



2023 Environmental, Social, and Governance Report

PDF Solutions, Inc.



April 20, 2024

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Introduction to the Report

This 2023 Environmental, Social, and Governance (“ESG”) Report covers the operations of PDF Solutions, Inc. (“PDF Solutions,” “PDF,” or the “Company”) for fiscal year 2023, which began on January 1, 2023, and ended on December 31, 2023, unless otherwise noted.

Throughout this report, we define ESG as a way of categorizing factors that impact a company’s performance as well as a strategy for integrating these factors into the business to operate in a sustainable manner.

The contents of this report are informed by our ESG Priority Assessment, which leveraged leading sustainability reporting standards and frameworks, including the Sustainability Accounting Standards Board (“SASB”), the Global Reporting Initiative (“GRI”), and the Task Force on Climate-Related Financial Disclosures (“TCFD”).

This is PDF’s second annual ESG Report. It has been prepared in alignment with disclosure topics included in the SASB Software & IT Services Standard and the Electrical & Electronic Equipment Standard.

About PDF Solutions

PDF Solutions, Inc. (Nasdaq: PDFS) provides comprehensive data solutions designed to empower organizations across the semiconductor and electronics industry ecosystem to improve the yield and quality of their products and operational efficiency for increased profitability. Our customers include Fortune 500 companies across the broader semiconductor and electronics industry ecosystems to achieve smart manufacturing goals by connecting and controlling equipment, collecting data generated during manufacturing and test operations, and performing advanced analytics and machine learning to enable profitable, high-volume manufacturing.

PDF Solutions was first incorporated in Pennsylvania in 1992, and we reincorporated in California in 1995. In 2000, we reincorporated in Delaware, and in 2001, we completed an initial public offering.

From 2000 through 2009, we expanded our technology footprint and our operations in various countries through acquisitions. From 2009 to 2019, we primarily focused on the pervasive application of our technology to leading edge logic manufacturing and achieving yield targets with our clients that maximized Gainshare royalties. In 2013, we leveraged our extensive experience in yield simulation software and CV® test chip development and started research and development on an e-beam solution for non-contact, inline electrical inspection, and process control for wafer inspection. In a parallel effort, starting in 2014, we re-architected our point-solution software tools into a new generation, highly-integrated data analytics Exensio platform, which resulted in accelerated growth in our software business through 2019. In December 2020, we completed the acquisition of Cimetrix and began providing software products based on open standards for equipment control and connectivity to equipment manufacturers and factories. We released our first e-beam tool in 2015, the second generation in 2019, and the third generation in late 2022.

Advancing Sustainability Together – A Message from Our CEO

Dear Stakeholders,

I am pleased to present to you our Environmental, Social, and Governance (ESG) report for the year 2023. At PDF Solutions, we recognize the importance of operating sustainably and responsibly in an ever-evolving world.

As we delve into the report, I want to draw your attention to some key statistics and industry trends that underscore the importance of our collective efforts:

- Today, the technology industry consumes about 1% of the world's energy production. At the current rapid rate of consumption growth for the technology industry compared to the growth of energy production, this could surge to over 60% by 2040.¹
- Emissions from Scope 1 (related to activities within the fabs) and Scope 2 (arising from the generation of purchased electricity, steam, heating, and cooling equipment) of semiconductor companies constitute a substantial 65% of the total GHG emissions of the semiconductor industry.¹
- The steps that semiconductor companies are now taking are unlikely to achieve the 1.5°C trajectory by 2030.²

We believe PDF Solutions has an important role in helping to minimize the environmental footprint of the semiconductor industry. Our innovative solutions are designed to speed the move to smaller nodes, to improve semiconductor yield, and to improve operational efficiencies of the manufacturing facilities. Smaller nodes result in lower power consumption when the chip is put to use compared to previous generation product. Improving yields and operational efficiencies reduces the consumption of power, water, and materials in the fab, test and assembly facilities – for the same volumes of good die.

Looking ahead, we are excited about the opportunity to partner with our customers in their journey towards achieving climate-related and other environmental goals. By leveraging our expertise and resources, we aim to be a catalyst for progress and positive change within the industry.

In conclusion, I want to express my gratitude to you for your support of our mission to provide semiconductor and electronics companies innovative solutions to create, access, and organize data to enable analysis and control and achieve better time-to-market, yields, quality, and operational efficiencies.

Thank you for your continued trust and collaboration.

Warm regards,



Dr. John K. Kibarian
CEO, President, and co-founder

¹ Tembey, Gaurav, et al. "A Net Zero Plan for the Semiconductor Industry." *Bcg.Com*, 7 Nov. 2023, www.bcg.com/publications/2023/a-plan-to-reduce-semiconductor-emissions. Accessed 15 Apr. 2024.

