Opportunity and Risk Report

Opportunity and Risk Management

Goals

Software AG's primary goal is to generate long-term, self-propelling growth and thereby increase enterprise value. To that end, the Company combines established business activities with an involvement in promising new market segments and regions. It is gradually transitioning its sales model from one that recognizes sales revenue once at the beginning of a contract to a sustainable model whereby revenue is recognized on an annual basis. The Company knowingly accepts a temporary dilution of its non-IFRS EBITA margin during the transition period. In order to ensure the long-term, sustainable development of Software AG, it forgoes short-term opportunistic earnings increases and the potentially resulting short-lived positive effects on share price. With a strategy that is based on sustainable, long-term success, the Company strives for balance between opportunities and risks and takes on risks only if the business activities associated with them have a high probability of enhancing the value of Software AG. It is always a prerequisite that Software AG can evaluate risks and that they remain manageable and controllable. Furthermore, risks and opportunities associated with ongoing operations are systematically monitored, for example, by keeping a constant eye on product and service quality and managing exchange rate developments.

Organization

A Group-wide opportunities and risk management system enables Software AG to identify potential risks early to then accurately assess and minimize them to the greatest extent possible. Risks are to be understood as deviations from planned values. Strictly speaking and as referred to in everyday language, risks are defined as negative deviations and opportunities as positive deviations from planned values. By continuously monitoring risks, Software AG can constantly evaluate the overall status systematically and in a timely manner and better assess the effectiveness of appropriate countermeasures. In doing so, operational risks as well as financial, economic, legal and market risks are included. Opportunities are generally congruent to the operational and functional risk structure in all risk areas. Software AG uses various controlling tools for ongoing monitoring of the risk areas identified, which address the development of the entire company as well as department-specific issues. The Management Board receives ongoing information as to current and future risks and opportunities as well as the aggregated risk and opportunity situation via established channels. Software AG updates and monitors the applicable specifications for preventing and reducing threats on an ongoing basis throughout the Group.

Responsibility

Risks and opportunities throughout the world are managed and controlled by the teams at corporate headquarters responsible for risk management for both Software AG and its subsidiaries. Corporate headquarters compiles risk and opportunity reports, initiates further development of the risk management system and elaborates risk-mitigating guidelines for the entire Group. It constantly reviews the functioning and reliability of the system as well as reporting. Software AG's internal control system has operationalized business risks by way of internal policies on business policies and practices, as well as Group-wide specification of effective internal controls, compliance with which is continually monitored. The defined policies regulate internal procedures and areas of responsibility at global and local levels. They are designed to provide information for management and to monitor the operating business risks of the Software AG Group. In order to enhance transparency, administration, communication and compliance assessment of the policies are carried out centrally on an ongoing basis. Group business processes are managed and monitored centrally using software applications based primarily on Software AG technology. Another component of risk and opportunity management is the transfer of operating risks to insurance carriers. The General Services department at corporate headquarters coordinates this function globally.

Structure of the opportunity and risk management system

Controlling

Controlling—which is under unified global leadership—monitors operating business risks, such as those from Professional Services, in real time and reports management-relevant figures continuously to the Management Board. In addition, both operational and strategic risks are analyzed by means of a structured reporting system. It shows developments in all relevant departments using KPIs and reports them continuously, monthly and quarterly (depending on KPI) to the Management Board. Furthermore, if exceptional circumstances relating to potential business opportunities or risks arise, ad hoc analyses are conducted and reported to the Management Board.

Finance

The Finance department is responsible for establishing all guidelines for financial reporting in accordance with International Financial Reporting Standards (IFRS). All accounting decisions relevant to the Company's financial statements as well as the revenue calculation process are monitored and/or executed by the global Corporate Finance department. This ensures compliance with IFRS accounting regulations throughout the Company.

Treasury

The Corporate Treasury team creates daily cash reports and weekly hedging transaction reports for the Management Board. It also presents the European Monetary Infrastructure Regulations (EMIR) reports on a monthly basis. All high-risk foreign-currency and hedging transactions may be conducted only by the Corporate Treasury team, which reports directly to the CFO. A global treasury policy prohibits the national subsidiaries from engaging in any high-risk transactions with derivatives. Internal Audit evaluates compliance with this policy on a regular basis. The global process of receivables management is monitored centrally by the Treasury department.

Internal Audit

Software AG's Internal Audit is an active component of the Company's risk management system. Through a systematic and targeted approach, it ensures the effectiveness of risk management along with the evaluation and continual improvement of the internal control system (ICS) and the management and supervision processes. It is also geared to the creation of added value for Software AG by rating the efficacy and efficiency of business processes. Internal Audit reports directly to the CEO and operates worldwide.

Risk management in the financial reporting process

The risk of financial reporting errors was largely eliminated through implementation of the following processes:

- Detailed, global, IFRS-compliant accounting standards must be used. Compliance with these standards is monitored by Corporate Finance and verified by Internal Audit.

- The national subsidiaries' accounting departments are monitored by the local Finance, Controlling, and Administration (FC&A) managers, who are in turn supervised by regional FC&A managers. The subsidiaries report their figures to Corporate Accounting, which is part of the Corporate Finance team. There, the figures from the national subsidiaries are consolidated using the SAP/BCS software tool. At the same time, Corporate Controlling consolidates the countries' profit and loss statements using Office Plus (management information system). Finally, the two consolidated Group profit and loss statements are compared with each other, any deviations are investigated, and any discrepancies that arise are corrected.

- Worldwide separation of the functions of generating and reviewing accounting figures is guaranteed by segregation into two areas: Corporate Finance and Corporate Controlling. Both of them, with different managers, report to the CFO separately.

- As part of monthly report generation, the Corporate Finance and Corporate Controlling departments analyze and review the figures from all reporting entities. Any differences that arise are corrected on a monthly basis.

- All internal Group supplier and service relationships are centrally coordinated and legally regulated through cooperation agreements. Central departments within Corporate Finance and Corporate Controlling handle internal service allocation. In addition, an inter-company transactions policy standardizes internal Group approval processes throughout the world. The revenue calculation process is rigorously monitored by means of globally managed approval processes as of the commencement of contract negotiations. The Global Deal Desk a preventative internal control system and is employed worldwide. All offers to conclude contracts with customers go through this approval process, in which the Legal department as well as Corporate Finance, Corporate Controlling and the Management Board are also involved.

- Internal Audit continually reviews all key customer contracts worldwide with a view to compliance with the approval process and correct representation in accounting.

- A global policy regulates access rules for the local and central accounting programs, which are monitored by the General Information Services (GIS) department.

