



DRIVING BETTER INSIGHTS FOR ESG DECISION MAKERS



DXC LEADING EDGE

DXC LEADING EDGE EXPLORES
HOW IMPROVED DATA STRATEGIES
AND NEXT-GENERATION
TECHNOLOGIES MAY HELP
BUSINESSES REACH ESG GOALS

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Foreword

It's a tough time to be a corporate ESG (Environmental, Social and Governance) leader. While the spotlight on climate change, racial inequity and other challenges globally intensifies, investors are calling for greater disclosure on ESG risks. And meanwhile, regulatory requirements — CSRD, CSDD, ISSB and the SEC's Climate Risk Rule, to name the most prominent — are growing at breakneck speed.

Addressing new regulations and reporting on corporate progress is not easy. The sustainability efforts we undertake must align with our core business purpose, and the ESG reporting we do must accurately and clearly reflect our commitment to progress. Yet it is no small task to mine the array of corporate systems for relevant data; to marry these disparate data sources to develop pertinent insights and devise impactful sustainability initiatives; and finally, to produce effective disclosures. To do all this, we must coalesce what brings value to the organization and what the organization values.

As the first cohort of officers supporting this vital area, we are naturally concerned about the completeness and accuracy of our reporting. The good news is that data tools, technology and platforms to bring it all together are arriving on the scene. DXC Technology is continually evaluating the best ways to make progress, and that is why this report from DXC Leading Edge is valuable to people in a role like mine.

The report shares tools that we might consider as part of our solution sets. It presents platforms and processes that we find valuable, as do our customers. It offers new frameworks for considering objectives and making progress.

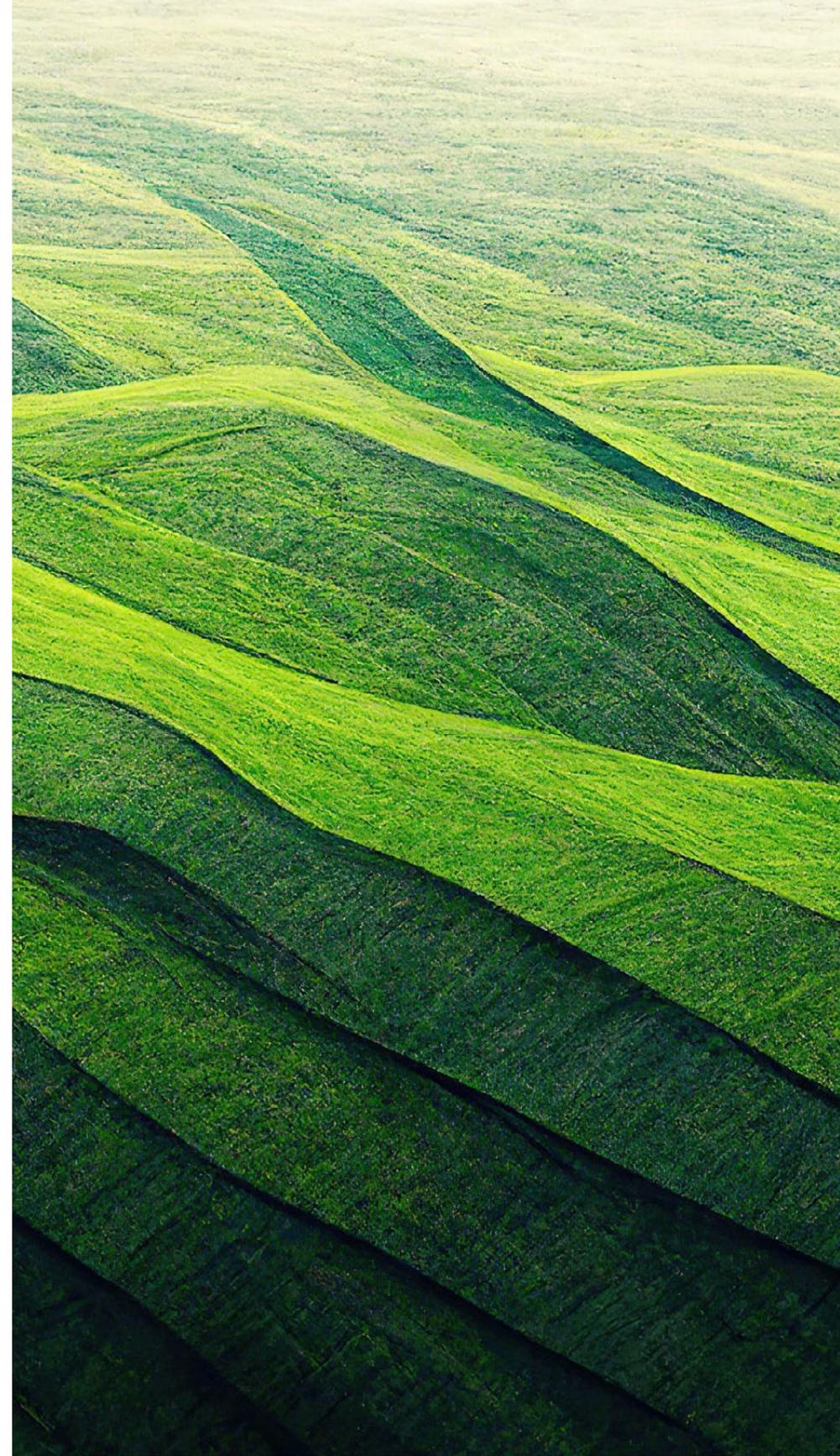
While this work of an ESG leader is difficult, it is also rewarding and full of possibilities, and it will continue to be so. This report highlights how the difficulties can be improved with technology, data processes and new approaches. Read on, and be inspired.



