General risk factors

- If we are unable to attract and retain qualified management and personnel then our business may be adversely affected.
- Our business subjects us to considerable potential exposure to litigation and legal claims and could be materially adversely affected if we incur legal liability.

We urge you to read the other important factors set forth under sections of this Annual Report entitled "Item 3. Key Information—Risk Factors," "Item 4. Information on the Company" and "Item 5. Operating and Financial Review and Prospects" for a more complete discussion of the important factors that could affect our future performance and the countries and industries in which we operate. In light of these risks, uncertainties and assumptions, the forward-looking circumstances described in this Annual Report and the assumptions underlying them may not occur.

Except as required by law or applicable stock exchange rules or regulations, we undertake no obligation to revise publicly any forward-looking statement, whether as a result of new information, future events or otherwise. All subsequent written and oral forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by the cautionary statements referred to above and contained elsewhere in this Annual Report.

PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable

Item 2. Offer Statistics and Expected Timetable

Not applicable

Item 3. Key Information

Risk factors

You should carefully consider all of the information set forth in this Annual Report and the following description of risks and uncertainties that exist or that we currently believe may exist. Our business, financial condition or results of operations could be adversely affected by any of these risks. Additional risks of which we are unaware or that we currently deem immaterial may also impair our business operations. This Annual Report contains forward-looking statements that involve risks and uncertainties. Our results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including those described below and elsewhere in this Annual Report. See "Cautionary Note Regarding Forward-Looking Statements".

Business, economic and industry risks

Our business is exposed to risks associated with the COVID-19 pandemic.

The novel coronavirus (COVID-19) pandemic has had, and continues to have, significant impacts on the global economy including on demand for products, operational predictability, the movement of products and people across borders, supply chains (including the supply of semiconductors) and the cost of capital.

Given the global nature of our business, COVID-19 has had an adverse impact on our revenues and operating margins in all of our businesses and is expected to continue to have an impact at least in the short term. In particular, our Robotics and Process Industries businesses as well as our service businesses have been materially impacted. The ultimate extent to which the pandemic impacts our business, liquidity, results of operations and financial condition will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the availability and effectiveness of vaccines, future mutations of the COVID-19 virus and any resulting impact on the effectiveness of vaccines, the duration and extent of the pandemic and waves of infection, travel restrictions and social distancing, the duration and extent of business closures and business disruptions and the effectiveness of actions taken to contain, treat and prevent the disease. If we or our customers experience prolonged shutdowns or other business disruptions, our business, liquidity, results of operations and financial condition may be materially adversely affected and our ability to access the capital markets may be limited.

Our business is exposed to risks associated with the volatile global economic environment and political conditions.

Adverse changes in economic or political conditions, particularly in locations where our customers or operations are located, as well as concerns about global trade, global health crises, developments in energy prices, and terrorist activities, could have a material adverse effect on our business, financial condition, results of operations and liquidity and may adversely impact the demand for our products and services. These and other factors may prevent our customers and suppliers from obtaining the financing required to pursue their business activities as planned, which may force them to modify, delay or cancel plans to purchase or supply our products or services. In addition, if our customers do not generate sufficient revenue, or fail to timely obtain access to the capital markets, they may not be able to pay, or may delay payment of, the amounts they owe us. Customers with liquidity issues have delayed payments of amounts they owe us and this had lead and may lead to additional bad debt expense for us, which may adversely affect our results of operations and cash flows. We are also subject to the risk that the counterparties to our credit agreements and hedging transactions may go bankrupt if they suffer catastrophic demand on their liquidity that prevents them from fulfilling their contractual obligations to us.

Our business environment is influenced also by numerous other economic or political uncertainties which may affect the global economy and the international capital markets. In periods of slow economic growth or decline, our customers are more likely to buy less of our products and services, and as a result we are likely to experience decreased revenues. Our businesses are affected by the level of investment and demand in the markets that we serve, principally utilities, industry and transport & infrastructure. At various times during the last several years, we also have experienced, and may experience in the future, gross margin declines in certain businesses, reflecting the effect of factors such as competitive pricing pressure, inventory write-downs, charges associated with the cancellation of planned expansion and increases in component and manufacturing costs resulting from higher labor and material costs borne by our manufacturers and suppliers that, as a result of competitive pricing pressures or other factors, we are unable to pass on to our customers. Economic downturns also may lead to restructuring actions and associated expenses. Uncertainty about future economic conditions makes it difficult for us to forecast operating results and to make decisions about future investments.