- Only employees of Corporate Accounting have access to data from the SAP/BCS consolidation program.

- All Group reports are reviewed by a second person in Corporate Finance in accordance with the dual-control policy.

- External experts are commissioned on a regular basis to evaluate such complex matters as stock option plans, pension provisions, legal risks and purchase-price assignments within the framework of acquisitions.

Strategic risk and opportunity management

The strategic risk management system is composed of a central interdisciplinary core team of directors from Corporate Finance, Internal Audit and Legal who report to the CFO in this function. A manager from the relevant field of expertise serves as risk advisor and is responsible for monitoring, assessing and managing identified strategic risks. The risk advisors are recommended by the core team and chosen by the responsible member of the Management Board. Risks are evaluated according to a uniform valuation system. The system takes into account the potential impact on Group EBIT for the next three years to determine the risk category. This impact is calculated taking into account the risk-mitigating measures taken by management.

Expected impact on EBIT in the next 3 years (cumulative)	Risk category
€20 to €50 million	low
€50 to €200 million	medium
> €200 million	high

The impact on EBIT over the next three years is divided into three categories. Effects of up to €50 million on Group EBIT in the next three years are categorized as low risk. Effects on EBIT between €50 and €200 million are categorized as medium risk. And, risks affecting EBIT by more than €200 million in the next three years are categorized as high risk.

In a separate step, these impacts on EBIT in the next three years are categorized according to probability into three risk levels.

Probability	Risk level
0% – 33%	unlikely
34% – 66%	likely
> 67%	highly likely

Probability between 0 and 33 percent is valued at an unlikely risk level, between 34 and 66 percent at likely and above 66 percent at highly likely. The risk categories and levels are aggregated and assigned an equivalence marker based on expected values.

These are then assigned to one of three cumulative risk signal levels

Risk signal	Risk relevance
green	insignificant
yellow	medium
red	significant

All strategic risks and opportunities are evaluated based on this uniform risk matrix. Risks and opportunities not considered of strategic nature are not included in the risk matrix. All Software AG managers are responsible for reporting newly identified strategic risks/opportunities to the core team at corporate headquarters. The team then informs the Management Board for advice on possible strategies for handling them. The core team reports to the Management Board regularly about the ongoing development of the identified risks/opportunities. The Management Board regularly presents the risk management system to the Audit Committee of the Supervisory Board and discusses with it the level of the identified risks/opportunities as well as appropriate measures for managing risks/opportunities.

Ensuring the effectiveness of the risk management system and internal control system

Internal Audit regularly reviews the effectiveness of the risk management system and the internal control system. When necessary, suggestions for improvement are prepared and implemented, which is monitored centrally. Corporate Finance and Corporate Controlling regularly conduct an internal review of accounting-relevant control processes and modifies them for new developments.

Key individual risks and opportunities

Software AG presents key risk/opportunity areas and individual risks and opportunities discerned from the totality of risks and opportunities identified through the risk and opportunity management system in the Risk and Opportunity Report.

Environment and sector risks/opportunities

Market risks

Among other things, market risks are related to the different economic developments in individual countries or regions. The technological evolution of the individual sectors of the IT industry can impact the business potential of the individual business lines positively or negatively. Software AG's balanced revenue mix reduces dependence on a single geographical or professional IT submarket. Software AG markets technologies that are not specific to certain industries, ruling out a dependence on individual industries or customers. Thanks to its technological innovations, ongoing R&D investments and purchase of new technologies as part of technology-driven acquisitions, the Company significantly expanded its product portfolio and will continue to do so in the future. That enables greater flexibility for customers' existing IT infrastructures and, in turn, significant cost savings. And, it ensures a long-term broad customer base for Software AG. The ROI is relatively fast for Software AG customers. Hence, new products are a logical way to cope with market-related cost pressures even in weak economic periods. The overwhelming majority of customers use Software AG software for business-critical applications for years and often decades when running satisfactorily. Therefore, its revenue flow is stable, especially from maintenance services.

Market opportunities

Software AG sees itself as a technology leader in the enablement of enterprise digitalization. This strong trend in the IoT segment is a big opportunity for Software AG's future development. Software AG anticipates strong, dynamic growth in upcoming years in the IoT market in particular. Software AG's new strategic focus which incorporates the results of a comprehensive strategy project, will enable the Company to further intensify its focus on technological and regional growth markets. Furthermore, Software AG will continue its A&N 2050+ program. And, because of the significance of its "ecosystems" in successful software sales, it will also enhance its partner model. These measures generate better-than-average opportunities for Software AG to grow and claim market share in core markets.

Brexit

In light of the exit of the United Kingdom from the European Union, uncertainties have arisen with respect not only to the future of Britain's economy but of Europe's as well. Britain left the European Union on January 31, 2020, following Boris Johnson's election in November 2019. The EU and Britain will negotiate the economic conditions of all future cooperation by the end of 2020. The results of these negotiations between the EU and the U.K. will have a major impact on economic relations and future development of both economic areas.

The specific effects of Brexit are not yet clear. It is therefore impossible to make exact predictions other than the existing uncertainty. Exactly how Brexit will affect internal contracts at Software AG subsidiaries is currently being assessed. The Company does not, however, expect any material effects on continued economic development of the Software AG Group. The British market is one of Software AG's most important markets. But Software AG has a long track record of successful operations in many non-EU countries such as the USA, Brazil, India and others. Based on this experience, Software AG does not anticipate that Brexit will have a material impact on its future business growth in Britain. Furthermore, the fact that Software AG operates in all key financial centers of the European Union should have a risk-mitigating effect. Any financial companies that leave the United Kingdom to resettle in another EU country such as Germany, France or Ireland can be served by Software AG subsidiaries in the relevant location.

USA

The USA is Software AG's most important market. Software AG operates its own sales organization in the USA. It also has significant portions of corporate departments like Marketing and R&D there with key local IP rights, which result in considerable royalties for the Company in the USA. A large percentage of Group profits is generated and taxed in the USA. The tax reform passed in late 2017 has reduced Software AG's tax burden considerably since fiscal 2018 as compared to previous years. The corporate tax rate went down from over 37.0 percent in past years to about 30.0 percent. Tax expenses are also expected to stabilize at this low level in upcoming years, provided conditions remain constant. Because key parts of the Software AG Group are based in the USA, it does not anticipate any major disadvantages from the current administration's "America First" strategy. It also does not currently foresee any substantial risks to its global business resulting from the USA's global trade policy. To date, Software AG's business has not seen any negative effects from the U.S. government's strategy, which is now in its third year. The extent of the negative impact of ongoing trade conflicts between the USA and China and the USA and the European Union on the Software AG Group's global development is not yet clear. Market opportunities should still outweigh risks because the U.S. economy is still robust.

