A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

SHAPING THE FUTURE OF INDUSTRY

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A Project carried out on the Master in Finance Program, under the supervision of:

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Abstract

The following equity research was conducted from September 2020 until January 2021 and assesses the intrinsic value of Siemens AG's share price as part of an investment decision. Siemens AG is an industrial company, segmented in several market as digitalization and automation, transportation and parts, and medical imaging. Each one is separately evaluated taking into account the historical performance as well as the market trends and regional dynamics. The valuation method used was a discounted cash flow. The share price target for fiscal 2021 was € 138.99, implying an expected annualized return of 12.5%, which justifies the recommendation to BUY.

Keywords: Siemens; digitalization; automation; technology

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This report is part of the Siemens AG company report (annexed) and should be read has an integral part of it.

NOVA SCHOOL OF BUSINESS & ECONOMICS

MASTER IN FINANCE

SIEMENS AG

COMPANY REPORT

INDUSTRIAL

4 JANUARY 2021

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Shaping the future of industry

How can vanguard technology improve our lives?

- **Fiscal 2020:** Siemens' fiscal 2020 was characterized by two important occurrences. On one side, the economic slowdown due to the current public health situation, which decreased company's revenues by 7% and 6% on its Digital Industries and Smart Infrastructures business segments, respectively. On the other side, the Siemens Energy spin-off concluded in September completely altered the relevance of each operating segments.

- **Trends driving Siemens' growth:** urbanization, digitalization, and sustainability are the drivers for the company's growth across all the operating segments. Smart Infrastructures is expected to become the main business area from 2022 onwards, representing more than 28.6% of Siemens' consolidated revenues in 2025, with sales evolving at a CAGR of 12% between 2023 and 2025.

- **Valuation:** The target price of 138.99€ was obtained based on the DCF valuation model, assuming a long-term growth rate of 2.86% and a 6.44% WACC. The recommendation would be to **BUY** the stock, with an annualized expected return of 12.5%. The main risks regarding the investment would relate to a recession due to the COVID-19 pandemic, the trade wars' negative impacts, and the introduction of disruptive technologies.

Company description

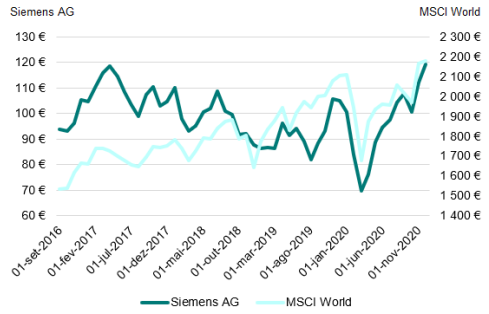
Siemens AG is a Germany-based industrial company, founded in 1847, engaged in industrial automation, smart infrastructure, modern mobility, and healthcare. Siemens operates worldwide, employing more than 293,000 people. The company is listed on the Frankfurt Stock Exchange, since 1899.

Recommendation:	**BUY**
Price Target FY21:	**138.99€**
Price (as of 4-Jan-21)	**118.82 €**

Reuters: SIEGn.DE, Bloomberg: SIE:GR

52-week range (€)	54.72-118.88
Market Cap (€m)	100 997
Outstanding Shares (m)	850

Source: Bloomberg, as of 28th December 2020



Source: Reuters, as of 3rd January 2021

(Values in € millions)	2019	2020	2021F
Revenues	**86 849**	**57 139**	**61 154**
Cost of Sales	60 394	34 847	36 809
R&D expenses	5 670	4 641	4 900
SGA	13 345	11 028	11 061
EBIT	**8 448**	**8 743**	**9 986**
Net Profit	5 580	3 923	5 534
EPS	6.41	4.93	6.51
Revenues per segment:			
Digital Industries	16 087	14 997	15 985
Smart Infrastructure	15 225	14 323	15 384
Mobility	8 916	9 051	9 853
Siemens Healthineers	14 140	13 967	14 837
Other	32 481	6 109	6 315

Source: Company's Financials, Model Estimates

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Company Overview

*Figure 1: **2020 Segment Revenues Breakdown**, source: company data*

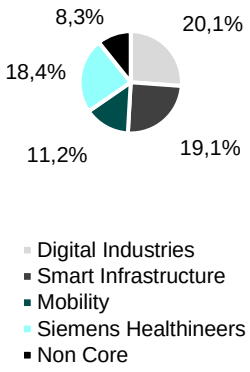


*Figure 2: **2020 Region Revenue Breakdown**, source: company data*

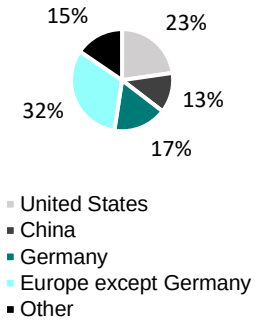
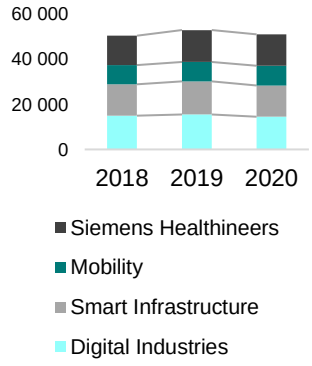


*Figure 3: **Historical Evolution of Segment Revenue**, source: company data*



With more than 170 years of history, Siemens' beginning dates to 1847, in Berlin, when the pointer telegraph was invented and developed by Werner von Siemens and Johann Georg Halske. It was a valuable technological evolution not only for Germany but for the rest of the world, since it permitted to transmit information across long distance within just a few minutes, instead of long hours.

Siemens' mission is to "*improve our everyday activity*". Siemens is one of the biggest engineering companies in the world, employing more than 293,000 people. Siemens' good practises regarding talent development, economic footprint, gender equality, social responsibility and even Covid-19 responses, awarded the company as the 9th World Best Employer in 2020[1], the 68th Best Employer for New Grads 2020[2], and the 59th Best Employers for Women 2020[3] by Forbes.

Siemens' operations are divided in four main segments: Digital Industries, Smart Infrastructures, Mobility and Siemens Healthineers. Siemens focus its activities on intelligent infrastructure for buildings, automation and digitalization in manufacturing industries, and healthcare. During the fiscal year 2020, Siemens' revenues amounted to €57.3bn. Digital Industries has been the most important segment in terms of revenues since 2018, representing 25.4% of Siemens' sales in 2020 (€15.0bn), followed by Siemens Healthineers (€14.5bn) and Smart Infrastructures (€14.3bn).

Although the company's activities are developed worldwide, Europe and the Americas are the regions where Siemens has its most relevant operations, in particular Germany and the United States, representing 17% and 23% of the company's sales in 2020, respectively. Although, it is to notice that China is gaining relevance as the country already represents 13% of Siemens consolidated revenues in 2020.

However, Siemens' consolidated revenues decreased 34% in fiscal 2020, compared to the €86.8bn achieved in 2019. The reduction in sales is due not only to Covid-19 negative impacts on global economy, but also driven by Siemens Energy spin-off. During 2020, the company conducted a spin-off of its prior Gas and Power and Siemens Gamesa Renewable Energy divisions, aiming to reach a structural realignment, which would allow the separate companies to better focus on its core activities and strategically prepare the future.

[1] https://www.forbes.com/lists/worlds-best-employers/#20b2ddb81e0c
[2] https://www.forbes.com/lists/best-employers-for-new-grads/#1d1d71d7203a
[3] https://www.forbes.com/best-employers-women/#74dd84387de9

Table 1: ***The World's Most Valuable Brands 2020****, source: Forbes*

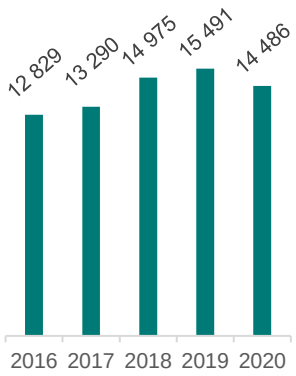
Brand	Rank	Brand Value ($ bn)
Apple	1	241.2
Google	2	207.5
Microsoft	3	162.9
Amazon	4	135.4
General Electric	20	29.5
Adidas	51	12.9
Chanel	52	12.8
Siemens	**53**	**12.7**
Nestlé	54	12.3

Siemens was ranked the 53rd World Most Valuable Brand in 2020 by Forbes[4], with an estimated brand value of $12.7bn. Moreover, in its operations, Siemens is also committed to environmental sustainability and foster social development at the same time. As a proof of this commitment, Siemens has been recognised by various institutions and rankings: #1 in the Global 10 Most Sustainable Corporations in the World within its industry in 2019, and #1 on the 2017 Carbon Clean 200 list[5].

Digital Industries

Formed in 2019, Digital Industries is a business unit focused on the industrial automation and digitalization. The segment's main product is the "Digital Enterprise Portfolio", a set of technological solutions that all sized companies can adopt to implement automation and digitalization in their operations and supply chain. The most relevant asset is the Siemens Digital Industries Software, previously recognized as Siemens PLM Software. It consists in an information management system used to operate the lifecycle of a product, from the design and planning to the process and business system. PLM Software offers the benefit of a better management of the product during lifetime. The comparative advantages that Siemens offers are not only the possibility to validate 3D designs but also the analytical feature that gathers data and elaborates reports based on key metrics previously defined, that consequently supports management decisions[6].

Figure 4: ***Digital Industries Historical Revenues (€ million****), source: company data*



With the introduction of this software, factories have the possibility to reduce 60% commissioning time, increase by 27% the productive time of mechanical prefabrication and even reduce by 30% the engineering time required[7]. The software is complemented with the implementation of highly developed software as Artificial Intelligence and cloud. As a result of an intensive R&D strategy, Siemens is one of the pioneers to present industrial 5G. In fact, starting from the Spring of 2021 onwards, Siemens will be the first to supply a router that connects local industrial applications to a public 5G network, if available, but is also supported by a 4G mobile network. The main differences from the already offered 4G are the possibility of private networks, with local use frequencies, introduction of massive machine type communication, gathering data for high data applications, and the capacity to have autonomous logistics and machines. In a race to take on

[4] https://www.forbes.com/the-worlds-most-valuable-brands/#163de1c0119c
[5] https://new.siemens.com/global/en/company/sustainability.html
[6] Predictive analytics, TOP product lifecycle management software, 2019
[7] Siemens Data for PLM software

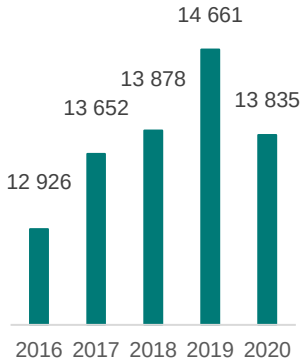
the opportunity of 5G, major companies as Bosch and Ericsson are also investing high resources, however, they do not yet have a product ready for market.

Digital Industries targets not only major multinational companies, namely industries in automotive and healthcare segments, with a broad portfolio, but also companies that focus their operations on a certain geographic area or product. This way Siemens adapts the solutions to the needs of its different customers. Even though during past years the need for digitalization and automation had been increasing, the irregular situation of 2020 also negatively impacted the revenues. Indeed, the slowdown in main customer segments, particularly the automotive segment led to the decrease in revenues in ~6.8%, from €15.5bn to €14.5bn. Nevertheless, Siemens Digital Industries segment has been gaining relevance in the company's consolidated revenues, from 18.1% in 2019 to 25.4% in fiscal 2020.

With all these opportunities facing digital area, Siemens informed that one of top priorities and investments, namely in research and development is to assure **cyber security** in all technology provided. Besides, the decline on revenues caused by trade wars for the past years, the tension and uncertainty around trade policies have started to uplift, as such, the manufacturing investment is expected to increase during this decade.

Smart Infrastructure

*Figure 5: **Smart Infrastructure Historical Revenues** (€ million), source: company data*



Formed in 2019, Siemens Smart Infrastructure division aims to create and develop intelligent infrastructures that intuitively respond to the needs of people and help users to better benefit from the resources of the building or manufacturing facility. Through a wide range of low and medium-voltage power distribution, energy automation, smart grid, and industrial controls it is possible to enhance efficiency and sustainability of infrastructures.

More than ever, the increased demand for energy and the environmental awareness require energy-efficient infrastructures and industrial facilities, while maintaining high levels of supply reliability. To respond to this issue, Siemens offers medium-voltage power distribution solutions, which allow for a more responsible and economic use of electric power, using smart grids, while complying with performance requirements.

Furthermore, through the operations of its Smart Infrastructure segment, Siemens follows the trends toward networked operation buildings and increasingly automated industrial plants. Such technological evolutions require flexible and communication-capable power distribution systems, which Siemens supply through its low-voltage power distribution solutions and electrical installation

technology, and which enable seamless integration of electric power into automation and energy management systems.

Siemens also provides energy automation products, grid planning, simulation, operation, control, security services, and consulting services. All these services and intelligent products guarantee that grids run reliable and without any problem, and smart digital technology ensure supply security, and operational efficiency.

Siemens' customer base for Smart Infrastructures comprises infrastructure developers, construction companies, and owners and operators of public and commercial buildings (hospitals, campuses, airports, data centres, utilities and power distribution operators, and manufacturing industries, for instance). As such, and similarly to what is verified in the Digital Industries division, Smart Infrastructure is highly dependent on customer demand in manufacturing industries and construction, which changes quickly and strongly with macroeconomic cycles.

