S&P Global Ratings

Environmental, Social, And Governance Evaluation

Dassault Systemes

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Summary

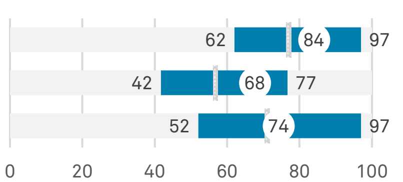
Dassault Systèmes (3DS) is a French software company (90% of revenue) specialized in 3D product design, simulation, and manufacturing solutions. Its unified platform, 3DEXPERIENCE, launched in 2012, is a comprehensive product lifecycle management solution ensuring digital continuity across design, simulation, virtual twin experiences, and digital manufacturing. 3DS is listed on Euronext Paris and its controlling shareholder is the Groupe Industriel Marcel Dassault (GIMD), with 54% of exercisable votings rights in 2021. Headquartered in Vélizy, France, the company serves more than 300,000 customers in 11 industries worldwide. Its more than 20,000 employees are present in Europe (39%), the Americas (29%), and Asia (32%). In 2021, the company recorded revenue of €4.86 billion and EBITDA of close to €1.6 billion.

The ESG evaluation of 84 reflects S&P Global Ratings' view that 3DS is well placed to accommodate the climate transition and circularity efforts of its clients. It also considers 3DS's strong management of its own carbon footprint, including on indirect emissions and its carbon neutrality objective for 2040. 3DS is particularly strong in its engagement with customers benefitting from its unique platform and its ability to adapt solutions to enter new markets. Our assessment considers the company's strong workforce management and efforts to increase gender diversity at all levels. It also factors that its governance is largely in line with the very high standards of French listed companies, supported by above-average disclosures.

We view 3DS as very well prepared to manage and capitalize on future disruptions facing its industry. Its track record of successfully developing and implementing a business strategy is rooted in innovation and science. The company's long-term scientific approach--supported by a culture of innovation and collaboration and a supportive ownership structure--helps it make the product offering relevant to an expanding range of industries.

ESG Profile Components (figures subject to rounding)

Entity-specific assessment			Sector/region analysis			Achieved and attainable scores
E (30%)	37	+	E (30%)	47	=	E
S (30%)	41	+	S (30%)	27	=	S
G (40%)	42	+	G (40%)	32	=	G

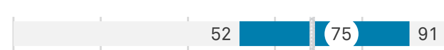


Entity within its primary sector/region

Entity's sectors/ regions versus all sectors/ regions

Min and max scores possible given sectors/regions. The gray line represents performance in line with industry standards.

ESG Profile 75



Preparedness +9

Low | Emerging | Adequate | **Strong** | Best in class

ESG Evaluation

84

A higher score indicates better sustainability. Figures subject to rounding.

Component Scores

Environmental Profile	
Sector/Region Score	**47/50**
Greenhouse gas emissions	**Strong**
Waste and pollution	**Strong**
Water use	**Lagging**
Land use and biodiversity	**Good**
General factors (optional)	**None**
Entity-Specific Score	**37/50**
E-Profile (30%)	**84/100**

Social Profile	
Sector/Region Score	**27/50**
Workforce and diversity	**Strong**
Safety management	**Good**
Customer engagement	**Leading**
Communities	**Good**
General factors (optional)	**None**
Entity-Specific Score	**41/50**
S-Profile (30%)	**68/100**

Governance Profile	
Sector/Region Score	**32/35**
Structure and oversight	**Good**
Code and values	**Good**
Transparency and reporting	**Strong**
Financial and operational risks	**Neutral**
General factors (optional)	**None**
Entity-Specific Score	**42/65**
G-Profile (40%)	**74/100**

ESG Profile **(including any adjustments)** **75/100**

Preparedness Summary

Since its creation in 1981, 3DS has regularly pioneered transformations in how industrial firms design and make products. A key success factor in this journey has been 3DS's capacity to successfully execute a range of acquisitions to enrich its platform while maintaining a unified culture of innovation. 3DS's offering also capitalizes on the ever-increasing move toward digitalization across industries and the cost efficiency, waste reduction, and natural improvement of a product's or service's environmental footprint that its solutions enable. The board relies on a range of tools and processes, including annual bottom-up risk assessments monitoring the expected financial impacts of potential disruptions, collaboration with external stakeholders, and its scientific committee's efforts in assessing the adequacy of 3DS's research and development and solutions.