The coronavirus pandemic

The rapidly spreading coronavirus pandemic has begun to burden the global economy, mainly due to whole cities in China being put under quarantine and the resulting factory closures. This is interrupting global production and supply chains and hindering the manufacture and sale of many products. This situation combined with precautionary measures being encouraged by the media and governments elicited some initial reactions of panic with the general public, which could have the cumulative result of an economic recession. The OECD predicts that global growth could see a 50 percent decline in 2020 if the coronavirus situation does not stabilize.

A few major corporations have already announced investment cuts; and many companies have also put a freeze on business travel. This poses a significant obstacle to conducting contract negotiations with customers. Both travel and investment freezes adopted by a portion of Software AG customers could have a negative effect on Software AG's revenue in 2020.

Due to the limited amount of time between the rapid spread of the coronavirus pandemic and preparation of the 2019 Annual Report, it was not possible to conduct a detailed analysis of the potential impact the virus could have on Software AG's anticipated business performance in 2020. Software AG is not generally affected by interruptions in supply chains because of its business model. Software AG's business could, however, be negatively affected in the event of prolonged economic recession.

Corporate strategy risks and opportunities

Product innovation and portfolio

The software sector is subject to very fast innovation cycles with respect to new products as well as to go-to-market models, such as usage-based models (pay per use) in the IoT and cloud markets. These are based on constantly changing customer, market and integration requirements. New innovation trends are very difficult to predict and are sometimes identified too late. The risk of not being able to identify new innovation trends or identifying them too late exists due the the uncertain nature of future development of the software market. A key challenge, typical of this industry, associated with the innovation risk is allocation of the Company's resources such as R&D, Product Marketing, Marketing, Sales and M&A to those products with future revenue potential. This can lead to an insufficient focus on growth-relevant products. If the product portfolio does not address customer needs, revenue potential will decrease. Large competitors have greater financial resources for innovation and ongoing development of their product portfolios. Software AG's business development is thus susceptible to being negatively affected by new competitor products. Furthermore, the focus on Software AG's existing markets can also not be impaired. To better address customer needs in product development, R&D was reorganized in the Digital Business Platform (DBP) business line based on a new matrix structure to reflect the product lines: Integration & Application Programming Interfaces (API), Business Transformation (ARIS & Alfabet) and IoT & Analytics.

Assessment of future market development is conducted through continuous cooperation with leading technology analysts such as Gartner and Forrester.

Rapid product innovation is critical. But striking a balance between fast product innovation on one hand and high product quality on the other is of utmost importance. Considerable reputation risks will arise if the delivered quality of products does not live up to the quality Software AG promises its customers.

To minimize this innovation risk, significant investments have been and are being made in the development of the product portfolio. Investments in product quality were increased significantly, particularly in IoT and webMethods.i.o. (iPaas solution). These investments allow product defects to be corrected as early as possible. Software AG also ensures product quality through implementation of product standards, the Chief Quality Officer and the ISO 9001:2015-certified quality management system. Product quality and user-friendliness as well as customer support are monitored using these mechanisms on an ongoing basis.

Building a cloud business is extremely challenging and cost-intensive. Technological and legal risks are notably higher in the cloud business than in the previously prevalent on-premise business due to data protection and security. New startups, without a long history in on-premise business, can employ the cloud business model from the beginning, which gives them a headstart in developing and implementing this model. Software AG is accounting for the increased risk associated with the cloud business with a dedicated, externally ISO 27001-certified information security management monitoring system and a cross-departmental response team for arising data protection and information security failures. Software AG also augmented its work with contracted digital forensic specialists.

With the intent of shortening time-to-market, Software AG's products are also supplemented by acquisitions when it comes to newer development trends. Expansion of the IoT business and the DBPproduct line's technology leadership—confirmed multiple times by distinguished technology analysts like Gartner and Forrester—are generating major market opportunities for Software AG. In light of the ever-faster moving trend toward Industry 4.0 and the advancing digitalization of organizations in the private and public sectors, Software AG can help shape markets from its position of innovation leadership.

The product portfolio and innovation risks described here were categorized as risk signal yellow (2018: yellow) at the end of 2019.

Market risks and opportunities: Digital Business Platform

A detailed evaluation of Software AG's research and development activities was carried out as part of the Helix strategy project. This analysis led to the conclusion that a greater product focus could result in more efficient and effective use of resources.

Collaboration between Sales, Product Marketing, Product Managements, R&D with customers was further improved in fiscal 2019 as part of the Helix strategy project and the implementation of a new matrix structure. This structure reduces the complexity of the Digital Business Platform by dividing it into more streamlined and coherent product offerings, based on the following lines, Integration & API, Business Transformation (ARIS & Alfabet) and IoT & Analytics, while maintaining the technical interoperability of the DBP components. This ensures the right roadmap prioritization of customer and market requirements for product development. It also offers a considerable opportunity for further expanding the competitive advantages of Software AG products and receiving excellent ratings by the relevant technology studies. A stronger R&D focus can also improve customer satisfaction and business success. It also reduces the product development-related risk of not adequately addressing customer requirements. In addition, product line general managers monitor individual product revenue so as to identify negative developments early and trigger and execute management activities accordingly.

These efforts are intended to reduce sales complexity and shift the focus to the strength of the individual product offerings, which is continuously verified by technology analysts. The Management Board sees opportunities in raising the visibility of products with existing and target customers, sharpening Software AG's identity and significantly improving customer satisfaction and success. In the Management Board's estimation, this will all contribute to significantly increasing the Company's share in the high-growth Integration & API, Business Transformation and IoT & Analytics markets. The complete DBP business line offers major opportunities for Software AG's future business development, especially due to its technology lead and fast development of the IoT market as well as the rapidly growing enterprise digitalization trend.

Growth in Integration & API

The Integration & API product line from the DBP segment generates the largest volume of business of all Software AG product lines. Software AG's growth depends on the growth of this product line. This product line reported a drop in revenue in fiscal 2019, however. The intensity level of competition is very high in this business. Due to the necessity of fast innovation cycles, there is a high risk associated with correctly balancing the speed of development and the required product quality. Any quality issues that arise must be resolved quickly. Because the focus of Software AG's marketing was on the IoT & Analytics product line, marketing resources available to that product line needed to be amplified. Growth is significantly easier for startup cloud competitors without a long history in the on-premise business as they do not have to surmount transition obstacles.