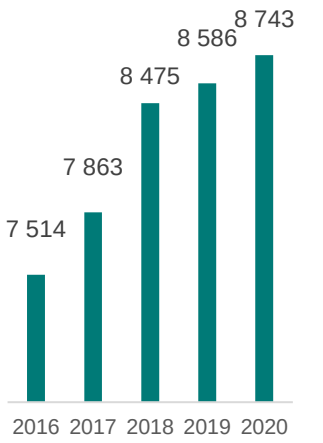
Due to the macroeconomic effects of COVID-19 pandemic, Smart Infrastructures' revenues decreased 5.9% in 2020 to €14.3bn, compared to the €15.2bn achieved in fiscal 2019. Despite the decrease in sales, and because of Siemens Energy Spin-off, the segment represented 17.1% of Siemens consolidated revenues in 2019, while representing 24.3% in fiscal 2020.

For the near future it is expected a stable and strong evolution of Siemens Smart Infrastructures segment, supported by rising population and urbanization trends, rising need for safe, secure, comfortable, and sustainable environments with efficient energy, operating and maintenance costs.

Mobility

With more than 100 years of experience, Siemens Mobility is a leader in transport solutions, with its own management team. Their operations are divided into three separate segments: Rail, Road and Intermodal. Rail segment portfolio contains trains, infrastructure, automation and electrification solutions. It has been conducting operations to be more cost effective while increasing sustainability. The Road segment consists mainly in intelligent road infrastructure and traffic solutions to optimize traffic flow and reduce emissions. The Intermodal segment creates a safe and easy transportation network to increase costumer experience and efficiency in transportation. Known as MaaS, the model presents a platform that allows passengers, operators, city and mobility providers to exploit opportunities in transportation market. Passengers can choose the transportation mode, using loyalty programs, and opt for public transport or vehicle sharing, while operators

Figure 6: ***Mobility Historical Revenues (€ million),*** *source: company data*



have access to all passengers in one interface and a single ticketing management. The city also benefits as the model gathers data to predict mobility demand. Besides, new competitors can enter directly into this significant consumer base. The model was tested in Andorra and is now used in Denmark and Germany.

On February 2019, Siemens and Alstom, the French competitor specialized in high-speed trains as the TGV, were refused to continue with a merger by the EU commission, as it could harm the competitive environment in railway, signalling system and very high-speed trains. The decision was highly controversial as the merger was supported on an attempt to stop CRRC, a Chinese company with impressive growth rates.

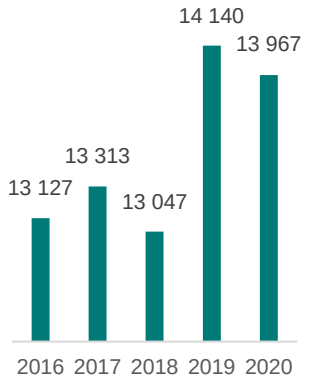
Siemens Mobility was awarded with the "German Sustainability Award Design 2021" for their new train, the Mireo, that offers both a hydrogen and batterie as substitute to carbon fuel. It was also awarded by the Federal Ministry of Transport and Digital Infrastructure as number one in "German Mobility Award 2020".

Throughout the year of 2020, Siemens closed contracts with major public departments of the United Kingdom (with the metro line), Russia (with high-speed trains), Germany (for implementation of battery powered trains), and finally Singapore (for improving signalling infrastructure across the city). Even though projects were postponed due to the pandemic, Siemens received mid-size to large orders, which consequently increased revenues on 2%, from €8.9bn to €9.1bn.

For recent future, Siemens Mobility is focusing their strategy in further reducing emissions while responding to the increasing urbanization and need for cost effective, reliable and flexible transportation in urban centres.

Siemens Healthineers

Figure 7: ***Siemens Healthineers Historical Revenues (€ million),*** *source: company data*



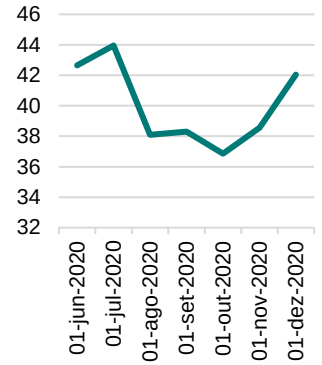
Founded in 2017, Siemens Healthineers is a holding company of Siemens AG and has been traded in the Frankfurt Stock Exchange since March 2018. Present in more than 70 countries, it is a global provider of healthcare solutions and services. It is segmented in three main business units, in each one positioned as market leaders: imaging, diagnostics and advanced therapy. Firstly, the imaging segment offers imaging products, services and solutions to clients, with a high focus on magnetic resonance, ultrasound and X-ray systems. The second, Diagnostics, provides in-vitro diagnostic products to laboratories, molecular and point-of-care diagnostics placements and it is essentially driven by long-term contracts. The last one, Advanced Therapy, consists in integrated products across clinical fields, by engaging in minimal invasive treatments in areas such as cardiology and surgery. Besides these three business areas, Siemens Healthineers also provides

consulting services. The segment's main production locations are the United States, China and Germany. Revenues remained stable from 2019 to 2020, around €14.5bn, and represented ~24.5% of the total Siemens Revenues.

As recognition of its innovating leadership and contributions to medicine, Siemens Healthineers received the 2019 "Frost and Sullivan Best Practices Award".

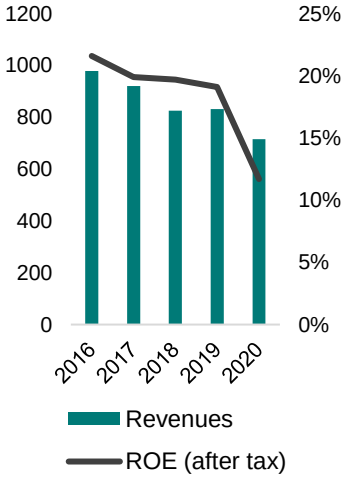
Siemens Healthineers is focusing its efforts to follow or take opportunity of four trends: demographic, the economic development of emerging countries, the increase of chronic diseases, and the overall change in the healthcare providers business model.

Figure 8: ***Siemens Healthineers Stock Performance from June 2020 to December 2020****, source: Reuters*



Following the M&A strategy of the holding, in August 2020 was announced the acquisition of Varian Medical Systems Inc. for $16.4bn, to be completed in the first semester of 2021. With this deal, there are two benefits identified. The first is related to the fact that Varian is an already mature company, market leader in Radiation Therapy hardware with 55% of market share, and with an extensive knowledge on oncology treatments that will help to develop end-to-end oncology solutions in partnership with Siemens Healthineers. Secondly, one can identify the market Varian is positioned as a very exclusive one, whose solutions presented have been gaining popularity in the Chinese and Indian market. Looking at market cap on the day, it is observed that there was a slight positive impact on Siemens' Healthineers share price, highlighting that the transaction was perceived as valuable the market.

Figure 9: ***Financial Services Revenues*** *(€ million)* ***and ROE after tax Historical figures****, source: company data*



Financial Services (SFS)

Siemens Financial Services (SFS) division provides financing solutions to support its customers' investments in digitalization. By investing in digitalized manufacturing, manufacturers can increase operational efficiency and productivity, and reduce costs of their manufacturing business. It is estimated the digitalization productivity bonus for manufacturing to be over 6%[8] of total revenue within 6 years.

As such, Siemens provides leasing solutions, equipment, and project finance in the form of debt and equity investments. This allows the company's customers to access to innovations by investing in the digitalization, automation, and vanguard technology to upgrade their manufacturing processes. This way, Siemens grants a sustainable investment in manufacturing, allowing its customers to benefit from improvements in production capacity, flexibility, and competitive pricing, which payoff the investment in digital technology. Moreover, developing smart cities and

[8] Siemens Financial Services, the Digitalization Productivity Bonus

infrastructures requires huge investments. Siemens forecasts more than $57 trillion needed to invest in the necessary global infrastructure, by 2030.

Governments have limited budgets and private investors, such as banks and pension funds, may consider the projects too risky to be involved. Hence, infrastructure projects require a finance specialist who is also a technology expert and a risk manager, which is the case of Siemens. For instance, Siemens works alongside with the Governments to upgrade rail lines, such as the Thameslink in the United Kingdom. On one hand, Siemens provides engineering technology, including energy efficient carriages. On the other hand, Siemens bought part of the equity investment, and helped to identify and mitigate risks earlier. Another example can be an hospital that seeks to modernize its facilities to save on energy costs but cannot afford the technology. Siemens solves the issue by providing energy performance contracts, through which the hospital does not need to make any investment at the beginning. Firstly, Siemens estimates the level of energy savings that can be achieved by the installation of new technologies. And then, after the upgrade, all costs are paid back by the guaranteed savings.

In fiscal 2020, Siemens Financial Services revenues' amounted to €716 million, representing 1.2% of Siemens consolidated revenues, against the 0.9% in fiscal 2019. Although the company's segment ROE (after tax) decreased to 11.7% in 2020, from 19.1% in 2019. This decrease is mainly driven by increase in credit risk provisions resulting from the uncertainties in markets due to the COVID-19 pandemic.

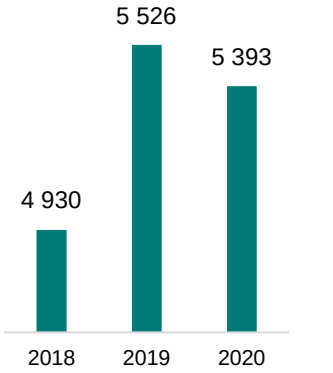
Portfolio Companies

Portfolio Companies was founded in 2019 and includes a wide variety of businesses which are managed separately. It also includes products, software, and services for industries such as oil and gas, marine, water, wind, logistics, and energy. By being managed separately, companies have a faster decision-making process, which enables the business to remain competitive in their markets and focus on their customers.

At a first stage, the businesses that are part of Siemens Portfolio Companies require adjustments in their operations, internal re-organization, digitalization, cost improvements, optimizing procurement, production, and service activities. Siemens specialists define targets for each business and, once the performance threshold target is achieved, business evolve in one of the following paths: be transferred to Siemens Industrial Business segments, combined with external business for the same sector or industry, spun-off via public listing, or even enter in an external private equity partnership.

In 2020, the following companies are part of the portfolio in Large Drives Applications, which engineers and produces heavy-duty electrical drives systems for electrical motors, and generators; Flender, the world leading manufacturer of mechanical drive systems, which produces gear boxes, and couplings for industries such as wind energy, mining, oil and gas, and power generation; Wind Energy Generation, which manufacturers wind generators and wind converters; Commercial Vehicles, which develops, engineers and produces high performance electric drive systems for buses, trucks, and to construction vehicles, namely shovels or mining haul trucks; and Siemens Logistics, which provides sorting technology for mail or airport baggage and cargo handling.

Figure 10: ***Portfolio Companies Historical Revenues*** *(€ million), source: company data*



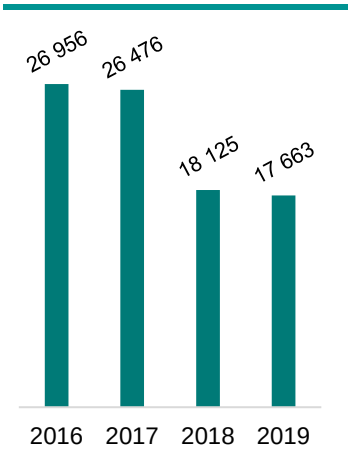
The markets for Portfolio Companies are highly uncertain and dependent on the overall economic environment and customer investment in the key industries of the portfolio. In fiscal 2020, Siemens Portfolio Companies segment generated €5.4bn in revenues, employing 24,000 people, and representing 9.2% of Siemens' consolidated revenues, against the 6.2% in fiscal 2019.

Siemens Energy Spin-off

In September 2020 was concluded the spin-off of Siemens Gas and Power and Siemens Gamesa Renewable Energy units, creating a combined new independent company, Siemens Energy AG. The business will be managed autonomously with no direct or indirect controlling influence on from Siemens AG.

Gas and Power

Figure 11: ***Gas and Power Historical Revenues*** *(€ million), source: company data*



Siemens Gas and Power division focused on providing solutions to generate electricity for various purposes: production, transport, installation and operation of transmission grids, downstream operations involving oil and gas. As it is characteristic of Siemens, this operating segment also provided a set of services which complement the power solutions: performance enhancements, maintenance services, customer training, and professional consulting, in times when the global demand for power is instantaneous and larger than ever before.

In 2019, the Gas and Power business unit represented 19.9% of Siemens' consolidated revenues, amounting to €17.7bn. Trends in this segment follow the shift to renewable sources of power generation. In European markets, it is observed an increasing concern regarding lower carbon emissions and reduce the footprint. This sector is also strongly regulated in countries where Siemens operates. In accordance to climate change targets, there is a growing pressure to switch to renewable sources of energy, as well as to better manage the security of energy supply by capacity markets or strategic reserve capacity. Moreover, there

is a thriving trend for digitalization and global electrification, providing intelligent solutions for managing complex energy networks. Globalization is pressuring the development of greener power transportation.

As such, R&D efforts are focused on building upon solutions to empower efficiency and flexibility, to reduce gas emissions in the power generation activity, and to develop software-driven power control and grid stabilization. The final goal is to boost productivity through automation.

Siemens Gamesa Renewable Energy

Siemens Gamesa Renewable Energy (SGRE) is responsible for the total supply chain of wind turbines as well as the operating activity, management, and support of wind farms.

The company's customer base includes European, American, and Asian Utilities, and local independent power producers both in emerging and developed markets. SGRE is market leader in both onshore and offshore market, with a 98.7GW capacity installed in 2019, and 24,500 employees worldwide.

Siemens AG was the majority shareholder of SGRE, with a 59% stake in 2019. SGRE had been gaining relevance in the consolidated company, and in 2019 its revenues added up to €10.3bn, representing 11.5% of the overall revenue.