In addition, we are subject to the risks that our business operations in or with certain countries may be adversely affected by trade tariffs, trade or economic sanctions or other restrictions imposed on other countries, including the trade tensions between the United States and China in recent years. These could lead to increased costs for us or for our customers or limit our ability to do business in or with certain countries. In addition, actual or potential investors that object to certain of these business operations may adversely affect the price of our shares by disposing or deciding not to purchase our shares. These countries may from time to time include countries that are identified by the United States as state sponsors of terrorism. If any countries where or with whom we do business are subject to such sanctions or restrictions, our business, consolidated operating results, financial condition and the trading price of our shares may be adversely affected. In 2021, our total revenues from business with countries identified by the U.S. government as state sponsors of terrorism represented significantly less than 1 percent of our total revenues. Based on the amount of revenues and other relevant quantitative and qualitative factors, we have determined that our business in 2021 with countries identified by the U.S. government as state sponsors of terrorism was not material.

Our operations in emerging markets expose us to risks associated with conditions in those markets.

A significant amount of our operations is conducted in the emerging markets in South America, Asia, the Middle East and Africa. In 2021, approximately 40 percent of our consolidated revenues were generated from these emerging markets. Operations in emerging markets can present risks that are not encountered in countries with well-established economic and political systems, including:

- economic instability, which could make it difficult for us to anticipate future business conditions in these markets, cause delays in the placement of orders for projects that we have been awarded and subject us to volatile geographic markets,
- political or social instability, which could make our customers less willing to make cross-border investments in such regions and could complicate our dealings with governments regarding permits or other regulatory matters, local businesses and workforces,
- boycotts and embargoes that may be imposed by the international community on countries in which we do business or where we seek to do business could adversely affect the ability of our operations in those countries to obtain the materials necessary to fulfill contracts and our ability to pursue business or establish operations in those countries,
- foreign state takeovers of our and our customers' facilities,
- significant fluctuations in interest rates and currency exchange rates,
- the imposition of unexpected taxes or other payments on our revenues in these markets,
- our inability to obtain financing and/or insurance coverage from export credit agencies, and
- exchange controls and other restrictions by foreign governments.

Additionally, political and social instability resulting from increased violence in certain countries in which we do business has raised concerns about the safety of our personnel. These concerns may hinder our ability to send personnel abroad and to hire and retain local personnel. Such concerns may require us to increase security for personnel traveling to and working in affected countries or to restrict or wind-down operations in such countries, which may negatively impact us and result in higher costs and inefficiencies.

Consequently, our exposure to the conditions in or affecting emerging markets may adversely affect our business, financial condition, results of operations and liquidity.

We may encounter difficulty in managing our business due to the global nature of our operations.

We operate in approximately 100 countries around the world and, as of December 31, 2021, employed about 105,000 people, of which approximately 48 percent were located in the Europe region, approximately 28 percent in the Asia, Middle East and Africa region and approximately 24 percent in the Americas region. To manage our day-to-day operations, we must deal with cultural and language barriers and assimilate different business practices. Due to our global nature, we deal with a range of legal and regulatory systems, some of which are less developed and less well-enforced than others. The laws and regulations to which we are subject can change rapidly and in unexpected directions. Currency and other local regulatory limitations related to the transfer of funds exist in a number of countries where we operate, including: China, India, the Russian Federation, South Africa and Turkey. All of this may impact our ability to protect our contractual, intellectual property and other legal rights. In addition, we are required to create compensation programs, employment policies and other administrative programs that comply with the laws of multiple countries. We also must communicate, monitor and uphold group-wide standards and directives across our global network, including in relation to our suppliers, subcontractors and other relevant stakeholders. Our failure to manage successfully our geographically diverse operations could impair our ability to react quickly to changing business and market conditions and to enforce compliance with group-wide standards and procedures.

We operate in very competitive and rapidly changing markets and could be adversely affected if we fail to keep pace with technological changes.

We operate in very competitive and rapidly changing markets where we regularly need to develop and new products, systems, services and solutions that address the business challenges and needs of our customers. The nature of these challenges varies across the geographic markets and product areas that we serve. The markets for our products and services are characterized by evolving industry standards, which may require us to modify our products and systems. The continual development of advanced technologies for new products and product enhancements is an important way in which we remain competitive and maintain acceptable pricing levels. If we fail to keep pace with technological changes in the industrial sectors that we serve, we may experience lower revenues, price erosion and lower margins.

