WORLD ECONOMIC FORUM

Bridging Digital and Environmental Goals: A Framework for Business Action

MARCH 2021

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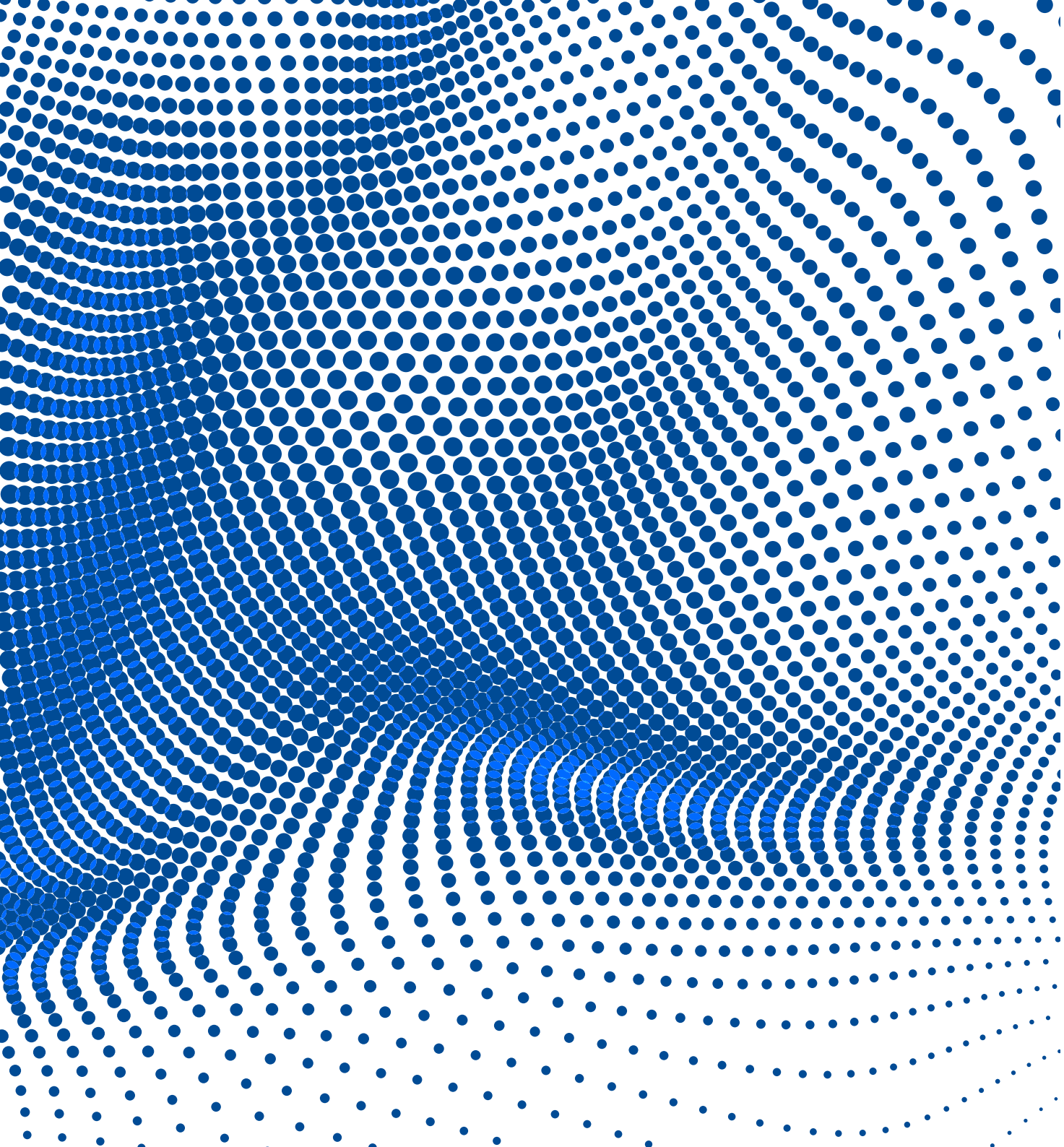


> **The digital transformation strategies adopted by governments, businesses and other organizations must have people and planet at their core. The transition to low-carbon business models is imperative to compete and succeed in the 21st century, and we must put data to work to improve processes, transform efficiency and reduce environmental impact.**
>
> Antonio Neri, President and Chief Executive Officer, Hewlett Packard Enterprise

Executive summary

COVID-19 has rapidly accelerated the digital transformation of organizations in every sector, offering leaders an opportunity to make fundamental shifts in their practices and reset a strategic vision for their organization grounded in long-term growth and value creation for all stakeholders.

The crisis has also been a wake-up call to a myriad of impending global risks – which are increasingly linked to environmental impacts in terms of likelihood and impact – highlighting the need to prepare for future disruption through resilient business operations backed by reliable data and digital technology. This imperative has been signalled by the financial markets themselves, which have validated the fact that robust environmentally sustainable practices can preserve investments in times of volatility and, in some cases, boost returns.

The choice is clear: pave the way towards an environmentally sustainable economy or risk losing your licence to operate.

Successful business leaders will seize the current crisis as an opportunity to expand their competitive advantage and deliver long-term value by deepening the integration of environmentally sustainable practices across their business and value chain as they undergo digital transformation.

This guide offers practical recommendations for executives seeking to be among tomorrow's leading companies by linking their digital and environmental goals to create value for the planet as well as profit. The opportunities are framed around 10 pillars: three strategic foundations and seven dimensions of digital transformation that are near-universal.

Digital transformation leaders, facilitated by the World Economic Forum, have curated the following actions across 10 pillars that chief executive officers and corporate leaders should take in order to use their post-pandemic digital transformation investments for twin goals: build for business success and put stakeholder capitalism into practice (Figure 1).