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ESG: The business insight gap

For business executives, there is no path forward that doesn't have sustainability as a core tenet. Sustainability remains one of the highest business priorities for executives, no matter the industry in which they work.

As such, every leader in business has also effectively become an environmental, social and governance (ESG) decision maker, from the CEO on down. The situations differ, but for each leader, the importance remains high. This is the case, for example, for CFOs seeking capital from ESG fund managers, chief people officers promoting workforce diversity, and logistics leaders improving environmental compliance across supply chains.

Yet the efforts of many organizations are hindered because they lack the real-time, analytical data and deep insights required to make effective decisions. This ESG void subverts the ability to address outcomes and business performance in tandem.

Traditional ESG reporting remains lamentably slow, regulatory driven and backward-looking. It fails to give the targeted, dynamic picture that business leaders need to deliver improved ESG outcomes for business and society. Many areas of firms' extended supply chains remain terra incognita for ESG measurement, with limited tools to capture carbon emissions embedded in upstream or downstream sectors, or trace and verify compliance with labor, ethical and other ESG standards.

Four key factors underlie the ESG-business insight disconnect: data gaps or inconsistencies; combined or compounded metrics; data lag; and poor understanding of the causation pathways between ESG metrics and management performance. There is an urgency for companies to address these issues. Businesses will increasingly face pressures including new regulations, increased stakeholder screening and greater competition from businesses more skilled at manipulating the ESG data chain — and capturing more revenue, as a result.

Four key factors underlie the ESG-business insight disconnect: data gaps or inconsistencies; combined or compounded metrics; data lag; and poor understanding of the causation pathways between ESG metrics and management performance.

DXC Leading Edge curated the perspectives of ESG executives, experts and thought leaders to help us shed light on how improved data strategies and next-generation technologies might play a role in providing meaningful, actionable insight to help reach ESG goals and encourage wider business commitment to ESG initiatives.

Dissecting the ESG-business insight gap

First, it is helpful to frame what an ESG information model needs to do. To begin with, the model must serve many different users with diverse needs, while maintaining informational consistency across all those types and speeds of uses.

Then, the model must account for the constant coexistence of multiple levels of maturity (accuracy, timeliness and granularity) of information that are inherent to different methods of establishing the data points (from estimation, industry-average assumption, spend-based calculation and transaction analysis up to ingesting precise primary data).

The model must also allow the implementation of multiple, frequently changing and potentially new data exchange and formatting requirements (i.e., from global and local disclosure standards and from industry-specific supply chain information conventions) while incorporating insights (metadata) on the information's accuracy, timeliness, completeness, comparability, compliance and verifiability.

The model must offer an efficient lineage of auditability and traceability. It must hold up across the passage of time, people and technology.

It's understandable that executives may feel like the veritable weight of the world is on their shoulders.

