



# Sustainability for every industry—global case studies

How Microsoft customers worldwide embrace the multiple bottom line



# Introduction

## Sustainability for every industry

In this booklet, you'll read about Microsoft customers who use technology to accomplish amazing things. We hope it inspires ambitious climate action in your own organization, no matter where you are on your sustainability journey.

You'll see that our customers and partners create sustainability impact across five scenarios:



### Unify data intelligence

Gain the visibility required to effectively drive sustainability reporting, sustainability efforts, and business transformation.



### Build a sustainable IT infrastructure

Identify opportunities to replace tools, systems, or activities with more efficient options and add business value.



### Reduce environmental impact of operations

Minimize the environmental footprint of your operational systems and processes.



### Create sustainable value chains

Facilitate greater transparency and accountability through your value chain, from sourcing materials through end of use.



### New business models

Transform your organization and do business in new ways.

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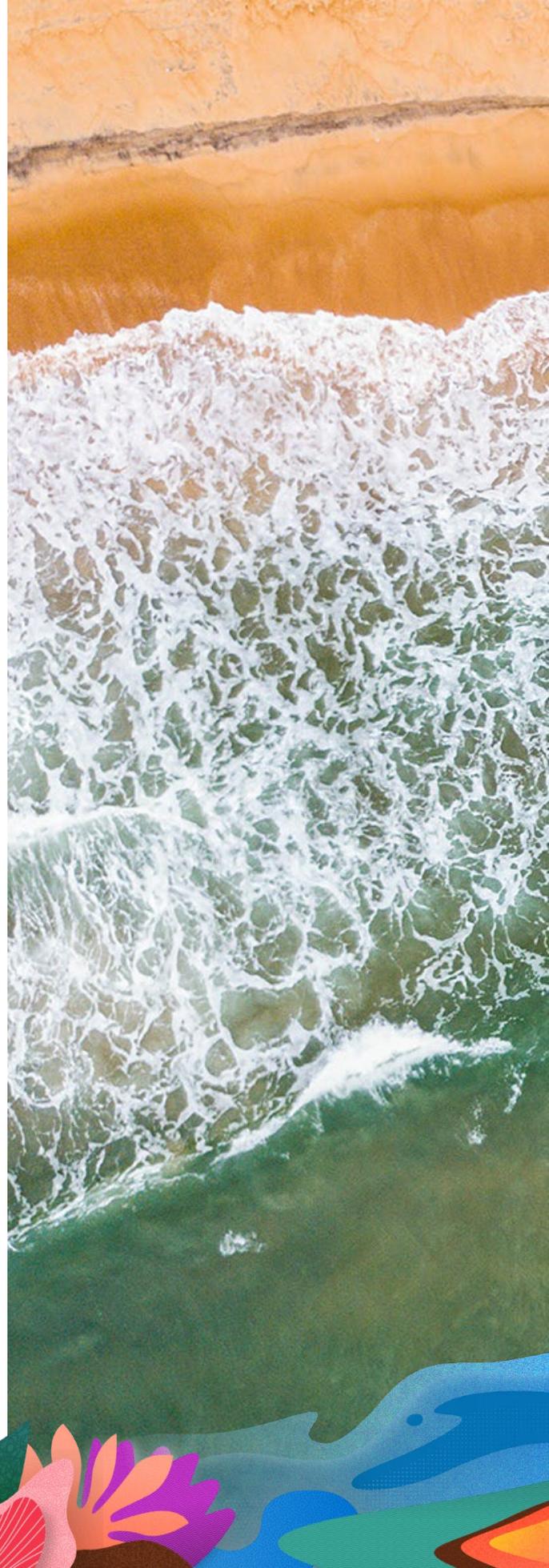
As you read, look for these icons



to know which scenarios are applicable to each customer story.

We are so proud to be part of these stories.

**Microsoft and our partners** can help every organization in the world pursue their sustainability goals.



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# Let's talk about the multiple bottom line

Foreword by Elisabeth Brinton, Microsoft CVP Sustainability

Leading businesses understand that a company's legacy is never judged by fiscal performance alone. We ask whether that company made a positive contribution to our world—and how they treated their people along the way.

Here at Microsoft, we believe that the best way to grow profits, increase shareholder value, and pursue an ever-expanding universe of opportunity is to embed sustainability into everything we do. We know that we can find solutions that grow our business while also making progress on our sustainability goals.

Like so many of our customers and partners, we've found that sustainable transformation has helped us:

- **Build brand trust.** Consumers, companies, and governments want to work with organizations who “walk the talk” of their values.
- **Increase efficiencies.** Whether it's energy, water, natural materials, or minerals, organizations who focus on using resources efficiently are also saving money.
- **Improve margins and revenue.** When you build a sustainable transformation on a digital foundation, whole new ways of doing business become possible.

We see enormous untapped opportunity for technology and data to drive sustainability goals. That's why we are bringing together a growing set of environmental, social, and governance (ESG) capabilities that drive progress. Together with our partners—many of whom are featured in this booklet—we are enabling organizations to manage their environmental footprint, embed sustainability throughout their value chain, and make strategic decisions that create value for the multiple bottom line.

Successful strategies don't put sustainability in a silo. We help our customers create a digital foundation for sustainable transformation that also enables big wins for efficiency, productivity, talent retention, and customer satisfaction.

Let's reimagine the bottom line. Let's visualize a future where every organization in the world can pursue fiscal strength, positive social impact, and environmental sustainability at the same time.

Many of our customers have already made significant progress on that journey. Read on to learn more—and to get inspired!



# Accelerate your sustainability journey

## Microsoft solutions make the difference

Organizations are looking to quickly advance their own sustainability progress and opportunities but recording and reporting that progress remains challenging for many. Measuring and monitoring sustainable transformation at scale requires data-driven solutions.

Based on more than a decade of work to reduce our own environmental footprint, we introduced Microsoft Cloud for Sustainability to help other organizations accelerate their sustainability progress. With support from our partners, we're continuing to add ESG capabilities and release updates to our extensible platform. The goal is to help organizations around the globe unify sustainability data intelligence and more easily track and reduce the environmental footprint of their operations and value chains.

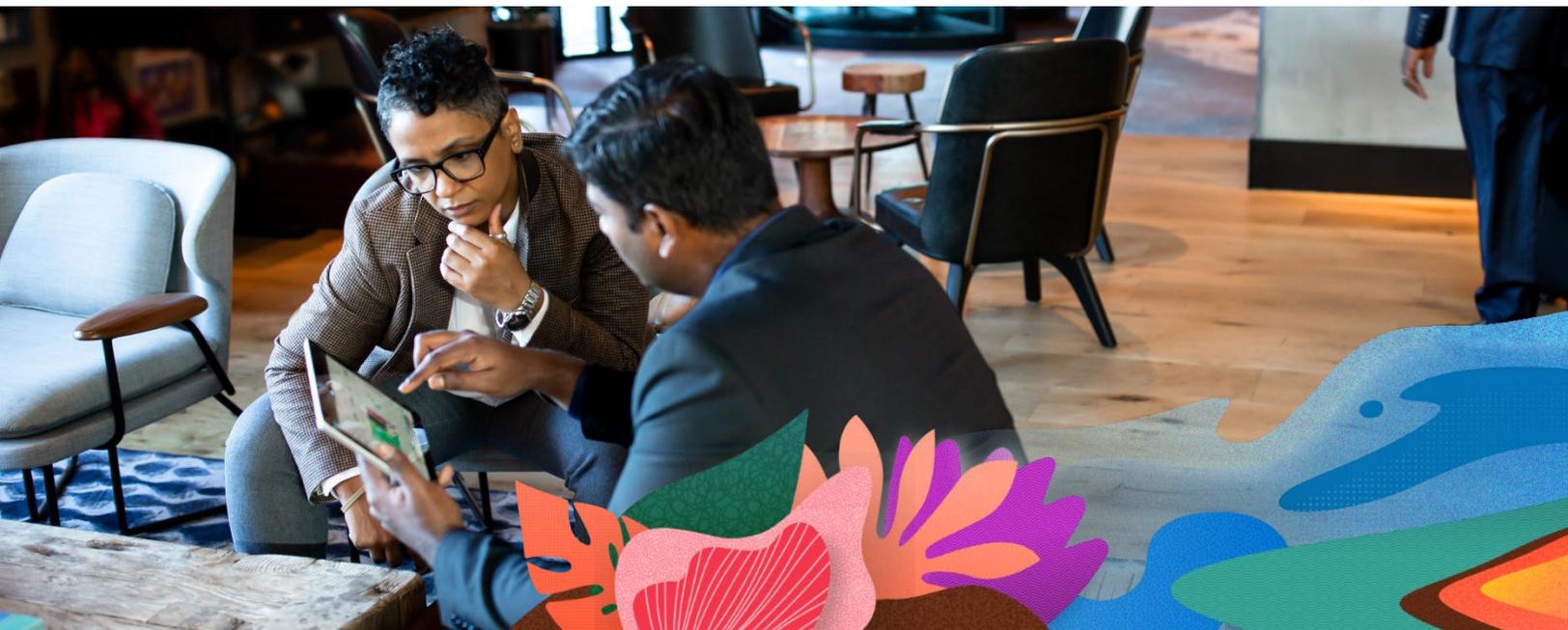
Microsoft Cloud for Sustainability is growing fast. Here are just a few of the solutions available now:

**Microsoft Sustainability Manager** is an extensible solution that unifies data intelligence and provides comprehensive, integrated, and automated sustainability management for organizations at any stage of their sustainability journey.