Our primary competitors are sophisticated companies with significant resources that may develop products and services that are superior to our products and services or may adapt more quickly than we do to new technologies, industry changes or evolving customer requirements. We are also facing increased competition from low-cost competitors in emerging markets, which may give rise to increased pressure to reduce prices. Our failure to anticipate or respond quickly to technological developments or customer requirements could adversely affect our business, results of operations, financial condition and liquidity.

Industry consolidation could result in more powerful competitors and fewer customers.

Competitors in the industries in which we operate are consolidating. In particular, the automotive industry is undergoing consolidation that is reducing the number but increasing the size of companies that compete with us. As our competitors consolidate, they likely will increase their market share, gain economies of scale, enhance their ability to compete with us and/or acquire additional products and technologies that could displace our product offerings.

Our customer base also is undergoing consolidation. Consolidation within our customers' industries (such as the aerospace industry, automotive, aluminum, steel, pulp and paper and the oil and gas industries pharmaceutical industry) could affect our customers and their relationships with us. If one of our competitors' customers acquires any of our customers, we may lose that business. Additionally, as our customers become larger and more concentrated, they could exert pricing pressure on all suppliers, including us. If we were to lose market share or customers or face pricing pressure due to consolidation of our customers, our results of operations and financial condition could be adversely affected.

Increases in costs or limitation of supplies of raw materials may adversely affect our financial performance.

We purchase large amounts of commodity-based raw materials, including steel, copper, aluminum and Prevailing prices for such commodities are subject to fluctuations due to changes in supply and demand and a variety of additional factors beyond our control, such as global political and economic conditions. Historically, prices for some of these raw materials have been volatile and unpredictable, and such volatility is expected to continue. Therefore, commodity price changes may result in unexpected increases in raw material costs, and we may be unable to increase our prices to offset these increased costs without suffering reduced volumes, revenues or operating income. We do not fully hedge against changes in commodity pricing and our hedging procedures may not work as planned.

We depend on third parties to supply raw materials and other components and may not be able to obtain sufficient quantities of these materials and components, which could limit our ability to manufacture products on a timely basis and could harm our profitability. The risk that we may not be able to obtain raw materials or other components is increased by the COVID-19 pandemic. For some raw materials and components, we rely on a single supplier or a small number of suppliers. If one of these suppliers were unable to provide us with a raw material or component we need, our ability to manufacture some of our products could be adversely affected until we are able to establish a new supply arrangement. We may be unable to find a sufficient alternative supply channel in a reasonable time period or on commercially reasonable terms, if at all.

In 2021, global supply chain constraints caused us to experience some delays in supplier deliveries and shortages for various categories such as semiconductors and certain other raw materials as well as in the transportation of inbound supplies. We took steps to mitigate supply chain shortages, including building up buffer stocks, approving new suppliers and redesigning certain products. Although we were able to mitigate some disruptions and support our business growth, we have experienced some delays in delivering to certain of our customers and cannot assure you that our mitigation efforts will be sufficient to overcome these supply chain constraints if these continue or worsen in 2022.

If our suppliers are unable to deliver sufficient quantities of materials on a timely basis, the manufacture and sale of our products may be disrupted, we may be required to assume liability under our agreements with customers and our sales and profitability could be materially adversely affected.

Our multi-national operations expose us to the risk of fluctuations in currency exchange rates.

Currency exchange rate fluctuations have had, and could continue to have, a material impact on our operating results, the comparability of our results between periods, the value of assets or liabilities recorded on our Consolidated Balance Sheet and the price of our securities. Volatility in exchange rates makes it harder to predict exchange rates and perform accurate financial planning. Changes in exchange rates can unpredictably and adversely affect our consolidated operating results and could result in exchange losses.

Currency Translation Risk. The results of operations and financial position of most of our non-U.S. companies are initially recorded in the currency of the country in which each such company resides, which we call "local currency". That financial information is then translated into U.S. dollars at the applicable exchange rates for inclusion in our Consolidated Financial Statements. The exchange rates between local currencies and the U.S. dollar can fluctuate substantially, which could have a significant translation effect on our reported consolidated results of operations and financial position.

Increases and decreases in the value of the U.S. dollar versus local currencies will affect the reported value of our local currency assets, liabilities, revenues and expenses in our Consolidated Financial Statements, even if the value of these items has not changed in local currency terms. These translations could significantly and adversely affect our results of operations and financial position from period to period.