ESG issues are interconnected and must all be managed diligently; however, this paper will focus on **environmental sustainability**.

FIGURE 1 | Summary of recommendations across the 10 pillars

The opportunity: bridging digital and environmental goals

The environmental opportunity

COVID-19 has amplified the critical role of business in addressing environmental, social and governance (ESG) challenges and contributing to global goals. The World Economic Forum's *Global Risk Report 2021* found that environmental-related issues continue to dominate the top five global risks in terms of likelihood and impact. These environmental risks now challenge the strategies and operating models of all organizations.

Yet companies that see these environmental risks not only as a threat but also as an opportunity for innovation will be best positioned to thrive in the 21st-century economy: one where capital investments, government incentives, customer purchases and talent are driven towards environmentally sustainable companies. The overwhelming majority of research finds that companies that address ESG concerns achieve higher equity returns, higher operating profits and lower stock volatility.[1,2,3] The COVID-19 pandemic has stress-tested this relationship: as sell-offs rose in the first quarter of 2020, 85% of ESG equity indices outperformed their broad market counterparts.[4]

BOX 1 | **Environmental sustainability trends**

Investors: ESG criteria account for **33%** of assets under management in the US (>$50 trillion)[5]

Governments: **30%** of the EU's **€1.8 trillion** budget and recovery plan will go towards green investments[6]

Customers: **>80%** of consumers believe it's important or extremely important for companies to design environmentally sustainable products[7]

Employees: Nearly **70%** of respondents said that if a company had a strong sustainability plan, it would affect their decision to stay with that company long term[8]

The digital opportunity

Since COVID-19, digital transformation has undisputedly become a necessity for business growth, resulting in a rise in digital transformation spend. Digital transformation also offers a unique opportunity to advance on ESG goals. Successful leaders will take the opportunity to use their post-pandemic digital transformation investments for twin goals: build for business success and put stakeholder capitalism into practice.

As with digital transformation, the pace and disruptiveness of transforming to environmentally sustainable practices will be different for each business and industry. In any case, effective leaders will need to integrate environmental considerations within their core business strategies, rather than in isolated organizational groups, to determine where new value exists, which business models will capture it, and which digital and data-driven technologies will enable them to meet their objectives.

BOX 2 | **Digital transformation trends**

GDP: **65%** of the world's GDP will be digitized by 2022[9]

DT spend: Global spending on digital transformation will reach a staggering **$6.8 trillion** globally by 2023[10]

Sustainability and DT: Companies linking digital and sustainable transformation are **2.5 times** more likely to be among tomorrow's strongest-performing businesses than others that do not[11]

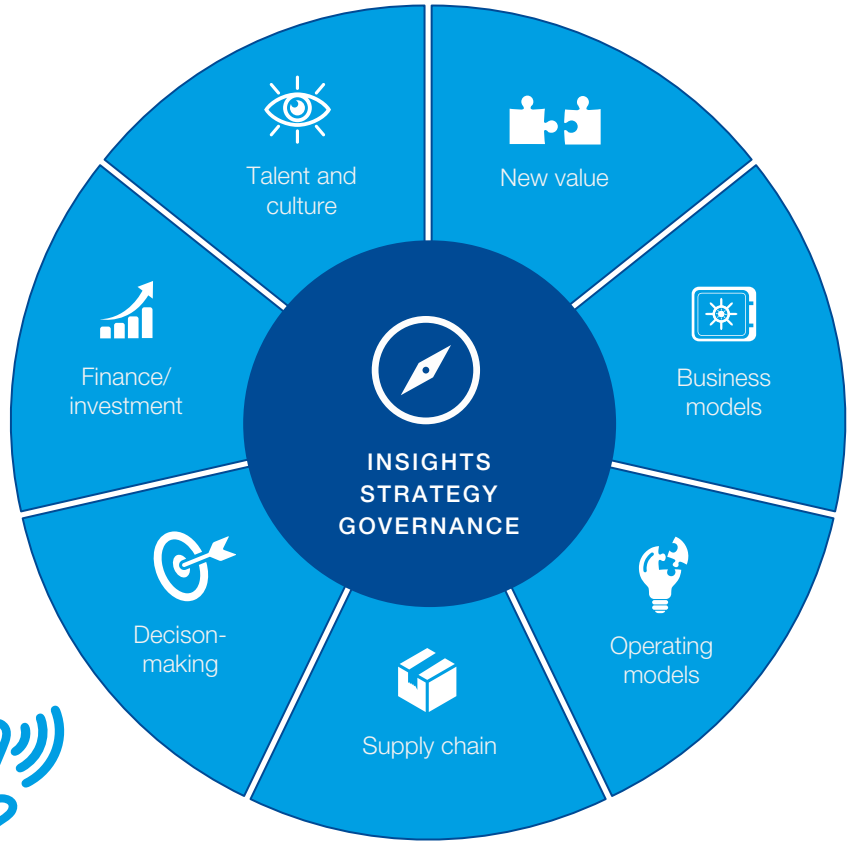
This guide supports leaders in capturing the opportunity and offers practical recommendations to bridge digital transformation and environmental sustainability goals for long-term impact.

Click on each step to uncover the recommended actions and case examples from our community of digital transformation business leaders.

Recommendations for chief executive officers and corporate leaders

This guide offers practical recommendations on using digital transformation to meet twin goals: long-term business success and environmental sustainability. The opportunities are framed around 10 pillars: three strategic foundations and seven dimensions of digital transformation that are near-universal (Figure 2). Although digital transformation priorities and plans may differ, these dimensions can help executives in most companies understand how to successfully digitally transform their businesses with purpose.