The following measures were taken to manage the strategic risks in this product line:

- Market observation and trend tracking, including collaboration with leading tech analysts, Gartner and Forrester
- Evaluation of customer requirements through collaboration with customers on product development (customer-centric innovation)
- Further improvement of product quality monitoring
- Reallocation of marketing resources to this product line
- Reallocation of R&D resources to this product line to ensure cloud availability
- Amplification of cloud operation resources
- A cloud-oriented sales strategy in direct and partner channels
- Closer collaboration between Business Development teams and Sales
- Establishment of dedicated sales resources for this product line in key focus countries

The Integration & API product line offers major opportunities for Software AG's future business development, especially through its technology lead and the rapidly growing trend of enterprise digitalization. These risks were given the red risk signal at the end of 2019 (2018: red).

Development of Business Transformation

The Business Transformation product line from the DBP segment consists primarily of the ARIS and Alfabet products and accounts for the second-highest growth rate of all Software AG products. These products are particularly well suited as entry products to Software AG technology. But because the average deal size in this product line is second-lowest of all product lines, the sales efficiency of direct sales channels is lower. Software AG's sales focus for these products is directed more toward other channels such as partners and online. More parters are needed to support customers in the implementation of these software products. These, however, are not yet available to Software AG to the necessary extent and are currently being amplified. The products in this product line are suited for cloud operations. A new ARIS process mining cloud solution is scheduled for release in April 2020. But competitors have a significantly higher share of cloud revenue than Software AG in the field of process mining software. To accelerate growth and the transition to a cloud business in this product line, a dedicated Sales unit, Software as a Service (SaaS) teams and Customer Success Managers are necessary in the focus countries USA, U.K., France and Germany. These units are currently being established. Marketing resources also need to be amplified for this product line.

These risks were given the green risk signal at the end of 2019. Strategic risks for this product line were not assessed separately in 2018, but as part of DBP. There is therefore no rating for last year.

Dynamic growth in IoT

Software AG's new strategy foresees business in the IoT & Analytics product line from the DBP (Cloud & IoT business) segment as its key future growth driver. IoT is a fast-growing market subject to intense competition. The market is expanding through hyperscalers (computing networks to achieve major scaling in cloud computing and big data), system integrators as well as vendors that are developing their own IoT system landscapes. Software AG's competition includes large IT corporations such as Microsoft and PTC. Because IoT products are based on new software that is enhanced at a rapid pace, there are still inherent differences in product quality. High R&D investments are necessary to resolve open technical issues and ensure the enhancements required by customers. These challenges grow with the number of customers and revenue in this product line. Software AG offers an IoT platform and implementation services. But many customers want an end-to-end IoT solution.

To lead this product line to dynamic growth, the following measures were taken:

- Ongoing monitoring of IoT markets and focused innovative development of products to ensure technological USPs
- Focused R&D investments to ensure the IoT platform's quality, stability and availability
- Expansion of innovation capacities in R&D, Product Management and Marketing, co-innovation with customers and corporate acquisitions to complete the product portfolio
- Land-and-expand sales strategy, centrally managed but integrated in local business
- Dedicated sales activities to land new customers and Customer Success teams to expand deal sizes with individual customers
- Further expand strategic partnerships in different directions to implement the IoT software platform as a leading base technology in as many key IoT partnerships as possible
- Monitor sales activities to track customer expectations
- Invest in dedicated IoT partner teams and build a partner ecosystem
- Form a business plan based on the business requirements of the focus countries (USA, U.K., France and Germany)
- Expand the IoT partner business for non-focus countries

Executing a land-and-expand strategy in the cloud and IoT markets requires continued development of corporate culture and sales compensation models. Software AG's existing sales culture, based on perpetual licenses and full license revenue recognition as of the date the contract is signed, must be transformed into a sustainable sales culture—with license revenue recognition distributed over time through subscriptions and cloud agreements. The buying behavior of enterprise customers in the software market has changed with demand for subscription and SaaS products rising continuously. Software AG's Management Board therefore defined a "subscription-first" approach as part of the new strategy, whereby all Software AG products will be offered primarily as subscriptions in 2020. This will satisfy customer demand for pay per use and subscription options and, regardless of the deployment model, give them access to the advantages of this form of consumption. Software AG will continue delivering a hybrid product offering—on-premise and cloud/SaaS. 2019 was a transition period to prepare for this change, which will be rolled out in 2020.

The risk associated with information security and data protection is significantly higher in the cloud business than in the existing business because Software AG presents itself as a data processing company. This transfers the risk to Software AG as the cloud provider. This transformation means an increased legal risk associated with cloud agreements. So, to minimize this risk, an information security management system (ISMS) in accordance with ISO 27001 was implemented and externally certified.

The risks associated with the Cloud & IoT business, which is currently under development, were rated at risk signal yellow (2018: green).

Market risks and opportunities: Adabas & Natural (A&N)

Software AG's traditional A&N product family is currently in an advanced stage of the product lifecycle. The age structure of A&N employees poses a challenge for Software AG and its customers. The necessary generational shift across all customer-oriented functions must be well organized. Otherwise there is a risk of losing customer contacts and expertise with the corresponding negative effects on sales opportunities. There is hardly any new customer business in this segment. The product portfolio is based on existing customers. Growing cost pressure on customers has the effect of more migration of mainframes to open systems. But resources are tight when it comes to supporting customers with this migration. There is also the risk of customers changing to new products by competitors, which would have negative effects on revenue and profit margin. It would also reduce the cross-sell potential of other Software AG products. Software AG's strategy is based in part on extending customers' existing license rights and/or selling add-on products. The potential offered by renewing licenses is lower compared to past years. Nevertheless, A&N product customers continue to be extremely loyal to Software AG. This is because A&N products are highly valued due to their:

- high availability
- high performance
- low operating costs
- high strategic relevance for customers' operation of applications running on A&N
- future guarantee

This presents the opportunity to attract customers with positive Software AG experience to long-term maintenance and modernization of their IT infrastructure while keeping A&N technology. Software AG is the best partner for that. Retaining and acquiring product expertise make this possible. Ongoing innovation and R&D activities lead to significantly better prospects for the A&N business line. Software AG began communicating its A&N 2050+ program in 2015. It is fundamentally willing to continue developing A&N and providing A&N customers installation support through the year 2050 and beyond. This initiative resonated extremely well with customers and increased the level of loyalty among the customers base.