Capabilities	
Awareness	**Excellent**
Assessment	**Good**
Action plan	**Good**
Embeddedness	
Culture	**Excellent**
Decision-making	**Excellent**

Preparedness Opinion (Scoring Impact) **Strong (+9)**

ESG Evaluation **84**

Note: Figures are subject to rounding.

Environmental Profile

84/100

Sector/Region Score (47/50)

3DS operates in the technology sector and derives 90% of its revenue from software, while the remaining10% is mostly from consulting services in process optimization, design methodology, and training. The company's main locations include the U.S. (about 60% of assets in 2021) and France (17%), with the remainder in the rest of Europe (18%) and Asia (5%). 3DS's limited direct environmental impact mostly stems from the energy use of data centers, while greenhouse gas (GHG) emissions generated in the supply chain and consumer use phases are the most material environmental exposure.

Entity-Specific Score (37/50)

Note: Figures are subject to rounding.

Greenhouse gas emissions	Waste and pollution	Water use	Land use and biodiversity	General factors
Strong	**Strong**	**Lagging**	**Good**	**None**

3DS's strong management of GHG emissions is supported by its well-defined action plan and targets to reduce its direct and indirect carbon footprint, while its solutions also contribute to customers' decarbonization efforts. The company's scope 1 and 2 emissions intensity was divided by four from 2018 to 2021, reaching 1.71 tons of carbon dioxide equivalent per million U.S. dollars in revenue, in line with stronger peers. This progress was largely thanks to its increasing use of renewable electricity, to 75% from 0% in the same period. 3DS expects renewables to represent 90% of purchased electricity in 2025. However, it mostly relies on renewable energy certificates (RECs), which we consider less likely to be impactful in terms of additionality. Outside this, the company shows many strengths in the management of its scope 3 emissions (90% of total emissions excluding consumer use-related emissions), such as its Science-Based Targets initiative (SBTi)-validated targets, which include the goal to have 52% of its suppliers by emissions committed to SBTi targets themselves by 2025. Furthermore, unlike many peers, 3DS disclosed and is refining its measurement of consumer use emissions, by far the most material category of emissions. We also view positively the potential for emissions reduction enabled by 3DS's solutions. This is achieved with design improvements and process optimization, such as with logistics for certain retail clients, where 3DS's solutions contributed to more efficient routing.

The company's solutions can contribute to reducing resource use and improving waste management practices for customers, while the group recycles 98.4% of its most material waste stream, from electrical and electronic equipment (WEEE). 3DS is making its lifecycle analysis module available to an increasing number of industries, which we consider a key lever to positively affect circularity practices from the design to the end-of-life phases. The company is also working to refine the granularity of its own waste data and in 2022 developed a better view of its information technology equipment waste processing. Although we consider WEEE most material for the industry, we note 3DS lags some sector peers on its monitoring of office waste.

3DS's exposure to water use mostly stems from data centers' cooling needs, yet we note the company lags its peers in terms of tracking its water footprint. As a tenant of most of its offices, the company has limited access to some data such as water consumption, and therefore stopped closely tracking this since 2017. We view this as weaker practice in the sector, since some peers report more advanced metrics, such as the water usage effectiveness of their data centers, but we consider water, waste, and biodiversity less material factors for technology companies than GHG.

Social Profile

68/100

Sector/Region Score (27/50)

Operating in the software industry, 3DS's most material social risks involve cybersecurity, customer engagement in a fast-moving environment, and human capital management, including talent retention and gender diversity. Its indirect social risks relate to its due diligence of its suppliers' practices, including on health, safety, and labor rights. 3DS's workforce is present worldwide, with the U.S. (27% of staff in 2021), France (22%), and India (19%) its main locations.

Entity-Specific Score (41/50)

Note: Figures are subject to rounding.