² Goumlke, S., et al. "Keeping the semiconductor industry on the path to net zero." *Mckinsey.com*, 4 Nov. 2022, https://www.mckinsey.com/industries/semiconductors/our-insights/keeping-the-semiconductor-industry-on-the-path-to-net-zero#. Accessed 15 Apr. 2024.

ESG Priority Assessment

In 2022, we conducted our first ESG Priority Assessment, which we use to guide our overall ESG strategy. The ESG Priority Assessment was designed to identify the environmental, social, and governance topics with the greatest impact on our business strategy, operations, and value creation, including topics that are important to our customers and business partners. Going forward, we aim to regularly assess a wide range of ESG topics to inform our strategy, with the goal of increasing the scope of our priority assessment in future reports.



Our priority ESG topics, in order of highest priority to our business, are as follows:

- Data Security
- Human Capital Management
- Corporate Governance
- Public Policy
- Risk Management
- Business Ethics
- Diversity, Equity, and Inclusion
- Sustainable Products
- Responsible Sourcing
- Impact and Local Communities
- Environmental Sustainability
- Climate Change

This ESG Report describes the initiatives that are in alignment with the priority ESG topics and includes relevant metrics aligned with the SASB standards. As we continue to develop our ESG strategy and goals, our aim is to increase the scope of our program and our reporting to cover more of our priority topics.

For more information around the scope and methodology of the ESG Priority Assessment, please see our 2022 ESG Report.

ESG Oversight

Given the importance of ESG to the long-term success of our business, our Board and its committees play a critical role in overseeing ESG matters.

Board of Directors

The Board is responsible for (i) oversight of ESG risks and opportunities and (ii) the integration of ESG into strategy, to the extent material to the business.

NCG Committee

The NCG Committee reviews and oversees our programs, policies, practices, disclosures, risks and opportunities, measures, objectives and performance relating to environmental, social and governance issues, and makes recommendations to the Board regarding the integration of ESG matters into our business strategy and operation.

CHCM Committee

The CHCM Committee reviews and oversees our programs, policies, practices, disclosures, relevant risks and opportunities, measures, objectives and performance relating to human capital matters, including but not limited to matters regarding culture, recruiting, retention, career development and progression, diversity, equity and inclusion, human health and safety, and total rewards, and makes recommendations to the Board regarding the integration of human capital matters into our business strategy and operation.

Audit Committee

The Audit Committee, on behalf of the Board, oversees the principal enterprise risk exposures facing the Company and the Company's mitigation, control and monitoring efforts in respect of such risks, including, but not limited to environmental and sustainability risks, and reviews with management the Company's business continuity and disaster preparedness planning.

The Audit Committee also reviews cybersecurity risks, incidents, the adequacy and effectiveness of the Company's information and cyber security policies and the internal controls regarding information and cyber security and any other risks and incidents relevant to the Company's computerized information system controls and security.

Management-Level ESG Steering Committee

The purpose of the management-level ESG Steering Committee is to (i) establish programs, policies and practices relating to ESG matters and (ii) assist the NCG Committee of the Board in fulfilling its oversight responsibilities with respect to ESG matters. The ESG Steering Committee is chaired by the General Counsel.

Environmental Sustainability

PDF Solutions is committed to addressing environmental sustainability in its business activities. Our approach to environmental sustainability considers both our own operations and the significant indirect environmental impact that our products can have on our customers' operations. Our products drive efficiencies for our customers, which can indirectly lower their environmental footprint. In the future, we may work to identify and measure the direct environmental benefits of our products.

Product Sustainability Strategy

We work with some of the largest logic semiconductor manufacturers in the world to help improve the time-to-market and yield of their manufacturing processes. Our products and services can indirectly help to reduce our customers' consumption of natural resources, including energy, water, and silicon, with significant indirect impacts on waste and greenhouse gas (GHG) emissions.

We implement hybrid or on-cloud solutions for semiconductor manufacturers' process control and manufacturing analysis. These solutions use less energy than traditional on-premises IT infrastructure, reduce waste such as paper, and enable remote work, reducing the need for commuting and travel.

We believe sustainability will play an increasing role in our customers' priorities as they seek to decarbonize their operations. Helping our customers achieve their environmental sustainability goals may represent an opportunity for us. In the future, we intend to review the direct and indirect environmental benefits of our solutions and to assess opportunities to integrate environmental factors into the development of new products.

Sustainability Strategy

We strive to protect the environment through sound business and operations management practices and decisions.

We look for opportunities to conserve energy, reduce consumption of natural resources, preserve air, soil, and water quality, manage waste properly, and reuse and recycle. In 2023, at our headquarters, lab, and cleanroom facilities, we renewed focus on individual actions to reduce and recycle, including by offering a learning program for employees and custodians and replacing single-use utensils and coffee cups with more sustainable options. We continue to look for opportunities to reduce the use of toxic substances in our operations where possible, including in our cleanroom and lab facilities.