Software AG is countering these risks with the following measures:

- The A&N 2050+ program can significantly delay the anticipated long-term revenue decline
- Customer support for migration of mainframes to open system platforms on A&N technology (re-hosting) to cut hardware costs for customers and prolong maintenance periods
- Expansion of A&N service capacities to support local partners and their re-hosting activities
- Ongoing development of hosting and private cloud availability for A&N products generates new business
- Realigning sales models toward subscription
- Generation change training programs for young A&N staff in R&D and Pre-Sales working at Software AG and at customers
- Extended application support to serve customers with current A&N staff
- Expansion of offshore R&D and support centers
- Focus on key operating system platforms like z/OS, Linux and Windows
- A&N modernization to extend the product lifecycle, e.g. development and sale of zIIP functionality for online transactions and Adabas for zIIPTM
- Regular customer satisfaction surveys

These measures can significantly slow the downward trend of A&N sales while offering opportunities for generating additional sources of revenue. For these reasons, total revenue for this segment increased by 5 percent (3 percent at constant currency) year-on-year in fiscal 2019. This is the upper end of the forecast range, which was raised during the year.

Software AG expects continued stabilization of product bookings in the A&N business line in 2020 with growth between −3 to +3 percent. Software AG also foresees a stabilization of A&N product bookings in the years thereafter. Customer evaluations show that the overwhelming majority of all A&N installations are business-critical for customers. This means that many customers' economic livelihood depends on the performance and availability of the A&N products. Those customers have invested heavily in this technology, which they cannot and will not forgo. Therefore, there is the opportunity that this business line will continue generating high revenues in the future.

There are significant opportunities associated with product innovation and modernization/digitization packages in the A&N product line; this type of offering can make the need for large, cost-intensive projects to replace A&N technology superfluous. In this way, A&N remains a future-proof technology, which can make a positive impact on A&N customers' investment decisions.

These risks were given risk signal yellow at the end of 2019 (2018: yellow).

Acquisitions

Software AG expands its technology offering and its global presence through targeted acquisitions. Acquisitions present the opportunity to participate in waves of innovation, to expand the product portfolio and increase relevance in the market and with prospective customers. Acquisitions help shorten time-to-market significantly for new products that address the latest trends. The uncertainty of future market and technology trends means that there is a risk associated with determining the right target companies. Selection of an unsuitable target company leads to management resources and investment funds being tied up without sufficient return on investment. This can result in risks associated with possible impairment losses, the unnecessary use of Software AG's cash and a decrease of its growth potential.

The long-lasting period of low interest rates caused prices of potential target companies to rise and profitability to drop. Potential target companies are therefore rare, too highly priced and often not the right size. Companies with groundbreaking technology are rarely put up for sale and have a high price.

Due to its early stage, th IoT market is still extremely fragmented nevertheless highly innovative. This results in significantly greater opportunities for acquisitions in this business. Software AG is therefore currently focusing on the acquisition of IoT technology companies.

The following risk-mitigating processes have been defined for the time prior to and after acquisitions:

Pre-acquisition phase

To mitigate the selection risk, Software AG's M&A department is continuously observing and evaluating the market for technology developments both in the Silicon Valley and Europe alike. To reduce risks associated with due diligence processes, Software AG conducts a critical business model analysis of all potential target companies. Its current due diligence process identifies problems, rejection criteria and uncontrollable risks early. In-depth due diligence is carried out with respect to technological, strategic and operational integration. Prior to a takeover, an intensive review is conducted to ascertain whether the technologies of the company in question effectively expand Software AG's product portfolio, how market access and market penetration will change, and what potential synergies can be realized. Every acquisition is preceded by a precise analysis of the financial fitness of the target company by experienced due diligence teams. These teams consist of a core team and experienced specialists from the relevant business units. They assess whether the target company's corporate culture can be harmonized with Software AG's. In order to ensure consistent integration planning, staff members who will be responsible for integration later are included in due-diligence processes at an early point in time.

The risks associated with the pre-acquisition phase were given risk signal green in fiscal 2019, unchanged from 2018.

Post-acquisition phase

Furthermore, there is a risk that the companies acquired will not be integrated successfully. Insufficient integration could result in growth and profitability issues as well as failure to achieve combined business plan targets. It would become difficult to quickly exploit revenue and cost synergies. There is an additional potential risk associated with the loss of key specialists when not enough attractive positions are created quickly. Especially smaller-scale acquisitions pose the challenge that managers who have worked as generalists must transition to the role of specialist in a larger organization following an acquisition. The main challenges include the integration of the product portfolio, the processes, the organization, the staff, and the different corporate cultures.

Through established control mechanisms, any possible integration risks or opportunities are identified during the due-diligence stage. The implemented integration processes are coordinated centrally to ensure integration of all departments and to quickly create revenue and cost synergies. Possible areas of employment for future new employees are assessed as well as ways for ensuring knowledge transfer. The acquired company's budget is detailed for the post-acquisition period in order to guarantee continued business operations. Specific KPIs are identified and monitored for each integration. A key component of these activities is the integration of sales. It entails dovetailing the new sales models and product offerings with the Software AG sales organization and harnessing revenue potential. This enables sales of newly acquired products to existing customers (upsell) and sales of existing products to new customers (cross sell). The acquired sales organization can act as an overlay function for the existing sales organization.

Opportunities and risks associated with integration in the post-acquisition phase were rather low at the end of 2019 due to two small-scale acquisitions in fiscal 2016, one small-scale acquisition in fiscal 2017, two small-scale acquisitions in fiscal 2018 and none in fiscal 2019.

Because an intensification of acquisition activities is planned in the near term, the integration risk was assigned a yellow risk signal (2018: yellow).

Risks and opportunities associated with the strategic realignment (Helix)

While the opportunities associated with the strategic realignment were already discussed in the relevant sections, Software AG's Management Board is also aware that it represents a substantial multi-year change project for the Company. Such a change/transformation process can lead to considerable risks when guidance and management of the process is not clearly structured. The greatest risk is that the organization could become structurally overwhelmed by too many simultaneous initiatives and the existing governance structures hamper change and/or become ineffective due to imprecise / uncoordinated change. The Management Board is combating the considerable risk inherent to any such major change project with the following measures:

- A central Transformation Office under the leadership of an experienced Senior Vice President of Strategy and Change was set up with 3.5 employees (two change managers and one long-serving Software AG program manager), whose core function it will be to structure, guide (workstream partnering), monitor and coordinate all change activities. The Transformation Office reports to the Chief Human Resources Officer.