Currency Transaction Risk. Currency risk exposure also affects our operations when our sales are denominated in currencies that are different from those in which our manufacturing or sourcing costs are incurred. In this case, if, after the parties agree on a price, the value of the currency in which the price is to be paid were to weaken relative to the currency in which we incur manufacturing or sourcing costs, there would be a negative impact on the profit margin for any such transaction. This transaction risk may exist regardless of whether there is also a currency translation risk as described above.

Currency exchange rate fluctuations in those currencies in which we incur our principal expenses or manufacturing or sourcing costs may adversely affect our ability to compete with companies whose costs are incurred in other currencies. If our principal expense currencies appreciate in value against such other currencies, our competitive position may be weakened.

The uncertainties relating to the United Kingdom's new relationship with the European Union and its potential impact on the relationship between Switzerland and the European Union, may have a negative effect on cross-border trade and our business.

The United Kingdom has withdrawn from the European Union and has negotiated the terms of such departure (the UK-EU Trade and Cooperation Agreement or TCA). The TCA is subject to formal approval by the European Parliament and the Council of the European Union before it comes into effect and has been applied provisionally since January 1, 2021. Because the agreement merely sets forth a framework in many respects and will require complex additional bilateral negotiations between the United Kingdom and the

European Union as both parties continue to work on the rules for implementation, significant political and economic uncertainty remains and this has had and may continue to have a material effect on cross-border trade with the United Kingdom and with the European Union. Lack of clarity about future United Kingdom laws and regulations, potentially divergent national laws, the possibility of increased regulatory complexities, or further developments in the European Union could depress economic activity, reduce demand for our products and services, restrict our access to capital, and diminish or eliminate barrier-free access between the United Kingdom and other European Union member states or among the European economic area overall. Furthermore, the TCA may influence discussions on open trade and political matters between Switzerland and the European Union. Any of these factors could have an adverse effect on our business, financial condition and results of operations.

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Operational risks

Increased information technology (IT) security threats and more sophisticated cyber-attacks could pose a risk to our systems, networks, products, solutions and services.

We have observed a global increase in IT security threats and more sophisticated cyber-attacks, which pose a risk to the security of systems and networks and the confidentiality, availability and integrity of data stored and transmitted through those systems and networks. Despite our efforts, we have experienced, and may in the future experience, cyber-attacks against us and we have incurred and will continue to incur substantial costs to reduce the cyber risks to our systems, networks, products, solutions and services. Similarly, we have observed a continued increase in attacks generally against industrial control systems as well as against our customers and the systems we supply to them, which pose a risk to the security of those systems and networks. Future attacks could potentially lead to the compromising of confidential information, improper use of our business, disruption of or downtime of our systems and networks or those we supplied to our customers, manipulation, corruption, inaccessibility and destruction of data, defective products or services, production downtimes, and supply shortages. Such attacks may also expose us to loss of business, claims or regulatory actions. Any such impact in turn could adversely affect our reputation, competitiveness and results of operations. Our insurance coverage may not be adequate to cover all the costs related to cyber security attacks or disruptions resulting from such events. Due to the nature of these security threats, the impact and scope of any future incident cannot be predicted.

Our business strategy includes making strategic divestitures. There can be no assurance that any divestitures will provide business benefit.

Our strategy includes divesting certain businesses. The divestiture of an existing business could reduce our future profits and operating cash flows and make our financial results more volatile. We may also retain obligations or grant indemnities in connection with a divestment. We may not find suitable purchasers for our non-core businesses and may continue to pay operating costs associated with these businesses. Failed attempts to divest non-core businesses may distract management's attention from other business activities, erode employee morale and customers' confidence, and harm our business. A divestiture could also cause a decline in the price of our shares and increased reliance on other elements of our core business operations. Whether we realize the anticipated benefits of a divestment, including our divestment in 2020 of 80.1 percent of the Power Grids business and the divestment in 2021 of our Mechanical Power Transmission business, depends on whether we successfully manage the related risks. If we do not successfully manage the risks associated with a divestiture, our business, financial condition, and results of operations could be adversely affected.

Anticipated benefits of historical, existing and potential future mergers, acquisitions, joint ventures or strategic alliances may not be realized.

As part of our overall strategy, we may, from time to time, acquire businesses or interests in businesses, including noncontrolling interests, or form joint ventures or create strategic alliances. Whether we realize the anticipated benefits, including operating synergies and cost savings, from these transactions, depends, in part, upon the integration between the businesses involved, the performance and development of the underlying products, capabilities or technologies, our correct assessment of assumed liabilities and the management of the operations in question. Accordingly, our financial results could be adversely affected by unanticipated performance and liability issues, transaction-related charges, amortization related to intangibles, charges for impairment of long-term assets and partner performance.