**Emissions Impact Dashboard** helps you estimate your carbon emissions related to using Microsoft cloud services—including Azure and Microsoft 365—and make more data-driven decisions about cloud usage.

**Environmental Credit Service** provides a common infrastructure for tracing environmental assets, like carbon credits, from origination to retirement.

One Microsoft customer doing great work on our extensible platform is Ingredion. Ingredion, a supplier of plant-based ingredients, has global reach and huge sustainability ambitions. Read on to learn how they are driving transformation today!





## Ingredion aims to make the world a better place for all using powerful sustainability data



Ingredion provides plant-based ingredients to global industries ranging from food and beverages to pharmaceuticals. The company's ambitious All Life 2030 sustainability plan targets emissions, plastics, energy sources, biodiversity, human rights, and more. To help achieve these goals, Ingredion sought a unified solution to replace the varied and highly manual data collection protocols in use at its dozens of global facilities. The company chose to work with Microsoft Cloud for Sustainability, and initial testing on its United States operations shows that Cloud for Sustainability can support Ingredion in making business decisions that help it meet its 2030 targets.

## A passion for sustainability

For Eric Aaviku, Senior Manager of Environment and Climate for Ingredion, sustainability is more than just a focus of his work, it's a personal passion. "I have two kids, and I want to be a role model for them," he says. "We'll be passing their generation the keys to the world in a few years, and I want to leave them in a good situation. We have finite resources on this planet, and we need to make the most of everything."

Aaviku's colleague Brian Nash, Vice President of Corporate Sustainability at Ingredion, shares that passionate desire to provide his children—and the rest of the world's population—with a healthy and sustainable future. That goal is tied to the company's continued health as well.

"At a very basic level, sustainability means doing business today in a way that doesn't inhibit our ability to do business in the future," says Nash. "For example, 95 percent of our global sourcing is corn as a raw material for our products. If we didn't look at soil health and sustainable agriculture, we could easily be destroying the farmland our growers depend on. That directly impacts the viability of our business."

Ingredion provides an extensive portfolio of plant-based ingredients to companies that create products ranging from food and beverages to paper and pharmaceuticals. The company has a longstanding commitment to sustainability, and it is pursuing aggressive sustainability goals as part of its All Life 2030 plan. The plan takes a broad approach to sustainability across 13 areas, including industrial safety, human rights, environmental impact, biodiversity, and sustainable agriculture. Environmental targets include a 25 percent reduction in greenhouse gas (GHG) emissions, a 100 percent avoidance of landfill waste, and a commitment to draw 50 percent of purchased electricity from renewable sources.

## A robust tool for gathering and analyzing sustainability data

To track and analyze both its current sustainability profile and progress toward its 2030 goals, Ingredion built a collection of databases that are centralized but not standardized. The company has approximately 70 global facilities and offices, each with its own process for data collection and entry, all heavily reliant on manual effort. This is not only time consuming, but it also presents opportunities for human error.

"We've had instances where the emissions at a particular facility have suddenly appeared to increase tenfold, but it turned out someone just accidentally put a decimal point in the wrong place," explains Nash. "We really wanted a solution that would help us standardize and automate data collection and provide better, faster capabilities for manipulating and analyzing that data."



"If we didn't look at soil health and sustainable agriculture, we could easily be destroying the farmland our growers depend on. That directly impacts the viability of our business."





“We want to help our customers’ brands grow so that we can grow along with them—it’s about mutual value creation.”

Ingredion is meeting those needs with [Microsoft Cloud for Sustainability](#), which brings together a set of environmental, social, and governance capabilities from across the Microsoft cloud portfolio and extends them with solutions from the global ecosystem of Microsoft partners. Available tools include Microsoft Sustainability Manager to centralize emissions-related data and help streamline data ingestion, sharing, and reporting.

“In the sustainability space, data is critically important to decision making,” says Larry Fernandes, Senior Vice President, Chief Commercial and Sustainability Officer at Ingredion. “We need to be able to gather the right data, manipulate it, move it into different formats, and cross-reference it on demand because there are so many ways that people want us to report that data. What’s most exciting about Cloud for Sustainability is the power it gives us over our data.”

“We want to help our customers’ brands grow so that we can grow along with them—it’s about mutual value creation,” continues Fernandes. “We’re not going to solve these challenges alone. By working with Microsoft and Cloud for Sustainability, we’re well positioned to improve our business in innovative ways that positively impact the world for decades to come.”

[Read the full story](#) →



## Grupo Bimbo accelerates its sustainability journey with Microsoft Cloud for Sustainability



Sustainability has always been an essential part of everyday business at Grupo Bimbo, the Mexico-based international producer of baked goods and snack foods. To help the company achieve its ambitious sustainability goals, Grupo Bimbo is deploying Microsoft Cloud for Sustainability, which helps businesses collect, track, and analyze all the strategic metrics of their sustainability strategy. Grupo Bimbo has a comprehensive strategy encompassing nutrition, social impact, waste, and water, and the company is beginning with tracking emissions in Canada, Mexico, and the United States. Grupo Bimbo is rolling out Microsoft Cloud for Sustainability to all its global operations, and the company has appreciated its ease of use and its ability to connect to multiple data sources, including external repositories and Internet of Things sensors, to automate data collection.

[Read the full story](#) →

# More cloud for sustainability stories

## FLSmidth plans industry-wide sustainability transformation and looks to Microsoft solutions for help

FLSmidth wants to be the sustainability leader in the mining and cement industries, and the company is on track to do that with its MissionZero plan for zero emissions and zero waste by 2030.



[Read the full story](#) →

## The Arnott's Group partners with Microsoft to transform its sustainability measurement capabilities

Arnott's will become the first company in Australia and New Zealand to deploy Microsoft Sustainability Manager.



[Read the full story](#) →

## Winbond Electronics and Microsoft partner to advance sustainability in Taiwan

Semiconductor memory solution leader plans Carbon Emission Information Platform.



[Read the full story](#) →

## Carbon Asset Solutions plants the seed for net zero emissions—securing carbon credits with Azure confidential computing

Carbon Asset Solutions is out to help rid the planet of damaging atmospheric carbon dioxide with a breakthrough technology platform for measuring, recording, and verifying carbon sequestration in agriculture.



[Read the full story](#) →



Unify data intelligence



Build a sustainable IT infrastructure



Reduce environmental impact of operations



Create sustainable value chains



New business models



## Automotive, mobility, and transportation

Humans have used carbon-emitting fossil fuels to power our mass mobility needs since the invention of the steam engine. Those fuels are now leading contributors to climate change. In the United States, transportation accounts for 27% of total greenhouse gas emissions, according to the [Environmental Protection Agency](#).

This critical industry now stands on the cusp of historic transformation. Manufacturers, providers, and customers are evolving their practices and habits toward an electric and digital future. Automakers are transforming into mobility service providers. The aviation and shipping industries are exploring alternative power sources and making significant carbon commitments. And, crucially, electricity providers are building the digital infrastructure to support an all-electric future.

Microsoft and our partners help our customers in automotive, mobility, and transportation build a resilient industry for a sustainable future.