- A detailed execution plan with all change workstreams has been created to coordinate scheduling of initiatives and measures, monitor progress of the transformation, provide complete transparency of the change/transformation program and manage responsibilities.

- Responsibility for transformation initiatives was largely handed over to the relevant departments. Workstream leads in the relevant departments ensure execution of their respective parts of the overall execution plan. Organizational and content-related coordination between workstreams is managed by the Transformation Office as well as in regularly scheduled result-to-action (RTA) meetings. Here all workstreams present their progress, KPIs and any points in need of clarification. Because intense collaboration is vital to the change process, this forum provides a way to manage all change processes across departments.

- Quarterly business reviews were established to assess and drive regional adaptation to the transformation process. They provide a comprehensive summary of the regions and units with respect to business performance and transformation. Measures are defined based on results.

- The existing governance structures incorporate transformation/change components ensuring that all deviations from the execution plan are identified early and escalated to the right people if necessary. A change/impact analysis, for example, is generated on a regular basis to identify the main risks and define measures to counter them.

- External consulting and guidance of the change and transformation process, primarily in the areas of people and culture and subscription, will ensure that change/transformation management and plan execution meet Software AG's high level of quality standards.

Because corporate culture and its adaptation to the new strategy are critical to the success of transformation, particular attention is given to the following measures: Employees are actively included and trained in the change process. Talent is fostered. Communication with staff members is target-specific. Feedback sessions and round tables are held. Employee surveys are conducted; and behaviors that may hinder the change process are identified and addressed. A company-wide "simplification initiative" adapts processes to the transformation and presents it to employees in a direct and tangible manner.

The risk is rated as red (2018: red) in the first years of implementation. But the opportunities associated with the strategic realignment far outweigh this risk.

Product distribution risks and opportunities

Sales efficiency and sales risks and opportunities

The complexity of Software AG's products together with the complexity of the requirements of its customers alike require a high level of experience and expertise on the part of the Sales force. This leads to relatively long sales cycles. Sales and marketing expenses continued to rise in 2019, at 108 percent of license revenue and 98 percent higher than the previous year. An ineffective sales organization can be an indication of an inadequate sales approach or uncompetitive products regarding capability, price or possible use. Software AG's planned shift to an annual subscription model from the existing sales model based predominantly on perpetual licenses could mean that customers terminate agreements more quickly when products do not fully meet their wishes. Higher average deal size and better scalability can improve sales efficiency. To achieve that, a sales focus on large key customers is essential. This increases the dependence of license revenue on a smaller number of large customers. Software AG's complex product portfolio and long sales cycles cause annual license revenue to accumulate heavily in the fourth quarter. Insufficient average deal sizes closed by the Direct Sales organization with full administrative support from Legal and Finance and insufficient use of standard agreements and processes leads to a reduction in sales efficiency and profitability. Some of the smaller country subsidiaries have too few technology consultants (Pre-Sales staff) and skills to provide customers with technical consulting on the entire platform. Not enough standard contracts are used—even for small-scale deals—due to the "customer first" approach in place.

Software AG intends to continually increase sales efficiency and thereby further accelerate DBP deal size growth with the following measures:

- Accelerate rollout of transition to recurring license models such as subscriptions and usage-based licenses in all product lines with better scalability and forecast accuracy

- Reduce complexity of product offerings and pricing with simpler product bundles

- Introduce improved sales methods and expand success management

- Implement the land-and-expand sales approach to reduce sales expenses.

- Rollout a Customer Success Manager organization in 2020

- Reorganize Sales including the new function of Chief Operating Officer (COO)

- Increase use of standard contracts for small-scale deals with customers

- Greater focus on pipeline management

- Stronger customer segmentation and clearer definition of new customer area (white space) for indirect sales

The risk rating signal remained unchanged from last year at red due to the continued relevance of sales-efficiency topics. This assessment was confirmed by the strategy transformation project. The Helix project also revealed unique opportunities for Software AG resulting from a focused and consistent go-to-market strategy and optimized Sales discipline. A product focus and the necessary sales staff enablement in the regions on one hand and a newly established performance matrix on the other offer considerable opportunities for sales optimization and thus sales success.

Partnership risks and opportunities

Software AG's growth strategy is anchored in the expansion of its partner ecosystem to broaden vertical and regional market reach. Developing DBP-based solutions and applications as well as implementing software via partners can accelerate growth. The potential risk of ineffective partner selection could lead to too little involvement of the partner ecosystem in sales and thus negatively affect the exploitation of new market segments and Software AG's market relevance and technology acceptance. Software AG's work with global system integrators such as Wipro, Tata Consulting Services, Capgemini, etc. is still very focused on sales collaboration. From 2020 onward, Software AG wants to shift this collaboration toward independent sales via partners. This new partner sales approach has not yet been sufficiently market-tested and therefore holds risks for the future. The lack of trained Software AG consultants at system integrators could lead to a shortage of consulting services. Problems and delays during projects due to partners could result in warranty claims from customers, cause Software AG's image suffer and negatively affect customer satisfaction. Insufficient product know-how among partners can weaken public perception and jeopardize sales success. The partner ecosystem is not yet sufficiently focused on new account business. Division of markets according to responsibilities for partner or direct sales needs to be improved. The risk therefore exists that direct and partner sales do not complement each other effectively enough. Because the uniqueness of Software AG products still has the potential to be improved, sales can be expanded significantly through hyperscale platforms like Microsoft Azure and Amazon Web Services.

Insufficient partner governance could result in potential legal and image risks and jeopardize the success of Software AG's partner business.

In order to strengthen its partner business, Software AG introduced the following measures:

- Set up a Global Partner Management team to expand partner relationships and networks on all levels
- Establish a Pre-Sales team to support global system integrators across all pre-sales activities
- Changed sales compensation model to help collaboration between the direct sales organization and partner sales
- Development and expansion of an effective and scalable partner enablement and qualification program to improve service capacity and quality
- Stronger obligation on software sales organizations to incorporate global system integrators into strategic key account relationships
- Clear definition of new account business (white space) to be managed by partners
- Set up channel-based partner organization with well trained staff to generate new customer relationships with partners
- Offer sufficient, foreseeable margins to win value-added resellers
- Develop simple and unique software solutions/bundle use cases
- Simplify Software AG's pricing
- Implement processes and systems in all regions to simplify partner relationships
- Improve the uniqueness of Software AG products to increase appeal for partner organizations, particularly hyperscalers
- Develop simpler business models for alliances and sales partnerships including revenue obligations
- Placement of the IoT platform with a growing number of OEM partners to increase opportunity for future success
- Ongoing enhancement of specific partner channel compliance instruments, consistent use of standard partner power-up contracts and partner training on Software AG's business model

Part of the Company's strategic transformation is to maximize the considerable opportunities presented in the partner business by pursuing a consistent and comprehensive concept to build a global partner ecosystem. It can be assumed that establishing a new performance matrix and focusing on the highest-potential partnership models in the different product groups can generate medium-term revenue growth through the partner ecosystem.