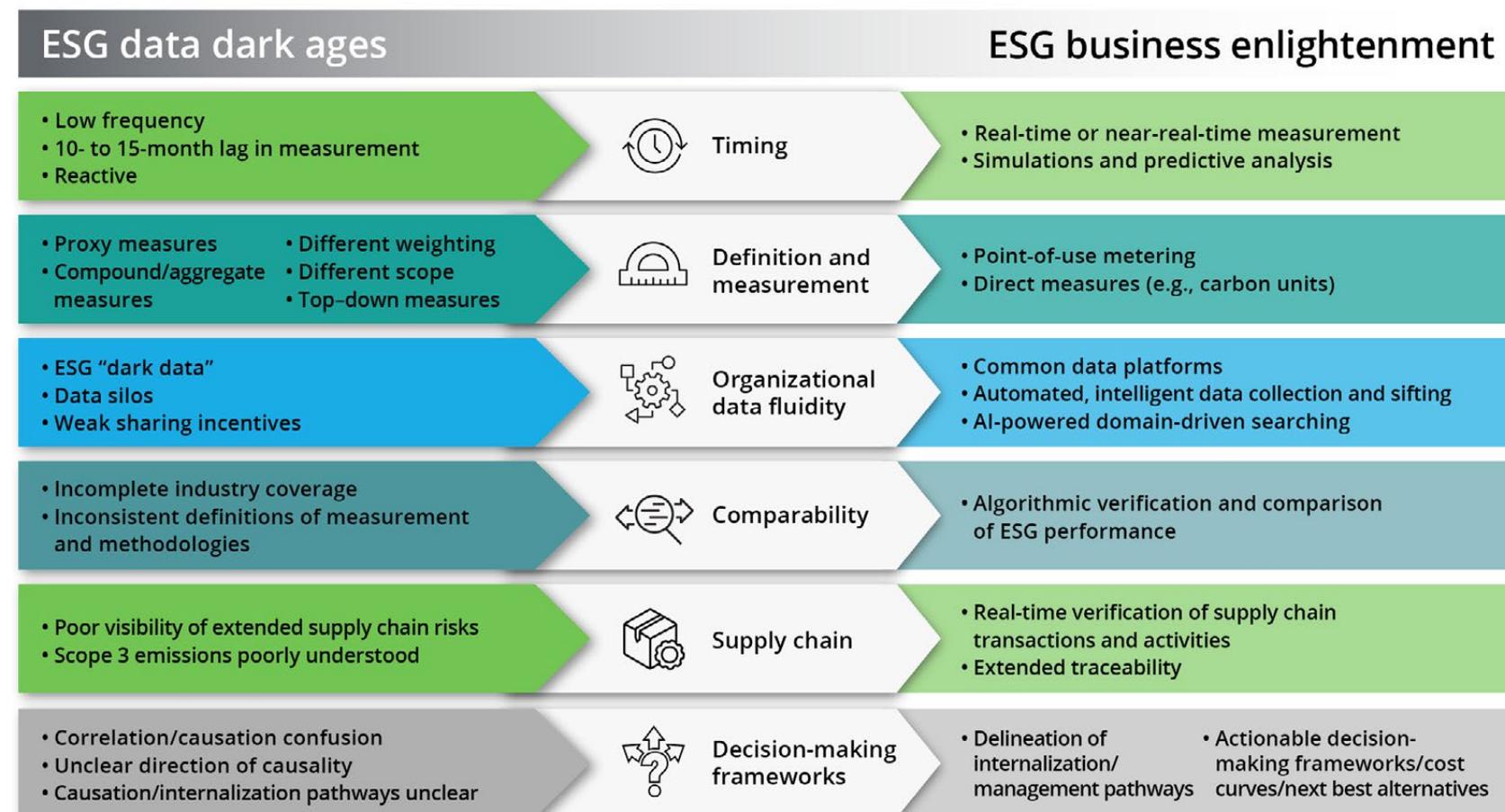
As if that isn't enough, disconnects across ESG ratings and performance data are rampant today, each afflicted with gaps and measurement inconsistencies. An investigation¹ of the divergence

of ESG ratings based on data from six major ESG ratings agencies found that:

- 38% of the variation comes from differences in the scope of measures used
- 56% of the variation is from differences in measurement methods
- 6% of the variation is due to differences in the weighting attached to different measures

“There are huge gaps in the usefulness and coverage of ESG data,” says Dr. Todd Cort, senior lecturer at [Yale School of Management](#), who focuses on the ESG-management value disconnect. “You might get data for a portfolio of 3,000 companies but find that many others are missing, or that there are sizable differences in the methodologies used.” Incomplete impressions of companies' commitments to ESG can affect investors' actions.

Dissecting the ESG data-business insight gap





The seven dimensions of data fluidity

Volume. How much data does the enterprise have — across cloud, data centers, devices, etc.?

Veracity. What is the provenance of data? Who has access to it? How accurate is it? What are the risks of bias and errors?

Inertia. Can the data be exposed, moved around and harnessed? How much data is lost? What proportion of data is constrained by regulation?

Velocity. How fast does data flow across the enterprise? Is it real-time or reactive?

Variety. How much data is structured and how much unstructured? Does it reflect a diversity of different use cases, functional domains and industries?

Value. How and where does your data create value? Is the value proprietary or shared? What are the value drivers? Does your data have significant “option value” from potential future use cases or technology applications?

Gravity. Are some data sources so big that they pull large amounts of technology infrastructure and applications toward them?

Source: Leading Edge Forum [now, DXC Leading Edge], “The Science of Digital Platforms,” February 2020

Measurement challenges can arise thanks to ESG’s multidimensional nature. Most of the discussion is on the environmental side, but “there is a need to look at ESG performance more holistically,” says Rick Redding, CEO of the [Index Industry Association](#), which represents organizations that create market indices for investors. “The problem is we can quantify emissions, but the social factors are much harder to quantify and compare, and can often change rapidly depending on global events. For instance, consider the war in Ukraine.”

On the home front, most companies themselves experience difficulty around when and how frequently they capture ESG data. Typically, they collect for reporting purposes rather than to support business decisions, so the ESG data is usually 12 to 15 months old when presented.

“We need to get to a point where ESG datasets are point-in-time, where carbon budgets and other sustainability data are on a par with key financial data such as sales and costs, where decision makers can make accurate decisions over the next twelve months,” says Sunil Shah, managing director of [Acclaro Advisory](#) and an expert on sustainability management. “Otherwise ESG data reverts to being reporting-driven with the risk of knee-jerk responses to past events.” In other words, the current approach only reinforces a prior decision, as opposed to weighing in on a future one.

Crucially, many businesses have a poor understanding of the chains of causation between ESG indicators and business performance metrics. Yale University’s Cort explains the impact of this: “The vast majority of studies test historical performance on ESG factors — diversity of boards, GHG [greenhouse gas] emissions, etc. — against current financial performance, but what we really need to understand are the internalization or management pathways through which performance on ESG factors influences the quality of decision making and risk management within the enterprise.”