In 2023, our independent safety and environmental consultant, Boretti, Inc., completed its ISO 14001 pre-certification assessment of our cleanroom facility. When certified this ISO 14001 program will provide a specific framework for implementing our environmental management system.

In the future, we intend to conduct self-assessments regarding relevant environmental protection measures and to measure and evaluate our use of energy, water, and the generation of waste in our worldwide facilities. At our cleanroom and lab facilities, in 2023, we recycled 100% of wood, metal, and recyclable plastic waste.

The semiconductor industry faces significant challenges as part of the transition to a green economy, including direct environmental impacts from the manufacturing of ICs.

Large amounts of energy are needed to operate tools across IC manufacturing, assembly, test, and packaging processes. Foundries also consume large amounts of energy to operate cleanrooms with strict climate and humidity controls. The amount of energy required at scale is often significant, with some individual foundries consuming more energy than major cities. More than 80% of semiconductor greenhouse gas emissions (GHGE) come from consumption of electricity.³

Other direct environmental impacts from manufacturing ICs include the use of GHGs in the manufacturing process, which accounts for approximately 13% of the semiconductor industry's emissions.³ Other environmental impacts are caused by the significant use of ultrapure water and silicone, which in turn require large amounts of energy to produce and transport.

The large amount of GHGE generated from chip manufacturing account for the plurality of lifecycle emissions for most consumer electronic devices, with greater emissions from the IC manufacturing process than from energy consumption over the lifecycle of many electronics. As major purchasers of semiconductors transition their own operations to renewable power, GHGE from manufacturing the ICs that these companies purchase may represent a plurality of their total GHGE. The information and communication technology sector as a whole is expected to account for 14% of the 2016-level global GHGE in 2040, up from approximately 1% to 1.6% in 2007.⁴

³ Tembey, Gaurav, et al. "A Net Zero Plan for the Semiconductor Industry." *Bcg.Com*, 7 Nov. 2023, www.bcg.com/publications/2023/a-plan-to-reduce-semiconductor-emissions. Accessed 15 Apr. 2024.

⁴ Belkhir, L., & Elmeligi, A. (2018). Assessing ICT global emissions footprint: Trends to 2040 & recommendations. *Journal of Cleaner Production*, 177, 448-463. <https://doi.org/10.1016/j.jclepro.2017.12.239>

Sustainability Oversight and Management

Our Board holds the highest level of responsibility related to our environmental strategy. The Board has delegated this responsibility to the Nominating and Corporate Governance Committee.

Our newly formed management-level ESG Steering Committee, which includes members of our executive leadership team and internal experts with knowledge of relevant environmental topics, was formed to (i) establish programs, policies, and practices relating to ESG matters, and (ii) assist the NCG Committee of the Board in fulfilling its oversight responsibilities with respect to ESG matters. The ESG Steering Committee is chaired by the General Counsel.

Sustainable Operations

We intend, in the future, to look for ways to reduce energy consumption in our worldwide facilities. Some of our facilities, including our headquarters, cleanroom, and lab facilities, have been remodeled within the last four years and have features such as LED lighting, motion detector lighting, and smart thermostats. All three facilities are compliant with California's Title 24 energy efficiency standards.

We track and monitor energy consumption in our cleanroom and lab facilities.

Water is a critical sustainability challenge for our customers in the semiconductor industry but is not material in our own operations. We do not use water in our product development and manufacturing processes. In 2023, we used water only in connection with kitchens and restrooms, which all have low flow valves at our headquarters, cleanroom, lab, and Canadian facilities.

Our product development and manufacturing processes are inert, producing no off gas or emissions. The only reportable, hazardous material that we use is in our cleanroom: liquid nitrogen. The liquid nitrogen is stored in a tank external to our building and monitored using telematics by an independent third-party specializing in such activity. In 2023, we had no reportable incidents related to liquid nitrogen stored in our facilities.

Responsible Sourcing

We are committed to responsible sourcing in our product supply chain, including ethical production, and the protection of human rights.

Although we are not a member of the Responsible Business Alliance ("RBA") (formerly the Electronics Industry Citizenship Coalition or EICC), in 2021 in an effort to further our ESG efforts, we incorporated the RBA Code of Conduct into our Supplier Code of Conduct to supplement our Code of Ethics, including the specific policies of the RBA Code relating to the five critical areas of corporate social responsibility: labor, health and safety, environment, management systems, and ethics. A copy of the Supplier Code of Conduct is available at www.pdf.com/company/trust-center/working-with-pdf-solutions/supplier-code-of-conduct/.

We request that our suppliers adhere to the RBA Code of Conduct or an equivalent code by flowing this requirement through our commercial contracts.

We have a variety of resources available to assist suppliers with reporting questionable behavior or possible violation of our supplier standards, including our Ethics Hotline and emailing our legal department directly.

We will not tolerate any retribution or retaliation taken against any individual who has, in good faith, sought out advice or has reported questionable behavior and/or a possible violation.