Although the observed global trend is to increase portfolio's share of renewable energy, the sector is suffering a pressure on prices due to the evolution of competitive power sources. As such, to remain competitive, SGRE is concentrated in optimizing wind power production, improving its supply chain and considerably reduce costs. Therefore, its R&D efforts are to develop cost-effective energy storage solutions and on digitalization, involving intelligent monitoring, analysis of turbine conditions, and a fast and smart diagnostic.

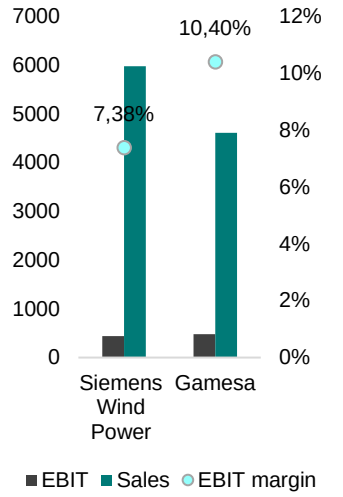
In June 2016, Siemens Wind Power and Gamesa Corporación Tecnlógica announced a wind power business merger, that was concluded in April 2017, forming Siemens Gamesa Renewable Energy. The merged company was listed in Spain and Siemens AG was a major shareholder, ~59% of ownership, followed by Iberdrola with ~8%.

The former Siemens Wind Power dedicated its operations to design, manufacture and installation of wind turbines, whose main clients were large utilities and independent power producers. Siemens entered the wind energy business in 2004, with the acquisition of Bonus Energy A/S, which had 9% market share in the sector, and an installed base of 3,321 MW in 20 countries. The former Gamesa, founded in 1976, focused on emerging activities, such as robotics, aeronautics,

aerospace, and composite materials. By 1994, the company entered in the wind power sector.

Both companies had been growing since the beginning of the century: Siemens Wind Power opened Research and Development facilities for wind turbine technology in Denmark, resulting in the largest order ever for 448 wind turbines with a total capacity of 1,050 MW in 2014; Gamesa opened manufacturing facilities in United States, China, and Brazil, and supplied to markets around the world, namely Italy, India, Vietnam, and Japan.

Figure 12: ***Siemens and Gamesa EBIT, Sales (€ million) and EBIT Margin in 2016,*** *source: company reports*

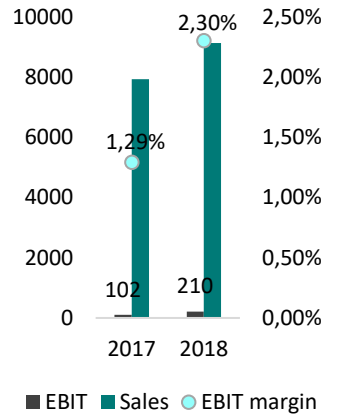


With the merger, Siemens Wind Power and Gamesa would form a **world-leading wind power provider** – Siemens Gamesa Renewable Energy. Businesses of both companies were perceived as high complementary with regards to markets, products (onshore and offshore location for wind turbines), and technologies. It was expected annual EBIT synergies of €230 million.

However, after analysing the actual revenues, EBIT and margin for the merged company SGRE, it is concluded that the consolidated EBIT margin decreased to 1.3% (EBIT amounts to €102 million), 2.3% (EBIT amounts to €210 million), and 2.5% (EBIT amounts to €252 million), respectively, in 2017, 2018, and 2019.

For 2017 fiscal year, it would be reasonable to understand a decrease in the margins since it was the transaction year. However, after 2018 it was expected a stabilization in margins, which was not verified. If one were to sum the individual revenues and EBIT for Siemens Wind Power and Gamesa in 2016 (before the merger), it would be obtained a consolidate amount for revenues of €10.6 million and an EBIT of €918k, implying an 8.7% EBIT margin. Therefore, for all the years following the merger, the margins not only decreased compared to the individual companies in 2016, but also the expected annual EBIT synergies of €230 million were not observed.

Figure 13: ***Siemens Gamesa Renewable Energy EBIT, Sales, EBIT margin****, source: company reports*



Nevertheless, in 2019 SGRE performance granted the company the investment grade rating award from Standard & Poor's, Moddy's, and Fitch.

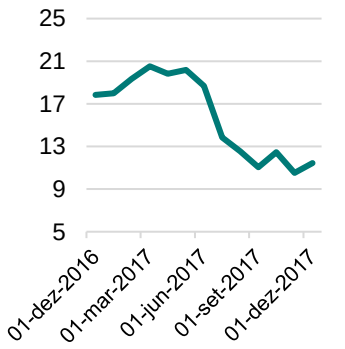
In the beginning of 2020, Siemens started planning the transfer of its stake on SGRE and its Gas and Power operating business unit to a new and independent entity – Siemens Energy.

As part of this, in Siemens bought Iberdrola's 8.1% stake in SGRE for €1.1bn. Iberdrola was a customer and simultaneously an important stakeholder, that was unsatisfied with the company's poor results after the merger, namely in what regards to disclosure of information by Siemens AG. With this transaction,

Siemens AG would hold 67% of SGRE and Gamesa would keep a 32.9% voting interest.

Indeed, since the acquisition in April 2017, Siemens Gamesa's shares have been declining, as illustrated in figure 14. More than 20% of the company workforce was dismissed[9], and production facilities were closed.

Figure 14: ***Siemens Gamesa Renewable Energies Stock Price from December 2016 to December 2017****, source: Reuters*



Moreover, in the first quarter of the fiscal 2020, SGRE reported a €165 million adjusted EBITA loss, due to a significant revenue decline. Consequently, in January 2020, Siemens Gamesa decreased its EBIT margin target interval from 5.5% and 7% to 4.5% and 6%[10]. It was the second time the company was cutting its profitability margin from the forecasted 8% to 10% for the fiscal 2020. As a result, in May 2020, Fitch downgraded Siemens Gamesa credit rating to BBB – company's outlook to negative from stable[11] - driven by margin pressures and negative economic effects of the pandemic.

Following all these developments, on 26th May 2020, Siemens announced a spin-off of Siemens Gamesa Renewable Energy and a carve-out of its Gas and Power operating business unit, which would result on the creation of a new and independent company – Siemens Energy AG.

Shareholders of Siemens AG hold 55.0% of this newly created company, 9.9.% are allocated to Siemens Pension-Trust e.V. and the remaining 35.1% shares are held by Siemens AG and reported within Reconciliation to Consolidated Financial Statements. For Siemens AG shareholders, the allocation ratio was 2:1 – one Siemens Energy AG share for every two Siemens AG shares, with a nominal value of €1.00 per share in Siemens Energy AG. Both the newly created company and Siemens AG were concerned with meeting the requirements for a solid investment-grade rating in Siemens Energy AG, focusing on a solid capital structure with an Equity ratio of 37.8%.

The purpose of the spin-off is to improve operational performance of Siemens Energy by restructuring the company while de-risking Siemens AG, allowing the firm to focus on industrial automation, software, infrastructure, and modern mobility.

Shift towards decentralization in gas, growing share of renewables, offshore wind increases, electrification of industries, and decarbonization and electromobility

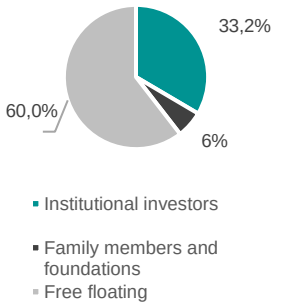
[9] https://thecorner.eu/financial-markets/the-first-few-months-of-the-siemens-gamesa-merger-see-22-of-the-workforce-fired/68473/
[10] https://br.reuters.com/article/uk-siemens-gamesa-results-outlook/siemens-gamesa-cuts-profitability-target-for-second-time-in-three-months-idUKKBN1ZT0N6
[11] https://www.fitchratings.com/research/corporate-finance/fitch-revises-siemens-gamesa-outlook-to-negative-affirms-idr-at-bbb-12-05-2020

represented some of the opportunities for Siemens Energy in new business models. As such, the spin-off proposal was approved on 9th July 2020 by Siemens AG shareholders and concluded on 28th September 2020 with the listing of Siemens Energy AG on the Frankfurt Stock Exchange. On the first day of trading, the market closed at €22.00 per share, implying a market value of €16bn.

All in all, the main goal of the spin-off was to allow each company to focus solely on its business, aligning employees', managers', and shareholders' interests. Furthermore, the spin-off gives entrepreneurial freedom to Siemens Energy to act faster and independently in a rapidly changing market environment.

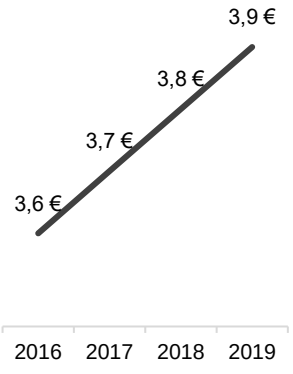
Shareholder Structure and Dividend Policy

*Figure 15: **2020 Shareholder Structure**, source: Bloomberg*



Siemens AG has a total of 850 billion registered shares that are fully traded at Frankfurt am Main Stock Exchange[12]. Indeed, around 33.2% of these shares are held by more than 800 Institutional investors. The ones with higher stakes are BlackRock Institutional Trust Company N.A., with 53.65 million shares (~6.31%), The Vanguard Group Inc, with 21.43 million shares (~2.25%) and the Norges Bank Investment Management, with 19.58 million shares (~2.30%)[13]. Siemens Family members and foundations own 51 million shares, equivalent to a stake of 6%, with a considerable management control. As of September 2020, voting rights were given to Siemens family[14] to exercise for 10 million of shares, contemplating partnerships between family and governing bodies. The remaining 60% of shares are traded daily in the stock exchange. The average trading volume for the last 12 months is €2.7 million. Since 2017, Siemens is included in the MSCI World Index.

*Figure 16: **Historical Dividend per Share**, source: company data*



In accordance with Siemens' ownership culture, employees are encouraged to take personal responsibility on the company. As so, by 2019, more than 80% of Siemens employees were co-owners, emphasizing that the identification and personal responsibility to the company enhanced a high commitment of each employee.

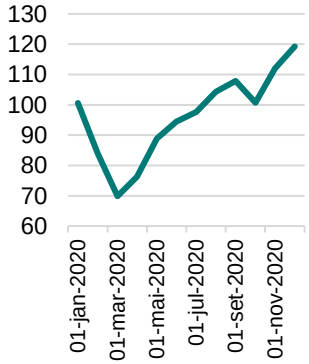
Siemens pays an annual dividend in the beginning of the year. The last dividend paid was on the 6th February of 2020 of €3.9 a share. Siemens has been increasing the DPS on €0.1 per year over the past five years. There are still no news regarding future distributions tSo shareholders, however it is expected that pay-out ratio will

[12] Siemens AG, Shareholder Structure
[13] Reuters, Siemens AG, Ownership, 25/11
[14] The von Siemens-Vermögensverwaltung GmbH (cSV)

Figure 17: ***Siemens AG Peers EPS****, source: Reuters*

Siemens AG	5,84%
Abb Ltd	0,65%
Alstom SA	1,88%
General Electric Co	0,04%
Rockwell Automation Inc	7,12%
Schneider Electric SE	4,17%
Emerson Electric Co	2,85%
Eaton Corporation PLC	3,38%

Figure 18: ***Siemens AG Stock Price from May 2020 to September 2020****, source: Reuters*



be targeted at 60%[15]. The dividend yield of Siemens is higher than its peers, with 3.1%, whereas the average of peers' yield is around 1.7%[16].

Siemens opts for compensating employees to participate in the company's accomplishments with share buyback strategies. In 2018 it was established a three-year program, with a volume up to €3bn. All shares to be bought back are exclusively to issue shares for employees, board members and any affiliate company. As of October 2020, almost 30 million shares have been acquired.

Stock Performance

Looking at the past 12-month stock price, one can observe the instability of the market, with prices falling drastically in March 2020. Indeed, with negative news debilitating every company, Siemens was no exception. However, after the extreme movement in the market, the stock price started to have a positive movement, achieving pre-COVID levels in June 2020. Nevertheless, the second wave of the pandemic created fear and instability in the financial markets, and from September forward the stock price has fluctuated between ~€106 and ~€118.

Additionally, one can also conclude that the market values the spin-off, as the price per share increased in all the relevant dates regarding the transaction: 26th May (spin-off announcement) 9th July (spin-off approval by shareholders); 28th September (Siemens Energy AG becomes publicly traded), a good sign of trust in the management decisions and added-value across business units.

Industry Overview & Effects of COVID-19

- Digital Industries

The automation industry englobes every company that offers several technologies and robotics of automatic control to operate complex processes and machineries. The purpose is to decrease human intervention, combined with cost reduction, as well as keeping product quality and innovation. The market was worth $76.8bn in 2019, and, in recent reports, it is expected that it will grow at a CAGR of 7.23% until 2025[17], with an expected value of $114.2bn at the end of the forecasted period. In 2019[18], Siemens AG was market leader, with ~20% of market share, followed by Mitsubishi Electric, ~10% market share, and Rockwell, with ~8% market share. Other relevant players include Oracle, ABB, Schneider and SAP.

[15] Siemens AG, Annual Report 2019
[16] Dividend Per Share, Reuters
[17] Global News Wire, Global industrial automation, Aug 2020
[18] Statista, Estimated global factory automation market share in 2019, by manufacturer

Despite the big recession seen across industries, automation industry market gained momentum. Indeed, the products offered by automation companies proved to be an excellent solution to changes in demand and crisis scenario[19]. This way, companies that had already undergo the process of digitalization had less difficulties in keeping support chains, serving costumers remotely and optimizing plant operations. Flexibility was proven necessary for this macroeconomic situation, as well as the technological innovations that were developed to minimize the effect of the virus. Siemens, alongside its competitors, was able to correctly implement solutions to continue with the operational activities and with the development and innovation process of new machines while workers stayed at home. Indeed, more than 80% of CEOs across industries believe that digital transformation has become more urgent and that any initiative to work remotely while maintain cybersecurity is a high priority[20].