FIGURE 2 | **The 10 pillars**



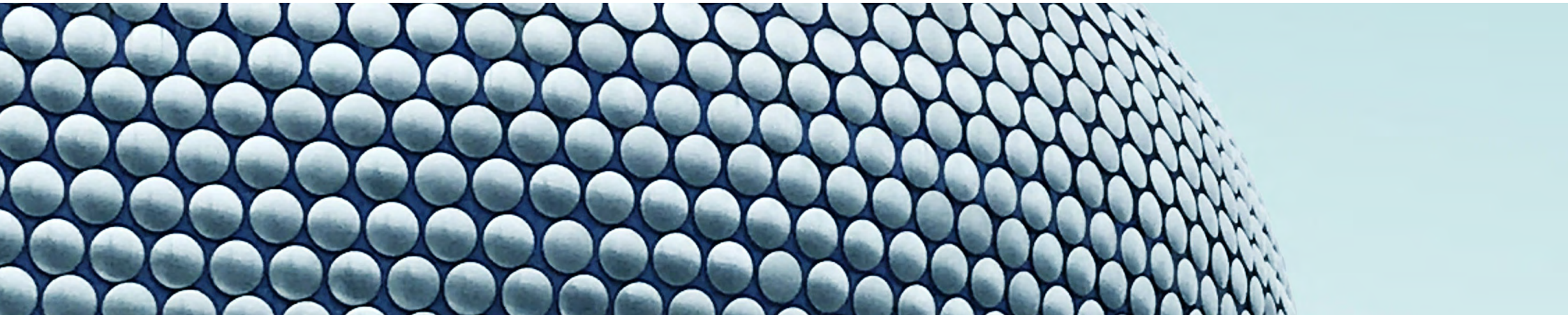
Building a strategic vision and foundation

Capturing the opportunity to bridge digital and environmental sustainability goals requires a business and cultural transformation, which will be embraced only when it is driven and owned by company leadership. Prior to embarking on any transformation, it is critical to define the environmental sustainability vision and approach, beginning with gathering **stakeholder insights** to develop a **comprehensive strategy** and clear **governance structures**. Executives must be clear about their objectives, long-term vision and what capabilities are needed to get them there.

1. Insights

A robust environmentally sustainable strategy requires leaders to define the issues that matter most to the business and stakeholders. In addition, leaders need to identify the business activities with the greatest potential for business growth and environmental sustainability impact across the value chain. This exercise can also help leaders identify the most urgent pain points for the business and stakeholders, and highlight which strategic outcomes should be prioritized. Corporate leaders should consider implementing the following actions:

- Conduct assessment to determine which environmental risks and opportunities are of strategic significance to the company
- Monitor environmental risks and opportunities with data-driven tools that track trends in regulatory and media dialogues, as well as external forces such as climate disruptions that could affect the company's ability to create long-term value
- Measure environmental impacts across the life cycle of products and services in order to focus efforts where the most significant impact can be made on the environmental performance of the entire value chain (e.g. is the company's environmental footprint comprised primarily of manufacturing-related impacts or does it result from its own operations?)



2. Strategy

With insights from the environmental assessment in mind, leaders should integrate strategically significant environmental issues into their business strategy, each grounded in an explicit profit and loss (P&L) result, and backed by clear key performance indicators (KPIs), incentives and reporting mechanisms to track progress against business targets. For instance, if climate-related impacts are material to the business, set forth a net-zero ambition, establish programmes and processes to reduce carbon intensity, and ensure these risks are integrated into an interrelated risk portfolio. Corporate leaders should consider implementing the following actions:

- Set and articulate a long-term value creation and environmental sustainability strategy, supported by targets, resources and digital technology
- Establish metrics, KPIs and dashboards that enable management to monitor performance against goals
- Embed management of environmental issues in wider business processes, including risk management and product design
- Develop a business case and understand the potential impacts of postponing environmental action and the opportunity for combining digital transformation plans and environmental sustainability goals

3. Governance

A clearly defined governance structure is critical to effective resourcing, accountability and decision-making. Effective integration of environmental considerations into business strategy and operations will hinge on ensuring the entire C-suite understands how these issues are relevant to their respective areas of responsibility. A comprehensive approach that is tightly tied to the business will ensure that change delivers value – and activities that quickly unlock value are front-loaded to ensure the scope of this change can continue to expand. Corporate leaders should consider implementing the following actions:

- Define the governance structure to embed environmental sustainability throughout the transformation strategy
- Ensure alignment and buy-in across the C-suite through clear articulation of how environmental issues affect the long-term business strategy, the leaders' respective areas of responsibility and incentives, as well as the opportunity to combine digital and environmental efforts
- Establish a steering committee with visibility of how digital investment decisions align to environmental priorities and the inventory of initiatives across the enterprise in order to minimize redundancies and optimize impact opportunities
- Brief the board of directors on the most strategically important environmental issues, focusing on those that fundamentally affect the company's ability to remain competitive. Board members should understand the risks related to regulations, market access and competitive differentiation, among others, and the opportunity to combine digital and environmental sustainability goals for mutual impact
- Facilitate connections between the chief sustainability officer and other corporate leaders to understand how priorities map across the organization, identify shared goals and uncover new opportunities to combine digital and environmental sustainability goals

> **We have seen many more people take the leap to digital during COVID. This has naturally led to a speedier exchange of information and shorter turnaround times with our customers and continues to help reduce the carbon footprint for doing sustainable business.**
>
> Daniel Englberger, Chief Transformation Officer, Zurich Insurance Group

> **Our most critical resources are our people and the environment. Therefore, our shared goal is to enable sustainable development for everyone. This is a challenge that will require development and deployment of complex and innovative technologies that will reduce supply-chain impact while enabling global economic and social development.**
>
> Frank Clary, Vice-President, Sustainability, Agility