**4.6**

metric tons of carbon dioxide are emitted annually by a standard car<sup>1</sup>

**17%**

of global emissions are attributable to road transport<sup>2</sup>

**6.6M**

electric cars were sold in 2021<sup>3</sup>

**500K**

public charging stations were installed in 2021<sup>3</sup>

1. ["Greenhouse gas emissions from a typical passenger," EPA](#)
2. ["Global Car Industry Must Shift to Low Carbon to Survive – CDP," UNFCCC](#)
3. ["Electric Vehicles," IEA](#)



Clever

## Clever accelerates business growth with sustainable mobility



Clever, one of Europe's leading Mobility Service Providers (MSPs), is expanding charging infrastructure today for tomorrow's sustainable mobility. This Danish company believes that electric vehicles (EVs), often considered one of the most sustainable forms of transportation, are critical in the movement to minimize dependency on fossil fuels. And in the universe Clever is creating—where renewable energy is positioned wherever EV customers end up—everyday people will drive global change.

Clever's expansive network of user-centered charging stations—along highways and in cities, shopping centers, workplaces, and homes—is not only simplifying EV adoption in Denmark, but also optimizing how and when energy is used. Together with Delegate and other strategic partners, Clever is leveraging intelligent Microsoft technology to help balance the Danish power grid, sustain business growth, and improve customers' lives.

## Clever's on a mission to increase energy consumption

"It's in our DNA to make the transition from fossil fuels into sustainable energy," shares Clever Head of Communications and Public Affairs, Henrik Skyggebjerg. But as counterintuitive as it may seem, the company is working diligently to increase energy consumption.

With intelligent technology, Clever will soon begin to optimize the consumption of energy generated from wind turbines at night to power EVs by day. And with the Clever app, the company hopes to reinforce more sustainable behavior. Currently, users can see when demand on the energy grid is lowest. And unless they opt otherwise, charging occurs overnight, when there's an average of 40 percent more sustainable energy in the power mix. ([Energinet](#), 2021) In further app developments, users will also gain insights and visibility into the CO2 reductions afforded by this peak shaving.

Clever is also working on Smart Grid technology to leverage one of the EVs major advantages over wind power: its battery, which the company—with customer permission—will be able to predictably charge to balance energy consumption. "To save the power grids, you must have balance," explains Jonas Thomsen, Clever CIO. "You cannot consume more electricity than you produce. And you cannot put in more power than you consume, otherwise the network breaks down."

As EVs become more ubiquitous in Denmark, energy consumption will rise. But with intelligence baked into everyday charging, EVs can help to balance the grid. Based on analysis from industry organization, Danish Energy, Clever estimates this will save Danish power consumers 16 billion DKK, the equivalent of \$2.5 billion USD. ([Danish Energy](#), 2019)

Clever estimates that EV load balancing will save Danish power consumers 16 billion DKK, the equivalent of \$2.5 billion USD.

## Clever meets business demand with strategic partner and intelligent IT

Clever needed a real partner to help them replace failing systems, optimize services, and automate their time-intensive processes. So, after working with consultants and suppliers for years, they hired Delegate—Denmark's 2021 Microsoft Partner of the Year.

"We're not wasting a lot of hours discussing hours," Thomsen chuckles, "we're spending the time developing cool software instead." Together—leveraging a mix of Azure solutions—Clever and Delegate have begun custom development of a new CPMS.

"We already used Microsoft technologies, so Azure was the natural step," Thomsen continues. "It gives a lot of natural integrations to all the standard applications, like Microsoft 365, Dynamics 365, and Business Central. [They] just fit together." Additionally, the cloud-based technology aligns to Clever's sustainability mission. By 2025, Azure will be powered entirely by renewable energy. And according to a 2018 study, moving on-premises workloads to the Microsoft cloud can be up to 93 percent more energy efficient. ([Microsoft](#), 2020)

Read the full story →





## Sustainable digital transformation at Rolls-Royce



As the world transitions to a net zero carbon future, the industries in which iconic British brand Rolls-Royce operates are some of the most critical—but they are also some of the hardest to abate.

For more than 100 years, Rolls-Royce has delivered excellence through its engines. Doing so for the next 100 years will require a transition to new ways of working. Rolls-Royce understood that the power to optimize carbon output lay in processing, modelling and interrogating flight data. Rolls-Royce turned to Microsoft and the Microsoft Azure platform for the compute power required. Combining this with Microsoft Power BI enabled Rolls-Royce to serve new data insights to the engineering team.

[Read the full story →](#)



PARKL



## From parking app to all-round mobility solution



Parkl helps more than 100,000 customers in Hungary quickly locate, find and pay for parking spaces, EV chargers, or other services through its mobile app. Having been supported by the Microsoft for Startups program from day one, Parkl decided to scale up its mobility solutions by migrating to Azure. The move enabled the company to connect 10 times more devices through the IoT Hub, enhancing service efficiency and user experience. With sustainability at its core, Parkl paves the way towards smart city initiatives and international expansion.

[Read the full story →](#)

# More automotive, mobility, and transportation stories

## Maersk Supply Service: Blowing winds of change through cloud technology

Maersk Supply Service, a leading provider of marine services in the energy sector, is expanding into the offshore wind market.



[Read the full story →](#)

## Sustainability-focused Swedavia soars to the cloud with the Azure Migration and Modernization Program

After losing 90 percent of airport passengers during COVID-19 shutdowns, Swedavia had to take drastic measures to save its bottom line.



[Watch the video →](#)

## Driving employee engagement with Microsoft Teams accelerates business at Toyota Motor North America

One reason that Toyota Motor North America employees embrace Microsoft 365 tools is because they dovetail with the company's corporate credo, The Toyota Way.



[Read the full story →](#)

## airBaltic's ground team gets off to a flying start with Microsoft Teams and Power Apps

Optimizing with Power Apps and Teams helped airBaltic save 1,000 printed pages a month.



[Read the full story →](#)

## Bridgestone proves how Azure high-performance computing can enhance the sustainability, efficiency, and flexibility of virtual tire development

Bridgestone's virtual tire development technology allows the company to design a digital tire, test it virtually, and fine-tune it before manufacturing prototypes or beginning physical testing.



[Read the full story →](#)



Unify data intelligence



Build a sustainable IT infrastructure



Reduce environmental impact of operations



Create sustainable value chains



New business models

## Canadian marine services fleet jettisons risk with Microsoft HoloLens tech support solution

LeeWay Marine uses modern technology to solve complex problems for marine vessels far from land.



[Read the full story](#) →

## Allego offers electric vehicle smart charging solutions powered by Azure Digital Twins

Allego is providing electric vehicle drivers everywhere with flexible, easy-to-use, and environmentally friendly charging options.



[Read the full story](#) →

## Polish energy supplier Elitmind dashes toward a green future with Microsoft Azure

A solution developed in tandem with Microsoft partner Elitmind enabled real-time management of renewable sources to secure appropriate energy levels for powering rails.



[Read the full story](#) →

## Information intelligence company, METIS, helps ships sail safe and smart using predictive AI

METIS Cyberspace Technology helps shipping companies improve safety, minimize the environmental impact, and increase profitability.



[Read the full story](#) →

## Carsharing service WeShare: Volkswagen subsidiary UMI develops urban mobility with cloud services and AI

From zero to more than 100,000 customers in one year flat.



[Read the full story](#) →



Unify data intelligence



Build a sustainable IT infrastructure



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Create sustainable value chains



New business models

### From tuk-tuks to trucks: Sun Mobility offers a smart new way to power electric vehicles

India's SUN Mobility develops cloud-connected swappable batteries to put us on the road to the future.



[Read the full story →](#)

### Jejak.in Encourages More Indonesians to Take Part in Environmental Protection through Technology

"Indonesia, with its 120 million hectares of forest land, has the potential to generate 28 billion tons of carbon credits per year."



[Read the full story →](#)

### Alpega Group is improving sustainability in the transport industry with a container solution managed by Microsoft and Red Hat

Leading global logistics software company Alpega Group helps coordinate the transportation of freight in 80 countries.



[Read the full story →](#)

### TEXA's revolutionary IoT solution for vehicle owners helps save time, money, gas—and possibly lives

TEXA S.p.A. is one of the first companies to give consumers, fleet managers, and mechanics mobile access to useful insights compiled from vehicles' computers.



[Read the full story →](#)



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# Energy

Modern life runs on energy—and we will need a lot of it.

