	42,53%	
Average holding period	172,18	162,90
Average collection period	97,52	59,49
Average payable period	42,13	29,56
Cash conversion cycle (CCC)	227,57	192,83
% of Change	18,01%	

Source: Companies' Annual Reports 2019 & Own Calculations

Exhibit 4: Liquidity analysis of VMS and competitors

Liquidity Analysis - Varian (USD M)		
Fiscal Year Ended	2019	2018
Current Assets	2395,40	2188,40
Current Liabilities	1884,00	1339,70
Current Ratio	1,27	1,63
% of Change	-22,16%	
Fiscal Year Ended	2019	2018
Current Assets	2395,40	2188,40
Inventories	551,50	438,10
Current Liabilities	1884,00	1339,70
Quick Ratio	0,98	1,31
% of Change	-25,09%	
Fiscal Year Ended	2019	2018
Cash and cash equivalents	531,4	504,8
Current Liabilities	1884,00	1339,70
Cash Ratio	0,28	0,38
% of Change	-25,14%	
Fiscal Year Ended	2019	2018
Current Assets	2395,40	2188,40
Current Liabilities	1884,00	1339,70
Net Working Capital	511,40	848,70
Difference	-337,30	
% of Change	-39,74%	

Liquidity Analysis - Elekta (SEK M)		
Fiscal Year Ended	2019	2018
Current Assets	12897,00	13080,00
Current Liabilities	11897,00	11671,00
Current Ratio	1,08	1,12
% of Change	-3,27%	
Fiscal Year Ended	2019	2018
Current Assets	12897,00	13080,00
Inventories	2634,00	2560,00
Current Liabilities	11897,00	11671,00
Quick Ratio	0,86	0,90
% of Change	-4,30%	
Fiscal Year Ended	2019	2018
Cash and cash equivalents	4073	4458
Current Liabilities	11897,00	11671,00
Cash Ratio	0,34	0,38
% of Change	-10,37%	
Fiscal Year Ended	2019	2018
Current Assets	12897,00	13080,00
Current Liabilities	11897,00	11671,00
Net Working Capital	1000,00	1409,00
Difference	-409,00	
% of Change	-29,03%	

Liquidity Analysis - Accuray (USD K)		
Fiscal Year Ended	2019	2018
Current Assets	344075,00	284157,00
Current Liabilities	192181,00	169434,00
Current Ratio	1,79	1,68
% of Change	6,75%	
Fiscal Year Ended	2019	2018
Current Assets	344075,00	284157,00
Inventories	120823,00	108540,00
Current Liabilities	192181,00	169434,00
Quick Ratio	1,16	1,04
% of Change	12,08%	
Fiscal Year Ended	2019	2018
Cash and cash equivalents	76798	83083
Current Liabilities	192181,00	169434,00
Cash Ratio	0,40	0,49
% of Change	-18,51%	
Fiscal Year Ended	2019	2018
Current Assets	344075,00	284157,00
Current Liabilities	192181,00	169434,00
Net Working Capital	151894,00	114723,00
Difference	37171,00	
% of Change	32,40%	

Source: Companies' Annual Reports 2019 & Own Calculations

Exhibit 5: Profitability from operations of VMS and competitors

Profitability from Operations - Varian (USD M)			Profitability from Operations - Elekta (SEK M)		
Fiscal Year Ended	2019	2018	Fiscal Year Ended	2019	2018
Gross Profit	1370,30	1273,60	Gross Profit	5680,00	5056,00
Revenues	3225,10	2919,10	Revenues	13555,00	11573,00
Gross Margin	0,42	0,44	Gross Margin	0,42	0,44
Fiscal Year Ended	2019	2018	Fiscal Year Ended	2019	2018
EBIT	386,20	437,40	EBIT	1696,00	1845,00
Revenues	3225,10	2919,10	Revenues	13555,00	11573,00
EBIT Margin	0,12	0,15	EBIT Margin	0,13	0,16
Fiscal Year Ended	2019	2018	Fiscal Year Ended	2019	2018
Net Income	292,20	150,30	Net Income	1198,00	1348,00
Revenues	3225,1	2919,1	Revenues	13555,00	11573,00
Net Margin	0,09	0,05	Net Margin	0,09	0,12

Profitability from Operations - Accuray (USD K)		
Fiscal Year Ended	2019	2018
Gross Profit	162651,00	161695,00
Revenues	418785,00	404897,00
Gross Margin	0,39	0,40
Fiscal Year Ended	2019	2018
EBIT	583,00	-3797,00
Revenues	418785,00	404897,00
EBIT Margin	0,00	-0,01
Fiscal Year Ended	2019	2018
Net Income	-16430,00	-23899,00
Revenues	418785,00	404897,00
Net Margin	-0,04	-0,06