His point is clear: Without understanding causation, ESG decision makers will often find themselves unable to explain the effect. The result is that companies settle on broad measures of ESG that are very loosely tied, if at all, to business performance.

Next-generation technologies for better ESG insight

Help is at hand, however. New technologies are dramatically transforming our ability to extract timely insights from ESG data for companies and investors, and ultimately drive both better ESG outcomes and better business performance.

While we have always known that technology would be a key enabler of better ESG data and insights, recent progress is promising. Emerging examples include algorithms that can supercharge the validation and benchmarking side of externally reported ESG data, especially in areas such as ESG investment. Ratings agencies and investment analysts are [harnessing machine learning](#) to analyze and extract ESG data from mountains of unstructured data. They are also doing so to determine the tone and sentiment of CEO speeches and check the rosy language of annual reports against real news stories and events on the ground.

[RepRisk](#), for example, deploys advanced machine learning to identify ESG risks for investors. Its database covers more than 200,000 enterprises globally. Its solutions have been used by leading enterprises such as BlackRock, J.P. Morgan and UBS, as well as by standards bodies such as the [Sustainability Accounting Standards Board \(SASB\)](#).

Increasing organizational data fluidity

The starting point is to increase ESG data fluidity within the enterprise. At its core, data fluidity is about getting the right data to decision makers without any data lag, so that they work from actionable insight to make effective decisions. Useful ESG data may be trapped or hidden within organizational silos — fragmented across different databases or stored in varying formats. Estimates of dark data vary, but various studies and surveys suggest that somewhere between 47% and 55% of enterprise data is unknown and untapped.ⁱⁱ

This is an area where the combination of more powerful databases, scalable cloud-based structures and machine learning tools can drive progress. Data analytics tools such as Google [BigQuery](#) (a serverless data warehouse with built-in machine learning capabilities) allow organizations to search vast databases of enterprise data spread across multiple clouds. These tools also enable organizations to analyze geospatial data and build a variety of machine learning models. “ESG data has traditionally been about reporting, but now enterprises need to understand the end-to-end lifecycle of data across the organization [to help disentangle the drivers of emissions],” says Sameer Mital, EMEA head of Strategic Sales and Partnerships at Google Cloud.

Closely related is the emerging concept of [data meshes](#). The key idea behind the data mesh is that rather than centralizing data in one place, the data remains in existing distributed stores. Users are equipped with powerful machine learning and domain-defined capabilities to search for relevant data across silos. This increases ESG data flow velocity.

One particular challenge relates to supply chains. Most large companies will operate across an extensive web of suppliers, subcontractors and distributors. Obtaining accurate measurements of embedded carbon in products (Scope 3 emissions) and other sustainability impacts becomes a Sisyphean task when there are numerous companies using different standards and accounting methods.

Tackling these inconsistencies lies at the heart of the [Open Footprint™](#), a project hosted by The Open Group. Its aim is to create a common data model for organizational environmental footprint data including carbon emissions, material usage, and land, water and energy consumption. Johan Krebbers, one of the initiative’s founders, told us, “We started the Open Footprint in 2020 because we saw lots of reporting frameworks — such as SASB — but no standard for storing, naming and defining emissions data. For example, a furniture retailer trying to establish embedded carbon for a particular product might need to collect emissions data from six, seven or eight different suppliers, all of which are using different standards and accounting methods.” In addition to easier data standardization and aggregation, common data models also open up the prospect of more and better industry benchmarks to drive ESG performance improvements over time.

Participating companies use an [open source](#) software architecture to collect and standardize their own data collection, and then connect to the wider data platform using an application program interface (API). To date, more than 50 companies have joined the initiative. The initial focus is on GHG Scope 1 and 2 emissions, with plans to expand to Scope 3 and eventually encompass non-GHG data relating to water, landfill and other aspects of material use (and, we hope, reuse).

When it comes to increasing ESG data velocity, many executives also highlight the need for something akin to an enterprise resource planning (ERP) system for ESG data. That vision is now a step closer thanks to the recent launch by [ServiceNow](#) of a new ESG data management platform, which DXC is piloting, to accelerate the collection, structuring, analysis and reporting of ESG data for enterprises. It “uses modern integration and workflow technologies to automate ESG data collection,” says Robyn Sweet, vice president of Strategic Solutions at DXC.

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Getting to real-time measurement

The question of what kind of ESG data to collect (its fidelity, provenance, level of detail, etc.) is equally important. Adrian Cockcroft, a prominent technologist who has worked with Amazon on sustainability architectures and represented it with the Open Source Climate Foundation, notes that the AWS Customer Carbon Footprint Tool can provide Scope 1 and 2 carbon emissions data with a 3-month lag. This is useful for high-level carbon reporting. “However, the data is not yet granular or timely enough to help you optimize a particular workload on the cloud or help you get to a view of your Scope 3 impact,” he says.

What is needed, he notes, is “much more use of actual metering at the point of use, through internet of things instrumentation of supply chains and factories, creating millions of digital twins of vehicles, factories, buildings and equipment. With real-time metering, I can start to determine how much carbon is in this pallet of goods, I can use algorithms to set variable pricing and start optimizing equipment, buildings, transport networks and so on.”