Energy organizations provide the fuel, electricity, heat, and raw materials needed for our vehicles, homes, and businesses. But the fossil fuels they produce are the root of much of human-caused GHG emissions. These organizations will be called on to reduce fossil fuel production, mitigate GHG emissions, and generate energy from low-carbon sources.

Microsoft and our partners can help our energy sector customers achieve all of this while transforming their operations and business models to power a sustainable future. We form deep partnerships with our customers to co-innovate the future and accelerate the decarbonization of the global economy.

**\$500B**

invested in energy transition worldwide in 2020<sup>1</sup>

**\$2.1T**

estimated global market for renewable energy in 2025<sup>2</sup>

**68%**

of leading utilities increased cloud investments during pandemic<sup>3</sup>

1. ["Energy Transition Investment Hit \\$500 Billion in 2020 – For First Time," BNEF](#)
2. ["Size forecast of renewable energy market globally 2025," Statista](#)
3. ["How can utilities scale digital transformation?" Accenture Utilities Blog.](#)



## Microsoft and SSE collaborate to positively impact people, power, and puffins



SSE Renewables is a leading developer and operator of renewable energy across the United Kingdom and Ireland. With a portfolio of around 4GW of onshore wind, offshore wind and hydro, the company has a key role in helping the UK reach its sustainability and net zero carbon goals. Technology will be a big part of that effort.

With the help of Microsoft, professional services company Accenture, and our joint venture Avande, SSE renewables will be making positive impacts beyond the generation of low-carbon energy. Communities, ecosystems, and whole energy systems stand to benefit from this ambitious collaboration.

## Changing the way we build wind farms

The way windfarms are built could be changed forever by a new project that uses real-time data to understand the effect turbines have on local wildlife and ecosystems.

SSE Renewables, Microsoft, and Avande are working together to create Azure Digital Twins of offshore windfarms and their local environment, which they hope will encourage the sector to develop renewable energy solutions that have a positive impact on ecosystems. A digital twin is an exact replica of an object in the physical world that can be studied and changed to help improve the real-life version.

Avande will work with SSE Renewables to deploy Microsoft's technology and monitor changes in the atmosphere, reefs, and marine and bird life around windfarms. The huge amount of data from monitoring devices will be stored in Microsoft's Azure cloud platform. It will be used to build a digital replica of sites that can be viewed on mobile devices and headsets to help SSE Renewables understand how a development is affecting an area

in real-time, in addition to monitoring the ecosystem through the lifecycle of the windfarm to minimize any negative impact.

Currently, energy companies rely on manual ways of collecting data on how windfarms affect local environments, including sending divers into the sea to count fish, which can be inaccurate and quickly become out of date. By using Azure IoT to automate this process, SSE Renewables hopes companies will be able to understand the full impact of new turbines before they are built to ensure they don't harm the local environment. It could also expand humans' understanding of how the ecological, environmental and infrastructural worlds interact.

In the meantime, the work being done on Dunbeath Cliffs to spot, recognize and count puffins using technology could help minimize disruption to birds' breeding and feeding habits as those sustainability projects move forward.

[Read the full story](#) →



## Counting sea puffins with AI

Counting puffins is a difficult job. Traditionally, rangers must lie on the ground and put their hand into burrows to feel for a pair of puffins and their egg. As you can imagine, the birds aren't too keen on being prodded in the comfort of their own home, and often give the invasive fingers a bite or scratch. With tens of thousands of burrows to check in an area, the rangers get through a lot of bandages.

While they are not at imminent risk of extinction, puffins are on the Birds of Conservation Concern 4 Red List, meaning that there are serious concerns over numbers in the wild. One reason for this is puffin couples only lay one egg a year. It's why brave rangers take part in counting projects in places such as the Farne Islands, the Shetland Islands and Dunbeath Cliffs, off the east coast of Scotland, to understand whether the population is growing or shrinking.

On Dunbeath Cliffs, SSE Renewables is trialing a new way to count puffins using artificial intelligence, machine learning and image recognition technology. The project, which is supported by Microsoft, Avanade and NatureScout, could

transform the way animal colonies are counted when companies such as those building developments want to understand the impact on local wildlife.

SSE Renewables, part of FTSE 100 company SSE and a leader in renewable energy across the United Kingdom and Ireland, operates the Beatrice offshore windfarm. It's also building the world's largest offshore windfarm at Dogger Bank, off the coast of Yorkshire; Scotland's largest offshore windfarm at Seagreen, off the coast of Angus; and what is set to be one of Europe's most productive onshore windfarms—Viking, in the Shetland Islands.

The company sees sustainability as a top priority and is working with Microsoft to identify, develop and deploy innovative solutions aligned to joint zero-carbon ambitions. The pair will look to collaborate, share knowledge and develop potential initiatives to drive operational efficiency through renewable energy, decarbonization and digital solutions.

[Read the full story](#) →



## One rooftop at a time

Solar panels being installed on the roofs of dozens of schools throughout Dublin, Ireland, reflect a novel front in the fight against global climate change, according to a senior software engineer and a sustainability lead at Microsoft.

The technology company partnered with SSE Airtricity, Ireland's largest provider of 100 percent green energy and a part of FTSE listed SSE Group, to install and manage the internet-connected solar panels, which are connected via Azure IoT to Microsoft Azure, a cloud computing platform.

The software tools aggregate and analyze real-time data on energy generated by the solar panels, demonstrating a mechanism for Microsoft and other corporations to achieve sustainability goals and reduce the carbon footprint of the electric power grid.

"We need to decarbonize the global economy to avoid catastrophic climate change," said Conor Kelly, the software engineer who is leading the distributed solar energy project for Microsoft Azure IoT. "The first thing we can do, and the easiest thing we can do, is focus on electricity."

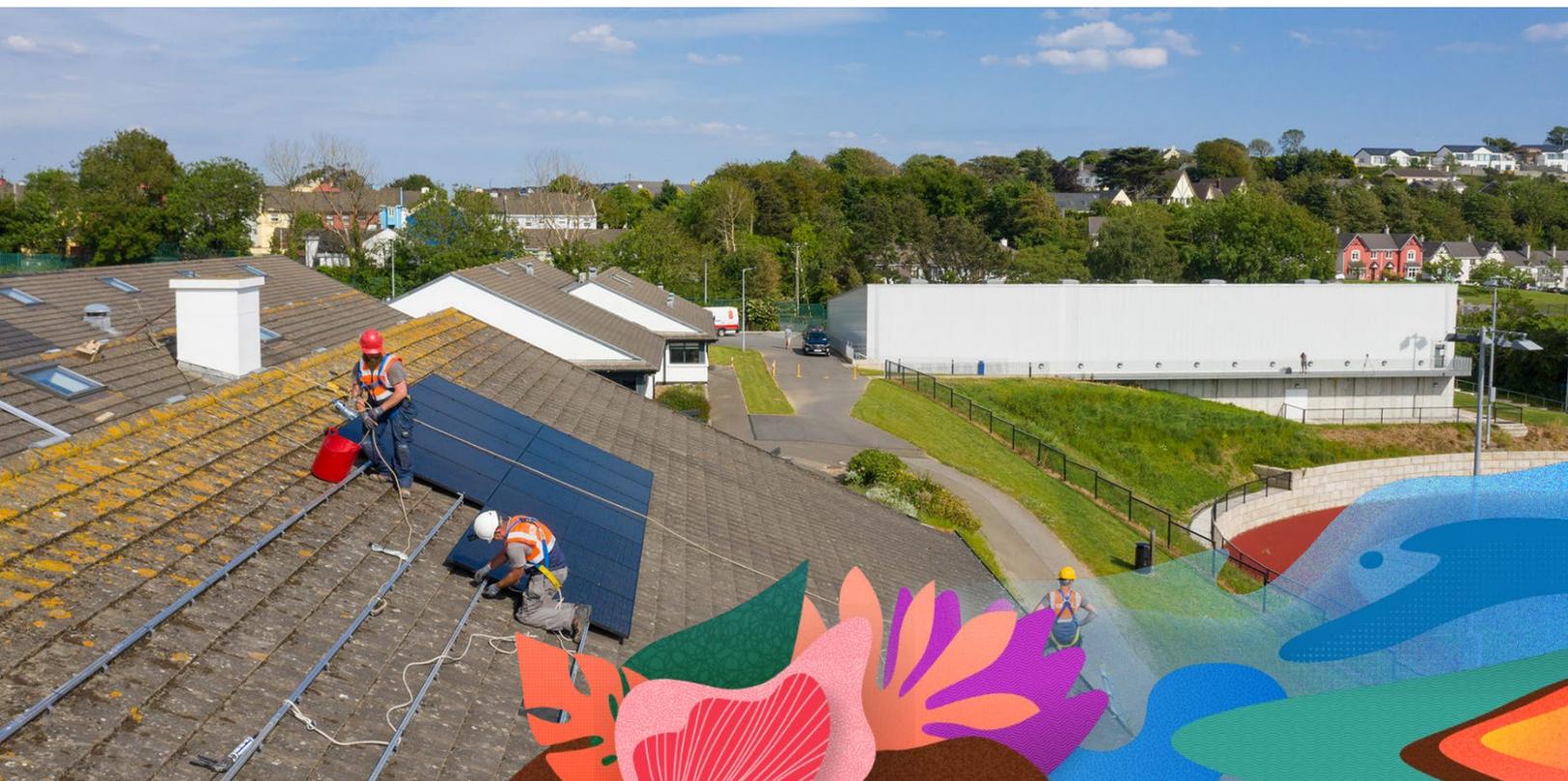
Microsoft's \$1.1 million contribution to the project builds on the company's ongoing investment in renewable energy technologies to offset carbon emissions from the operation of its datacenters.