The Industrial Era 4.0 that started around the 2010's has showed profound consequences globally. With major breakthroughs in the supply chain, digital products services and business models, along with the autonomous machines and virtual environments, this industrial revolution has allowed for significant increases in value and sales across industries.

Shifting to automation requires a considerable investment. As such, several governments across the globe have created programs to promote digitalized manufacturing. In Europe, the first public entity to create this kind of reform was Germany, with "Germany – Industry 4.0", an initiative to create smart factoring and manufacturing centres decentralized from main cities. Besides, France has also started an economical program to incentivize the change to digital factories[21]. Moreover, the United States launched in 2016 "The National Network for Manufacturing Innovation" (NNMI). In Asia, two powerhouses, Japan and China, developed different initiatives. The first one, named "Japan – Society 5.0", is focused on artificial intelligence, cyber-physical systems, energy vehicles, robots and data analysis. The latter one is "Mainland China – Made in China 2025", a policy that aims to move China from low-end manufacturer to high-end. To do so, big investments are being done to push China to market leader in robotics, information technology and clean energy.

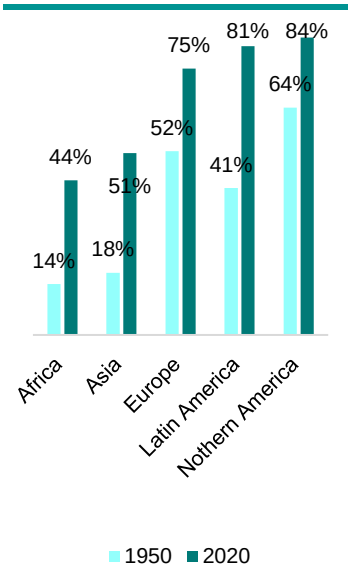
All these public initiatives have been boosting revenues of Siemens Digital Industries Segment, as the product demand is in line with the portfolio offered.

[19] Oliver Wyman, Digital Industry, the true value of industry 4.0
[20] BCG, The Evolving State of Digital Transformation, September 2020
[21] Statista and PWC, Industry 4.0 2020

Besides, Siemens can assure the flexibility and the cost efficiency that many producers are now prioritizing[22].

- Smart Infrastructures

Figure 19: ***Share of urban population worldwide***, *source: Statista*



Infrastructures connect people, enhance quality of life, promote health and safety, and ends up being one of the building blocks of the global economy. The world is changing faster than ever, which comes in with the need to re-think infrastructures, from the past passive buildings to new and smart infrastructures, that allows to a better use of resources. The growing demands of the global population are pressuring the natural resources, which grow scarce. Once again, infrastructures and industries require energy efficient solutions while the building preserves comfort, safety, and security. Additionally, buildings are expected to become smarter: networked, intelligent, sensitive, and adaptable to the changing needs of their users, creating environments that enhance occupant experience and stimulate occupant engagement.

Urbanization is the driver for cities' growth. Since 2010, more people live in urban than in rural areas[23]. In 2020, urban population worldwide achieved the highest share: in Latin and North America, urban population represented already more than 80% of residents, and in Asia the share grew to more than 51%, compared to the 17.5% in 1950. With the increased world population (which is expected to reach 8.5 billion in 2030) and urbanization, comes the need for adequate housing, infrastructure, safe, secure, and sustainable environments.

Sustainability of public and private infrastructures plays an important role in the Smart Infrastructures sector. The threat of climate change is real, and infrastructures are exposed to serious risks, particularly the power grid. For instance, high temperatures reduce generation efficiency, increase losses in transmission and distribution, and decrease the lifetime of the equipment. These not only increases the operating costs, but also, in most extreme cases, high temperatures boost peak demand, which may overwhelm the grid and lead to blackouts. In what regards climate change, the Asia region is one of the most impacted, specially China, which is expected to become hotter. As such, Siemens must improve its energy distribution systems to be stronger and deal with the climate change as an opportunity to develop and produce equipment that is prepared to remain efficient even in the most adverse climate conditions.

Although, companies' adaptation by improving its products is not enough to face the problem and **decarbonization** is a path to be covered by organizations and

[22] Automation's Effect on Flexibility
[23] Statista, then & now: urban population worldwide

Governments. Siemens research and development efforts seek on addressing energy markets' decarbonization and digitalization. Moreover, there is an increasing trend to **decentralize** the energy system, so that it becomes more local and efficient.

As such, the future of Siemens Smart Infrastructure is not only about smart buildings. The development of a digital and intelligent grid infrastructure is one of the most important growth field for the company and its product portfolio.

The construction industry is typically very volatile and dependent on macroeconomic cycles. However, despite the additional challenges and economic effects of the pandemic, COVID-19 crisis may accelerate the change and the shift to technological and intelligent buildings[24], which will be radically different from the way we know them, in five or ten years from now. Three-quarters of the participants in the survey, believe that the COVID-19 crisis will step up the virtual transformation, which will result on the **digitalization** of products and sales channels.

Smart cities are increasingly incorporating digital innovations and automation technologies into its infrastructures, which, ultimately, stimulate efficiency, maintenance optimization and cost savings. The investment in smart infrastructures will return benefits such as safe and comfortable buildings, ensuring the well-being of people, and protection of assets, optimizing room conditions and maintaining a comfortable environment, which helps occupants making the best use of space and equipment. The final aim is to improve productivity and occupant satisfaction.

Cyber security: Cyber incidents, that englobes cyber-crime, data breaches, phishing, malicious websites, represented the most important risk for business worldwide in 2020[25]. Cyber security is about protecting digital information from unauthorised access.

With the pandemic were verified even higher levels of cyber security attacks, which threaten confidentiality, availability and integrity of data, and the security of products, systems, and networks. Worse than that, levels of professionalism in computer crime are increasing and cyber threats are supported by organized crime. Analysing consumer behaviour, a cyber-crime can weaken consumer confidence and may even have the potential to cause a global a depression on global economic activity. It is essential that Siemens'

[24] McKinsey, the next normal in construction
[25] Statista, risks to global business in 2020

customers perceive the company's products and systems as secure to be able to buy them.

This way, Siemens must define a set of measures aiming to mitigate the cyber security risk: employee training to identify a cyber threat, and a comprehensive monitoring of the company's systems, through artificial intelligence, so that it is possible to recognise attacks faster and prevent damage for society, by protecting infrastructures. For instance, smart grid is becoming more automated and there is more interconnectivity between the different components, which increases the vulnerability of the network. That it is why it is critical for Siemens to develop reliable systems capable to identify cyber incidents and mitigate their impacts, so that financial losses for the company and damage for the society are avoided.

Another important step towards sustainability and decarbonization is the shift to electric mobility. As such, cities are being prepared to this reality with eMobility infrastructures, namely through the implementation of charging infrastructures for electromobility.

All in all, these trends are expected to result in an approximately core market valued at €190bn, with a 3% CAGR until 2024. Siemens aims to continue investing in Asia and extend its services in line with the growth fields described above.

- Mobility

The train and components market refers to all companies that develop and produce parts or complete locomotives, railroads, or any transport for operational rail and passenger service. In the beginning of 2019, it was valued at $211.4bn. However, in line with the economic crisis related to the pandemic, it is expected to lower its value to $207bn, with CAGR of -2.1% for the current year. Nevertheless, due to public incentives, it is expected to recover and follow a CAGR of 9% until 2023, which translates into a market value of $256.7bn. Europe holds 41% of the market, with the two biggest players being Siemens AG and ABB, followed by Asia and its impressive growth, holding almost 38% in 2019. When compared to other types of transportation, the penetration rate of trains is 11.5%, only surpassed by flights (13.1%) and ride-hailing taxi (20.8%).

During 2020 with the policies to combat the health crisis that were imposed by governments, it was anticipated that revenues would decrease severely. Not only did restrictions on public life were extremely harsh and long, prohibiting people from moving outside their residence area, but also the overall household budget

reduced[26]. These factors combined lead to a global decrease in demand for transportation.

Nevertheless, aligned with the 4th industry revolution, digitalization trend is rising in this transportation market. The introduction of automated driving and intelligence to anticipate unregular situations are changing the travel experience. Intelligence energy increases capacity and availability, as well as a flexibility to respond to shifts in demand. On the road segment, digitalization mirrors in an improved traffic flow, reducing travel time with real-time automation.

In recent years, the transportation industry has changed in line with the consumer behaviour. The final consumer is now demanding for an affordable transportation method, that is both reliable and secure[27]. Moreover, there is a pressure to reduce noise emissions and space requirements. To secure all these necessities, Siemens has been concentrating most of the research and development efforts of these segment to develop efficient solutions to transport, road effectiveness and consumer experience. Besides, the impact of carbon emissions and overconsumption of energy are challenges of this century. To appeal to **sustainability**, Siemens is set to operate under carbon-neutral footprint until 2030. Indeed, Siemens is a pioneer to develop holistic solutions to power hydrogen trains. With this solution, not only are emissions reduced, but also noise in cities while enhancing an optimize life-cost and customization in transportation.

- Siemens Healthineers

The global healthcare industry englobes each company that offers clinical services, medical equipment, manufactures drugs or even provides healthcare-related support. It is extremely relevant not only on a diagnosis and treatment of a disease, but also in offering preventive medicine and therapeutic services. It was valued at $281.8bn in 2019 and forecasted until 2027, with an expected CAGR of 7.9%[28]. However, this market has been suffering several shifts leading in the direction of an automated and multichannel healthcare, with the design and development of technological solutions to use in information systems. The goal is to improve medical care and public health at the same time as reducing costs and errors, while improving efficiency and costumer experience.

On a deeper analysis, one should consider the Medical Imaging Market, as it is the main source of revenue for Siemens Healthineers. This market was worth $21bn[29]

[26] Statista, Mobility Services 2020, October 2020
[27] Statista, Mobility Services 2020, October 2020
[28] Grand View Research, Healthcare Market Report, September 2020
[29] Grand View Research, Medical Imaging Market Report, September 2020

in 2019 and is forecasted to grow at 4% CAGR until 2027. There are three main end users, Hospitals (~25%), Diagnostic Imaging Centres (~25%) and the remaining (~10%) Ambulatory Care Centres. Siemens Healthineers is market leader (23.5% stake), followed by General Electric (21.6%), and Philips (21.2%)[30].

This market has been adjusting for three different trends and policy developments. The first one in the demographic shift, in particular **the growing population**. This trend puts major pressure on healthcare systems and stresses the demand for a cost-efficient solution. Indeed, it is expected that from 2015 until 2016, the population aged 60 years old is expected to increase from 900million to approximately 1.5bn, which describes a ~56% increase. The main concern is that neither high income nor low income countries will be immune to this pressure on healthcare systems, requiring that both government and private own entities need to prepare for an increasing demand for healthcare treatments.

The second one is the **economic development in emerging countries**. Indeed, this results in a higher demand for healthcare services requiring significant investments but resulting in higher market growth. Certainly, there are several countries that developed policies to give access to healthcare. A few examples are Indonesia, where an increase of 76% of the population has access to healthcare since 2014, Thailand, with over 99% of its population receiving free healthcare from 2018 onwards, Philippines, that expects that by the end of 2020, the entire population will have access to healthcare and India, that announced in 2018 the "National Health Protection Scheme" (NHPS), the largest government-funded health care program, despite all funding pressures.

The third trend is related to lifestyle, environment, aging population, and consequently increase in **chronic diseases**. Overall, these trends create a higher pressure in systems, especially when it is very cost sensitive, as they generate extra demand and require cost effectiveness.

Besides, in this industry, it is possible to observe a transformation on the business model of healthcare provides, as digitalization and Artificial Intelligence are gaining importance. These technologies allow for a better consumer experience and transparency, changing from a pay-per-procedure model to an outcome-based model[31]. This is a way to stop the methodology of looking for treatments only when there is a severe disease, but to be tracked by professionals across lifetime and avoid serious complications later on.

[30] Statista, Global top 10 companies based on diagnostic imaging market share in 2019
[31] Siemens Healthineers, 4th Quarter 2020 results

To respond to the pandemic crisis, Siemens Healthineers focused its efforts to secure its existing supply chain as well as to develop rapidly innovating tests. There was an offset of revenues across the globe due to the two distinct moments of the year. In the early days of the pandemic, revenue from diagnostics and imaging decreased strongly, however, there was a new stream of revenues, the COVID-19 testing. In the second moment, there was a stabilization of consumer behaviour, which resulted in an increase of revenues of their core business similar to pre-COVID levels.

Forecast

To perform the valuation of Siemens AG, the firm was divided in three main segments: Siemens Ingenuity for Life, Siemens Healthineers segment and Siemens Other and the firm's financial statements and cash flows were forecasted. From 2026 until 2029 it was verified that the operational ROIC, the reinvestment rate and, thus, the company's growth rate were stable. As such, the forecasted exercise ends in 2029, where it is assumed Siemens AG to be at a mature stage in the development of its operations. The operating revenues and costs forecast per segment is shown on the appendix.

	2026F	2027F	2028F	2029F	Terminal Value
Operational ROIC	12,63%	12,19%	11,67%	11,09%	11,89%
Reinvestment Rate	20,81%	22,83%	25,14%	27,84%	24,16%
RONIC	-1,99%	-4,63%	-6,78%	-8,91%	
Growth	2,63%	2,78%	2,94%	3,09%	**2,87%**

*Table 2: **Operational ROIC, Reinvestment Rate, RONIC and Growth Forecasted**, source: analyst estimate*

- Operating Revenues

Following the company's division explained above, revenues were predicted for the different Siemens AG's business units, according to the assumptions and research described in the prior Industry Overview section.