We are committed to sourcing components and materials from companies that share our values around human rights, ethics, and environmental responsibility. As part of this commitment, we support the goals and objectives of Section 1502 of the Dodd-Frank Act (the "Act").

As part of our compliance with the Act, we perform due diligence and file annual reports regarding the use of conflict minerals in our products. Accordingly, all of our suppliers are expected to comply with our Supplier Code of Conduct, which includes requirements relating to conflict minerals and responsible sourcing.

Specifically, we expect all of our suppliers to comply with the Act, and to exercise due diligence on the source and chain of custody of any tantalum, tin, tungsten, or gold used in the products made for us and make their due diligence measures available to us. Under the Supplier Code of Conduct, our suppliers are responsible for passing these same requirements on to their suppliers. We seek to source products only from suppliers that comply with these requirements.

Human Capital Management

We believe we have a responsibility to foster a healthy, balanced, and ethical work environment for everyone in our organization through sound ethical and organizational governance, by promoting business ethics and integrity, and by embracing equality, diversity, and inclusion throughout our organization and even extending to the board room.

In February 2024, our Compensation and Human Capital Management Committee and Board of Directors each approved the adoption of a [Human Rights Policy](#). This Human Rights Policy is rooted in our core values and reflected in our Code of Conduct and other policies and agreements. In developing this Policy, we leveraged the human rights standards set forth in the Responsible Business Alliance Code of Conduct and other internationally recognized human rights standards. We are committed to the following guiding principles:

- Treating all people with respect and dignity.
- A workplace free of harassment and discrimination.
- An inclusive and diverse workplace.
- A safe and healthy workplace, including the right to access water.
- Fair wages and benefits.
- Protection of personal data from unauthorized access, use, or disclosure.
- Zero tolerance for child labor or forced labor, including but not limited to bonded labor, slavery, and trafficking of persons.

As of December 31, 2023, we had 493 employees worldwide, including 157 field application engineers and consultants, 155 in research and development, 106 in sales and marketing, and 75 in general and administrative functions. Of these employees, 286 are located in North America, 171 in Asia, and 36 in Europe.

Our commitment to human capital management is embedded in our governance structure.

At the Board level, our Compensation and Human Capital Management Committee is tasked with oversight of the development, implementation and effectiveness of the Company's policies and strategies relating to human capital management, including but not limited to strategies regarding culture, recruiting, selection, career development and progression, diversity, equity and inclusion, human health and safety and total rewards.

Talent Development

We are committed to the development and growth of our employees because we believe this is crucial for our long-term success. This includes offering training, mentorship, and other development opportunities to further enhance the talent we have today, but also entails having the right skill sets for our future.

To this end, in 2023 we deployed a set of online training courses spanning topics such as difficult conversations for managers and technical aptitude (e.g., new coding languages), and a promotion process to formalize managerial focus on progressing employees' careers. We plan to continue to explore and expand our offerings and programs to achieve our development and employee growth goals.

We believe that our team of engineers will continue to advance our market and technological leadership. We conduct in-house training for our engineers in certain technical areas.

We also fund attendance at continuing education courses, symposia, and participation in professional organizations.

Employee Engagement

Employee engagement is crucial for the overall health of the organization. In 2023, we conducted a large-scale employee survey. In total, more than 250 employees, or approximately 40% of our global workforce, participated in the survey, and included individuals with tenure from 2 to 30 years. The Employee Net Promoter Score (eNPS) score is a survey-based method of determining whether employees are happy, satisfied, and loyal to their workplace, and are used by many employers to take an overall gauge of the engagement health of their organization. Our eNPS based on the survey rated us 3.97 against a benchmark of 4.01 for employers that had 500-999 employees (source: Qualtrics). We intend to conduct shorter, pulse surveys periodically to continue monitoring overall employee engagement.

In addition to our efforts to address employee engagement, we are committed to supporting our employees and creating an engaged workforce by prioritizing the items below:

- 1) Personal growth through training and development
- 2) Recognizing and rewarding our people for their commitment to our values and our organization
- 3) Flexible work locations and schedules
- 4) Providing a sense of organizational community by hosting online as well as in-person events where our people can gather and connect.

In 2023, we were also included on the Forbes list of America's Best Small Employers, based on their independent surveys. We consider these results to be positive indicators of our workplace environment and progress on the above priorities.

Health and Safety

We are committed to ensuring that proper working conditions exist for the safety of our employees, such as developing, implementing, and improving health and safety systems and conditions, and providing appropriate preparation, education, reporting, and controls. For example, at our headquarters, we have Illness Prevention and Ergonomics Evaluation programs and an Emergency Action Plan for employee health and safety. We are developing these programs for worldwide facilities. In addition, for worker safety at our lab and cleanroom facilities we have, for example, Lockout/Tag out, Forklift Safety, Electrical Safety, Hand and Power Tools Safety, Ladder Safety, and Hazard Communication programs.