Embedding action into business dimensions

4. New value

At the heart of any digital transformation journey is value creation. Environmental sustainability can serve as a growth engine by improving a company's operations, products and services, as well as by creating new revenue streams. Yet this will often require the development of new capabilities – whether through innovation, acquisition or partnership. Corporate leaders should consider implementing the following actions in order to drive an environmentally sustainable innovation agenda that seizes new opportunities to create value for the business and all of its stakeholders:

- Integrate environmental sustainability into value propositions and customer experiences, enabled by digital and data-driven efficiencies for end users

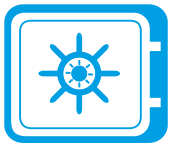
- Designate and empower an individual within each business unit with responsibility to integrate environmental sustainability considerations into innovation cycles, products and process design. Design for environment, for instance, is one design approach that can yield cost savings, reduced business and environmental risks, and expanded market opportunities

- Set a data-and-analytics strategy to collect environmental sustainability data across business units and create new revenue streams by making this data available to customers and partners – whether it be user data that encourages environmentally sustainable behaviours or satellite data that can inform planning decisions from the city centre to the crop field

- Identify opportunities for co-innovation with external stakeholders by drawing on the capabilities of the entire partner ecosystem and sharing the financial costs to deliver mutual environmentally sustainable outcomes such as developing a large-scale renewable energy project, improving the resilience of the shared supply chain or improving productivity and resource use

Case study: Agility

Modelling low-carbon logistics
Agility has created a modelling tool that enables clients to create low-carbon shipping options. A mobile app will allow employees and clients to collaboratively design low-impact supply chains and scale-up efficiencies and cost savings across their supply chains. The disaggregation offered by the digital tool allows clients to examine the environmental footprint of each route segment individually and determine where sustainability efforts can have the most impact.



5. Business models

Successful transformations require the role of technology to be reimagined as a driver for new digitally enabled business models. The transition to digital-at-the-core business models, typically based on service offerings rather than products, not only opens new market opportunities, it also yields environmental efficiencies through the orchestration, optimization and dematerialization of resources and assets. Corporate leaders should consider implementing the following actions to adopt more environmentally sustainable digital business models:

- Build the capabilities needed to adopt digital business models that improve environmentally sustainable resource use (e.g. materials, energy, water) through intelligent provisioning, coordination or optimization
- Enable data-sharing across isolated organizational groups to optimize and track the environmental and economic savings realized by digitally enabled business models, and to understand the aggregated impact of these outcomes
- Facilitate a data-sharing and digital economy with real-time analytics and optimization to match supply and demand – resulting in improved resource use such as the elimination of waste in perishable supply chains or a reduction in car ownership in cities
- Store, access and view all customer data in one location, designed with API interoperability and security by design, to enhance the customer experience while protecting customer trust
- Run design-thinking and innovation workshops to develop environmentally sustainable value propositions mapped to stakeholder needs, and rapidly prototype ideas that will transform the way products, services and processes are developed
- Use digital platforms and channels to collect more distributed, inclusive customer feedback for environmentally sustainable digital business model innovation

Case study: Hewlett Packard Enterprise

Transitioning to an as-a-service company to unlock environmental and economic efficiencies

Hewlett Packard Enterprise has accelerated its strategic pivot to become an edge-to-cloud platform-as-a-service company, responding to customer preferences, shifting away from buying and operating information technology (IT) to consuming IT infrastructure and capabilities as a service. These new consumption models can yield financial and environmental savings for customers, reducing total cost of ownership by 30% due to eliminated need for overprovisioning. Through reporting and software management tools, users can optimize their entire hybrid IT estate with real-time visibility and insights to address inefficiencies and achieve the highest levels of use.

6. Operating models

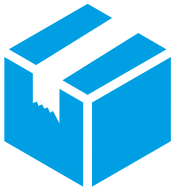
Efforts to improve the environmental sustainability of business operations can result in more resilient businesses that better meet the needs of customers. Changes to the operating model must be championed by change leaders and incentivized to ensure integration for people, processes and technology. In addition, IT organizations should understand where IT can create efficiencies for other groups in the business. Corporate leaders should consider implementing the following actions to embed sustainability in the operating model:

- Develop a roadmap for investment in IT capabilities to support transparency and integrate data-led efficiency improvements in isolated organizational groups
- Factor environmental considerations into operational decision-making criteria where impacts are most significant. For instance, evaluate the carbon intensity of the local grid in facility site selection
- Enable intelligent workflows and process automation to create measurable efficiency gains and improve resource use
- Appoint change leaders to identify opportunities to reshape the operating model in order to increase efficiency and meet complementary goals across various business units
- Shift from project-based IT to product-based delivery by establishing cross-functional product teams made up of business, marketing and IT leaders to drive innovation and continuously deliver new capabilities that will improve visibility, agility and efficiencies
- Measure the organization's digital footprint and address inherent inefficiencies by adopting a consumption-based hybrid IT model that offers monitoring and automation to efficiently provision the IT assets

Case study: UPS

Smart-grid innovation to super-charge electric delivery fleet

UPS has deployed the world's first fleet-scale combined smart-grid and energy storage electric vehicle (EV) charging solution in London, with a demonstrated ability to save, on average, two-thirds of future external-power-grid upgrade capital costs. Together with public- and private-sector partners, UPS is now developing software with the potential to reduce EV recharge costs by one-third through an intelligent approach to charging. These capital- and operating-cost reductions augment UPS's parallel work on EV technology to further its aim of reducing the cost of deployment of an EV to match or beat the cost of a conventionally powered vehicle. These major advances will be instrumental in enabling EVs to be deployed at scale in urban centres.