There is no guarantee that our ongoing efforts to reduce costs will be successful.

We seek continued cost savings through operational excellence and supply chain management. Cost leverage is important for our business and future competitiveness. However, there is no guarantee that we will achieve this goal. If we are unsuccessful and the shortfall is significant, there could be an adverse effect on our business, financial condition, and results of operations.

Illegal behavior by any of our employees or agents could have a material adverse impact on our consolidated operating results, cash flows, and financial position as well as on our reputation and our ability to do business.

Certain of our employees or agents have taken, and may in the future take, actions that violate or are alleged to violate the U.S. Foreign Corrupt Practices Act of 1977 (FCPA), legislation promulgated pursuant to the 1997 Organisation for Economic Co-operation and Development (OECD) Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, applicable antitrust laws, other applicable laws or regulations or our Code of Conduct. For more information regarding investigations of past actions taken by certain of our employees, see “Item 8. Financial Information—Legal Proceedings”. Such actions have resulted, and in the future could result, in governmental investigations, enforcement actions, civil and criminal penalties, including monetary penalties and other sanctions, and civil litigation. It is possible that any governmental investigation or enforcement action arising from such matters could conclude that a violation of applicable law has occurred, and the consequences of any such investigation or enforcement action may have a material adverse impact on our consolidated operating results, cash flows and financial position. In addition, such actions, whether actual or alleged, could damage our reputation and ability to do business.
Further, detecting, investigating and resolving such actions could be expensive and could consume significant time and attention of our senior management. While we are committed to conducting business in a legal and ethical manner, our internal control systems at times have not been, and in the future may not be, completely effective to prevent and detect such improper activities by our employees and agents. We are subject to certain ongoing investigations by governmental agencies.

We may be the subject of product liability claims.

We may be required to pay for losses or injuries purportedly caused by the design, manufacture or operation of our products and systems. Additionally, we may be subject to product liability claims for the installation of products and systems designed and manufactured by others.

Product liability claims brought against us may be based in tort or in contract, and typically involve claims seeking compensation for personal injury or property damage. Claims brought by commercial businesses often are also made for financial losses arising from interruption to operations. Depending on the nature and application of many of the products we manufacture, a defect or alleged defect in one of these products could have serious consequences. For example:

- If the products produced by our electricity-related businesses are defective, there is a risk of fire, explosions and power surges, and significant damage to electricity generating, transmission and distribution facilities as well as electrical shock causing injury or death.
- If the products produced by our automation-related businesses are defective, our customers could suffer significant damage to facilities and equipment that rely on these products and systems to properly monitor and control their manufacturing processes. Additionally, people could be exposed to electrical shock and/or other harm causing injury or death.

- If any of our products contain hazardous substances, then there is a risk that such products or substances could cause injury or death.

- If any of our protective products were to fail to function properly, there is a risk that such failure could cause injury or death.

If we were to incur a very large product liability claim, our insurance protection might not be adequate or sufficient to cover such a claim in terms of paying any awards or settlements, and/or paying for our defense costs. Further, some claims may be outside the scope of our insurance coverage. If a litigant were successful against us, a lack or insufficiency of insurance coverage could result in an adverse effect on our business, financial condition, results of operations and liquidity. Additionally, a well-publicized actual or perceived issue relating to our products could adversely affect our market reputation, which could result in a decline in demand for our products and reduce the trading price of our shares. Furthermore, if we were required or otherwise determined to make a product recall, the costs could be significant.

Undertaking long-term, technically complex projects or projects that are dependent upon factors not wholly within our control could adversely affect our profitability and future prospects.

We derive a portion of our revenues from long-term, fixed price and turnkey projects and from other technically complex projects that can take many months, or even years, to complete. Such contracts typically involve substantial risks, including the possibility that we may underbid and consequently have no means of recouping the actual costs incurred, and the assumption of a large portion of the risks associated with completing related projects, including the warranty obligations. Some projects involve technological risks, including in cases where we are required to modify our existing products and systems to satisfy the technical requirements of a project, integrate our products and systems into the existing infrastructure and systems at the installation site, or undertake ancillary activities such as civil works at the installation site. Our costs and gross profit realized, on such contracts can vary, sometimes substantially, from our original projections for numerous reasons, including:

- unanticipated issues with the scope of supply, including modification or integration of supplied products and systems that may require us to incur incremental expenses to remedy such issues,
- the quality and efficacy of our products and services cannot be tested and proven in all situations and environments and may lead to premature failure or unplanned degradation of products,
- changes in the cost of components, materials or labor,
- difficulties in obtaining required governmental permits or approvals,
- delays caused by customers, force majeure or local weather and geological conditions, including the ongoing COVID-19 pandemic and natural disasters,
- shortages of construction equipment,
- changes in law or government policy,
- supply bottlenecks, especially of key components,
- suppliers’, subcontractors’ or consortium partners’ failure to perform or delay in performance,
- diversion of management focus due to responding to unforeseen issues, and
- loss of follow-on work.