A typical approach to power datacenters with renewable energy is for companies such as Microsoft to sign so-called power purchase agreements with energy companies. The agreements provide financial guarantees needed to build industrial-scale wind and solar farms and connections to the power grid.

The new project demonstrates the feasibility of agreements to install solar panels on rooftops distributed across towns with existing grid connections and use internet of things, or IoT, technologies to aggregate the accumulated energy production for carbon offset accounting.

"It utilizes existing assets that are sitting there unmonetized, which are roofs of buildings that absorb sunlight all day," Kelly said.

[Read the full story](#) →





## bp advances net zero goals with the help of Microsoft Intelligent Data Platform



Data is integral to bp's purpose of reimagining energy for people and the planet, including the ability to access and share data across the company in a more safe, secure, and reliable way. Microsoft's Intelligent Data Platform brings together data from multiple cloud and on-premises sources, with Azure Synapse, advanced analytics, and IoT services to accelerate production of data products and train AI and machine learning models at scale. These capabilities also help bp track and manage carbon emissions and support its ambition to become a net zero company by 2050 or sooner and help the world achieve a net zero status.

[Read the full story →](#)

## BOLIDEN



## Boliden builds a sustainable future for mining with automation, AI, and Azure



Swedish mining company Boliden produces the high-quality metals, including zinc and copper, needed to make modern life work. As part of a long-term goal to introduce more digitization and automation into its processes, Boliden used a wide range of Microsoft Azure resources—such as Azure Stack Edge, Azure IoT Edge, and Computer Vision (part of Azure Cognitive Services)—to monitor its mining sites around the clock. This has helped Boliden's people refocus on the high-value, innovative work that drives more sustainable, environmentally friendly mining operations.

[Read the full story →](#)



## ENEOS leads the way to sustainable hydrogen fuel by validating computing algorithm using Azure Quantum

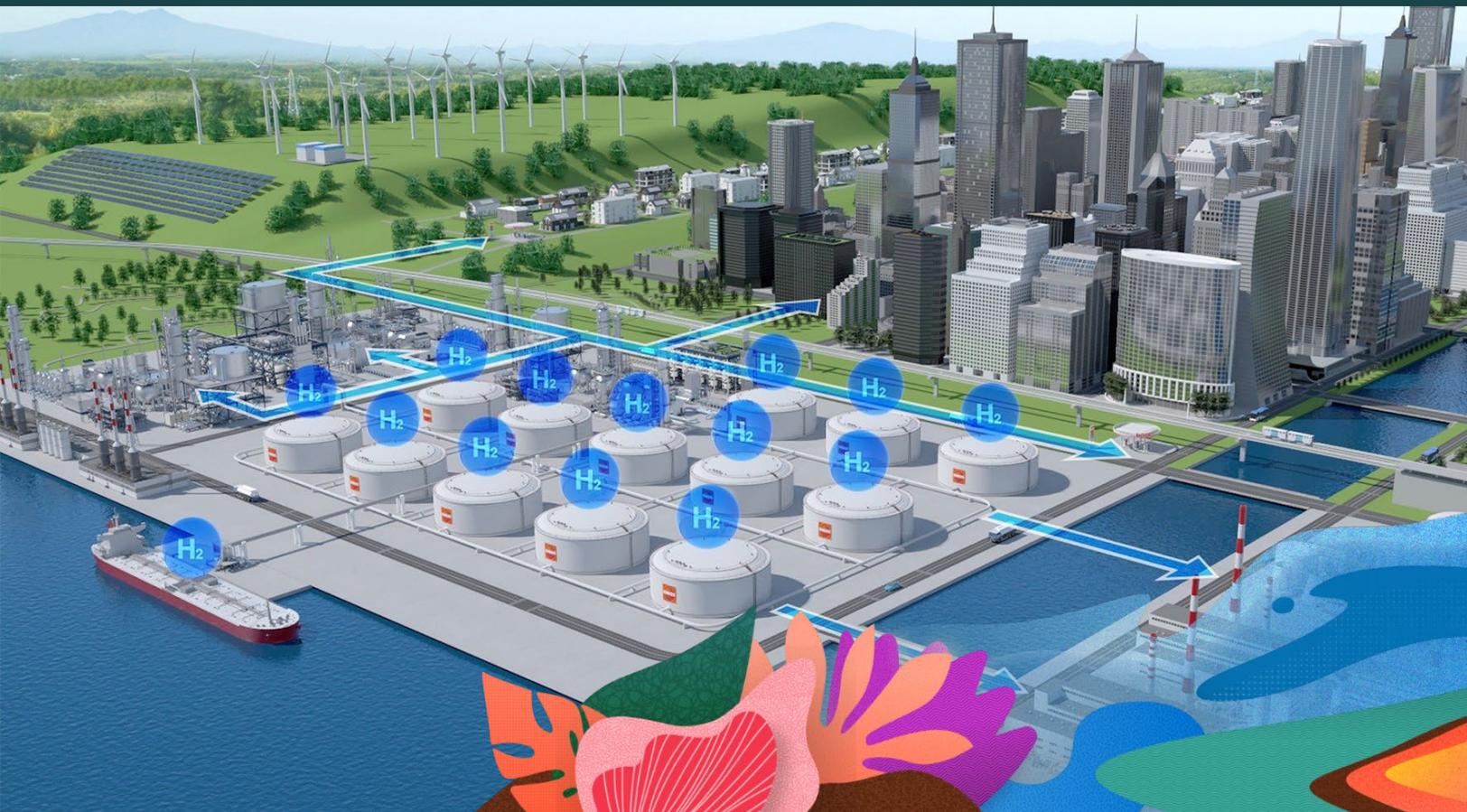
ENEOS is thinking big and looking to the future. One of the largest energy companies in Japan, ENEOS is exploring a broad range of energy sources, including alternative fuels. In support of its mission to “harness the Earth’s power for the common good and for the day-to-day life of each individual,” ENEOS is working on the development of sustainable hydrogen fuels.

Transportation presents a challenge because of hydrogen’s light weight, so ENEOS needs to convert it to methylcyclohexane. To help achieve this, the company started catalyst research based on

vibration analysis of molecules, including the transition state of a reaction. Generally speaking, vibration analysis requires a lot of computational power, but the vibration analysis of the transition state is even more demanding and requires a tremendous amount of computational power. This is due to the necessity of considering electron correlation when calculating the transition state.

Operating on the leading edge of new paths for computation, ENEOS decided to explore the use of quantum computing. Quantum computing harnesses the unique behavior of quantum physics and uses quantum mechanics to run calculations on specialized hardware, resulting in the tantalizing potential of solving computational problems that are out of reach for standard classical computing. Based on a recommendation from Japanese startup QunaSys, ENEOS adopted Microsoft Azure Quantum to perform the computation.

[Read the full story](#) →



# More energy sustainability stories

## Ontario Power Generation: Powering a sustainable future with digital innovation

As Ontario's largest power generator and clean technology innovator, Ontario Power Generation (OPG) is leading the drive for decarbonization while balancing economic and environmental benefits, and Ontario's electricity needs.