Significant progress in IoT applications and digital twins is being made. Communications equipment giant Ericsson, for example, uses IoT sensors to track energy use down to the individual device level at its 5G Smart Factory in Lewisville, Texas. Device and building data are harvested in a data lake and then used to optimize the energy footprint of the plant. Vodafone has deployed IoT networks to help mobility providers and fleet management operators understand their energy usage and identify potential sources of carbon savings. GE Digital used its digital twin solution Proficy CSense to help Skjern Paper, a major paper mill in Denmark, to model and optimize its paper manufacturing processes, reducing paper waste and chemical usage.

Other companies are using software-as-a-service (SaaS) platforms to speed up data fluidity in key areas of ESG performance. Origami Energy, a UK-based company, has created an independent data platform to help energy service companies and infrastructure owners get real-time data on their green energy assets. The platform’s data helps: synchronize their energy infrastructure with real-time market prices for green energy, schedule services, manage different teams and measure key performance indicators (KPIs). Current trials support the creation of greener, more decentralized energy use in the UK, supporting a grid that focuses on local renewables, electric vehicles, battery storage, and flexible balancing of demand and supply in energy usage.

Trust, verification and traceability in supply chains

Supply chains have been the Achilles’ heel for the ESG performance of many companies. Even with strict policies and robust monitoring, the sprawling and interconnected nature of supply chains means that many issues escape detection. As Rod Morgan, digital solution director, DXC Technology, observed, “Traceability has become a key concern for many large manufacturers. Accurately identifying the source of raw materials, the destinations for waste and who’s working at different factories and plants, are all on the copious list of concerns.”

Distributed ledger (DL) technologies are gaining increased attention from an ESG supply chain data perspective. Such technologies, the most well-known example of which is blockchain, make use of cryptography and distributed computers to provide real-time verification of activities such as supply-chain transactions. They have the potential to reduce friction and increase trust in the monitoring and enforcement of ESG standards.



While still nascent in many respects, DL technologies are starting to make a difference. Vishal Gaur and Abhinav Gaiha in their 2020 *Harvard Business Review* article highlight several important examples.ⁱⁱⁱ For one, blockchain technologies have been used by a large pharmaceutical company to track and audit the supply chain for retail drugs, so that counterfeit or faulty products can be quickly traced and withdrawn from use.

Blockchain-based technologies can also help to embed more sustainable practices in supply chains, which often consist of thousands of small producers with a limited view of the overall emissions impact of their activities. As an example, [Project Carbonview](#) is a blockchain-enabled initiative launched by life sciences and agriculture giant Bayer in collaboration with AWS and Bushel. The technology provides producers with a streamlined [view](#) of their farm data to help optimize production, as well as integrates with real-time transportation, delivery and market price databases.

Mapping physical asset risks

Extreme weather events are now frequent and costly occurrences. Since 1980, the U.S. alone has experienced 338 weather-related events where damages exceeded \$1 billion in 2022 prices, according to the [National Centers for Environmental Information](#), with the total costs approaching \$2.3 trillion. Climate risk is business risk.

The AI-powered collection and analysis of geospatial data is poised to become more central to ESG for business decision making.

Climate risk is business risk.

The intensifying climate crisis provided the backdrop for the founding of [Cervest](#), an AI-powered company that provides personalized and science-backed climate intelligence on any asset. Iggy Bassi, the company's founder, outlined how climate intelligence can enrich

ESG strategic decision making, using its EarthScan™ solution. “Users can assess climate-related physical risk at an asset and portfolio level across multiple hazards and emission scenarios, all the way back to 1970 and all the way forward to 2100,” he says. “The backward view helps businesses see the impact of climate change over time. The forward view is great for making strategic decisions.”

Companies can see what potential risks are coming down the pipeline, which individual assets and locations are going to be affected, and where climate risk is greatest. They can then make the necessary adaptations and sequencing of investments.

The platform currently focuses on the built environment, such as warehouses and plants. But there are plans to add layers of mapping for linear infrastructure (roads, railways, etc.) and natural capital (forestry, water, etc.).

Mital of Google Cloud also sees geospatial data helping decision makers in two ways. First, it can provide on-the-ground verification and assurance around ESG reporting and claims made by companies and investors. Second, it helps decision makers understand the scale, nature and sequencing of future risks. Google's parent company, Alphabet, has invested heavily in the [Climate Engine](#) platform, whose algorithm works on 40 years of climate data (weather patterns, satellite images, hydrological data, etc.) to help organizations make investment, physical asset location and sourcing decisions.

Consumer goods giant [Unilever](#) is harnessing Google Earth Engine to trace the sourcing of its palm oil. The intent is to help prevent further deforestation by using certified sources and purchasing more using small farmholder credits. Mital sees even further potential: “With more powerful AI tools, we will be able to optimize travel and working conditions, make better investment location and sourcing decisions, and better predict and preempt system failures.”



Don't forget the S and G

AI analysis of real-time data lends itself most readily to climate and energy use cases, but potential applications could arise in societal and governance arenas.