Workforce and diversity	Safety management	Customer engagement	Communities	General factors
Strong	**Good**	**Leading**	**Good**	**None**

3DS's unique platform-based offering, ability to enter new markets, and strong cybersecurity track record place the company as a leader with regards to customer engagement practices. The company's market share in its core market (product lifecycle management [PLM]--manufacturing) is estimated at the low end (29%) positioning 3DS as the leading actor. The acquisition of Medidata also allowed 3DS to become a leader in the life sciences and health care segment (PLM solutions). The 3DEXPERIENCE platform has allowed the company to build an active community of stakeholders, who collaborate and share ideas from their experience using the company's solutions. 3DS actively monitors customer satisfaction through a variety of mediums. Its average churn rate is estimated in the mid single digits year on year and the 20 largest clients in the manufacturing industries have been customers for the past 20 years, which we view as a strength in the fast-evolving technology sector. Moreover, despite its clear exposure to cyber risk given the sensitivity of some data it manages, particularly given some peers have been victims of successful cyber attacks, 3DS has a strong cyber track record. The company has strengthened its cybersecurity teams, formed a cybersecurity committee, and regularly held cybersecurity and crisis management drills. Additionally, considering human error risks, in 2022 3DS rolled a multi-year mandatory cybersecurity training program adapted to each role.

3DS has demonstrated strong talent retention, supported by employment benefits in line with global best practices and its capacity to train staff. Its voluntary turnover has historically been lower than peers, despite a spike of 11% in 2021, explained by particularly high attrition values in the Indian and American software industries that year. Its staff benefitted from 29 hours of training per employee, while the sector median stands at 18 hours per employee. 3DS's employee satisfaction was measured at 79.8% in 2021, in line with stronger peers, and the company aims to reach 85% by 2025. We view as strong practice that a voluntary shareholding scheme was launched in 2021, available to 98% of the group's employees, allowing them to subscribe at a 15% discount. Of those eligible, 55% participated. Although currently below the sector median on gender diversity metrics, 3DS has strong targets, including 30% of managers being women by 2025 (21.2% in 2021), which would bring it in line with stronger peers (26% median).

The company's diversification has helped lower the share of revenue from aerospace and defence and 3DS does not engage with prospective clients on certain sector activities with negative societal impacts, including thermal coal and tobacco. Moreover, in line with industry practices, 3DS has a sustainable charter covering the most material health, safety, and human rights risks in its supply chain and its wellbeing at work policies are comprehensive.

Governance Profile

74/100

Sector/Region Score (32/35)

3DS is headquartered in France, which we view as being among the most advanced countries in terms of ESG regulations and governance standards. Although it has a presence in over 130 countries, most operations are in locations with high governance standards.

Entity-Specific Score (42/65)

Note: Figures are subject to rounding.

Structure and oversight	Code and values	Transparency and reporting	Financial and operational risks	General factors
Good	**Good**	**Strong**	**Neutral**	**None**

3DS has a stable and advanced governance structure, in line with other listed French companies. The company has developed a well-organized governance structure that has clear layers of oversight, including a scientific committee overseeing research and development. Its main owner GIMD holds 54% of voting rights, benefiting from double voting rights under the French Florange law, versus an ownership of 40%. The company's board of 12 consists of two members from the Dassault family, three current and past executives, and five independents. Of the latter, we believe the 11-year tenure of Ms. Mori may compromise her independence but expect her to be replaced by a new independent director at the 2023 general assembly. In addition, two directors are appointed by employee representatives. Overall independence is comparable with other listed and controlled companies in France. In addition, all board committees are composed of independent directors according to the French criteria--a rare feature that partly balances the influence of the Dassault family, in our view. The board is diverse overall, comprising 42% women (in line with the CAC40 average of 45%) and a mix of skills and background relevant to its business model. We expect sustained high governance stability and continuity, and particularly that Bernard Charlès and Pacal Daloz’s transitions to their respective roles of joint chairman and CEO, and deputy CEO will be made smoothly.