7. Supply chain

Supply disruptions and fluctuating costs or volatility pose significant risks to brand reputation and profit; yet new technologies offer unprecedented connections to people, systems and things that enable better visibility and traceability, as well as improved management of supply chains. Creating end-to-end supply-chain visibility and traceability is complex and requires multistakeholder collaboration. Corporate leaders should establish a data-driven culture and consider the following actions to drive environmentally sustainable supply-chain efforts and enable real-time data-backed supply-chain decisions:

- Create a “control tower” solution that integrates real-time data across the supply chain with external data sources to improve visibility and resilience, which can improve delivery, environmental sustainability and customer experience overall

- Design a data model that integrates internal and external data sources to identify and reduce exposure to acute and chronic environmental risks (e.g. weather events, supply volatility), as well as tracking performance against environmental goals

- Partner with industry associations, peers and suppliers to create secure data-sharing and tracking platforms that provide greater visibility and accountability to reduce environmental impacts

- Partner with environmental certification providers to build certifications directly into traceability data flows and, where appropriate, support digital solutions that eliminate reporting challenges

- Evaluate how enabling technologies such as the industrial internet of things (IIoT), artificial intelligence (AI) or digital twins can improve operational efficiencies, limit environmental impact and reduce costs

Case study: Anheuser-Busch InBev

Piloting blockchain to boost transparency and traceability

AB InBev is using blockchain to help its farmers track and trace barley throughout the supply chain, creating a tamper-proof digital audit trail to ensure social and environmental standards are upheld and to improve the use of natural resources, crop yields and livelihoods. The aim is to extend the platform across the supply chain and make the information available to the end consumer.

8. Decision-making

Many business leaders strive to lead an environmentally sustainable company, yet few have taken steps to gauge the impact of those decisions through real-time data. Leading companies must move to fact-based decision-making that embeds environmental sustainability considerations – whether determining where to position a new site or which product categories to invest in. Corporate leaders should consider implementing the following actions:

- Exchange data insights across the organization and value chain to support environmentally sustainable decisions, using diverse sources to inform action by ensuring data interoperability and compliance with privacy and security measures

- Ensure environmental sustainability data is a core factor of decision-making – e.g. select the most sustainable manufacturing inputs

- Conduct scenario analyses and define associated externalities and environmental costs to inform decision-making processes and focus efforts on high environmental risk areas such as water-stressed regions or processes prone to climate disruption

- Conduct continuous environmental assessments using data analytics, combined with AI technology, to monitor changes in strategic issues and make real-time decisions

- Democratize access to environmental impact data/insights through self-service portals for all employees, including a dashboard that tracks company-wide KPIs aligned with environmental sustainability reporting standards

Case study: Clariant

Data-driven process optimization

The Clariant-owned subsidiary Navigance develops and operates a software service for chemical producers, using digital methods to optimize production plants for catalytic processes. A robust platform provides plant managers with detailed insights into their production data and helps them to maximize plant availability and optimize production processes. Using AI, combined with the expertise of chemical process experts, a hybrid model of the production process is created, which can then be applied to process data from customer plants. Navigance plans to help its customers save around €150 million ($180m) in raw materials and energy in 2025 and around €1,500 million in 2030.

> **The transparency which can be created by digitalization will foster trust in sustainable enterprises. Such trust by consumers, customers, employees, investors or any other stakeholder will be the key differentiator of sustainable enterprises versus non-sustainable ones. And the solutions that allow this are in the making. There is no winning system yet from the perspective of technology or network effects and maybe there shouldn't be one.**
>
> Sibylle Mutschler, Head of Digital4Clariant, Clariant

> **[The] digitalization agenda with a focus to drive sustainability is increasingly embraced by the construction and real estate industries to create resilient cities and buildings that can accelerate decarbonization and improve quality of life for people. Coupled with ESG benchmarking, digital transformation will lead to better businesses that are responsible and committed to creating values for all stakeholders.**
>
> Fanyu Lin, Chief Executive Officer, Fluxus

9. Finance/investment

Investor expectations are shifting rapidly as some of the world's largest asset managers demand that companies examine the financial impacts of environmental risks and opportunities. Corporate leaders should consider implementing the following actions to de-risk revenue and enhance long-term, environmentally sustainable value creation:

- Develop and/or implement measurement tools and impact assessment frameworks to capture the environmental impacts, progress towards company targets and return-on-investment

- Incorporate digital tools into financial assessment processes in order to conduct sound assessments of environmental sustainability impacts within a defined set of future scenarios

- Integrate and centralize data in order to report performance against environmental KPIs aligned to global sustainability reporting standards – for instance, the Global Reporting Initiative (GRI) or Sustainability Accounting Standards Board (SASB)

- For environmental issues with strategic significance for the business, set KPIs linked to executive compensation, informed by investor-driven reporting standards such as SASB

Case study: BlackRock

Environmental sustainability integrated in investments and metrics
In its letter to clients and Larry Fink's annual letter to Chief Executive Officers, BlackRock emphasized sustainability as integral to portfolio construction and risk management, calling on companies to disclose plans for how their business model will be compatible with a net-zero economy. To this end, BlackRock will be publishing a temperature-alignment metric for their public equity and bond funds in which sufficient data is available, incorporating climate considerations into its capital markets assumptions, implementing a "heightened-scrutiny model" for active portfolio holdings that pose significant climate risk, including flagging holdings for potential exit, launching investment products with explicit temperature alignment goals, and using stewardship to ensure that the companies in which its clients are invested are mitigating climate risk as well as considering opportunities presented by the net zero transition.