Consider workforce progression. Most organizations can identify broad workforce diversity and structure through existing HR data, but cannot identify employee attitudes below the surface. The harvesting of data and insights from conversational AI — virtual agents that can intelligently interact with workers on pay, policies and other issues — could change that.

Allan Andersen, global director of Enterprise Solutions at [Amelia](#), a provider of conversational AI solutions, says, “I do think over time we will get a lot more use of conversational AI in ESG decision making, not only to understand employee opinions and find out things that are not necessarily good in the organization, but also to provide a kind of sounding board for decision makers in all areas of the business to test out new ideas and initiatives with the workforce.”

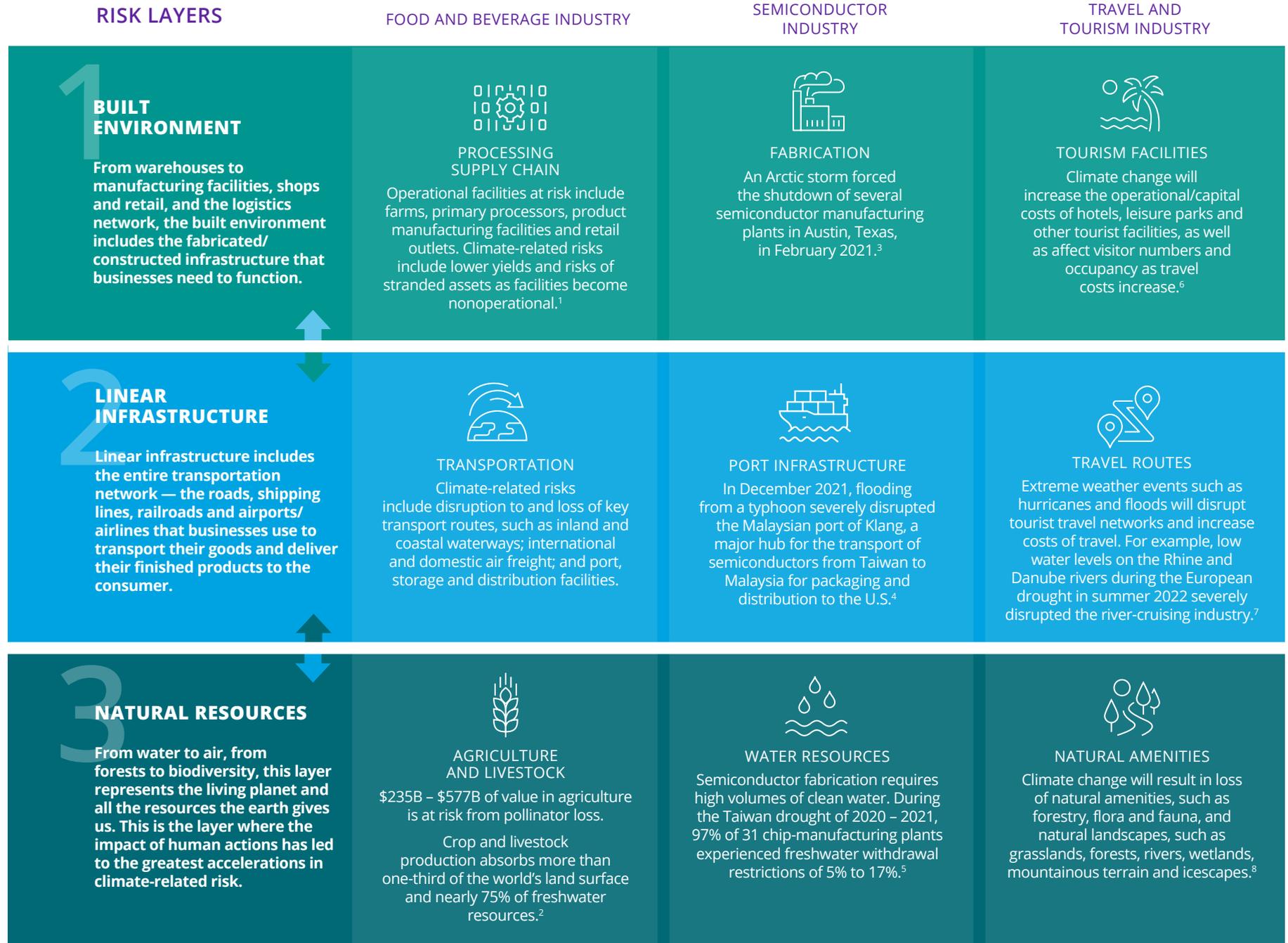


CLIMATE CHANGE: The three layers of physical-asset risk

No matter what the industry or the region, businesses and policymakers worldwide need to prepare for a wide range of climate-related risks to their physical assets. These risks can be categorized into three overarching layers: the **built environment**, **linear infrastructure** and **natural resources**. Each of these layers is affected by and in turn affects all the others, creating a pervasive and multilayered cycle of risk. This chart uses three industries as examples to help businesses think about and visualize this cycle of risk.

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Democratizing ESG data

Businesses have traditionally regarded organizational data as a highly prized source of competitive advantage. But a growing number of decision makers now realize that solving ESG challenges will require shared approaches, because of [interconnected risk](#), industry and societal spillovers, and the scale of ESG challenges. Business leaders we talked to highlighted the importance of “democratizing climate intelligence” through shared approaches to data gathering, analysis and dissemination.