The group has well-applied policies on ethics but exceptionally high CEO remuneration. Its code of business conduct and sustainable charter apply to all employees and suppliers, respectively; cover a broad range of relevant topics including anti-corruption, conflicts of interests, and the environment; and are supported by training, whistleblowing, and control measures, in line with peers. Since 2005, Mr. Charlès has benefited from a performance share program, which aims to raise his ownership to that of founders of peer technology companies globally. This considers his entrepreneurial role with 3DS for almost 40 years and that he did not benefit from a stake in the company prior to its IPO in 1996. Factoring this, Mr. Charlès remuneration represented 552 times the median salary of 3DS employees in 2021, an exceptionally high ratio that weighs negatively in our assessment (the ratio is 38.5 excluding performance shares).

3DS has comprehensive and detailed financial and nonfinancial reporting. The company's reporting follows the requirements of the French Nonfinancial Performance Declaration, and includes detailed disclosures of sustainability targets, as well as all relevant information for tracking its ESG and financial performance, with independent third parties providing limited assurance on the nonfinancial information report. The company is following the Taskforce on Climate-related Financial Disclosures' principles and intends to disclose the outcome of its climate scenarios from the 2022 universal registration document. Tax reporting allows for separate disclosures between France and the U.S., or about 87% of tax paid in 2021.

Preparedness Opinion

Strong
(+9)

Preparedness	Low	Emerging	Adequate	Strong	Best in class

Our preparedness opinion rests on 3DS's track record of successfully developing and implementing a business strategy rooted in innovation and science. The company's long-term scientific approach--supported by a culture of innovation and collaboration--helps it make the product offering relevant to an expanding range of industries.

3DS's strong track record of capitalizing on disruptions has helped it establish a unique market position. Since its creation in 1981, 3DS has regularly pioneered transformations in how industrial firms design and make products. This has ranged from designing 3D parts and assemblies and replacing physical prototypes in auto and aerospace, to creating virtual twins of entire complex systems in various industries, full product life cycle management systems, and eventually being a first mover with a unified-platform strategy (3DEXPERIENCE) integrating its software offering with scientific data and enabling cross-functional collaboration. A key success factor in this journey has been 3DS's capacity to successfully execute a range of acquisitions to enrich its platform, such as when it decided to increase its strategic focus on life sciences and acquired Medidata in 2019 to become a world leader in clinical trial solutions. These developments have created a strong differentiation against generic software vendors, with the adoption of its platform and solutions by industry leaders, challengers, and new entrants alike continuing to support the resilience of the company's revenue through cycles and its above-average growth and profitability. 3DS's offering also capitalizes on the ever-increasing move toward digitalization across industries and the cost efficiency, waste reduction, and natural improvement of a product's or service's environmental footprint that its solutions enable.

This rests on the board's excellent awareness of potential future disruptions, embedded in its strategy and investment decisions. The board relies on a range of tools and processes, including annual bottom-up risk assessments monitoring the expected financial impacts of potential disruptions, collaboration with external stakeholders, and its scientific committee's efforts in assessing the adequacy of 3DS's research and development efforts and its porfolios of solutions. Therefore, it is embedding a range of disruptions relevant to the software industry in its strategy and investment decisions, from cybersecurity to geopolitical risks, the threat of new competitors and an ever-increasing industry focus on circularity, sustainability, and data.

3DS's long-term ownership and its culture of collaborative innovation will remain key enablers to its future success. In our view, main shareholder GIMD's control--and ultimately the Dassault family, whose members sit on its board--allows 3DS to maintain a long-term focus on research and innovation that has so far supported its successful growth. This is also reinforced by 3DS's corporate culture of collective intelligence. Despite regular acquisitions, its management has maintained a cohesive culture of learning and innovation, building on diversity--with over 100 nationalities in its workforce. The company relies on innovation contests, including on sustainability, and extensive training opportunities. It also leverages a broad network of clients, software development partners, and academic, research, and medical organizations. Its 3DEXPERIENCE Lab, created in 2015, has allowed more than 2,000 of its employees to mentor innovative start-ups in a broad range of sectors and help develop and market their solutions.