The risks associated with partnerships were given risk signal yellow (2018: green) at the end of 2019.

Personnel risks and opportunities

Employer appeal

Software AG is a people business. Therefore, one of the central challenges is having a sufficient number of highly qualified employees at all relevant sites at all times. The ability of an employer to hire and, above all, retain qualified and motivated employees is key to success. Software AG is in a transformation phase in the highly competitive Cloud & IoT market. This transformation requires finding the right talent outside the Company and existing highly qualified employees driving the change process from the inside. Uncertainty about Software AG's future success in these new markets could have a negative impact on its image as an employer both among highly qualified applicants and existing specialists. The demographic trend in some countries and markets could also result in a reduction in potential growth due to a shortage of qualified young talent. The advancing age structure in the A&N business line could lead to a loss in expertise.

Software AG takes the following measures to counter this risk:

- Staff development and cultural turnaround were a focus of 2019 and will continue to be in the future
- Improved employer image
- Ongoing evaluation of market-oriented remuneration and target salaries based on global benchmarks
- Needs-based training for all staff and managers worldwide
- Implementation of improvement measures determined in the employee survey
- Continuous monitoring of Software AG-related activities in social media
- Intensified talent recruiting in other countries
- Development programs for high-potential employees and future managers
- Sufficient number of highly qualified young staff in all regions
- Staff development programs for all staff worldwide
- Targeted efforts to develop young talent for the generation transfer as part of the A&N 2050+ program
- Optimized distribution of employees at high and low-cost locations

Software AG assumes that these measures provide a sound basis for ensuring Software AG's long-term success.

The war for talent will get fiercer in the IT sector; Software AG's strategic transformation and the employee value proposition (b^5) created as part of Helix will help boost Software AG's image as a growing software company.

Due to the implemented measures to address the intense competition among employers for talent, personnel-related topics were given a green risk signal (2018: green) at the end of 2019.

Legal risks

Intellectual property (IP) right protection

This strategic risk mainly consists of of the two subcategories described below:

Protection of Software AG partners' intellectual property rights

Because Software AG licenses third-party products, it must to defend those rights granted to customers such as licenses to certain resources. Unauthorized undetected use by customers can result in liability risks relating to past license fees owed to software distributors. To mitigate this risk, audit rights have been included in all customer contracts which entitle Software AG to monitor customers' use of products in accordance with contractual stipulations. All third-party software sales agreements will be reviewed for unfavorable terms and modified as needed by a central department. In addition, Software AG continued developing and optimizing its procurement process.

Patent litigation

Patent law, especially in the U.S. due to the large number of software patents granted combined with the peculiarities of U.S. procedural law, favors the bringing of patent lawsuits. This situation is often exploited by non-practicing entities (patent trolls). They are often financed by hedge funds to assert patent lawsuits against software companies. This also affects Software AG. Patent litigation in the U.S. entails the risk of higher procedural costs to defend against claims without provision for reimbursement in American procedural law. The risk associated with patent trolls has lessened in recent years due to a new legal ruling by U.S. courts. Furthermore, large U.S. software companies have joined forces to form the LOT Network (a non-profit community formed to enable patent licensing among members and combat patent trolling). Software AG is currently assessing the option of joining this network to strengthen its own position. The last patent troll lawsuit ended in settlement in fiscal 2019. Since this case, which lasted many years, there have been no further attacks by patent trolls in recent years. There is also a risk of being sued for patent infringements by competitor software companies. The Company has an Intellectual Property Rights team to counter patent law suits. In addition to tasks associated with patent law protection, the team handles Software AG's own patent applications and coordinates its defense against patent suits. The Company's portfolio of patents is the best protection against claims from other market participants, because it offers opportunities for cross-licensing agreements. For these reasons, Software AG will drive expansion of its patent base. But entering patenting processes also leads to risks. For example, intellectual property rights can be lost in such processes due to conditions by the patent issuing organization. These rights can also be lost when built into open-source software. Software AG owns a large number of patents, which can be used to protect its business and defend it against patent suits. These patents could also contribute to generating additional licensing revenues in the future.

To defend itself against future patent-related lawsuits, all relevant technical and marketing documentation was systematically stored in a central location, which makes the necessary documents available quickly in the event of a legal suit. This documentation process is employed for newly acquired companies as well. All new products are evaluated internally for potential patent infringements before public publication. R&D and Product Marketing employees receive training on the subject of patent protection laws. Implemented measures and processes reduce this risk considerably for Software AG. No new patent suits have been filed against Software AG since 2012. It is currently unforeseeable to what extent future patent suits will be fueled by the increasingly nationalistic tendencies worldwide.

Like last year, the risk associated with the protection of intellectual property rights was rated at a green risk signal as of December 31, 2019.

Information security and data protection

As a provider of maintenance, cloud and consulting services, Software AG works with sensitive customer data and thus acts as a processor. Software AG also manages sensitive information about its own business, employees and customers, prospective customers, partners and suppliers and is responsible for that data in this role. The Company is legally required to protect this data while the number of external hacker attacks is constantly rising. The spread of cloud computing also increases vulnerability to data hacking. In data processing agreements (DPAs) with customers, Software AG guarantees compliance with data protection laws, particularly with the EU's General Data Protection Regulation (GDPR). Significant investments are necessary for ensuring the necessary level of data protection. Penalties of up to 4 percent of Software AG's total annual revenue can be issued in the event of infringements against these laws. Sizable investments are necessary on an ongoing basis to take these security measures and comply with regulations.

Software AG counteracts these risks by implementing a data protection management system (DPMS), which can define processes and guarantee information security and data protection. The Company's order processing agreements contain limitations of liability in the event of data loss. Complete IT security can never be guaranteed. The following security risk reduction measures are therefore undergoing constant improvement:

- Continuous monitoring of risk factors and expansion of data security through systematic data security strategy
- Implementation of early detection system for data breaches
- Disciplined execution of defined emergency measures in the event of an attack or system failure
- An ISO 27001-certified information security management system (ISMS) was instituted for cloud business customers
- Internal data security guidelines and standard processes, a data security committee and an IT security organization were established to monitor internal Software AG IT data security and develop data security measures as well as guidelines on an ongoing basis.
- When Software AG enters DPAs with customers, the risks it assumes are minimized to the extent to which legally admissible

The risk posed by information security and data protection was given a yellow risk signal (2018: green) as of December 31, 2019.