Digital Industries: During the fiscal year of 2020, the importance of Digital Industries was even more highlighted. Indeed, the benefits and the necessity were key to incentive the boom for the implementation of automation and digitalization features in production factories. Aligned with incentives from government policies mentioned above, it is expected that digital factories and automation in Europe will increase ~5% until the end of the forecasted period of 2029[32].During fiscal 2020, the most affected region was the United States of America, with revenues decreasing almost 20%. In this volatile region, although negatively impacted with trade wars and recession in investment, it is expected that smaller North America

[32] ResearchAndMarkets, Global Process Automation Industry: Growth, Trends and Forecast (2020-2025)

companies will grow at 6% while larger companies will increase at a 16% pace after the return to the normal pace of the economy[33]. In China, correlated with the major government reform, Mainland China 2025, Siemens is expected to continue increasing its revenues, at an expected growth rate of ~10% until 2025 and ~8% thereafter[34].

Smart Infrastructure: Siemens Smart Infrastructure revenues were predicted based on studies forecasting revenues for the smart home market in the countries where Siemens operates[35]. The investment in smart home lies on smart appliances, control and connectivity, home entertainment, energy management, comfort and lighting, and security. Overall, the trend reports a recovery from the slowdown due to the COVID-19 pandemic in 2021, although to less than pre-COVID levels in Europe (~12% between 2021 and 2025) and America (~4% between 2021 and 2025). It is expected an increase in this sector in the period between 2022 and 2025 and a stable growth from 2026 onwards (~3% and ~1% for Europe and America, respectively). For Asia and, more specific China, it is predicted not only a faster recovery, but also a much higher growth at two digits for the subsequent years (~11% and ~15% for China and Asia, respectively). This is mainly driven to China and India promising development.

Mobility: Siemens Mobility revenues are derived mainly from contracts with public and state owed companies in transportation and logistics sector, meaning that Mobility's revenue is highly dependent on state investment. Given that, most regions are forecasted based on the train investment[36]. Moreover, during the year of 2020, Siemens closed contracts with the United Kingdom, on metro trains, with Russia, for high-speed trains, with Canada, to implement the Intermodal system, and with the US for diesel electric locomotives. However, due to the pandemic most contracts had to be postponed, and consequently, revenues decreased during 2020 fiscal year. Only United States is predicted to take longer than a year to recover to pre-COVID-19 levels (growth of ~7% until 2025, and stable at ~3.5% thereafter). In line with historical figures, South America is decreasing even further mobility investments, with a risen preference for car sharing, which consequently predicts a decrease of ~6% each year. Besides, it is expected that the most accentuated growth will occur in China until the forecasted period of 2025[37], a consequence of the previously mentioned government program "Mainland China

[33] Siemens AG, 4 Quarter 2020 Results Presentation
[34] Statista, In-depth: Industry 4.0 2020
[35] Statista, Smart Home revenue forecast per segment from 2017 to 2025
[36] Statista train investment breakdown in regions, May 2020
[37] Oliver Wyman, Where China is leading mobility revolution, Dez 2019

– Made in China 2025", that will boost growth to an expected ~18.7% revenue growth[38] until 2025 and ~8% thereafter.

Siemens Healthineers: According to the "Strategy 2025", Siemens Healthineers is focusing efforts to shift to digitalization and automated workflows in laboratory diagnostics. Besides, during the current year, the company closed several long-term contracts, a guarantee for future revenues. Moreover, due to recent acquisitions, Siemens Healthineers positioned itself as a partner for consolidations and is set to be the market leader of cancer care by 2025. Breaking down through regions, it is relevant to highlight the growth in Asia, with a forecast of a ~7.2% CAGR across the continent[39], with ~8% in China and ~6.5% in the other regions.

- Operating Costs

In line with the overall analysis, operating costs were also divided according to the business units integrated on the Industrial Business. The company reports on the consolidated financial statements its operating costs according to the function of the expenses, i.e., cost of sales, research and development expenses and selling, general and administrative expenses. As such, for each busines unit, three main captions were considered and broken-down: personnel costs, depreciation and impairments, and a variable portion, which is dependent on revenues. Due to the lack of information to perform this decomposition, two drivers were considered: the adjusted EBITA margin and respective target margin range defined by Siemens, and the number of employees allocated to each segment. Besides, in certain years it is also known the amount of R&D expenses allocated per unit. Combining all this information with the relative size in revenues of the business unit, allowed for a complete map of the historical figures in relation with costs.

To perform an accurate forecast, the first two drivers used were the number of employees needed per €million of order followed by the implied number of employees allocated to the Siemens Industrial Business segments and geography in the period between 2021 and 2029. Finally, it was analysed the historical cost per employee, which comprises not only wages and salaries but also social welfare contributions. The cost per employee was forecasted based on the inflation rate of the most relevant country in each region, i.e., Germany in the region of Europe, C.I.S. Africa and Middle East, United States in Americas and China in the region that comprises Asia and Australia. Having this predictions, the personnel expenses were then allocated to each cost function, based on the nature of the tasks the employees develop: manufacturing and services, as well as sales and marketing

[38] Statista, Mobility Services, October 2020
[39] Deloitte, 2020 global health care outlook

tasks were allocated to cost of sales; research and development tasks were allocated to R&D expenses; and administration and general services tasks were allocated to selling and general administrative expenses.

Regarding the prediction of depreciation and impairment expenses applied to each business area, it was obtained using as driver a percentage of the property, plant and equipment previously forecasted.

This way, the gross profit, the adjusted EBITA, and the respective margins were obtained for each operating business unit. Amortization expenses were predicted based on a percentage of the intangible assets forecasted, and then subtracted from adjusted EBITA, to obtain each Siemens operating segment's EBIT and EBIT margin.

Figure 20: ***Competitors Margin Comparison Digital Industries,*** *source: competitors financials*

	2018	2019
Gross Margin AVG	39%	39%
Siemens vs Competitors	BETTER	BETTER
EBIT MARGIN - average	17%	15%
Siemens vs Competitors	WORSE	BETTER

Digital Industries: gross margin is expected to remain constant between 40% and 39% until 2024. After 2025, it is predicted a decrease, which is forecasted to be 35% in 2029, mainly due to the increase in the personnel costs caption.

Siemens targets the adjusted EBITA margin for Digital Industries to be between 17% and 23%. According to our forecast, those targets will be achieved until 2025, when the adjusted EBITA margin is predicted to be 17.2%. In the future, Siemens must continue investing in research and development and cost reduction programs so that the company will be able to reach the targeted margins. EBIT margin was 19% in 2020 and is expected stabilize around 16% until 2024, decreasing after that period to 13.2% in 2029.

When comparing Siemens Digital Industries operating segment with its direct competitors – ABB, Cadence, Dassault Systems, Emerson, Rockwell Automation, and Schneider Electric – in the period between 2016 and 2019, it is possible to conclude that Siemens was performing 2pp worse than its competitors average in gross margin terms, after the company reorganization in 2018. However, in 2019 and 2020 (note that there is still not information regarding all the competitors in 2020), Siemens was performing better than its competitors average in terms of EBIT margin. Although the difference does not exceed 1pp, it is good news for Siemens as the performance is in accordance to what is expected by the market.

Smart Infrastructures: gross margin is expected to remain stable between 23% and 22% until 2023. Similarly, to what is verified in the Digital Industries segment,

the increase in cost of sales is mainly due to the increase in personnel costs.

Regarding the adjusted EBITA margin, Siemens targets it to be between 10% and 11%. This target was not achieved with the 9.1% margin in fiscal 2020. Although, it is expected a global recovery from 2021 onwards, which will boost the increase in sales, and the target margins will be achieved until 2024. Moreover, in 2021 and 2022 it is expected to even exceed the targeted margins, as adjusted EBITA margins are forecasted to be 11.4% and 11.2%, respectively, implying EBIT margins of 9%. After 2025, investments must be done in order to push up again the margins and continue achieving the targets, since it is expected only a 6.7% adjusted EBITA margin in 2029, implying an EBIT margin of 5%.

However, considering its direct competitors – ABB, Honeywell, Johnson Controls, and Schneider Electric – past years margins, Siemens Smart Infrastructure segment has always been performing worse than its peers in terms of gross margin, particularly in 2018 and 2019, with differences exceeding more than 10pp against the average of its competitors. When considering EBIT margins, the difference against the average of Smart Infrastructures' peers shrinks to 3pp and 4pp in 2018 and 2019, respectively. This means that Siemens is performing worse than what the market expects in this segment, which means that Siemens must prepare a cost reduction program and keep investing on offering innovative solutions to the market to remain competitive and profitable.

Figure 21: ***Competitors Margin Comparison Smart Infrastructure****, source: competitors financials*

	2018	2019
Gross Margin AVG	33%	34%
Siemens vs Competitors	WORSE	WORSE
EBIT MARGIN - average	12%	12%
Siemens vs Competitors	WORSE	WORSE

Figure 22: ***Competitors Margin Comparison Mobility****, source: competitors financials*

	2018	2019
Gross Margin AVG	17%	16%
Siemens vs Competitors	BETTER	BETTER
EBIT MARGIN - average	6%	4%
Siemens vs Competitors	BETTER	BETTER

Mobility: Siemens Mobility segment is the most stable business unit. It is predicted the gross margin to remain steady between 20% and 17% until 2029, implying an adjusted EBITA margin of 10.1%, 9.9% and 9.6% in 2021, 2022, and 2023.

However, the adjusted EBITA margin targeted by Siemens to be between 9.5% and 10.5% is not expected to be achieved from 2024 onwards. It is important to note that Siemens Mobility revenues are highly dependent on public contracts, which are expected to be long-term contracts until 2024. From 2025 onwards, Siemens becomes even more dependent on public investment and must win public contracts to be able to meet again the targeted margins. Regarding the EBIT margin, it is forecasted to remain stable at ~7% until 2026, declining to 5% in 2029.

Figure 23: ***Competitors Margin Comparison Siemens Healthineers****, source: competitors financials*

	2018	2019
Gross Margin AVG	60%	51%
Siemens vs Competitors	WORSE	WORSE
EBIT MARGIN - average	15%	15%
Siemens vs Competitors	WORSE	BETTER

With more than 100 years of experience, Siemens Mobility segment is the market leader. Indeed, when comparing Siemens Mobility with its direct competitors – Alstom, Bombardier, CRRC, and Stadler – it is verified that Siemens is outperforming its peers average by 4pp in terms of gross margin and by 5pp in EBIT margin terms, in 2019. The scenario is similar for the remaining historical years analysed, proving that Siemens Mobility is performing better than what is expected by the market, as it is market leader.

Siemens Healthineers: gross margin is predicted to range between 42% and 40% between 2021 and 2025, implying 16% adjusted EBITA margin in 2021 and 13.5% in 2025. Although, Siemens targeted the margin to be between 17% and 21% and in none of the forecasted years the target margin is achieved. Siemens Healthineers EBIT margin is predicted to be 14% in 2021, 11% in 2025 and only 7% in 2029.

In fact, when analysing the past years and comparing to the company's direct competitors – Abbott, Becton, Dickinson and Company, Philips, Smith and Nephew, Boston Scientific Group, Medtronic, Stryker, and Thermo Fisher Scientific – Siemens Healthineers has always been underperforming its peers' averages in terms of historical gross margins. However, when analysing EBIT margins, it is verified that the segment only underperformed its peers' averages in 2018, which means that, overall, one can conclude that Siemens Healthineers is performing in accordance with which has been expected by the market. Nevertheless, the company still needs improvements, namely in its cost structure to achieve the adjusted EBITA targeted margins for next years.

- Net Working Capital and Capital Expenditures

For Siemens Industrial Business segments (Siemens Ingenuity for Life and Siemens Healthineers), inventories, trade and other receivables and contract assets, and trade payables captions were forecasted based on the holding period inventory, average collection period and average payable period, respectively. For all the captions, the driver assumed to forecast 2020 and following years was the value verified in 2019. Operating cash was assumed to be 2% of the segment's revenues.

To forecast property, plant and equipment and intangible assets, it was analysed the past evolution for each of the captions and an average was computed to predict the values for the upcoming years, as Siemens does not disclose other relevant information relevant to forecast its financial statements captions. As such, net working capital expenditures, capital expenditures and intangible assets were forecasted as shown in the following table:

(Values in millions of €)	2020	2021F	2022F	2023F	2024F	...	2029F
Net Working Capital	20 153	21 287	23 704	26 194	28 865	…	40 496
Var. NWC	-9 842	1 134	2 417	2 491	2 671	…	2 473
Other intangible assets	9 747	9 762	9 828	9 943	10 107	…	11 676
Property, plant and equipment	12 782	13 415	14 109	14 872	15 377	…	18 244
CAPEX	6 636	26 032	4 363	4 704	4 706	…	8 183

*Table 3: **Net Working Capital and CAPEX**, source: analyst estimate*

Intrinsic Valuation

To financially evaluate Siemens AG, at a first stage, the Discounted Cash Flow Model (DCF) was used. Moreover, to perform a more accurate and comprehensive analysis regarding each business unit, taking into consideration a more detailed view of the risks and growth rates, it was performed a sum-of-the-parts valuation (SOTP DCF), making use of the projected financial statements per segment.