Sector And Region Risk

Primary sector(s)	Technology
Primary operating region(s)	United States France Japan United Kingdom Germany

Sector Risk Summary

Environmental exposure

The technology sector has direct and indirect environmental risk exposures arising from manufacturing operations, manufactured products, and the use of the internet's physical infrastructure. Hardware and semiconductor firms disproportionately contribute to the sector's environmental risk exposure, compared to software and services firms. Their environmental exposure primarily lies in their indirect operations, as the vast majority of their manufacturing operations are outsourced to suppliers. Asset-intensive manufacturing operations are responsible for most greenhouse gas emissions, given the significant energy consumed in the production process. Largescale consumption of chemicals and non-renewable resources (water, minerals, and metals) tasks companies with carefully managing pollution risks and product lifecycles to recycle materials and reduce/mitigate environmental damage. Technology companies also rely heavily on critical materials, some of them produced mainly in few countries and/or in politically unstable countries. The sourcing of conflict minerals (tantalum, tin, tungsten, gold, largely used in electronic components) has been increasingly regulated and the production of rare-earth commodities is concentrated in very few countries. Technology software and services firms generally have limited physical infrastructure, but they still depend on hardware to power their offerings. This simply shifts the same risks further down the value chain. Given these risks, and increased regulatory and industry focus, hardware and semiconductor companies have increasingly emphasized creating and implementing best practices that extend to their vast global supply chain networks. We believe that these supply chain arrangements, if managed appropriately, present an opportunity to operate more efficiently and in a more environmentally friendly manner. This could improve the environmental risk exposures for hardware and semiconductor firms over time.

Social exposure

Major social risks relate to supply chain management, information privacy and security, and workforce and diversity. Many technology companies collect, manage, and monetize sensitive information that is at risk of misuse. Any theft of corporate or individual information could damage a company's reputation and earnings prospects, and increase the risk of regulatory scrutiny and restrictions. For example, noncompliance with the EU's General Data Protection Regulation could carry fines of up to 4% of worldwide revenue. Workload migration to the cloud mandates maintaining a reliable, secure, and economical cloud-computing platform to ensure client satisfaction and mitigate regulatory intervention. Additionally, gender inequality, workforce diversity, skilled labor force and staying ahead of rapid changes in preferences and tastes are all basic operational requirements for technology companies. Health and safety and human/labor rights issues related to working hours, conditions, and labor shortages are also major areas of concern, particularly at suppliers in Asia. Given the environmental and social risks and the closer regulatory and industry focus, it is critical for hardware and semiconductor companies to effectively manage their complex global supply chain networks to extend environmental and social best practices. We believe that supply chains, if managed appropriately, present an opportunity to operate more efficiently and in a more environmentally friendly manner.

Regional Risk Summary

United States

With robust institutions and rule-of-law standards, the U.S. demonstrates many strong characteristics but lags several other countries with respect to ESG regulations. Governance is characterized by a very stable political system, a strong rule of law, a powerful judiciary, and effective checks and balances. Conditions of doing business are generally very good. The U.S. follows a rules-based approach to corporate governance focused on mandatory compliance with requirements from the major exchanges (NYSE and NASDAQ) as well as legislation. State corporate law is also a key source of corporate governance, particularly Delaware where over half over all U.S. listed companies and close to 70% of Fortune 500 companies are incorporated. Exchanges mandate high standards of corporate governance. The NYSE requires companies listing on its exchange to have boards made up of a majority of independent directors, with separate remuneration and nomination committees. However, formal requirements on ESG reporting are not as established as they are in European countries. While a growing number of companies have an independent chair, the combination of CEO and chair roles is still popular. Remuneration continues to be a contentious point because U.S. executive pay dwarves global pay levels. The U.S. ranks 27 of 180 on Transparency International's 2021 Corruption Perception Index.

France

France has strong institutions and rule of law, with free flows of information throughout society and open debate on policy decisions. Checks and balances between institutions are generally effective. Overall, corporate governance is in line with advanced economies' standards. In addition to the EU Non-Financial Reporting Directive's recommendations requiring the disclosure of ESG data, French companies must also disclose the social and environmental consequences of their activities under domestic law (Grenelle Act), the financial risks they face from climate change, and their remediation strategies (Energy Transition Law). Under the 2019 law Pacte, companies must consider environmental and social issues when developing their strategy. The strong regulatory framework is complemented by the Afep-Medef Code, the corporate governance recommendations from AFG (French Asset Management Association), and recommendations from the Financial Markets Authority. All three provide non-binding guidance for best practice on governance and pay. Despite waves of privatization, the state remains an important player in the French capital markets as a shareholder of several large, listed companies. On diversity, the Copé-Zimmermann Law has required listed companies to reach at least 40% female board membership since 2017. France ranks 22 of 180 on Transparency International's 2021 Corruption Perceptions Index.