Source: Companies' Annual Reports 2019 & Own Calculations

Exhibit 6: Profitability from investments of VMS and competitors

Profitability from Investments - Varian (USD M)			Profitability from Investments - Elekta (SEK M)		
Fiscal Year Ended	2019	2018	Fiscal Year Ended	2019	2018
Net income	292,20	150,30	Net income	1198,00	1348,00
Total Assets	4101,70	3252,70	Total Assets	24064,00	23760,00
Return on Assets	0,07	0,05	Return on Assets	0,05	0,06
Fiscal Year Ended	2019	2018	Fiscal Year Ended	2019	2018
Sales	3225,10	2919,10	Sales	13555,00	11573,00
Total Assets	4101,70	3252,70	Total Assets	24064,00	23760,00
Asset Turnover	0,79	0,90	Asset Turnover	0,56	0,49

Profitability from Investments - Accuray (USD K)		
Fiscal Year Ended	2019	2018
Net income	-16430,00	-23899,00
Total Assets	438181,00	378727,00
Return on Assets	-0,04	-0,06
Fiscal Year Ended	2019	2018
Sales	418785,00	404897,00
Total Assets	438181,00	378727,00
Asset Turnover	0,96	1,07

Source: Companies' Annual Reports 2019 & Own Calculations

Exhibit 7: Value Creation Analysis of VMS

Core ROIC - Varian (USD M)			
Fiscal Year Ended	2019	2018	2017
Core result	291,63	127,71	216,30
Core Invested Capital	1860,36	1259,06	1104,67
Core ROIC	15,68%	10,14%	19,58%

Core RONIC - Varian (USD M)			
Fiscal Year Ended	2019	2018	2017
Core Result	291,63	127,71	216,30
Change in Core Result	163,92	-88,59	
Core Invested Capital	1860,36	1259,06	1104,67
Change in Invested Capital	601,30	154,39	
Core RONIC	1,061736511		

Growth Rate - Varian (USD M)			
Fiscal Year Ended	2019	2018	2017
Core Result	291,63	127,71	216,30
g	128,35%	-40,96%	

Source: VMS Annual Report 2019 & Own Calculations

Exhibit 8: Value Creation Analysis of VMS excluding taxes

Core ROIC Adjusted - Varian (USD M)			
Fiscal Year Ended	2019	2018	2017
Core EBT	386,20	437,40	297,80
Core Invested Capital	1860,36	1259,06	1104,67
Adjusted Core ROIC	20,76%	34,74%	26,96%

Core RONIC Adjusted - Varian (USD M)			
Fiscal Year Ended	2019	2018	2017
Core EBT	386,20	437,40	297,80
Change in Core EBT	-51,20	139,60	
Core Invested Capital	1860,36	1259,06	1104,67
Change in Invested Capital	601,30	154,39	
Adjusted Core RONIC	-0,331627696		

Growth Rate Adjusted - Varian (USD M)			
Fiscal Year Ended	2019	2018	2017
Core EBT	386,20	437,40	297,80
Adjusted g	-11,71%	46,88%	

Source: VMS Annual Report 2019 & Own Calculations

Exhibit 9: Principles of SH

Principles of Healthineers

- A day without passion for healthcare is a lost day
- Missed opportunities are our biggest risk
- We don't compromise on quality
- Today is about tomorrow
- We say what we do, we do what we say
- We listen more than we talk
- We lead by being lean



**A day without passion for
healthcare is a lost day**

~ 50.000 employees

Source: SH 2019 Corporate Governance Statement

Exhibit 10: Values of VMS

Our Values

By working together to achieve new victories against cancer, we make powerful change happen. Varian's values connect us to one another and to the mission we all share.

Customers First

We put customers first. Our customers trust us to deliver solutions, products, services and performance that enable them to do vital work for people around the world.

Partner for Life

We are united by purpose to help save lives. We collaborate with one another and our customers to make patient care more effective, affordable and accessible everywhere. We serve all parts of the world with equal care.

Inspired Innovation

We turn great ideas into practical realities. We have always been inspired and energized by the challenge of finding new and better ways to do things. Innovation drives our success.

Doing Well by Doing the Right Thing

We grow our business while acting with integrity. Each of us is responsible for meeting the highest standards of ethics, quality, compliance and safety. We care for our customers, our colleagues and our communities.

Source: VMS Sustainability Report 2019

Exhibit 11 – VMS Slogan



Source: VMS Sustainability Report 2019

Exhibit 12 – SH Glassdoor Review Highlights

Top Review Highlights by Sentiment

Excerpts from user reviews, not authored by Glassdoor

Pros

"[work life balance and all good](#)" (in 377 reviews)

"Diversity and [Good Benefits](#)." (in 232 reviews)

"The [people here are great](#) and easy to work with." (in 189 reviews)

"Okay [pay and good](#) benefits." (in 108 reviews)

"[Good Culture](#) and Balanced Work Culture" (in 86 reviews)

Source: Glassdoor

Exhibit 13 – VMS Glassdoor Review Highlights

Top Review Highlights by Sentiment

Excerpts from user reviews, not authored by Glassdoor

Pros

"The [people are great](#) and care about what they do
Company mission is admirable to rid the world from fear
of cancer" (in 92 reviews)

"[Good benefits](#) including cafeteria and gym perks" (in 92 reviews)

"[Work life balance is good](#)" (in 77 reviews)

"company work [culture is good](#) and infrastructure is well
defined" (in 37 reviews)

"[Friendly employees](#) across multiple business units" (in 25 reviews)

Source: Glassdoor

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