[Read the full story](#) →

## OPG and Microsoft announce strategic partnership to power a Net-Zero future for Ontario

OPG and Microsoft announced a Canada-first strategic partnership aimed at tackling climate change and driving sustainable growth across Ontario. The two companies will work together on a series of initiatives that are focused on delivering innovative clean energy solutions and digital skilling programs.



[Read the full story](#) →

## Vestas supercharges its wind farm control models for sustainable energy with Azure HPC

Even small efficiencies in wake optimization have the potential to unlock significantly more power and thus higher profits for wind farm operators.



[Read the full story and watch the video](#) →

## Renewable energy company keeps colleagues connected using Microsoft Teams with Teams Phone

Mainstream Renewable Power has plans to complete 5.5 GW of clean energy projects by financial close in 2023. That's like creating an electricity system to meet the demand of a country the size of Ireland in less than three years.



[Read the full story](#) →



Unify data intelligence



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New business models

### Eneco: Creating a sustainable workplace with modern devices

With 4,000 people spread across Europe, rolling out a fleet of new devices would be a challenge at any time. The COVID-19 outbreak, however, would make it a logistical nightmare.



[Read the full story](#) →

### Maersk Drilling uses Microsoft Project to streamline complex technical project management

Based in Denmark, Maersk Drilling operates 19 high-efficiency drilling rigs of different types located around the world. Each one is a highly complex industrial marvel, and the rigs operate in some of the world's harshest environments.



[Read the full story](#) →

### Repsol and Microsoft expand collaboration to accelerate digital innovation and energy transition

Companies will co-innovate on solutions to transform the energy industry.



[Read the full story](#) →

### Swiss energy company boosts hydro plant efficiency

Axpo ingests more than 20 million measurements daily and uses the insights it gains to make well-timed and data-driven decisions.



[Read the full story](#) →

### EDP: Creating a more sustainable mobility sector with data

Global energy company EDP has set itself an ambitious goal: to totally electrify its mobility fleet by 2030.



[Read the full story](#) →



Unify data intelligence



Build a sustainable IT infrastructure



Reduce environmental impact of operations



Create sustainable value chains



New business models

## One Swedish utility company is undergoing a journey in energy innovation—empowered by dynamic collaborations and AI technology.

Using the AI-enabled Azure platform, Mälarenergi is digitizing and automating district heating production to best manage the increasing demands on the grid and optimize their energy production.



[Read the full story and watch the video →](#)

## When its customers demanded innovation, Agder Energi joined the revolution

The company partnered with Microsoft to launch the Smart Grid Pilot Program, an Azure solution that helped Agder Energi identify ways to operate the grid more efficiently and interact with customers to help reduce the load on specific components of the grid.



[Watch the video →](#)

## Slovenské elektrárne supercharges weather predictions with Azure and Power BI analytics

The energy provider implemented a machine learning solution comprised of Azure Synapse Analytics and Azure Databricks, which has saved the company around €100,000 and cut down forecasting time from two hours to 15 minutes.



[Read the full story →](#)

## E.ON accelerates rollout of sustainable district heating and cooling grids with Azure Machine Learning and Azure Data Factory

E.ON ectogrid™ maximizes the reuse of energy within the system and drastically reduces the energy supplied by up to 75 percent.



[Read the full story →](#)

## Clean Energy Fuels runs greener, boosts efficiency with Dynamics 365

Clean Energy is making the world a safer, greener place by reimagining the way we fuel our vehicles.



[Read the full story →](#)



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New business models

## Achieving 100 percent renewable energy with 24/7 monitoring in Microsoft Sweden

In 2020, Microsoft became the first hyperscale cloud provider to track hourly energy consumption and renewable energy matching in a commercial product using the Vattenfall 24/7 Matching solution.



[Read the full story](#) →

## Northern Lights is innovating for the future of carbon transport and storage

A partnership called Northern Lights, a joint effort of the Norwegian government and energy firms Equinor, Shell, and Total, is seeking to standardize and scale carbon capture and storage, or CCS, across Europe.



[Read the full story](#) →

## 'Moments of truth': Belgian company HB Antwerp is using blockchain to track each diamond's story

Simply disrupting the traditional diamond supply chain isn't quite what the founders of Belgian company HB Antwerp are aiming to do. They want a revolution.



[Read the full story and watch the video](#) →



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New business models

# Financial services

Financial services organizations, with their relatively small direct environmental impacts, might seem distant from the “front lines” of climate solutions. In reality the financial sector can be a powerful player in helping the world transition to a sustainable future.

Some financial services companies, like our customer Flowe, are creating new business lines that help consumers advance sustainability in their own lives. Others, like Munich Re, are using their analytical expertise to provide useful insights to other organizations.

But even financial services companies that don’t get directly involved in sustainability initiatives can help enable other organizations track the environmental, social, and governance (ESG) impacts of their operations. Investors and lenders worldwide are making ESG a priority and regulations are moving quickly. And every organization in the world must closely monitor their climate risk—including both physical assets facing danger from extreme weather and fossil fuel-related investments that might be stranded by the global energy transition.

Microsoft and our partners can help the financial services industry minimize risk and maximize opportunity through the power of digital transformation.

**73%**

of consumers ages 21-25 want their banking services to help them reduce their carbon impact<sup>1</sup>

**300**

banks have signed on to the UN Principles for Responsible Banking<sup>2</sup>

**\$130T**

of private capital committed to net zero transformation under the Glasgow Financial Alliance for Net Zero<sup>3</sup>

1. “The Rise Of Climate-Conscious Consumers: The Climate Change Opportunity In Banking,” Forbes

2. “Principles for Responsible Banking,” UN Environment Programme

3. “Amount of finance committed to achieving 1.5° C now at scale needed to deliver the transition,” Glasgow Financial Alliance for Net Zero



flowe

## Flowe and Microsoft Consulting Services build a digital banking platform committed to sustainability



Flowe is a new kind of bank, one that believes every financial decision a person makes has an impact on their well-being and the world at large. Flowe aims to empower customers to live meaningful lives by integrating education and transparency around environmental sustainability and personal health directly into the banking experience.

Flowe turned to Microsoft Consulting Services to build a cloud-native, open banking platform that goes beyond finance, attracting and educating younger generations.

## The vision: Using AI to nudge users toward sustainability and well-being

Flowe, a startup founded by one of the largest Italian banks, Banca Mediolanum, collaborated with Microsoft Consulting Services to build an experience that's more than a typical banking app, targeting millennial customers. In addition to winning over a new customer segment with a highly differentiated value proposition from other banks, Flowe also aims to outcompete digital-only challengers jockeying for marketshare in the banking space.

Flowe integrates educational videos on sustainability, as well as on how to eat well and exercise properly. "We want to educate customers not only on financial topics like how to manage money but also on their use of natural resources or how physically active they are," says Ivan Mazzoleni, Cultural Energy Orchestrator (CEO) at Flowe. Flowe also envisioned including a community aspect so customers could see how their sustainability efforts add to what others are doing, and how their physical activity compares to that of community members. When someone has data on the impact of their actions, they may start to make changes, especially if they have evidence that others are on the same journey.

"One of the ways we do this is by using the Microsoft AI platform to give small, gentle nudges that can help people create more meaningful lives. To do that effectively requires investigating data and running experiments. With Microsoft Azure, we can quickly review every aspect of all customer data, such as credit card transactions, CO2 impact, or how



"You can sign up to automatically offset your carbon impact every month by planting trees in Guatemala. People can even see the trees they have purchased and where they are located."

customers are engaging with video content in the app," says Marco Segato, Augmented Intelligence Practitioner at Flowe. "From all this data, we want to extract single behaviors and provide nudges that can change people's behavior. For example, we may make it transparent what the carbon impact is of shopping at one store versus another. We provide customers with such insights in small, consumable ways."

All this requires data, some of which comes from devices such as smartwatches. Other data comes from third-party apps that are integrated into Flowe. One such app tracks users' steps and workouts and offers community challenges. Another app provides information on the CO2 impact of every euro spent by users with the Flowe credit card. Flowe also works with a partner that plants trees to offset the carbon impact of customer



expenses tracked in the platform. “You can sign up to automatically offset your carbon impact every month by planting trees in Guatemala. People can even see the trees they have purchased and where they are located,” says Cristina Toniazzo, Happiness Caring & Service Operations Practitioner at Flowe.

These are just a few examples of the types of apps integrated into Flowe—more are added on an ongoing basis.