Our headquarters, lab, and cleanroom facilities use an independent safety consultant for the review of policies, evaluation, assessment, analysis, development of written safety process, training, reports, and research for resolving safety issues.

We have a safety handbook, and every employee located at our lab and cleanroom facility goes through environmental and lab safety training. In 2023, employees completed 100% of the required training. Our safety consultant is on-site at our lab and cleanroom bi-weekly to help oversee our environmental, health and safety management. Our employees take additional safety training if required by our customers for access to their sites. Additionally, at our headquarters, cleanroom, and lab, we host CPR and AED classes every two years for employees to participate and become certified.

We are proud of our safety record. In 2023, we had no significant work-related injuries to report to the Occupational Safety and Health Administration (OSHA) and no lost time due to work-related injuries.

Diversity, Equity and Inclusion

We embrace equality, diversity, and inclusion throughout our organization. We strive to foster an environment where our employees feel respected, valued, and empowered. We know that diversity of thought and experiences makes our collaboration and results better, and our team members are at the forefront in helping us promote and sustain an inclusive workplace.

We work to ensure that our business practices support diversity and inclusion to build an innovative workforce and to strive toward having our organization reflect the complexion of our customers and suppliers.

In February 2024, our Compensation and Human Capital Management Committee and Board of Directors each approved the adoption of a [Diversity, Equity, and Inclusion Global Policy](#). This policy is intended to encourage a connection between our Company values and our actions by building on a foundation of:

- Respectful communication and cooperation between all employees.
- Teamwork and employee participation, permitting the representation of all groups and employee perspectives.

In 2023, we formalized the connection between cash bonus for 2023 performance and consistent practice of our core values. We also highlighted our values in every quarterly meeting by identifying the specific core value in each case of employee recognition. We also deployed, as part of a set of online training courses, development modules about diversity, which are now available to employees worldwide. We intend to continue to strengthen our diversity and inclusion programs with further organization-wide training.

We value a range of diverse perspectives with reference to our business model and specific needs, including, but not limited to, gender, age, race, language, cultural background, educational background, industry experience, professional experience and veteran and active armed service status or other similar characteristics. Our Board has adopted a Board Diversity Policy, pursuant to which we are committed to actively seeking highly qualified individuals from minority groups to include in the pool from which new Director candidates are selected. 38% of our Board is gender diverse, and 38% of our Board is racially diverse.

Impact and Local Communities

We believe that empowering our employees to give back to our community is central to our culture and an expression of our core values. We believe in supporting initiatives that improve the communities where we work and where our employees live.

One of our most meaningful philanthropic initiatives is our annual holiday charity drive. The holiday charity drive is an organized PDF holiday gift drive as part of the Family Giving Tree's Holiday Wish Drive. In 2023, we opted for the virtual Giving Tree Platform for the second year in a row. The Giving Tree fulfills the wish of a child, adult, or senior in need so they may receive a gift at the holiday time. Donations can fulfill a gift wish or make a cash donation, so that the wishing tree can purchase the gift on the recipient's behalf.

Governance

Corporate Governance

We are committed to the highest standards of corporate ethics and diligent compliance with financial accounting and reporting rules. Our Board provides independent leadership in the exercise of its responsibilities. Our executive officers oversee a strong system of internal controls and compliance with corporate policies and applicable laws and regulations. Our employees operate in a climate of responsibility, candor, and integrity.

Key highlights of the Board and corporate governance practices are:

- | | |
|--|---|
| <input checked="" type="checkbox"/> 6 out of 8 Directors are Independent | <input checked="" type="checkbox"/> Majority Voting for Director Elections |
| <input checked="" type="checkbox"/> Separate Chair (or Lead Independent Director if Chair is vacant) and CEO | <input checked="" type="checkbox"/> 100% of Committee Chairs and Members are Independent |
| <input checked="" type="checkbox"/> Limit on Outside Public Company Directorships | <input checked="" type="checkbox"/> Proxy Access Rights |
| <input checked="" type="checkbox"/> Annual Board and Committee Evaluations | <input checked="" type="checkbox"/> 38% of Directors are Women |
| <input checked="" type="checkbox"/> Regular Executive Sessions of Independent Directors at quarterly Board and Committee Meetings | <input checked="" type="checkbox"/> Stock Ownership Policy for Directors and Section 16 Officers |
| <input checked="" type="checkbox"/> On-going Education for Directors for Issues Pertinent to the Company's Business (e.g., export) | <input checked="" type="checkbox"/> Stockholder Engagement with Approximately 57% of the Company's Outstanding Shares in 2023 |

Business Ethics and Compliance

We are committed to ensuring ethical organizational governance and promoting business ethics and integrity. Our [Code of Ethics](#) describes the expectations for all employees, officers, and directors regarding acceptable ethical behavior at the Company. Our Board of Directors is responsible for setting the standards of conduct contained in the Code of Ethics and for updating these standards as appropriate to reflect legal and regulatory developments. The Audit Committee is charged by the Board with the authority and responsibility to assess the code of ethics and recommend any amendments or waivers for approval by the Board.