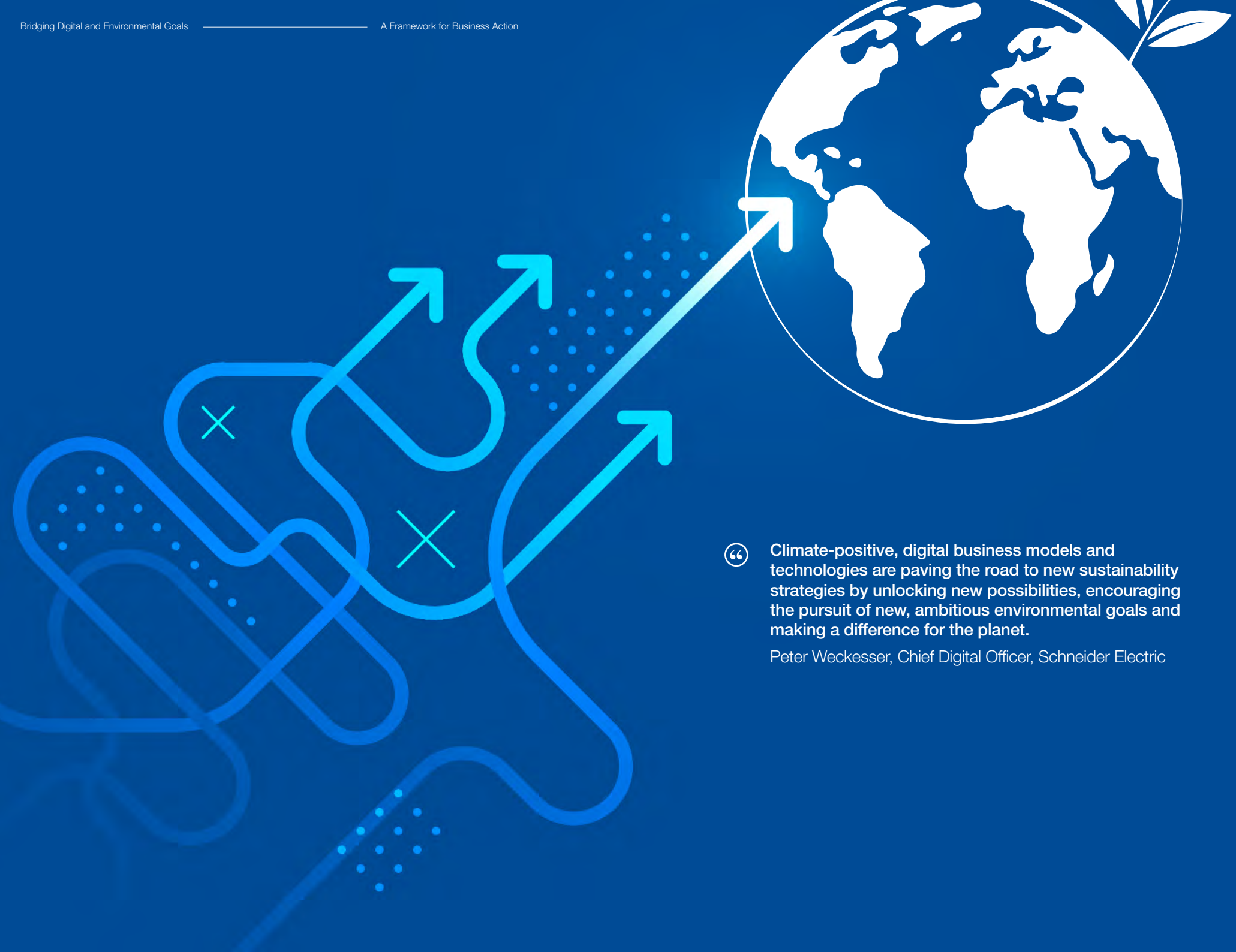
Case study: Majid Al Futtaim

Investing in innovation for environmental sustainability

Majid Al Futtaim's sustainability strategy requires each operating company to invest in an innovation centre of excellence to meet sustainability goals quicker and with greater impact.

In 2020, Majid Al Futtaim launched six in-store hydroponic farms within its Carrefour operations. These farms generate 2.5 tons of fresh produce, with 90% less water consumption and a 50% lower carbon footprint compared to equivalent imported produce. The project not only contributes to the company's net-positive commitment, it also helps local start-ups scale their businesses across Majid Al Futtaim's operations in 17 markets. The company also recently implemented blockchain traceability technology in its Carrefour operations to help deliver end-to-end visibility on products throughout its supply chain, resulting in increased food safety, sustainability and credibility for its customer base.

> **In the 2010s we very often heard the quote that "data is the new oil". I think it is finally time to pivot and say that "data is the new soil". Soil for sustainable innovations and digital transformation strategies.**
>
> Anna Zeiter, Chief Privacy Officer, eBay



> **Climate-positive, digital business models and technologies are paving the road to new sustainability strategies by unlocking new possibilities, encouraging the pursuit of new, ambitious environmental goals and making a difference for the planet.**
>
> Peter Weckesser, Chief Digital Officer, Schneider Electric

10. Talent and culture

The key to creating a sustainable and purpose-led digital business is to engage all employees, at every level, in the company's sustainability journey. Increasingly, corporate purpose and performance are critical to attracting and retaining young talent, and a critical limiting factor for the success of any digital business. Companies will also need to upskill their workforces and equip them with the insights to drive sustainable, profitable growth within their areas of responsibility. Corporate leaders should implement the following actions to engage employees:

- Provide employees with the digital and data tools and capabilities (e.g. design thinking or agile project management) to deliver innovation aligned to the company purpose, and advance environmental sustainability-related KPIs within their own roles
- Effectively communicate the company's long-term growth plans, including any digital and environmental goals
- Continuously improve KPIs that combine digital transformation and environmentally sustainable goals
- Align incentives and recognize employees for their contribution towards combining digital transformation and environmentally sustainable goals
- Build cross-functional teams that combine digitally skilled and environmentally knowledgeable talent to drive projects with shared objectives as the standard practice
- Create a culture of collaboration by encouraging open innovation, agility and experimentation within the organization and its broader ecosystem
- Reduce the company's travel footprint through the use of digital solutions for remote working, collaboration, training and remote client engagement
- Implement virtual collaboration tools to facilitate better diversity in decision-making and engage younger talent

Case study: Schneider Electric

Inspiring sustainable innovation for the current and future workforce

As a primary player in energy management and industrial automation, Schneider Electric saw an urgent need to support bold ideas that can reshape a smarter and more sustainable future. Schneider Go Green is a global challenge for university students to showcase proposals that will push the boundaries of digital transformation in topics such as access to energy, sustainable buildings, smart energy grids and new solutions for industrial plants of the future. Top teams in different regions are also mentored by current leaders in the company and could be considered for job opportunities in the company to build a workforce of sustainability-minded employees and increasing generational diversity.

Key considerations for success

A company's ability to compete will soon by driven not only by how well it can use digital technologies and data, but also how it harnesses these tools to create environmentally sustainable, long-term value for all stakeholders. Although digital transformation offers business leaders many opportunities, it also poses short- and long-term risks.

Environmental risks

If not managed appropriately, digital business models could lead to an increase in a company's environmental footprint. Growth in e-commerce, for instance, could lead to 36% more delivery vehicles in inner cities by the end of the decade, and urban last-mile deliveries are set to increase by more than 40% in 100 cities globally, according to a study by the World Economic Forum.

Meanwhile, even IT infrastructure itself must be disrupted. Although many data-hosting countries are investing heavily in renewable energy production, the environmental footprint of digital technologies is of growing concern as digital transformation rapidly accelerates and emerging technologies such as AI and blockchain increase energy demands. For instance, financial institutions that are undergoing rapid digital transformation of their services by adding new IT capacity are finding that the energy use associated with such IT is dramatically increasing their carbon footprint and energy costs.

Enterprises undergoing digital transformation should seek technology providers that offer tools to monitor, manage and automate IT assets in order to increase usage, reduce redundancies, and responsibly manage the product life cycle. Procuring efficient and effective IT solutions can also enable a company to increase its IT capabilities without the need to expand existing data centres to house additional servers for new workloads.

Societal risks

Societal impacts must also be considered as trust, security and inclusion remain critical concerns. As emerging technologies inspire environmentally sustainable innovation, they simultaneously create new risks and consequences such as privacy issues, job displacement and algorithmic bias.

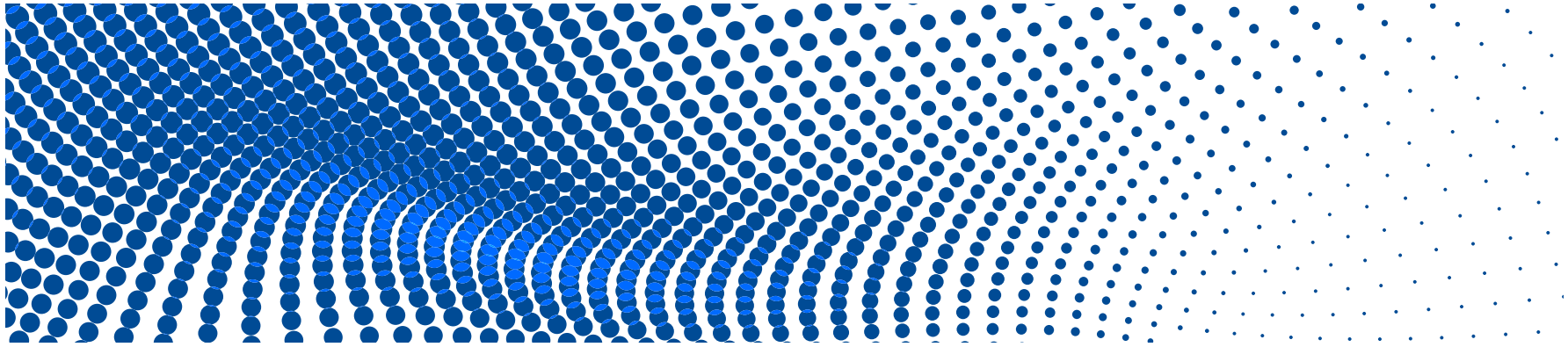
Although these impacts are beyond the scope of this paper, any successful digital transformation will require organizational leaders to identify and manage these potential risks and societal impacts. This may take the shape of a social and environmentally sustainable IT strategy, an ethics council or new governance policies, depending on the material issues identified. Initiative leaders should assess the social and environmental benefits and risks before undertaking new projects.

Collaboration

Integrating digital and environmental goals into the core of a business requires a mindset and behaviour shift across the organization. Companies with a clear corporate purpose can enable employees to consider multistakeholder outcomes and inspire innovation to generate new forms of business value. Transitioning to an environmentally sustainable global economy and effectively mitigating large-scale disruptions is beyond the capability of any individual, team, company or industry. Collaboration must be encouraged within organizations and across ecosystems to create shared value, facilitated by effective digital transformation and secure methods of data exchange that preserve economic growth and data privacy.

Taking an iterative approach to transformation is essential to balance the need for long-term investments with the need to demonstrate rapid results, particularly as we recover from the COVID-19 pandemic. Feedback loops with internal and external stakeholder groups should be established to adapt to a rapidly changing landscape while working towards a stable, long-term vision and goals.