These risks are exacerbated if a project is delayed because the circumstances upon which we originally bid and quoted a price may have changed in a manner that increases our costs or other liabilities relating to the project. In addition, we sometimes bear the risk of delays caused by unexpected conditions or events. Our contracts often subject us to penalties or damages if we cannot complete a project in accordance with the contract schedule. In certain cases, we may be required to pay back to a customer all or a portion of the contract price as well as potential damages (which may significantly exceed the contract price), if we fail to meet contractual obligations.

If we are unable to obtain performance and other guarantees from financial institutions, we may be prevented from bidding on, or obtaining, some contracts, or our costs with respect to such contracts could be higher.

In the normal course of our business and in accordance with industry practice, we provide a number of guarantees including bid bonds, advance payment bonds or guarantees, performance bonds or guarantees and warranty bonds or guarantees, which guarantee our own performance. These guarantees may include guarantees that a project will be completed on time or that a project or particular equipment will achieve other defined performance criteria. If we fail to satisfy any defined criteria, we may be required to make payments in cash or in kind. Performance guarantees frequently are requested in relation to large projects.
Some customers require that performance guarantees be issued by a financial institution. In considering whether to issue a guarantee on our behalf, financial institutions consider our credit ratings. If, in the future, we cannot obtain such a guarantee from a financial institution on commercially reasonable terms or at all, we could be prevented from bidding on, or obtaining, some contracts, or our costs with respect to such contracts could be higher, which would reduce the profitability of the contracts. If we cannot obtain guarantees on commercially reasonable terms or at all from financial institutions in the future, there could be a material impact on our business, financial condition, results of operations or liquidity.

Our hedging activities may not protect us against the consequences of significant fluctuations in exchange rates, interest rates or commodity prices on our earnings and cash flows.

Our policy is to hedge material currency exposures by entering into offsetting transactions with third-party financial institutions. Given the effective horizons of our risk management activities and the anticipated nature of the exposures intended to be hedged, there can be no assurance that our currency hedging activities will fully offset the adverse financial impact resulting from unfavorable movements in foreign exchange rates. In addition, the timing of the accounting for recognition of gains and losses related to a hedging instrument may not coincide with the timing of gains and losses related to the underlying economic exposures.

As a resource-intensive operation, we are exposed to a variety of market and asset risks, including the effects of changes in commodity prices and interest rates. We monitor and manage these exposures as an integral part of our overall risk management program, which recognizes the unpredictability of markets and seeks to reduce the potentially adverse effects on our business. As part of our effort to manage these exposures, we may enter into commodity price and interest rate hedging arrangements. Nevertheless, changes in commodity prices and interest rates cannot always be predicted or hedged.

If we are unable to successfully manage the risk of changes in exchange rates, interest rates or commodity prices or if our hedging counterparties are unable to perform their obligations under our hedging agreements with them, then changes in these rates and prices could have an adverse effect on our financial condition and results of operations.

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Legal and regulatory risks

An inability to protect our intellectual property rights or actual or alleged infringement of third party intellectual property rights could adversely affect our business.

Our intellectual property rights are fundamental to all of our businesses. We generate, maintain, utilize and enforce a substantial portfolio of trademarks, trade dress, patents and other intellectual property rights globally. Intellectual property protection is subject to applicable laws in various local jurisdictions where interpretations and protections vary or can be unpredictable and costly to enforce. We use our intellectual property rights to protect the goodwill of our products, promote our product recognition, protect our proprietary technology and development activities, enhance our competitiveness and otherwise support our business goals and objectives. However, there can be no assurance that the steps we take to obtain, maintain and protect our intellectual property rights will be adequate. Our intellectual property rights may fail to provide us with significant competitive advantages, particularly in foreign jurisdictions that do not have, or do not enforce, strong intellectual property rights. The weakening of protection of our trademarks, patents, trade dress, and other intellectual property rights could adversely affect our business. In addition, there exist risks around actual or alleged infringement of third-party intellectual property rights, which could – even with mitigation processes in place - lead to claims against us that require significant resources and legal expenses. We may also engage in legal action to protect our own intellectual property rights, and enforcing our rights may require considerable time, money and oversight, and existing laws in the various countries in which we provide services or solutions may offer only limited protection.