Japan

Japan benefits from generally strong, stable, and well-established political institutions. Corporate governance practices and policies are good but somewhat below the standards of other major advanced economies. Board diversity and transparency are areas where businesses lag their counterparts in other advanced markets. Improving Japanese corporate governance has been a key thrust of the current government's economic revival strategy. The Japanese regulator's revision of the Stewardship Code in 2020 and the Corporate Governance Code in 2021 were important advances but implementation has been somewhat slow. The 2021 Code, scheduled to come into force in April 2022, provides important new recommendations to enhance board independence, promote diversity, and boost the quality of ESG reporting. Despite improvements, some traditional habits are proving quite entrenched. These include cross-shareholdings among companies, limited outside director oversight, and limited diversification in management. Gender diversity in senior positions remains low. Japanese boards are typically male-dominated and often by former executives with long tenures. Despite improvements, the lack of diversity on boards might impede progress to transparent governance and decision-making that is nimble enough to adapt to a rapidly changing business environment. Japan ranks 18 of 180 on Transparency International's 2021 Corruption Perceptions Index.

United Kingdom

The U.K. benefits from strong corporate governance practices. Brexit-related policy uncertainties still linger, including disagreements with the European Union on the implementation of the Northern Ireland Protocol which may lead to frictions. Still, in our view, UK benefits from robust and independent institutions and high rule-of-law standards, as well as very low actual and perceived levels of corruption. Governance guidelines are primarily based on the U.K. Code of Corporate Governance published by the Financial Reporting Council (FRC) and updated in 2018. The revised and strengthened code provides a broad set of recommendations including executive remuneration and board composition, follows a comply-or-explain model, and is widely regarded as best practice internationally. The recent version strengthened provisions on the role of the audit and nomination committees, chair tenure, and stakeholder engagement. An updated version of the U.K. Stewardship Code published by the FRC also came into effect on Jan. 1, 2020. It sets out principles for investors. Overall levels of corporate disclosure on ESG are strong and the country benefits from a very active institutional investor base, which has been fuelling the demand for better disclosure and corporate engagement. Legislation that took effect in 2019 will also require pension funds to disclose the financial risks they face arising from ESG factors. The U.K. ranks 11 of 180 on Transparency International's 2021 Corruption Perceptions Index.

Germany

Germany has strong institutional and governance effectiveness. Rule of law is strong, the judiciary is independent, and corruption is viewed as a minor issue. Germany ranks 10 of 180 on Transparency International's 2021 Corruption Perceptions Index. The German Corporate Governance Code (Kodex) is the reference document for best practices and works on a comply-or-explain basis. Its last iteration came into effect in 2020 when the EU Shareholder Rights Directive II was transposed into German law. Notable improvements include recommendations on board independence and board oversight of related-party transactions and executive pay, with a shareholder vote on the remuneration report becoming mandatory in 2022. While the recommendations are less specific than most European codes, companies exhibit strong governance practices. Companies are typically governed by a two-tier board system: a management board overseen by a supervisory board comprising non-executives including shareholder and employee representatives. The 2021 Act on Strengthening Financial Market Integrity (FISG) is an important milestone aimed at strengthening financial oversight at German companies. Besides requiring a minimum number of financial experts on boards, since January 2022 all listed companies must also form an audit committee.

Appendix

Related Research

- "Environmental, Social, And Governance Evaluation: Analytical Approach," published September 20, 2022
- "The ESG Risk Atlas: Sector And Regional Rationales And Scores," published July 22, 2020
- "Our Updated ESG Risk Atlas And Key Sustainability Factors: A Companion Guide," published July 22, 2020
- "How We Apply Our ESG Evaluation Analytical Approach: Part 2," published June 17, 2020

This report does not constitute a rating action.