Lastly, although this guide is designed for corporate leaders, the role of the board and of middle management cannot be discounted. The board's support for the company's vision and agenda is paramount to securing the necessary investments. These priorities must also be translated into performance targets and incentives for management, and, as with any truly transformational initiatives, must be appropriately staffed with the talent to execute these efforts from the bottom up.



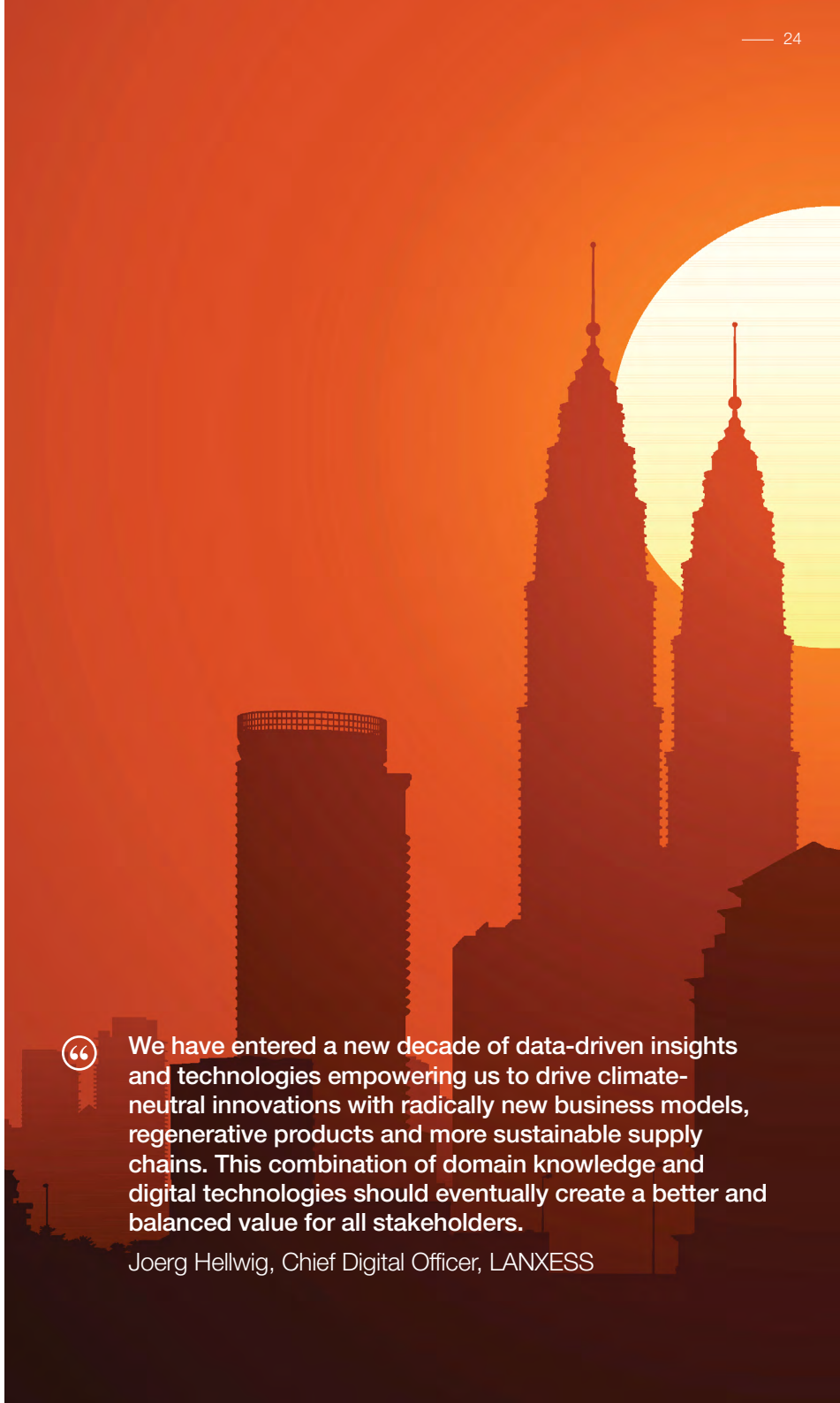
Conclusion

COVID-19 and its economic impacts have accelerated the digital transformations of businesses of all sizes. Yet, as businesses transform to create more efficient and agile business models, environmental sustainability must be embedded within them as a critical component to future-proof these business strategies and contribute to a prosperous outlook for all.

The building blocks of digital transformation, which enterprises are already rapidly adopting as a result of the COVID-19 pandemic, are the same components that can propel businesses to more environmentally sustainable practices.

Although global digital transformation and environmental action are some of the most powerful drivers for the future of business, the two agendas have developed predominantly in isolation. Aligning these agendas as mutually reinforcing concepts has the potential to accelerate the resiliency of all enterprises and improve the state of the world.

In this guide, the World Economic Forum, Hewlett Packard Enterprise and the digital transformation business leaders have outlined important steps that corporate leaders can take to align their business strategies with long-term value creation and environmental sustainability in a digital world. This guide is another step towards shaping digital transformations that deliver for people and planet, as well as profit, to lead systems change at scale.



> **We have entered a new decade of data-driven insights and technologies empowering us to drive climate-neutral innovations with radically new business models, regenerative products and more sustainable supply chains. This combination of domain knowledge and digital technologies should eventually create a better and balanced value for all stakeholders.**
>
> Joerg Hellwig, Chief Digital Officer, LANXESS

Contributors

We would like to thank members of Hewlett Packard Enterprise, the World Economic Forum, and the World Economic Forum Digital Transformation executive group for their contributions to this paper. We would also like to thank the members of the Digital Transformation CEO Champions Group, chaired by Antonio Neri, Chief Executive Officer, Hewlett Packard Enterprise, for their role in inspiring this paper.

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