Failure to comply with evolving data privacy and data protection laws and regulations or to otherwise protect personal data, may adversely impact our business and financial results.

We are subject to many rapidly evolving privacy and data protection laws and regulations around the world including the General Data Protection Regulation (GDPR) in Europe as well as the California Data Privacy Act and the California Privacy Rights Act (effective in January 2023) in the United States. This requires us to operate in a complex environment where there are significant constraints on how we can process personal data across our business. The GDPR, which became effective in May 2018, has established stringent data protection requirements for companies doing business in or handling personal data of individuals in the European Union. The GDPR imposes obligations on data controllers and processors including the requirement to maintain a record of their data processing and to implement policies and procedures as part of their mandated privacy governance framework. Breaches of the GDPR could result in substantial fines, which in some cases could be up to four percent of our worldwide revenue. In addition, a breach of the GDPR or other data privacy or data protection laws or regulations could result in regulatory investigations, reputational damage, orders to cease/change our use of data, enforcement notices, as well as potential civil claims including class action type litigation. We have invested, and continue to invest, human and technology resources in our data privacy and data protection compliance efforts. There can be no assurance that any such actions will be sufficient to prevent cybersecurity breaches, disruptions, unauthorized release of sensitive information or corruption of data. Despite such actions, there is a risk that we may be subject to fines and penalties, litigation and reputational harm if we fail to properly process or protect data of third parties or privacy or comply with the GDPR or other applicable data privacy and data protection regimes.

Examinations by tax authorities and changes in tax regulations could result in lower earnings and cash flows.

We operate in approximately 100 countries and therefore are subject to different tax regulations. Changes in tax laws could result in a higher tax expense and higher tax payments. Furthermore, this could materially impact our tax-related receivables and liabilities as well as deferred income tax assets and liabilities. In addition, the uncertainty of the tax environment in some regions could limit our ability to enforce our rights. As a globally operating organization, we conduct business in countries subject to complex tax rules, which may be interpreted in different ways. Future interpretations or developments of tax regimes may affect our tax liabilities, returns on investments and business operations. We are regularly examined by tax authorities in various jurisdictions. An adverse decision by a tax authority could cause a material adverse effect on our business, financial condition and results of operations.

We are subject to environmental laws and regulations in the countries in which we operate. We incur costs to comply with such regulations, and our ongoing operations may expose us to environmental liabilities

Our operations are subject to U.S., European and other laws and regulations governing the discharge of materials into the environment or otherwise relating to environmental protection. Our manufacturing facilities use and produce paint residues, solvents, metals, oils and related residues. We use petroleum-based insulation in transformers and chloroparaffins as a flame retardant. We have manufactured and sold, and are using in some of our factories, certain types of transformers and capacitors containing polychlorinated biphenyls (PCBs). These are considered to be hazardous substances in many jurisdictions in which we operate. We may be subject to substantial liabilities for environmental contamination arising from the use of substances. All of our manufacturing operations are subject to ongoing compliance costs in respect of environmental matters and the associated capital expenditure requirements.

In addition, we may be subject to significant fines and penalties if we do not comply with environmental laws and regulations, including those referred to above. Some environmental laws provide for joint and several strict liability for remediation of releases of hazardous substances, which could result in us incurring liability for environmental damage without regard to our negligence or fault. Such laws and regulations could expose us to liability arising out of the conduct of operations or conditions caused by others, or for our acts which were in compliance with all applicable laws at the time the acts were performed. Additionally, we may be subject to claims alleging personal injury or property damage as a result of alleged exposure to hazardous substances. Changes in the environmental laws and regulations, or claims for damages to persons, property, natural resources or the environment, could result in substantial costs and liabilities to us.

We could be affected by future laws or regulations enacted to address climate change concerns as well as the physical effects of climate change.

Existing or pending laws and regulations intended to address climate change concerns could affect us in the future. We have incurred, and may need to incur additional costs to comply with these laws and regulations and any non-compliance could adversely affect our reputation and result in significant fines. We could also be affected indirectly by increased prices for goods or services provided to us by companies that are affected by these laws and regulations and pass their increased costs through to their customers. At this time, we cannot estimate what impact such costs may have on our business, results of operations or financial condition. We could also be affected by the physical consequences of climate change itself, although we cannot estimate what impact those consequences might have on our business or operations. Any such changes could also impact our ability to achieve our 2030 Sustainability targets as well as the related costs and resources necessary to do so.