We promote an ethical organizational culture and encourage all employees, regardless of position or level, to raise questions or concerns about actual or potential ethical issues and company policies and offer suggestions about how we can make our organization better to address concerns. We circulate the Code of Ethics annually to all employees. Each quarter, our sales employees attest to professional conduct in accordance with the Code of Ethics by confirming compliance with our No Side-Letter Policy.

We have a Whistleblower Hotline that includes global telephone and web access together with local language support. The web portal enables online reporting of concerns about ethics or compliance, where allowed by local law, and a place to ask questions or quickly access ethics and compliance policies. We believe these efforts strengthen our ethics and compliance efforts and foster an environment where employees can express their concerns and have them resolved.

Board Highlights

Board Independence



Six directors, including our Lead Independent Director, are independent of the Company and management.

Board Tenure

0 to 5 Years: 

6 to 10 Years: 

10+ Years: 

Our directors bring a balance of experience and fresh perspectives to our Board.

Board Refreshment & Diversity

4 **100%**

New directors appointed in the last five years. New directors appointed in the last five years that are diverse (gender or ethnicity).

Age Mix

50-60 Years: 

61+ Years: 

38%

Gender Diversity

38%

Racial Diversity

Our Board Committees

Our Board of Directors has established an Audit Committee, a Compensation and Human Capital Management Committee, and a Nominating and Corporate Governance Committee. The composition and responsibilities of each committee are described below. Each of these committees has a written charter approved by our Board of Directors. Copies of the charters for each committee are available, without charge, in the [“Investor Relations”](#) section of our web site. Members serve on these committees until their resignations or until otherwise determined by our Board of Directors.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee is responsible for, among other things: identifying, reviewing, evaluating, and recommending candidates to serve as directors on the Board; making other recommendations to the Board regarding affairs related to the directors of the Board; overseeing the Company’s corporate governance functions on behalf of the Board; and reviewing and overseeing the Company’s programs, policies, practices, risks and opportunities, measures, objectives and performance relating to social and environmental issues.

Audit Committee

Our Audit Committee is responsible for, among other things: recommending the engagement of the independent registered public accounting firm and assisting the Board in the oversight of the qualifications and independence of the independent registered public accounting firm; monitoring the Company's compliance with legal and regulatory requirements including preparing the audit committee report that SEC rules require to be included in the proxy statement; monitoring the performance of the Company's internal and external audit efforts; monitoring and assessing the integrity and effectiveness of the Company's financial and accounting organization and the performance of its system of internal accounting controls; overseeing the Company's information security functions on behalf of the Board; and overseeing and reviewing ethics matters on behalf of the Board.

Compensation and Human Capital Management Committee

Our Compensation and Human Capital Management Committee is responsible for, among other things: establishing and administering the Company's policies regarding annual executive compensation, including salaries, cash incentives, and long-term equity incentives; assisting with the administration of the Company's stock incentive and purchase plans; making recommendations to the Board on non-employee director compensation; and overseeing the Company's human capital management function on behalf of the Board.

Data Security and Privacy

Our Approach to Data Security

Information technology and data security, particularly cybersecurity, is a top area of focus for our Board of Directors, who views our focus in these areas as essential for the success of our company and the broader technology industry in which we operate.

As described in the Audit Committee Charter of the Board of Directors, the Audit Committee is tasked with oversight of certain risk issues, including cybersecurity. The Audit Committee is comprised entirely of independent directors, two of whom have significant work experience related to information security issues or oversight. Management reports high severity security incidents to the Audit Committee after they are discovered. Additionally, management provides a summary four times per year of all security incidents to the Audit Committee. The full Board of Directors is also provided an annual assessment of our security program, our internal response preparedness, and assessments led by outside assessors and auditors.

Our Audit Committee is regularly involved in reviewing cybersecurity risk management. At least quarterly, the Vice President of Operations presents and reviews key security metrics with the Audit Committee including a review of cyber-security events, cybersecurity initiatives and new or developing cybersecurity risks relevant to the business.

Our cybersecurity risk management and strategy processes are led by our Vice President of Operations and a cross section of subject matter experts from Information Technology, Exensio Cloud Operations and Corporate Legal and team.

Our Incident Response Policy is reviewed annually and documents the controls and procedures for timely and accurate reporting of material cybersecurity incidents to the relevant parties, including the Audit Committee when applicable. Our Incident Response Team leads the response to any reported cybersecurity event and comprises experts from Engineering, Information Technology, Legal, Cloud Operations, and Data Security.