[A growing number of decision makers now realize that solving ESG challenges will require shared approaches, because of interconnected risk, industry and societal spillovers, and the scale of ESG challenges.](#)

One of the challenges, as Cockcroft noted, is how to create a “better data commons of public data” about ESG that can help both business and public decision makers. There is plentiful data around the investment risk of different firms, industries and portfolios. However, this data essentially focuses on risks to investors getting their money back, which only loosely shadows societal and business risks from ESG.

Open-source ESG data platforms may provide a path forward. [OS-Climate](#), an initiative from the open-source Linux Foundation, is one such initiative. Launched in July 2022, OS-Climate is an open-source climate data and analytics platform designed to help organizations build resilience to future climate risk.

Led by BNP Paribas, Allianz and Airbus, the initiative offers three tools to help organizations with ESG decision making.

The Physical Risk and Resilience Tool, led by BNP Paribas, deploys asset-vulnerability models to help organizations quantify risks to assets from extreme climate events. The Climate Portfolio Alignment Tool, created by Allianz with support from Ortec Finance, helps financial companies better align their portfolios with Paris Agreement temperature targets. The Transitional Analysis Tool, developed by Airbus, enables organizations to test and simulate different scenarios for climate-related decisions.

Data trusts — which essentially can provide a platform for voluntary sharing of data under certain conditions, with some degree of independent oversight — can also play a role here. Willis Towers Watson, for example, has piloted the use of data trusts in the insurance industry to facilitate the sharing of claims data for fraud prevention and loss data from natural disasters, and build up more robust risk models for future use. Such models could usefully be deployed in the ESG space, especially in relation to climate-related risks.

Better decision-making frameworks

Even when armed with better ESG data, businesses still need good analytical and decision-making frameworks to turn that data into insights that can drive strong business performance. This is the core objective of the [Return on Sustainability Investment \(ROSI™\) methodology](#) pioneered by the NYU Stern Center for Sustainable Business.

[Even when armed with better ESG data, businesses still need good analytical and decision-making frameworks to turn that data into insights that can drive strong business performance.](#)

The methodology maps sustainability strategies of companies (using the Global Reporting Initiative or International Sustainability Standards Board as a guide) to material aspects of business practice. These include changes in waste management and recycling, reduced use of agrochemicals, tougher rules on supply-chain transparency and a decision to stop using coal in energy production, among others. These are then quantified using key metrics (for example, operational efficiency, supplier loyalty, etc.) and expressed in terms of monetary and intangible value for the business.

In an [article](#) in *Stanford Social Innovation Review*, Tensie Whelan, director of the Center for Sustainable Business at NYU Stern, explains that business leaders often “miss the financial impact of their sustainability efforts.” For example, they may fail to consider indirect factors such as the impact that sustainability improvements may have in areas such as employee retention and labor costs. In addition, companies can underestimate the impact of ESG on intangible aspects of business value, such as brand and related improvements in return on capital.

The potential for better decision making extends to the governance arena. Issues such as executive pay, board composition, board interests and external connections are getting ever-greater scrutiny from investors, media and regulators. CGLytics, a data and analytics company under the Diligent brand, uses billions of data points and algorithmic tools to help investors and corporations benchmark executive compensation, dissect board effectiveness, map business relations, and track voting patterns and regulatory filings. Such tools can help illuminate best-practice paths for board composition and decision making, while minimizing regulatory and reputational risks that can adversely affect a firm’s cost of capital.

Business imperatives for better ESG data and performance

Better data and analytical tools can bring ESG and business performance more closely into orbit, but they will not by themselves be sufficient. Business leaders can make more progress by following these imperatives:

Do ESG like a CFO

As technology starts to put real-time, consistent ESG data at the fingertips of business decision makers, enterprises will increasingly be expected to treat ESG data on a par with financial data, with performance reported to the same cadence, regulatory scrutiny and external standards. Just as CFOs must comply with audit rules around revenue recognition and forward-looking statements, ESG decision makers may need to adhere to new standards of accountability or face increased regulatory or capital-market scrutiny.

To be prepared, more granular and predictive data can be used to develop future demand patterns, potential location strategies or approaches for physical assets. However, like the best CFOs, ESG decision makers will also see opportunities to combine robust ESG disciplines, structures and incentives: ESG plus P&L accountability; incentive structures that integrate ESG and financial metrics; or investment criteria that reflect wider business and societal benefits of new projects.

Modernize the IT layer first

Getting better ESG data to decision makers also means attending to some of the nuts and bolts of IT infrastructure and applications. Many enterprises still have extensive mainframe-based on-premises or hybrid IT systems, which can suffer from baked-in cultural practices and data silos that make it hard to apply modern data analytics. Infrastructure and application modernization, built upon

cloud-based microservices and modern data warehousing and data meshes, can play a key role in speeding up data fluidity across enterprise teams and increasing the volume and quality of data flowing up to decision makers.