Target Debt/Enterprise Value Ratio

As it was observed in the recent acquisition of Varian, where Siemens Healthineers opt to fund the deal with the issuance of new debt, Siemens keeps leveraging its business with new debt in line with the investing strategy observed historically and supported by the management team. As such, the average debt to enterprise value ratio between 2016 and 2019 is a fair assumption for computing Siemens' capital structure. By doing so, the debt-to-equity ratio is kept stable at 34% for the forecasted period. The assumed debt to enterprise value ratio was the driver to predict total equity and total net financial assets for the company during the next years, as well as to predict debt levels.

Discount Rates

*Table 4**: Data for Discount Rates Computations**, source: analyst estimate*

country risk premium (Germany)	0,00%
MRP	6,75%
30Y GE Bunds	-0,14%

*Table 5**: YTM Approach**, source: analyst estimate*

1-Yr Default Probability (Moody's)	0,02%
Weighted average YTM	0,40%
LGD	48,00%
Bd	7,77%
Rd	0,39%

*Table 6: **Rating Approach**, source: analyst estimate*

Germany country risk premium	0,00%
S&P: A+ Spread	0,98%
Risk-free rate	-0,14%
Pre tax Rd	0,84%

With the aim of computing the most accurate discount rate, certain assumptions were considered as the country risk premium of 0% for Germany[40] and the market risk premium (MRP) of 6.75%[41]. The 30-year German Bund yield was used as a proxy for the risk-free rate, as Siemens AG is a Germany based company and the German Bunds are the assets with lower default risk in Europe. As such, -0.14%[42] was the risk-free rate considered for all the discount rates computation.

Cost of debt: to obtain the cost of debt, two different approaches were used – the YTM approach and the rating approach. Considering the first one, the YTM approach, it was computed the average yield to maturity for Siemens AG outstanding debt, to which was subtracted the Moddy's default probability (0.02%) multiplied by the loss given default (LGD) of 48%[43]. This way, it was obtained a 0.39% cost of debt. Regarding the rating approach, Siemens AG cost of debt was obtained by adding up the -0.14% risk-free rate with the 0.98% S&P A+ spread, which corresponds to the company's credit rating, resulting on 0.84% cost of debt. Finally, it was calculated an average of the two approaches and was obtained a

[40] Bloomberg, 28/12/2020
[41] KPMG Research on Equity Market Risk Premium, 31/03/2020
[42] Bloomberg, 28/12/2020
[43] Siemens AG Reports

0.61% cost of debt. This rate used to estimate WACC and assumed to be the interest rate at which any new debt would be issued from 2021 onwards. The implied beta of debt (βD) obtained was 0.11.

*Table 7: **Unlevered Beta of Siemens Peers**, source: analyst estimate*

SIEMENS AG	0,84
Emerson Electric	1,03
Abb	1,13
Eaton	1,02
Alstom	0,88
General Electric	0,95
Rockwell	1,02
Schneider	0,94
Average	0,98
Median	0,98

Cost of equity: Siemens AG's peer companies were selected based on the information reported by the company's management strategy, similarity of operations and market size. From Bloomberg were then extracted financial information regarding Siemens' peers, namely the levered beta and the after-tax cost of debt, which were used to obtain the peers' cost of debt and, afterwards, their beta of debt. Having such data, the unlevered beta to each of the peers was computed (unlevered beta = net debt to enterprise value * beta of debt + equity to enterprise value * levered beta), as to remove the effect of leverage and only reflect the operational risk of that specific company. Based on its peers unlevered betas median, Siemens AG unlevered beta was obtained, which was afterwards re-levered. The final cost of equity obtained was 9.52%, with an implied 1.43 beta of equity (β^E).

WACC: after computing the company's cost of debt and cost of equity, the 6.44% WACC estimated was obtained using Siemens D/EV ratio of 34%.

*Table 8: **WACC**, source: analyst estimate*

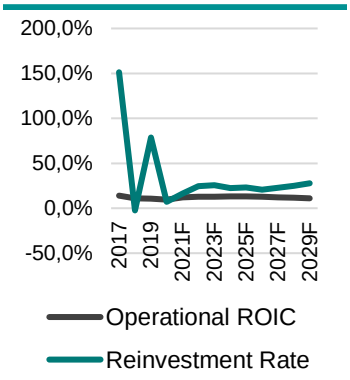
Rf	-0,14%
Rd	0,61%
Ru	6,50%
Re	9,52%
D/EV	34%
E/EV	66%
1-statutory tax rate	75%
WACC	**6,444%**

DCF Valuation

After estimating WACC and predicted Siemens free cash flow (FCF) until 2029, it was concluded that the estimated growth of FCF to firm is stable from 2026 onwards. As such, the terminal value for each of the two ratios was assumed to be an average of the values between 2016 and 2029. This way, Siemens terminal growth was estimated to be 2.86%, obtained considering an operational ROIC of 11.9% and a 24.0% reinvestment rate. The implicit long-term inflation for Siemens AG by 2029 is forecasted to be 2.62%. It is reasonable to consider a long-term growth rate slightly higher than the long-term inflation rate, as Siemens is a mature firm with the capacity to remain investing in research an d development and offering innovative and competitive solutions to the market.

Having all the discount rates and the unlevered operating cash flows computed, the present value of the levered operating FCF was obtained. By adding up the net financial debt and the value of the non-controlling interests, it was estimated the equity value of €118.1bn in fiscal 2021, with an implied share price of €138.99, delivering an expected annualized return of 12.5%.

*Figure 24: **Evolution of ROIC and RR**, source: analyst estimate*



SOTP DCF Valuation

*Table 9: **Terminal Values**, source: analyst estimate*

Reinvestment Rate	11.91%
RONIC	24.02%
Growth	**2.86%**

*Table 10: **Digital Industries and Smart Infrastructure: Unlevered Beta of Peers**, source: analyst estimate*

SAP	1,36
Honeywell	0,99
Schneider Elec	0,96
Emerson Electric Co	1,04
Abb Ltd	1,11
Johnson Contr	0,81
Rockwell Autor	1,02
Cadence Design Systems	1,08

*Table 12: **Mobility Unlevered Beta of Peers**, source: analyst estimate*

Bombardier	0,44
Talgo	0,95
Guangdong Huatie Tongda	1,41
KTK Group	1
CRRC Corp	0,81
Alstom	0,87
Thales	1,18
Stadler Rail	0,65

	WACC	Long Term Growth
Digital Industries and Smart Infrastructure	6.86%	**2.91%**
Mobility	5.98%	**2.91%**
Siemens Healthineers	6.22%	**2.74%**

*Table 11: **WACC and Long-Term Growth per Segment**, source: analyst estimate*

To better analyse the performance of each operating segment it was performed a sum-of-the-parts valuation (SOTP DCF) to assess the value of Siemens.

As such, it was estimated a WACC for Siemens Digital Industries and Smart Infrastructures segments, a WACC for Siemens Mobility segment, and a WACC for Siemens Healthineers segment, based on the direct competitors for each busines unit, chosen taking into consideration the product portfolios and the market cap. The resulting estimated WACCs were 6.86%, 5.98% and 6.22%, respectively. The terminal growth used in each segment was also estimated individually for each operating business unit, using the same rationale used to predict the terminal growth for Siemens AG. The results obtained were 2.91% for Siemens Ingenuity for Life operating segments and 2.74% for Siemens Healthineers operating segments.

To discount the investment cash flows, the 6.44% WACC estimated for Siemens AG was used, obtaining a total discounted free cash flow of €147.4bn in fiscal 2021. Likewise the proceeding in the traditional DCF valuation model, to the discounted free cash flow was added up the net financial debt and the value of the non-controlling interests, obtaining this way the equity value of €123.8 bn in 2020, implying a €145.70 share price, and delivering a 16.5% annualized expected return.

Therefore, it is concluded that Siemens AG is being traded at discount, and the recommendation would be to **BUY** Siemens AG shares.

Sensitivity Analysis

With the aim of analyse the impact of the assumptions of the DCF model on Siemens' share price, a sensitivity analysis was conducted.

Indeed, a percentual chance in the growth rate of Siemens or in WACC exhibit how the projected share price would change, keeping constant all the remaining assumptions. As previously explained, the 9.52% cost of equity was based on Siemens' peers' unlevered betas median, obtaining a 6.44% WACC. It was verified the impact on the company's share price, if instead of considering the median of the peers' unlevered betas was considered the average instead, obtaining a 9.45%

Table 13: ***Siemens Healthineers Unlevered Beta of Peers****, source: analyst estimate*

Abbott Laboratories	0,89
Elekta	1,44
Koninklijke Philips NV	0,85
Smith & Nephe	0,92
Boston Scientific Corp	0,91
Hologic Inc	0,86
Medtronic PLC	0,87
Stryker Corp	1,02
Thermo Fisher Scientific Inc	0,8

cost of equity, implying a 6.40% WACC. Moreover, as above mentioned, the cost of debt and its implied beta was computed based on an average of two approaches. As such, it was analysed the impact on share price of considering only the YTM approach, obtaining a cost of debt 0.39%, implying a 6.39% WACC, versus considering only the rating approach, with a computed 0.84% cost of debt, implying a 6.50% WACC.

For the long-term growth rate, it was assessed the impact on Siemens' share price for: a conservative scenario, having Siemens growing in perpetuity only at the long-term inflation rate of 2.63%; the assumed terminal growth rate of 2.87%; an optimistic scenario in which the 2.94% terminal growth rate is obtained as an average of the financial results of the period between 2027 and 2029; a very optimistic scenario in which it is obtained a 3.01% terminal growth rate calculated as an average considering the only the values of 2028 and 2029.

By applying the different long-term growth rates and WACCs it was obtained the sensitive analysis presented on table 21:

Table 14: ***Sensitivity Analysis to WACC,*** *source: analyst estimate*

YTM approach	
Rd	0,39%
Beta Debt	0,08
WACC	6,39%
Rating approach	
Rd	0,84%
Beta Debt	0,15
WACC	6,50%
Peer's Median	
Re	0,095
beta equity	1,431
WACC	6,44%
Peer's Average	
Re	0,094
beta equity	1,421
WACC	6,40%

	WACC			
139,0 €	6,39%	6,40%	6,44%	6,50%
Growth Rate 2,63%	133,26 €	132,64 €	130,77 €	128,35 €
2,87%	142,06 €	141,36 €	139,26 €	136,55 €
2,94%	144,67 €	143,95 €	141,78 €	138,99 €
3,01%	147,81 €	147,06 €	144,80 €	141,90 €

Table 15: ***Sensitivity Analysis Output****, source: analyst estimate*

From the sensitivity analysis it is possible to conclude that negative returns are not expected, and, in the worst-case scenario, the recommendation would be to hold the stock, with an expected annualized return of 6.0%. Overall, our recommendation would be to buy Siemens AG stock, as it delivers a return higher than 10% in 75% of the cases considered.

Relative Valuation

In order to complement Siemens valuation through the DCF models, a multiple valuation was performed. Siemens' peers were selected, not only by their financials, product portfolio and region of operations, but also because these companies are highlighted by Siemens reports as the company's direct competitors. The multiples valuation was obtained using the Enterprise Value to EBITDA (EV/EBITDA) ratio. Since analysing the ratios for comparable companies per operating segment provides a more accurate approach to value Siemens AG, the multiples valuation was based on a sum-of-the-parts (SOTP) model. Siemens peers' financial information needed to compute the ratios were obtained from

Bloomberg, namely enterprise value, revenues, EBITDA, EBIT, and EPS. The multiples were obtained for each operating segment and elaborated a summary interval with the 1st quartile, the average, the median, and the 3rd quartile for each ratio. Based on the fiscal 2021 forecasted financials for each segment, was computed the enterprise value per operating business unit. By adding up the enterprise value of all the operating areas, the enterprise value range for Siemens AG was obtained, to which was subtracted the total company's bridge to compute the market value of equity. Siemens share price was then calculated by dividing the number of shares outstanding (850 million) by the market value of equity range obtained.

Focusing on the EV/EBITDA ratio and considering the median price, 140.32€, it can be concluded that Siemens' stock is being traded at discount, as the DCF methodologies had suggested.

In a consolidated multiple analysis to Siemens, compared to its peers, Siemens presents a lower multiple than the average of its competitors. This can be seen as an evidence that there is an opportunity to increase Siemens' multiples. After the spin-off, there was established a different operating strategy in what regards the focusing of the company on its industrial software activities. As such, there is the fair expectation that Siemens' stock will get re-graded with an increase of its multiples, which are predicted to be similar to those of its direct competitors – Schneider Electric or Rockwell Automation, for instance.

*Table 17: **Digital Industries and Smart Infrastructure Peers,** source: Bloomberg*

Digital Industries and Smart Infrastructures	EV/EBITDA
Honeywell	18,0x
Schneider Electric SE	16,2x
Emerson Electric Co	12,4x
Abb Ltd	13,5x
Johnson Controls	10,6x
Rockwell Automation	20,0x
Cadence Design Systems	44,9x

Siemens Health	EV/EBITDA
Abbott Laboratories	23,5x
Becton, Dickinson and Co	12,7x
Koninklijke Philips NV	13,4x
Smith & Nephew PLC	14,0x
Hologic Inc	11,7x
Medtronic PLC	22,1x
Stryker Corp	22,7x
Thermo Fisher Scientific Inc	21,2x

EV/EBITDA			
	Digital Industries and Smart Infrastructures	Mobility	Siemens Healthineers
1st Quartile	13,0x	14,3x	13,2x
Average	19,4x	48,2x	17,7x
Median	16,2x	18,5x	17,6x
3rd Quartile	19,0x	52,3x	22,2x
EV Range			
	Digital Industries and Smart Infrastructures	Mobility	Siemens Healthineers
1st Quartile	59 916 €	13 613 €	31 278 €
Average	89 546 €	45 794 €	41 870 €
Median	74 899 €	17 554 €	41 752 €
3rd Quartile	87 874 €	49 735 €	52 758 €
Siemens AG			
	EV	Market Cap	Share Price
1st Quartile	104 807	89 398	105,58 €
Average	177 210	161 800	190,53 €
Median	134 205	118 795	140,32 €
3rd Quartile	190 367	174 958	206,23 €

Table 18: Multiple Valuation Output, source: analyst estimate

Final Recommendation

	Share price	Annualized Expected Return	
DCF	138.99 €	12.5%	BUY
DCF SOTP	145.70 €	16.5%	BUY
EV/EBITDA	140.32 €	13.3%	BUY

*Table 19: **Final Recommendation**, source: analyst estimate*

As a result of the analysis and valuation methodologies (DCF, SOTP DCF, and EV/EBITDA) the outcomes presented on the table were obtained: As of 28th December 2020, Siemens AG was trading at €118.82. Based on the annualized expected return, which is above 10% in the three valuation methodologies analysed, the final recommendation would be to **BUY** Siemens AG's shares, as it is an investment with a strong fundamental value expected to appreciate.