Cybersecurity Risk Management and Strategy

We recognize the importance of assessing, identifying, and managing material risks associated with cybersecurity threats. We have implemented several cybersecurity processes, technologies, and controls to aid in our efforts to assess, identify, and manage such material risks.

Our process for identifying and assessing material risks from cybersecurity threats operates alongside our broader overall risk assessment process, covering all company risks. As part of this process appropriate disclosure personnel will collaborate with subject matter specialists to gather insights for identifying and assessing material cybersecurity threat risks, their severity, and potential mitigations. We also have a cybersecurity specific risk assessment process, which helps identify our cybersecurity threat risks.

For more than 5 years, we have not experienced any material cybersecurity incidents and the expenses we have incurred from cybersecurity incidents were immaterial. This includes penalties and settlements, of which there were none.

Data Privacy

We respect the privacy rights of our employees and customers and are committed to handling personal data responsibly and in accordance with applicable laws and regulations. We use reasonable organizational, technical, and administrative measures to protect personal data from improper access, use or disclosure. Security measures and tools, such as firewalls, access control tools, network intrusion detection tools, end-point protection software, and anti-virus programs in our primary software and cloud offerings, are in place to help protect against the accidental or unlawful destruction, loss, alteration, unauthorized disclosure, or access to personal data transmitted, stored, or otherwise processed. These measures vary based on the nature of the personal data we collect, process, and store, and the current state of technology.

We also take measures to ensure that third parties that process personal data on our behalf also have appropriate security controls in place. We only transfer personal data to another country or region as permitted under applicable data protection and other laws and regulations, and only if we can ensure adequate safeguards for any transfers of personal data.

Personal data is retained in accordance with applicable laws or regulatory requirements and for as long as necessary to fulfill the purposes for which the personal data was collected, plus any additional time periods necessary for the compliance with laws and regulations, exercise or defense of legal rights, and archiving, back-up, and deletion processes.

We do not sell, rent, share, or otherwise disclose personally identifiable information from customers for commercial purposes.

Please see our [Privacy Policy](#), GDPR, and our California Consumer Privacy Act (CCPA) supplements/policies, on our web site.

Risk Management

Enterprise Risk Management

Our overall risk management process is led by our General Counsel who is responsible for initiating and publishing annual risk factors by taking into account inputs from risk reviewers. The risk reviewers consist of:

- all members of our leadership team,
- all other Vice Presidents; and,
- any senior manager or director who has been nominated by their department VP as a risk reviewer.

Specific business units manage and mitigate detailed business unit risks following a NIST or equivalent framework. Our CEO, CFO, and the Audit Committee of our Board approve the risk factors published in the 10-Q and 10-K filings.

The Corporate Legal Department (CLD) conducts a review annually to identify and develop a management plan for potentially new or developing material risks. The CLD also reviews existing management plans for known material risks against occurrences in the reporting period, together with input from finance.

In addition to the yearly risk review, CLD monitors changes by the U.S. government and updates our systems to reflect the status of customers and vendors with respect to regulatory restrictions, risks related to US or other relevant country export controls and other published trade restrictions.

Business Continuity and Technology Disruptions

We maintain a data repository map and a list of business-critical systems. Owners of each critical system and each data repository are responsible for maintaining a Disaster Recovery plan or documenting compensating controls for the systems and repositories. Owners that manage significant parts of our data and systems are also responsible for testing backup and systems recovery at least once a year.

Our VP of Operations is responsible for creating and maintaining the Business Continuity Policy. The policy outlines the principles of business continuity and the parties responsible for maintaining critical business systems.

Report Conclusion

Looking Toward the Future

Going forward, we aim to continue to advance our ESG program in a gradual and iterative manner, and plan to explore additional ways of sharing our progress.

We intend to leverage the ESG Priority Assessment conducted in 2022 to guide the selection and implementation of ESG workstreams, the review of potential ESG goals, and the identification of appropriate ESG metrics.

We look forward to continuing to drive value for our company, stockholders, and extended stakeholders through the development of our ESG program.

Materiality Disclaimer

This report contains “forward-looking statements.” Forward-looking statements in this report are made pursuant to the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934 and other federal securities laws. These statements are based on management’s current opinions, expectations, beliefs, plans, objectives, assumptions, or projections regarding future events or results, including, but not limited to, our ESG commitments, strategies, and initiatives; our business plans and strategy; and our stakeholder engagement efforts. These forward-looking statements are only predictions, not historical fact, and involve certain risks and uncertainties, as well as assumptions. Actual results, levels of activity, performance, achievements, and events could differ materially from those stated, anticipated, or implied by such forward-looking statements. While PDF Solutions believes that its assumptions are reasonable, there are many risks and uncertainties that could cause actual results to differ materially from forward-looking statements, including the risks discussed under the heading “Risk Factors” in our most recent Annual Report on Form 10-K and subsequent 10-Q filings with the U.S. Securities and Exchange Commission (“SEC”). PDF Solutions undertakes no obligation to update or revise any forward-looking statement contained in this report, except as otherwise required by law.