Embrace kaizen for ESG data

Better data must also go hand in hand with more systematic, disciplined approaches to improving ESG outcomes. Parallels can be drawn with the Japanese practice of kaizen, the concept of continuous, methodical improvements in business processes.^{iv} “Just like other processes, ESG outcomes are the culmination of a lot of continual improvement,” says Sue Ann Averitte, vice president for ESG and Continuous Improvement at DXC. “Emissions are typically reduced by a methodical approach to identifying the biggest sources, implementing a number of improvements and then moving on to the next biggest source. Diversity is achieved from a systematic approach to hiring and retention with continual process tweaks. So companies that have an instilled culture of continuous improvement, I believe, are more likely to be more effective in their ESG programs.”

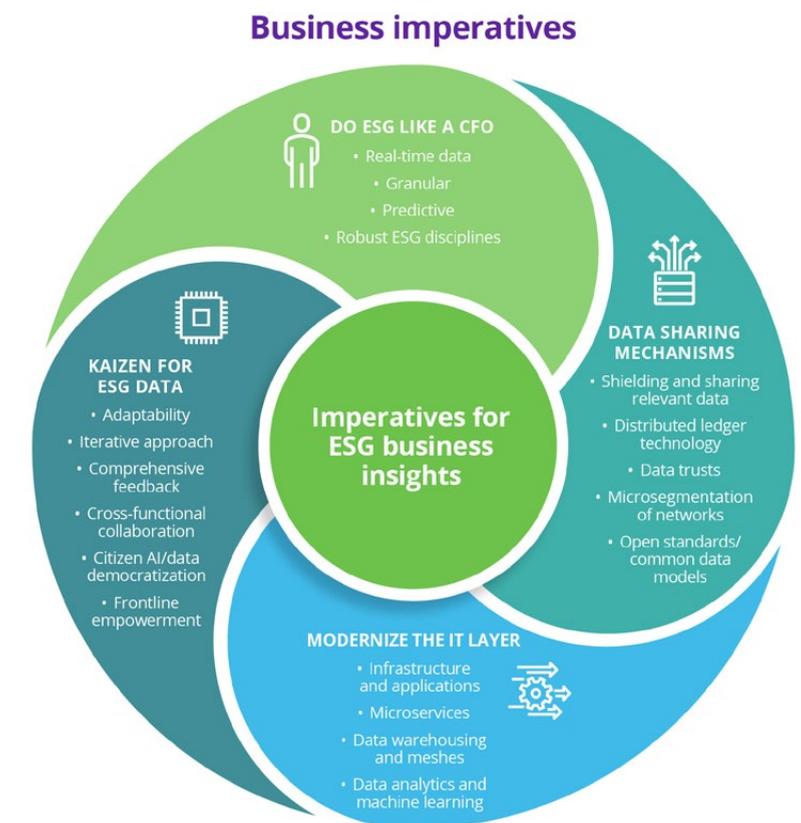
With next-generation technologies generating an abundance of real-time, fine-grained data, kaizen becomes a feasible management approach for ESG, enabling adaptability, attention to detail, comprehensive feedback, accelerated information flows and cross-functional collaboration. Business leaders can accelerate this process by democratizing data and insights across teams — for example, by equipping front-line workers with end-point devices for capturing ESG data on the fly or by making use of citizen AI initiatives to encourage grassroots innovation in methods and processes.

Create data-sharing mechanisms for networked risk

ESG problems are typically like jigsaw puzzles where multiple different firms hold data that forms one piece of the overall picture.

Experts we interviewed repeatedly emphasized the need for better platforms to promote increased data sharing among firms.

Traditionally, data sharing between firms has been stymied by concerns over commercial confidentiality and privacy. However, technology solutions increasingly make it possible to segment, shield and share data, code and methodologies in highly secure ways. Modern document sharing and process mining technologies, for example, can mask sensitive data or only share metadata; cloud technologies can provide access for different teams and users; blockchain technologies can verify the chain of data custody; data trusts can be mediated with encryption, distributed ledger technologies and federated architectures; and so on.





Patagonia: A radical approach to aligning ESG values and business value

Aligning ESG factors with business value has never been easy. Patagonia, a leading retailer of outdoor apparel that relies heavily on natural resources, recently took the unprecedented step of making the earth its principal “shareholder.”

Yvon Chouinard, Patagonia’s founder and chairman, announced that all the company’s profits not reinvested in the business would go to a new charitable trust, the [Holdfast Collective](#), to protect nature and combat climate change. More significantly, perhaps, the voting stock of the company has been transferred to the Patagonia Purpose Trust, so that corporate decisions can be made from a values-based perspective.

The new horizon point this establishes may present an important [role model](#) for other enterprises seeking to fuse ESG into their decision-making structures.

Powerful technologies and tools are now within reach to close the ESG–business insight gap.

Conclusion

The stakes for ESG within business have never been greater. Yet, despite impressive achievements in many areas, businesses have typically struggled to generate deep business insight from ESG metrics. Issues of data timeliness, quality and insight have proved to be formidable barriers to progress.

Powerful technologies and tools are now within reach to close the ESG–business insight gap. Data meshes, digital twins, internet of things, data commons, geospatial mapping and more all open up new sources of ESG insight to enrich decision-making processes within businesses. Equipped with these new insights, business leaders can start to carve a path to new sources of shared value for business and society.

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