Investment Risks

Considering the business model of Siemens and its operations, one can identify a series of risks that relate to all business units, and that can negatively impact the company's operations, financial performance, and reputation.

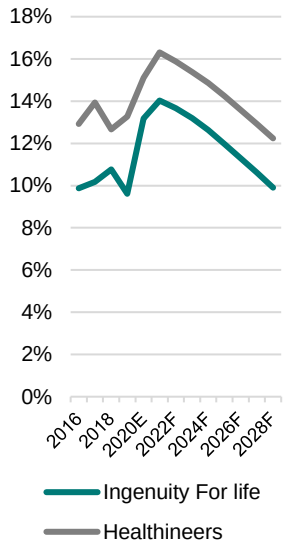
COVID-19 pandemic: the outcome of forecasts and assumptions are dependent on the belief that with the emerging vaccine, the global economy will not suffer from a long-lasting recession. Indeed, looking at past values, Siemens was able to burden the economic cost of a lockdown, however, a new wave of restrict measures could mean a sharp decrease in revenues, forcing for new measures. Looking at the price of the stock, in case of a new epidemical crisis it is not expected that the market will suffer as much as it did in March 2020, with decreases of ~17%, since it was taken by surprise[44], but to be similar to the movement of the stock in October, resulting in negative expected returns around ~6%. Moreover, Siemens AG stock beta is 1.17[45], which is a negative feature given this uncertain horizon that is projected for 2021, as the company is expected to be more volatile than the overall market. Certainly, there is an investment risk of a long-lasting global recession that, even in a robust company as Siemens, might affect deeply its financials.

Trade-war: With the increase of revenues in China, Siemens is becoming more exposed to global conflicts as the trade war between US and China. By now, China represents 13% of the overall revenue, which is expected to increase even further, ~15% until 2029, due to the economic reform Mainland China, that will be in progress until 2025. However, new trade barriers can weaken the economic progress, which can reverse the trend of growth and consequently risk a global recession[46]. Although, there are no apparent barriers to entry in this economy (supported by the Siemens office in Hong Kong since the early 1900's), the

[44] HIS Markit, Top 10 economic predictions of 2021
[45] Reuters, 29/12/2020, Siemens vs MSCI World Index
[46] Bloomberg News, 09/09/2019, Siemens AG in China

volatility in revenues is higher in companies that are export-oriented, as Siemens is, versus the ones that are service-oriented. This way, it is necessary to keep paying attention to the developments of trade war, particularly due to the current uncertain environment regarding the trade measures that will be taken by the new President of the United States[47].

Figure 25: ***EBIT Siemens Ingenuity for Life and Siemens Healthineers****, source: company data*



Disruptive technologies: Siemens operates in unprecedented times of change and speed of evolution. That is one of the reasons why it is so important to focus the company's business to be side by side with the latest technological developments. This business is highly impacted by the introduction of innovative and disruptive technologies, which can cause meaningful transformations to the market. The negative evolution of Siemens Ingenuity for Life and Siemens Healthineers EBIT margin throughout the years highlights that it is crucial for Siemens to keep track on the innovations regarding digitalization, artificial intelligence, autonomous machines, and the internet of things. Otherwise, Siemens' margin will remain decreasing over the years, with the company becoming less profitable and competitive. Siemens should take the opportunities brought by the technological revolution to continue its investment and efforts in research and development so that it will still be able to maintain its technological leadership. Also, it is imperative for Siemens to be able to anticipate shifts in the markets where the company operates and adapt accordingly to consumer demands, namely through an adequate and optimized cost base. However, it is relevant to note that not always high investments in R&D, which imply considerable financial costs, result in successful innovations. It may succeed that the technologies developed do not operate or are accepted by the market as expected. Moreover, there is the eminent risk of Siemens' product portfolio become obsolete, namely by the introduction of new products and business models by the company's competitors, or the arise of new competitors. As such, Siemens should mitigate these risks using disruptive technologies to create value through innovation, which face the climate change, urbanization, and globalization trends.

Competitive environment and shortage of skilled personnel: worldwide the technological industry is highly competitive in terms of product and service quality, timing of introduction, and pricing, which affects customer retention rates. Furthermore, there is a shortage of highly qualified personnel, namely specialists on digital areas and engineers. Thus, Siemens' success not only depends on the company's market positioning across its customers and competitors, but also extremely depends on Siemens' capacity to attract and retain talent.

[47] War on trade, Research Gate, June 2020

Appendix

Financial Statements

- Income Statement

(Values in millions of €)	2016	2017	2018	2019	2020E	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
CORE BUSINESS														
Revenues	78 665	81 941	77 289	80 491	51 030	54 387	59 921	65 500	71 390	77 203	81 286	85 627	90 245	95 160
	-55	-57	-57	-60	-34	-36	-40	-45	-49	-54	-57	-61	-65	-69
Cost of Sales	198	320	681	394	852	787	886	110	640	273	644	268	167	363
Gross Profit	23 467	24 621	19 608	20 097	16 178	17 600	19 035	20 390	21 751	22 930	23 642	24 359	25 079	25 797
R&D expense	-3 944	-4 304	-4 058	-4 726	-4 341	-4 485	-4 909	-5 337	-5 802	-6 276	-6 669	-7 090	-7 543	-8 030
	-11	-11												
SG&A expense	158	846	-7 475	-7 567	-4 845	-5 146	-5 589	-6 046	-6 533	-7 000	-7 351	-7 725	-8 124	-8 550
EBIT	8 365	8 471	8 075	7 804	6 992	7 969	8 537	9 007	9 415	9 654	9 622	9 543	9 411	9 216
Operating Taxes	-2 134	-2 103	-1 930	-1 861	-1 748	-1 992	-2 134	-2 252	-2 354	-2 414	-2 406	-2 386	-2 353	-2 304
Core Result	**6 231**	**6 368**	**6 146**	**5 942**	**5 244**	**5 977**	**6 403**	**6 755**	**7 062**	**7 241**	**7 217**	**7 158**	**7 058**	**6 912**
NON-CORE BUSINESS														
Revenues	979	921	5 755	6 358	6 109	6 315	6 583	6 931	7 295	7 674	8 048	8 442	8 856	9 290
R&D expense	-788	-860	-1 500	-944	-300	-415	-398	-432	-470	-508	-540	-574	-611	-650
SG&A expense	-511	-514	-5 466	-5 778	-6 181	-5 921	-6 252	-6 674	-7 131	-7 626	-8 119	-8 646	-9 210	-9 813
Other operating income	328	647	500	442	384	323	272	229	193	162	137	115	97	82
Other operating expenses	-427	-595	-678	-466	-260	-245	-231	-219	-206	-195	-184	-174	-164	-155
Interest income	1 314	1 490	1 481	1 634	1 635	1 640	1 647	1 656	1 663	1 671	1 679	1 688	1 698	1 708
Excess cash	9 011	6 718	9 405	10 654	9 904	9 983	10 108	10 253	10 375	10 511	10 647	10 797	10 961	11 140
Fixed-income securities (Government bonds and Corporate bonds)	16 395	15 230	13 938	16 292	16 292	16 292	16 292	16 292	16 292	16 292	16 292	16 292	16 292	16 292
Current interest-bearing debt securities	0	0	1 271	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331
Current available-for-sale financial assets	1 293	1 242	0	0	0	0	0	0	0	0	0	0	0	0
Other financial income (expenses), net	-373	135	1 475	-74	-139	-68	-34	-16	-8	-4	-2	-1	0	0
Profit before taxes (EBT)	**522**	**1 224**	**1 567**	**1 172**	**1 747**	**2 043**	**1 985**	**1 907**	**1 805**	**1 682**	**1 560**	**1 425**	**1 276**	**1 112**
Taxes	-141	-318	-407	-293	-437	-511	-496	-477	-451	-421	-390	-356	-319	-278
Income (loss) from investments accounted for using the equity method, net	134	43	-3	199	199	199	199	199	199	199	199	199	199	199
Income from discountinued operations, net of income taxes	188	55	124	2	2	2	2	2	2	2	2	2	2	2
Other comprehensive income	-2 879	2 403	-2 530	472	-1 414	-734	-738	-742	-747	-751	-754	-758	-761	-765
Non-Core Result	**-2 310**	**3 252**	**-1 508**	**1 012**	**-443**	**459**	**412**	**349**	**268**	**172**	**76**	**-28**	**-143**	**-270**
FINANCIAL														
Interest expenses	-989	-1 051	-1 089	-1 129	-1 174	-1 176	-1 198	-1 214	-1 220	-1 236	-1 249	-1 262	-1 278	-1 295
Taxes	-267	-273	-283	-282	-294	-294	-299	-304	-305	-309	-312	-316	-320	-324
Financial Result	**-722**	**-778**	**-806**	**-847**	**-881**	**-882**	**-898**	**-911**	**-915**	**-927**	**-937**	**-947**	**-959**	**-971**

▪ Balance Sheet

(Values in millions of €)	2016	2017	2018	2019	2020E	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
CORE BUSINESS														
Operating Cash	1 573	1 639	1 546	1 610	1 021	1 088	1 198	1 310	1 428	1 544	1 626	1 713	1 805	1 903
Trade and other receivables	16 287	16 754	18 456	18 894	11 988	12 655	14 067	15 523	17 083	18 681	19 842	21 091	22 435	23 882
Contract assets	0	8 781	8 912	10 309	5 437	5 746	6 413	7 098	7 833	8 596	9 146	9 738	10 376	11 064
Inventories	18 160	13 885	13 885	14 806	8 821	9 311	10 349	11 418	12 565	13 739	14 592	15 510	16 498	17 560
Current income tax assets	790	1 098	1 010	1 103	578	616	684	752	823	896	946	1 000	1 057	1 118
Other current assets	1 204	1 466	1 707	1 960	1 091	1 163	1 280	1 399	1 523	1 646	1 733	1 824	1 922	2 026
Total current assets	38 014	43 623	45 516	48 682	28 936	30 579	33 991	37 499	41 256	45 101	47 885	50 877	54 093	57 553
Goodwill	24 159	27 906	28 344	30 160	25 416	25 416	25 416	25 416	25 416	25 416	25 416	25 416	25 416	25 416
Other intangible assets	7 742	10 926	10 130	9 800	9 747	9 762	9 828	9 943	10 107	10 320	10 582	10 894	11 258	11 676
Property, plant and equipment	10 157	10 977	11 381	12 182	12 782	13 415	14 109	14 872	15 377	15 904	16 453	17 025	17 622	18 244
Total non-current assets	42 058	49 809	49 855	52 142	47 945	48 593	49 353	50 231	50 900	51 640	52 451	53 335	54 296	55 336
Trade payables	8 048	9 756	10 716	11 409	6 093	6 425	7 125	7 844	8 616	9 407	9 989	10 614	11 286	12 009
Contract liabilities	0	14 228	14 464	16 452	9 254	9 761	10 847	11 962	13 158	14 393	15 298	16 271	17 318	18 446
Current provisions	4 148	4 061	3 917	3 669	2 907	2 907	2 907	2 907	2 907	2 907	2 907	2 907	2 907	2 907
Current income tax liabilities	2 085	2 355	3 102	2 378	1 511	1 611	1 782	1 955	2 137	2 320	2 448	2 584	2 729	2 883
Other current liabilities	20 437	8 671	9 118	9 023	5 815	6 200	6 852	7 508	8 201	8 895	9 379	9 895	10 444	11 028
Total current liabilities	34 718	39 071	41 317	42 931	25 580	26 903	29 514	32 176	35 019	37 923	40 021	42 270	44 683	47 273
Provisions	3 494	3 623	3 454	3 027	1 627	1 627	1 627	1 627	1 627	1 627	1 627	1 627	1 627	1 627
Total non-current liabilities	3 494	3 623	3 454	3 027	1 627	1 627	1 627	1 627	1 627	1 627	1 627	1 627	1 627	1 627
Net core business	**41 860**	**50 738**	**50 600**	**54 866**	**49 674**	**50 642**	**52 203**	**53 927**	**55 510**	**57 191**	**58 688**	**60 315**	**62 079**	**63 989**
NON-CORE BUSINESS														
Total current assets	7 010	9 166	8 365	9 703	9 698	9 702	9 708	9 715	9 722	9 729	9 737	9 745	9 753	9 762
Total non-current assets	28 331	25 552	24 504	27 736	26 467	26 542	26 665	26 790	26 922	27 052	27 146	27 246	27 352	27 465
Total current liabilities	16 515	12 776	10 276	12 959	12 959	13 326	13 923	14 533	15 177	15 814	16 273	16 760	17 278	17 829
Total non-current liabilities	5 207	3 797	3 645	3 899	3 232	3 329	3 487	3 649	3 819	3 988	4 110	4 239	4 376	4 522
Net non-core business	**13 619**	**18 145**	**18 948**	**20 581**	**19 974**	**19 590**	**18 962**	**18 323**	**17 647**	**16 979**	**16 501**	**15 992**	**15 451**	**14 876**
FINANCING AND SHAREHOLDERS EQUITY														
Excess cash	9 011	6 718	9 405	10 654	9 904	9 983	10 108	10 253	10 375	10 511	10 647	10 797	10 961	11 140
Other current financial assets: interest-bearing debt securities	0	0	1 271	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331	1 331
Current available-for-sale financial assets	1 293	1 242	0	0	0	0	0	0	0	0	0	0	0	0
Short-term debt and current maturities of long-term debt	-6 206	-5 447	-5 057	-6 034	-6 881	-5 991	-6 302	-6 391	-6 228	-6 307	-6 309	-6 281	-6 299	-6 296
	-24	-26	-27	-30	-29	-30	-30	-31	-31	-31	-32	-32	-33	-33
Long-term debt	761	777	120	414	431	357	724	150	506	905	305	744	225	749
Total Net Financial Assets	**-20 663**	**-24 264**	**-21 501**	**-24 463**	**-25 077**	**-25 275**	**-25 592**	**-25 960**	**-26 268**	**-26 612**	**-26 958**	**-27 337**	**-27 753**	**-28 206**
Total Shareholders Equity	**34 816**	**44 619**	**48 047**	**50 984**	**48 782**	**49 167**	**49 784**	**50 500**	**51 099**	**51 769**	**52 441**	**53 180**	**53 988**	**54 869**
Non-controlling interests	605	1 438	2 573	2 858	2 858	2 858	2 858	2 858	2 858	2 858	2 858	2 858	2 858	2 858
Total Equity Attributable to Shareholders of Siemens AG	**34 211**	**43 181**	**45 474**	**48 126**	**45 924**	**46 309**	**46 926**	**47 642**	**48 241**	**48 911**	**49 583**	**50 322**	**51 130**	**52 011**