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General risk factors

If we are unable to attract and retain qualified management and personnel then our business may be adversely affected.

Our success depends in part on our continued ability to hire, assimilate and retain highly qualified personnel, particularly our senior management team and key employees. Competition for highly qualified management and technical personnel remains intense in the industries and regions in which we operate. If we are unable to attract and retain members of our senior management team and key employees, including in connection with our ongoing organizational transformation, this could have an adverse effect on our business.

Our business subjects us to considerable potential exposure to litigation and legal claims and could be materially adversely affected if we incur legal liability.

We are subject to, and may become a party to, a variety of litigation or other claims. Our business is at risk of claims involving current and former employees, customers, partners, subcontractors, suppliers, competitors, shareholders, government regulatory agencies or others through private actions, class actions, whistleblower claims, administrative proceedings, regulatory actions or other proceedings. Our acquisitions have in the past and may in the future be subject to litigation or other claims. While we maintain insurance for certain potential liabilities, such insurance does not cover all types and amounts of potential liabilities and is subject to various exclusions as well as caps on amounts recoverable.

Introduction

About ABB

ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB’s success is driven by about 105,000 talented employees.

Our business is international in scope and we generate revenues in numerous currencies. We operate in over 100 countries across three regions: Europe, the Americas, and Asia, Middle East and Africa. We are headquartered in Zurich, Switzerland.

We manage our company through our four Business Areas: Electrification, Motion, Process Automation, and Robotics & Discrete Automation. For a breakdown of our consolidated revenues (i) by Business Area, (ii) by geographic region, and (iii) by product type, see “Item 5. Operating and Financial Review and Prospects—Analysis of results of operations—Revenues” and “Note 23 - Operating segment and geographic data” to our Consolidated Financial Statements. Until June 30, 2020, we also operated the Power Grids business, which is reported as discontinued operations in the Consolidated Financial Statements (see “Discontinued operations” section below). On July 1, 2020, we completed the divestment of 80.1 percent of our Power Grids business to Hitachi Ltd (Hitachi). We retain a 19.9 percent ownership interest through our investment in Hitachi Energy Ltd, formerly Hitachi ABB Power Grids Ltd (Hitachi Energy) which beneficially owns and controls all the subsidiaries of the Power Grids business.

Our principal corporate offices are located at Affolternstrasse 44, CH 8050 Zurich, Switzerland, telephone number +41-43-317-7111. Our agent for U.S. federal securities law purposes is ABB Holdings Inc., 305 Gregson Drive, Cary, North Carolina 27511. Our internet address is www.abb.com or global.abb. The information contained on or accessible from our Web site is not incorporated into this annual report, and you should not consider it to be a part of this annual report. The United States Securities and Exchange Commission (SEC) maintains a website at www.sec.gov which contains in electronic form each of the reports and other information that we have filed electronically with the SEC.

History of the ABB Group

The ABB Group was formed in 1988 through a merger between Asea AB and BBC Brown Boveri AG. Initially founded in 1883, Asea AB was a major participant in the introduction of electricity into Swedish homes and businesses and in the development of Sweden’s railway network. In the 1940s and 1950s, Asea AB expanded into the power, mining and steel industries. Brown Boveri and Cie. (later renamed BBC Brown Boveri AG) was formed in Switzerland in 1891 and initially specialized in power generation and turbines. In the early 1900s, it expanded its operations throughout Europe and broadened its business operations to include a wide range of electrical engineering activities.

In January 1988, Asea AB and BBC Brown Boveri AG each contributed almost all of their businesses to the newly formed ABB Asea Brown Boveri Ltd, of which they each owned 50 percent. In 1996, Asea AB was renamed ABB AB and BBC Brown Boveri AG was renamed ABB AG. In February 1999, the ABB Group announced a group reconfiguration designed to establish a single parent holding company and a single class of shares. ABB Ltd was incorporated on March 5, 1999, under the laws of Switzerland. In June 1999, ABB Ltd became the holding company for the entire ABB Group. This was accomplished by having ABB Ltd issue shares to the shareholders of ABB AG and ABB AB, the two companies that formerly owned the ABB Group. The ABB Ltd shares were exchanged for the shares of those two companies, which, as a result of the share exchange and certain related transactions, became wholly-owned subsidiaries of ABB Ltd.