### A certified commitment to social and environmental goals

Sustainability isn’t just an added layer, it is part and parcel of Flowe’s mission. The company is in the process of becoming a Certified B Corporation, or B Corp. Such companies incorporate social and environmental performance in their bottom line

and commit to public transparency and legal accountability. Flowe aims to influence not just its customers but everyone the company does business with, so it is heartening that partners are following in their footsteps. Ivan Mazzoleni, Cultural Energy Orchestrator (CEO) at Flowe, says, “Some of our partners are now embarking on the journey to become B Corp themselves.”

A major step for Flowe was Ig certified as a carbon neutral company, and building on Microsoft Azure was instrumental for getting certified fast. That’s because Microsoft Azure has been carbon neutral since 2012 and provides transparency into the carbon footprint of the company’s resource usage.

[Read the full story](#) →





## Munich Re conducts innovative analysis of weather risks



For a long time, Munich Re has been using analytical models that can calculate weather risks with an unbelievably large number of parameters. But it is only now that the computing power is available to analyze these large amounts of data in a comprehensive and deep way. The cloud provides a new impetus for risk assessment and climate research.

[Read the full story](#) →



## Export Development Canada leads Canadian business toward a sustainable—and prosperous—cloud-based future



Export Development Canada (EDC) is a Crown corporation dedicated to helping Canadian companies of all sizes respond to international business opportunities. EDC helps Canadian businesses innovate and become more competitive on the global stage through strong sustainability practices. As part of its corporate strategy, the organization is working to embed environmental, social, and governance (ESG) principles into its core business, which is supported by its investments in modern digital infrastructure built on Microsoft Azure.

Navigating the difficult realities of climate change can challenge any business, large or small. As Canada’s export credit agency, EDC helps Canadian companies make an impact at home and abroad. It has the financial products and knowledge Canadian companies need to confidently enter new markets, reduce financial risk, and grow their business as they go from local to global.

[Read the full story](#) →

# More financial services sustainability stories

## Intesa Sanpaolo improves real estate and facilities operations, reduces carbon footprint with Azure

As part of its commitment to sustainability, Intesa Sanpaolo Group, Italy's leading banking group, embarked on a project to improve its real estate operations and facility management and cut waste.



[Read the full story →](#)

## How JTC is modeling what it means to make buildings more energy-efficient and sustainable

Inspired by Microsoft's campus in Redmond, learn how JTC decided to become more sustainable by using data sensors and predictive analytics to reduce energy use in its buildings and increase productivity.



[Watch the video →](#)

## Banking on green: financial service firms use tech to nurture a more sustainable planet

Rabobank addresses corporate CO2 emissions while supporting smallholder farmers, like Edwin Zapata in Colombia.



[Read the full story →](#)



Unify data intelligence



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New business models

# Healthcare

Health professionals have guided humanity through decades of unprecedented global health gains. All their achievements are threatened by climate change.

The healthcare industry must transform their operations to become responsible stewards of energy, water, and waste. This same transformation can position the industry to be more resilient in the face of changing health threats and play a vital role in accelerating climate progress.

Many healthcare leaders have embraced digital transformation as a pathway to improve the healthcare experience. That same transformation journey can support the pursuit of sustainability goals as healthcare organizations use data to measure and manage environmental impacts while building a strategy for a net zero future. An organization cannot manage what they do not measure—an expression that applies equally to sustainability and health.

Microsoft and our partners can help our healthcare customers become the climate leaders we need. We form deep partnerships with our customers to co-innovate the future and accelerate the decarbonization of the global economy.

**4.4%**

of global net greenhouse emissions are produced by healthcare industry<sup>1</sup>

**71%**

of healthcare emissions originate in supply chain<sup>1</sup>

**~50%**

of world population at risk from improperly treated medical waste<sup>2</sup>

1. ["Health Care's Climate Footprint," Health Care Without Harm.](#)  
2. ["Climate-smart Healthcare," World Bank](#)



CENTRO HOSPITALAR  
UNIVERSITÁRIO DE LISBOA  
CENTRAL

## Centro Hospitalar Universitário Lisboa Central: Delivering virtual care with Microsoft collaboration tools



Portugal's oldest hospital, Centro Hospitalar Universitário Lisboa Central (CHULC), has a history of embracing both traditional medical practices and innovative healthcare solutions. This culture is shared by its board of directors who, in 2019, decided on a digital-first strategy to help the hospital develop an omnichannel approach to patient care. By partnering with Microsoft, the organization has since implemented multiple telehealth tools to deliver virtual care to both clinical and non-clinical specialties. A transformation that helped the hospital provide remote care during COVID-19 restrictions and has now become an integral part of daily hospital life.

Omnichannel approaches that embrace telehealth improve access to care and reduce the carbon impact of patient-provider interactions by reducing, or eliminating, the need for travel. Telehealth also enables many providers to work remotely, eliminating commutes and changing the needs of the built healthcare environment.

“We received instructions from the Ministry of Health to reduce low-priority care procedures across the hospital,” recalls Paulo Espiga Board Member of Centro Hospitalar Universitário Lisboa Central (CHULC). “Even with a growing number of COVID patients in intensive care, this approach was never realistic or feasible because thousands of people depend on the care our hospital provides.

“We needed a way to respond to the crisis without reducing care to other medical specialties. With help from Microsoft, we accelerated our transformation strategy and implemented a telehealth solution to safely offer remote patient care.”

### Offering quality care from a distance

Founded more than 520 years ago, Centro Hospitalar Universitário Lisboa Central is the second largest hospital in Portugal. It has more than 8,000 health professionals based across six facilities within Lisbon. CHULC is also the only hospital in the country to provide care for certain medical specialties such as lung transplants, cardiology and pediatrics—making the institute responsible for more than 1.25 million patients every year across multiple health sectors.

“COVID-19 forced us to rethink how we provide care for a population that relied on us and who were conditioned to always expect face-to-face consultations from their physicians,” explains Paulo Feio, IT Advisor to the CHULC board.

“When social-distancing restrictions came in March 2020, the average number of phone calls between healthcare professionals and patients rose from

around 600 per month to more than 6,000. This wasn’t sustainable and we quickly needed to adapt our physical infrastructures to ensure two things—the continuity of our patient care operations and the safety of our patients and professionals.”

With a digital-first strategy in place and Microsoft 365 already rolled out across the organization, CHULC approached Microsoft in April 2020 to implement a Microsoft Teams solution for teleconsultations.

### An omnichannel approach to healthcare

Now nearly two years later, CHULC’s telehealth solution has become an integral part of daily hospital life and continues to add value to health services even beyond COVID-19 restrictions.

“40 percent of our patients live up to 30 kilometers away from the hospital, so there are a lot of people who can benefit from having teleconsultations in the long-term,” says Feio. “Other patients also may not be able to leave the house because of COVID isolation or having chronic conditions. But through Teams, we can frequently monitor them and get them into the hospital if their condition changes.”



“40% of our patients live up to 30 kilometers away from the hospital, so there are a lot of people who can benefit from having teleconsultations in the long-term.”



“Another benefit is that patients don’t even need a computer to join a teleconsultation,” he adds. “I remember one patient who was driving and had forgotten about his appointment. So he pulled the car over, downloaded Teams onto his smartphone and was still able to meet his physician.”

CHULC has now expanded its teleconsultation service to 49 medical specialties across the hospital, with Microsoft Teams handling around 900 virtual

consultations each month. As COVID-19 slowly decreases its pace, the board is returning to its digital strategy and considering how implementing other remote-working solutions such as telemonitoring can also benefit patients in the future.

[Read the full story](#) →





## Hospital Jihlava



Healthcare providers are energy-intensive, and a complex facility like a hospital needs to keep large numbers of machines and IT systems running at

peak performance 365 days a year. Anything that a provider can do to help their doctors and nurses provide care more efficiently can have significant sustainability benefits.

That's one of many reasons why Hospital Jihlava in the Czech Republic keeps pace with technological advances, delivering patient-centric services to more than 350,000 patients each year. It has adopted Microsoft 365 and Azure services to ensure business continuity, unburden physicians from manual tasks, and expedite care to patients. The implementation prepared the hospital to tackle the challenges of COVID-19 and ensure seamless operation during lockdowns. The facility has since saved thousands of hours for medical personnel, reduced emergency room waiting time, and empowered healthcare workers to save more lives.