Other legal risks

Regulatory, compliance and litigation risks

Regulatory and political changes, such as embargoes, can influence Software AG's business operations in difference national markets. That could have a negative impact on the Group's future business and financial performance. Uncertainties regarding regional legal systems could hinder or prevent the assertion of Software AG's rights (e.g. commercial property rights).

A multinational software company like the Software AG Group is subject to global risks associated with legal disputes and government and official processes. Software AG cannot rule out that litigation and proceedings will have negative effects on the earnings of the Company; as a rule, the Group's financial position can even be negatively affected when law suits are won, given the high cost of defense attorneys and other defense services needed to thwart accusations, for example in the U.S. Despite detailed risk assessment and forward-looking risk provisions, there is a risk that the actual cost of litigation is higher than the assumed risk value.

For information on specific legal disputes, please refer to Note 36 in the Notes to the Consolidated Financial Statements and Other Provisions in the Separate Annual Financial Statements of Software AG (Parent Company). p. 212

Financial operating risks

Exchange rate risks

The Software AG Group is exposed to exchange rate risks through its global business activities. Software AG's sales organizations operate in the currency of the countries in which the sales are transacted. This can result in currency risks and opportunities for Group revenue. For more information on Currency Split, refer to the graphic in the section, Financial Position of the Group, in the Economic Report. p. 65

Exchange rate fluctuation impact on Group revenue in 2019:

Currency fluctuation in 2019	Change in exchange rates volume-weighted 2019 vs. 2018	Impact on revenue in 2019 in € millions
U.S. dollar 30.6% of revenue	+5.2%	+13.4
Pound sterling 4.9% of revenue	+1.1%	+0.5
Israeli shekel 5.5% of revenue	+6.8%	+3.1
Australian dollar 3.5% of revenue	−2.0%	−0.6
Brazilian real 2.9% of revenue	−2.5%	−0.7
Canadian dollar 2.4% of revenue	+3.5%	+0.7
South African rand 2.5% of revenue	−5.0%	−1.2
Other currencies 14.3% of revenue	+1.0%	+1.3
Currency effects on total revenue	**+2.0%**	**+16.5**

The sales-related expenses are in the same currency as the sales themselves, however. This natural hedging relationship is strengthened in the USA due to the fact that components of Software AG's research and development and global marketing are based in the USA Software AG further utilizes derivative financial instruments for hedging. This mitigates the effects of exchange rate fluctuations on Group results. Furthermore, portions of the Company's liquid assets are held in the USA. Its hedging instruments are used to cover existing foreign currency receivables and payables and anticipated cash flows. Income generated in foreign currencies from individual Group companies is also hedged against changes in value due to exchange rate fluctuations. All exchange rate risks are monitored centrally.

Risks from financial instruments

Liquidity and cash-flow risks concerning derivative financial instruments are eliminated by the fact that Software AG secures only existing balance sheet items or highly likely cash flows. Based on the financial instruments open on the balance sheet date, an increase in the market interest rate level by 100 basis points would have increased Group net income in 2019 by €2.0 million (2018: €1.4 million). Provided conditions such as revenue structure and balance sheet relationships remained constant and no further hedging transactions took place, this approximate correlation could be applied to future fiscal years as well. Under these conditions, a 10 percent decrease in the euro's value against the U.S. dollar as of December 31, 2019 would have caused Group net income in 2019 to increase by €1.9 million (2018: €1.4 million). Such a depreciation of the euro against the U.S. dollar would not have had any effect on remaining reserves in shareholders' equity (2018: increase of €2.8 million). Constant monitoring of the relevant banks' creditworthiness helps Software AG minimize the risk of losing business partners with whom derivative financial instruments are concluded.

Other financial risks

Other financial risks include predominantly the risk of bad debt losses. No cluster risks exist due to Software AG's diversified markets and customer structure. Due to the long-range average, default risks are quite marginal as a result of the generally high level of creditworthiness on the part of its customers. To reduce the impact of this risk, Software AG uses an automated approval process for customer contracts, known as the Global Deal Desk, based on its own technology. To protect cash holdings, Software AG constantly monitors partner banks' creditworthiness and adjusts investment decisions accordingly.

General Statement on the Group's Risk Situation

The Software AG Group's overall consolidated risk situation is less favorable than last year. In 2019, 30.8 percent (2018: 54.5 percent) of Software AG's strategic risks were categorized as risk signal green, 46.1 percent (2018: 27.3 percent) as yellow, and 23.1 percent (2018: 18.2 percent) as red.

The Management Board assumes that the strategic risks are limited and manageable. No individual or consolidated risks can be identified that, due to the extent of their impact or their likelihood of occurring, are likely to jeopardize the going concern of the Company now or in the future.

Risk Summary

	Impact on EBIT in the next 3 years	Probability	Risk signal	Trend
Corporate strategy risks and opportunities				
Product innovation and portfolio	medium	likely	yellow	increasing
Growth in Integration & API	medium	highly likely	red	increasing
Development of Business Transformation	low	likely	green	increasing
Dynamic growth in IoT & Analytics	medium	likely	yellow	increasing
Market risks and opportunities: A&N product line	medium	likely	yellow	constant
Acquisitions Pre-acquisition phase (selection)	medium	unlikely	green	constant
Acquisitions Post-acquisition phase (integration)	medium	likely	yellow	constant
Strategic realignment (Helix)	medium	highly likely	red	constant
Product distribution risks and opportunities				
Sales efficiency and sales risks and opportunities	medium	highly likely	red	constant
Partnership risks and opportunities	medium	likely	yellow	increasing
Personnel risks and opportunities				
Employer appeal	low	unlikely	green	constant
Legal risks				
Intellectual property (IP) right protection	low	unlikely	green	declining
Information security and data protection	medium	likely	yellow	increasing

Software AG's Rating

The necessity for an external rating did not arise because of Software AG's solid financial structure and employed financing instruments. There is currently no official external rating of Software AG. Nevertheless, there are some facts that shed light on Software AG's external rating.

Based on the financial statements from December 31, 2018, as in previous years, Software AG was given central bank eligibility by the German Central Bank (Deutsche Bundesbank). This means that lending banks can use credit claims with Software AG as collateral for refinancing with the Deutsche Bundesbank.

Software AG's own banks classified its creditworthiness in the high end of the investment-grade range at the end of 2019.