Any references to “priority” or “relevant” in this report do not correspond to the concept of materiality used by the SEC.

This report contains human capital measures or objectives that may be different from or are in addition to the human capital measures or objectives that we are required to disclose in its SEC filings. For a discussion on human capital measures or objectives that PDF Solutions focuses on in managing its business, please see the “Human Capital” section in our most recent Annual Report on Form 10-K.

We currently do not believe that our ESG initiatives or risks are material for SEC disclosure purposes, except to the extent referenced in our Annual Report on Form 10-K and subsequent Form 10-Q filings.

SASB Index

The table below provides content aligning to the Sustainability Accounting Standards Board (SASB) Software & IT Services Standard and the Electrical & Electronic Equipment Standard, which are most relevant to our operations and aligned with our priority ESG topics identified in our 2022 ESG Priority Assessment. Unless otherwise specified, the data and descriptions pertain to year-end 2023.

SASB Code	Accounting Metric	Response
Environmental Footprint of Hardware Infrastructure		
TC-SI-130a.1	(1) Total energy consumed,	(1) 4,760 GJ (cleanroom and lab facilities only)
RT-EE-130a.1	(2) percentage grid electricity, (3) percentage renewable	(2) 100% of our electricity is supplied from grid electricity (3) 100% of our energy usage at our cleanroom and lab facilities is from renewable and carbon-free sources; we purchase no other renewable energy.
TC-SI-130a.2	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	In 2023, we withdrew and consumed water only in connection with kitchens and restrooms. Our largest facilities are located in areas with low levels of water stress, and we do not use water in our product development and manufacturing processes.
Data Security		
TC-SI-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected	We did not experience any material data breaches in 2023. When public disclosure criteria are met, material data breaches are included in our most recent Annual Report on Form 10-K and subsequent 10-Q filings.
TC-SI-230a.2	Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	We maintain a robust approach to identifying and addressing data security risks. See the Data Security and Privacy section of this ESG report, our 2024 Proxy Statement, and our most recent Annual Report on Form 10-K, Item 1C. Cybersecurity page 34 for more information.
Recruiting & Managing a Global, Diverse & Skilled Workforce		
TC-SI-230a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	As of December 31, 2023, 3.2% of our U.S. employees are foreign nationals and 48.5% of our employees were located outside the United States. Our success and competitiveness depend on our ability to retain, attract, motivate, and strategically locate in our offices around the globe, talented employees, including some of our key executives.
TC-SI-230a.2	Employee engagement as a percentage	In 2023, approximately 40% of our global workforce participated in a broad-based survey, including individuals with tenure from 2 to 30 years. Our resulting Employee Net Promoter Score (eNPS) score was 3.97.
Managing Systemic Risks from Technology Disruptions		
TC-SI-550a.2	Description of business continuity risks related to disruptions of operations	See the Risk Management section for a description of our management approach to business continuity. Where material, risks related to business continuity are included in our Form 10-K .
Hazardous Waste Management		
RT-EE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	We did not have any reportable spills in our operations.

SASB Code	Accounting Metric	Response
Product Safety		
RT-EE-250a.1	Number of recalls issued, total units recalled	In 2023, we did not have any product recalls.
RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	In 2023, we did not have any material monetary losses as a result of legal proceedings associated with product safety. When public disclosure criteria are met, monetary losses as a result of legal proceedings are included in our Form 10-K .
Product Lifecycle Management		
RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	Our products can help improve the time-to-market and yield for our customers, with significant indirect benefits regarding the use energy, water, and silicon, and significant indirect impacts on waste and greenhouse emissions. We intend to work to identify and measure the direct environmental benefits to our customers of use of our solutions.
Materials Sourcing		
RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	<p>We are committed to responsible sourcing and have established processes to identify and assess conflict minerals in the supply chain and respond to risks.</p> <p>See our Responsible Sourcing section for a summary of our approach to ethical production and the protection of human rights in our supply chain, including requirements related to conflict minerals.</p>
Business Ethics		
RT-EE-510a.1	Description of policies and practices for prevention of: (1) corruption and bribery and (2) anti-competitive behavior	<p>We have a Code of Ethics that contains policies against corruption, bribery, and competitive behavior. We also have a Side Letter Policy to prevent undocumented promises to customers.</p> <p>See our Code of Ethics and the Business Ethics and Compliance section of this report for a summary of our policies and practices for the prevention of corruption and bribery and anti-competitive behavior.</p>
RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	In 2023, we did not have any monetary losses as a result of legal proceedings associated with bribery or corruption. When public disclosure criteria are met, monetary losses as a result of legal proceedings are included in our Form 10-K .
RT-EE-510a.3 TC-SI-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	In 2023, we did not have any monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations. When public disclosure criteria are met, monetary losses as a result of legal proceedings are included in our Form 10-K .