▪ Cash Flow Statement

(Values in millions of €)	2016	2017	2018	2019	2020E	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
CORE BUSINESS														
EBIT	7 737	7 971	7 575	7 276	6 992	7 969	8 537	9 007	9 415	9 654	9 622	9 543	9 411	9 216
Operating cash taxes	-2 134	-2 103	-1 930	-1 861	-1 748	-1 992	-2 134	-2 252	-2 354	-2 414	-2 406	-2 386	-2 353	-2 304
NOPLAT	5 603	5 868	5 645	5 415	5 244	5 977	6 403	6 755	7 062	7 241	7 217	7 158	7 058	6 912
D&A	-2 388	-2 295	-2 240	-2 172	-2 748	-2 855	-2 955	-3 066	-3 159	-3 265	-3 371	-3 486	-3 611	-3 747
Operating Cash Flow	**3 215**	**3 573**	**3 405**	**3 243**	**2 496**	**3 122**	**3 448**	**3 689**	**3 903**	**3 976**	**3 846**	**3 672**	**3 447**	**3 165**
Property, Plant and Equipment	10 157	10 977	11 381	12 182	12 782	13 415	14 109	14 872	15 377	15 904	16 453	17 025	17 622	18 244
Intangible Assets	7 742	10 926	10 130	9 800	9 747	9 762	9 828	9 943	10 107	10 320	10 582	10 894	11 258	11 676
CAPEX		-1 709	2 632	1 701	2 201	2 206	2 196	2 188	2 489	2 526	2 560	2 601	2 651	2 707
NWC	-198	929	745	2 724	1 729	2 049	2 851	3 696	4 609	5 552	6 238	6 980	7 783	8 653
(-) Var. NWC		-1 127	184	-1 979	995	-320	-802	-845	-914	-942	-686	-742	-803	-870
Goodwill	24 159	27 906	28 344	30 160	25 416	25 416	25 416	25 416	25 416	25 416	25 416	25 416	25 416	25 416
Var. Other Op.Assets, net		-3 747	-438	-1 816	4 744	0	0	0	0	0	0	0	0	0
Investing Cash Flow		**-6 583**	**2 378**	**-2 094**	**7 940**	**1 886**	**1 394**	**1 343**	**1 576**	**1 584**	**1 874**	**1 859**	**1 847**	**1 838**
OPERATING FREE CASH FLOW		**-3 010**	**5 783**	**1 149**	**10 436**	**5 008**	**4 841**	**5 032**	**5 479**	**5 559**	**5 720**	**5 531**	**5 294**	**5 003**
NON-CORE BUSINESS														
Net Non-operating Income		3 252	-1 508	1 012	-443	459	412	349	268	172	76	-28	-143	-270
Var. Non-operating assets, net		-4 527	-803	-1 633	-3 603	385	628	640	675	668	479	509	541	575
NON-OPERATING FREE CASH FLOW		**-1 275**	**-2 311**	**-621**	**-4 046**	**844**	**1 039**	**988**	**943**	**840**	**555**	**481**	**398**	**305**
TOTAL FREE CASH FLOW		**-4 285**	**3 472**	**528**	**6 390**	**5 852**	**5 881**	**6 020**	**6 422**	**6 399**	**6 275**	**6 011**	**5 692**	**5 308**
FINANCING ACTIVITIES														
Financial Result Before Taxes	-989	-1 051	-1 089	-1 129	-1 174	-1 176	-1 198	-1 214	-1 220	-1 236	-1 249	-1 262	-1 278	-1 295
Tax Shield	267	273	283	282	294	294	299	304	305	309	312	316	320	324
	-20	-24	-21	-24	-25	-25	-25	-25	-26	-26	-26	-27	-27	-28
Net Debt	663	264	501	463	077	275	592	960	268	612	958	337	753	206
Var. Net Debt	0	-3 601	2 763	-2 962	-614	-198	-317	-368	-308	-344	-346	-380	-415	-453
Financial Debt Cash Flow		**2 824**	**-3 569**	**2 115**	**-267**	**-683**	**-581**	**-543**	**-607**	**-583**	**-591**	**-567**	**-543**	**-518**
Equity Cash Flow		1 461	97	-2 643	-6 123	-5 168	-5 300	-5 477	-5 815	-5 816	-5 684	-5 444	-5 148	-4 790
FINANCING FREE CASH FLOW		**4 285**	**-3 472**	**-528**	**-6 390**	**-5 852**	**-5 881**	**-6 020**	**-6 422**	**-6 399**	**-6 275**	**-6 012**	**-5 692**	**-5 308**

▪ Revenues Per Segment

	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Digital Industries	15 587	16 087	14 997	15 985	17 303	18 559	19 920	21 396	22 715	24 120	25 617	27 213
Europe, C.I.S., Africa, Middle East (EMEA)	8 582	8 593	8 221	8 734	9 222	9 740	10 291	10 877	11 466	12 087	12 741	13 431
Germany	2 837	3 004	3 150	3 461	3 737	4 036	4 359	4 708	4 961	5 228	5 508	5 804
Americas	3 733	4 112	3 328	3 498	3 824	4 184	4 584	5 028	5 389	5 779	6 200	6 655
United States	2 974	3 389	2 742	2 906	3 226	3 581	3 975	4 412	4 767	5 151	5 566	6 014
Asia, Australia	3 265	3 374	3 316	3 753	4 258	4 634	5 044	5 491	5 859	6 253	6 675	7 127
China	1 662	1 711	1 866	2 201	2 598	2 857	3 143	3 457	3 729	4 022	4 338	4 679

	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Smart Infrastructure	14 445	15 225	14 323	15 384	17 609	19 941	22 379	24 792	26 108	27 508	28 999	30 587
Europe, C.I.S., Africa, Middle East (EMEA)	7 953	8 132	7 851	8 313	9 453	10 650	11 885	13 095	13 688	14 318	14 988	15 701
Germany	2 630	2 843	3 008	3 253	3 725	4 183	4 622	5 033	5 442	5 885	6 363	6 881
Americas	3 459	3 892	3 179	3 361	3 856	4 313	4 764	5 217	5 494	5 787	6 097	6 426
United States	2 756	3 208	2 619	2 777	3 238	3 655	4 072	4 499	4 770	5 057	5 361	5 683
Asia, Australia	3 026	3 193	3 169	3 709	4 300	4 977	5 731	6 480	6 926	7 404	7 914	8 460
China	1 540	1 619	1 782	2 049	2 325	2 642	3 033	3 421	3 631	3 854	4 090	4 342

	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Mobility	8 821	8 916	9 051	9 853	10 860	11 821	12 830	13 957	14 763	15 636	16 581	17 605
Europe, C.I.S., Africa, Middle East (EMEA)	4 857	4 762	4 961	5 374	5 826	6 252	6 645	7 067	7 409	7 778	8 176	8 605
Germany	1 606	1 665	1 901	2 131	2 388	2 677	2 926	3 199	3 486	3 797	4 137	4 507
Americas	2 112	2 279	2 009	2 181	2 346	2 426	2 506	2 584	2 653	2 727	2 805	2 887
United States	1 683	1 879	1 655	1 854	2 039	2 137	2 236	2 330	2 415	2 503	2 594	2 689
Asia, Australia	1 848	1 870	2 002	2 297	2 687	3 144	3 679	4 307	4 701	5 131	5 601	6 114
China	941	948	1 125	1 336	1 585	1 882	2 234	2 651	2 885	3 139	3 416	3 717

	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
SIEMENS Healthineers	13 425	14 517	14 460	15 289	16 170	17 104	18 095	18 802	19 387	19 993	20 623	21 277
Europe, C.I.S., Africa, Middle East (EMEA)	4 409	4 617	4 747	4 984	5 234	5 495	5 770	6 059	6 276	6 502	6 736	6 978
Germany	856	873	875	919	965	1 013	1 064	1 117	1 150	1 185	1 220	1 257
Americas	5 290	5 803	5 692	5 994	6 314	6 653	7 012	7 112	7 213	7 315	7 419	7 524
United States	4 458	4 916	4 909	5 204	5 516	5 847	6 197	6 289	6 381	6 475	6 571	6 667
Asia, Australia	3 726	4 097	4 021	4 311	4 622	4 955	5 313	5 632	5 898	6 177	6 469	6 775
China	1 681	1 838	1 894	2 046	2 209	2 386	2 577	2 718	2 866	3 023	3 188	3 363

▪ Operating Costs Per Segment

Digital Industries	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Cost of Sales	-9 258	-9 528	-8 633	-9 240	-10 116	-10 975	-11 925	-12 978	-13 933	-14 962	-16 071	-17 268
Gross Margin	38%	38%	40%	40%	39%	39%	38%	38%	37%	37%	36%	35%
R&D	-2 000	-2 245	-2 000	-2 078	-2 271	-2 458	-2 663	-2 887	-3 088	-3 304	-3 536	-3 786
SG&A	-932	-946	-1 024	-1 084	-1 171	-1 256	-1 349	-1 453	-1 550	-1 654	-1 766	-1 886
Adjusted EBITA margin	19%	18%	22%	19%	19%	18%	18%	17%	16%	16%	15%	14%
EBIT margin	17%	16%	19%	17%	17%	16%	16%	15%	15%	14%	13%	13%

Smart Infrastructure	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Cost of Sales	-10 902	-11 627	-10 999	-11 382	-13 172	-15 079	-17 113	-19 178	-20 400	-21 711	-23 121	-24 637
Gross Margin	21%	21%	20%	23%	22%	22%	21%	21%	20%	19%	19%	18%
R&D	-600	-674	-600	-659	-750	-842	-942	-1 047	-1 117	-1 194	-1 276	-1 366
SG&A	-864	-895	-977	-1 045	-1 193	-1 350	-1 517	-1 685	-1 782	-1 887	-1 999	-2 119
Adjusted EBITA margin	11%	10%	9%	11%	11%	11%	10%	10%	9%	8%	7%	7%
EBIT margin	9%	8%	7%	9%	9%	9%	8%	8%	7%	7%	6%	5%

Mobility	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Cost of Sales	-6 824	-6 770	-6 931	-7 523	-8 365	-9 188	-10 060	-11 045	-11 782	-12 584	-13 458	-14 411
Gross Margin	19%	21%	21%	20%	20%	20%	19%	19%	18%	18%	17%	17%
R&D	-200	-348	-400	-331	-372	-412	-457	-508	-549	-594	-643	-697
SG&A	-527	-524	-616	-658	-723	-786	-853	-930	-987	-1 050	-1 118	-1 192
Adjusted EBITA margin	11%	11%	9%	10%	10%	9%	9%	8%	8%	7%	7%	6%
EBIT margin	9%	9%	6%	7%	7%	7%	7%	7%	6%	6%	5%	4%

Siemens Healthineers	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
Cost of Sales	-7 461	-8 194	-8 288	-8 642	-9 233	-9 867	-10 543	-11 072	-11 530	-12 011	-12 516	-13 047
Gross Margin	43%	42%	41%	42%	41%	41%	41%	40%	40%	39%	38%	38%
R&D	-1 281	-1 328	-1 341	-1 416	-1 517	-1 624	-1 741	-1 834	-1 914	-1 999	-2 088	-2 181
SG&A	-2 153	-2 214	-2 228	-2 359	-2 502	-2 653	-2 814	-2 933	-3 032	-3 135	-3 242	-3 353
Adjusted EBITA margin	17%	17%	15%	16%	16%	15%	15%	14%	14%	13%	12%	12%
EBIT margin	15%	15%	13%	15%	14%	14%	13%	12%	12%	11%	10%	10%

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Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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