[Read the full story](#) →



**RANCHO LOS AMIGOS**  
NATION · L REHABILITATION CENTER



## Doctors aim to reduce diabetes-related amputations at Rancho Los Amigos



Healthcare providers understand very well the incredible power of prevention. When good information can help patients avoid the worst health outcomes, everybody wins—including the planet. Last-chance interventions like amputations are far more resource-intensive than preventative care.

Every 1.2 seconds, someone somewhere in the world is afflicted with a diabetic foot wound, according to Dr. David Armstrong, Professor of Surgery and Director of the Southwestern Academic Limb Salvage Alliance (SALSA) at the Keck School of Medicine at the University of Southern California. As a result, every 20 seconds, someone has a leg or foot amputated due to diabetes-related complications. Once the amputation takes place, five-year mortality is between 50 and 75 percent—similar to the most dangerous types of cancer.

Dr. Armstrong has made it his mission to fight back against diabetes-related amputations. He's part of a cross-disciplinary team of specialists working together with Rancho Los Amigos National Rehabilitation Center on a new approach to treating diabetes-related foot injuries. This team includes wearable technology experts at Sensoria Health, who used Microsoft Azure IoT Central and the Azure API for FHIR to develop a highly secure continuous monitoring solution for diabetic patients at high risk of lower limb amputations.

[Read the full story](#) →



## Public sector

Public sector organizations, which range in size and purpose from local wastewater treatment to national militaries, are encountering the effects of climate change in every conceivable way. Every public issue, from traditional environmental concerns around transportation and energy to cutting-edge areas like smart cities, procurement, and climate adaptation, will require unprecedented effort and insight in this new era. Citizens are also calling on the public sector to lead sustainable transformation society-wide in partnership with private businesses—we are all in this together.

The sheer scale of these multifaceted challenges can only be addressed with accurate, timely, and secure data at scale. Microsoft and our partners can help the public sector use technology to meet this historic moment.

**70+**

countries have pledged to reach net-zero<sup>1</sup>

**1103**

cities have joined the United Nations' Race to Zero<sup>2</sup>

1. ["Climate Action," United Nations](#)

2. ["Race to Zero," United Nations Framework Convention on Climate Change](#)



## Future-focused Dutch water utility counters climate change with smart use of data on Azure



Dutch water utility PWN streams 106 billion liters of pure, high-quality water to a million and a half citizens in North Holland. The utility monitors and maintains the health of the dunes that act as a natural filtration mechanism for 25 percent of the water, but that complicates service delivery. And running both the business side of the utility and the systems to monitor water quality requires enormous data stores. PWN found one answer for both issues: moving its SAP estate from an expiring cloud hosting provider to Microsoft Azure to meet PWN's complex business needs. With all the data on one platform, the utility can better manage its assets, communicate with customers, predict climate change effects, and help protect against them.

PWN approaches its mission to supply fresh, pure water to the citizens of North Holland in a holistic, future-driven way. The water utility develops purification and supply technologies, consults with water-challenged nations, and maintains the dunes that naturally purify a quarter of the North Holland water supply. PWN applies its out-of-the-box thinking to its data systems. Until its Microsoft Azure migration, that meant an SAP ERP system plus other SAP modules, including SAP Business Warehouse (BW) for business intelligence reporting, in a traditional on-premises datacenter. It kicked off its move to the Microsoft Azure cloud platform with a new data insights platform on Azure to replace its SAP BW system, followed by its customer relationship management (CRM), and other SAP systems plus its innovative IoT water management data. The result? A platform that ties water usage data for individual customers to the entire water network system to help the utility better predict and prepare for the future.

### Staying ahead of climate challenges

After centuries of struggling to keep water out, the Netherlands faces water shortages following record droughts in 2018. This especially affected water service in the province of North Holland, which depends on the IJsselmeer (in English, IJssel Lake) for its drinking water. Salinity rose as water levels fell, threatening potability. PWN placed IoT sensors in the dunes surrounding the lake to give its decision makers valuable predictive data. But the utility knew that IoT data could also help individual customers make smarter use of water in their homes and businesses—alerting them of leaks that inadvertently waste water, for example.

The utility sought to connect two unrelated systems: IoT sensor data from process automation modules in the Plenty system and granular, customer-specific data in its SAP system. PWN adopted Azure as its information ecosystem, choosing to run SAP on Azure and dissolving the barriers between customer account and water usage information.

### Innovating for tomorrow

As a water utility, PWN focuses on conservation, prioritizing innovation as its employees work to ensure a sustainable water supply. “Now our innovation team can quickly spin up test environments in Azure, thoroughly explore their ideas using huge amounts of comprehensive data, and then remove the environments just as easily afterward,” explains PWN Chief Operations Support Officer Gijs ten Bosch. “This greatly lowers the barrier to innovation.”

Faster, cheaper innovation is just one part of an optimistic future at PWN. With business data flowing in from the SAP on Azure system and IoT data from sensors in the dunes and in customer premises, using one cloud for everything simplifies management and security. Ten Bosch also looks forward to the Azure Sentinel SIEM solution, which will allow fast insights and prompt remediation of security incidents on its Azure platform.



**“Now our innovation team can quickly spin up test environments in Azure, thoroughly explore their ideas using huge amounts of comprehensive data, and then remove the environments just as easily afterward. This greatly lowers the barrier to innovation.”**



“Ultimately, our customers benefit from more services and higher water quality because our data analysis helps us to predict future needs,” says Jojanneke van Mourik, Senior Communications Advisor at PWN. Ten Bosch agrees. “We’re better able to continue to provide customers with a safe, plentiful water supply,” he says. “And with the smart water meters we’re developing, we hope to inform our customers as soon as sensors detect a leak, or the water temperature climbs to a level where harmful bacteria might grow. Combining the IoT functionality with our SAP CRM system, we’ll have a powerful tool not only for solving issues before they happen, but also for communicating proactively with the public.”



“Ultimately, our customers benefit from more services and higher water quality because our data analysis helps us to predict future needs.”

[Read the full story →](#)



## Ecoembes optimizes waste management via Minsait and Azure



Ecoembes oversees Spain’s extended producer responsibility scheme for plastic and paper packages. As a key agent in the waste management ecosystem, Ecoembes chose to adopt Onesait Sustainability to digitalize its relationship with 8,000 municipalities nationwide. The solution automates Ecoembes’ billing processes, optimizes waste collection and sorting, and enhances decision-making through increased data and impulse transparency among stakeholders. So far, Ecoembes has deployed the Microsoft Azure-driven solution to more than 300 municipalities and to many IoT providers, service providers, and sorting plants.

[Read the full story →](#)



## How Miami-Dade gets smarter with the Internet of Things



There's not much like Miami-Dade's water. With almost three million residents, Miami-Dade is the seventh most populated county in the United States and a popular one for tourists. When visitors and residents can't make it to the beach, the Miami-Dade County Water and Sewer Department (WASD) brings the water to them through more than 6,000 miles of pipes.

But with such a wide-ranging infrastructure comes the challenge of maintaining the system to protect residents and the environment from leaks and spills. With the Internet of Things (IoT), a cloud database, and thousands of sensors gathering data such as water pressure, flow rates, and rainfall, Miami-Dade's Water and Sewer Department (WASD) is developing a smarter way to manage and supply this precious resource and manage the wastewater serving over 400,000 households across the County.

[Read the full story](#) →



## Spanish City goes green and cuts costs through cloud-based smart city initiatives



The City of Gandía was looking for ways to increase quality of life for its citizens. Partnering with Wellness Telecom, the city deployed IoT-connected light posts through Microsoft Azure. The resulting system allows for improved control, lower energy costs, better citywide lighting, and a 2,723-ton reduction in annual carbon emissions.

[Read the full story](#) →

# More public sector sustainability stories

## Slovenian government institution empowers field workers to be more efficient with Power Platform

Using an app based on Microsoft Power Apps and integrated with Microsoft Teams, inspectors can accomplish their daily tasks 30 percent faster, and from anywhere.



[Read the full story](#) →

## Polish environment fund joins forces with Microsoft to help citizens save energy and reduce air pollution

The Polish National Fund for Environmental Protection and Water Management runs a grant program to help citizens modernize heating and insulation—but applications for the grant were processed by hand.



[Read the full story](#) →

## Microsoft and the Municipality of Milan: using the cloud to innovate citizen services

In 2016 in Milan, 1.35 million inhabitants and almost 300 thousand companies decided to take an important step: to start on a journey of digital transformation that is summarized by the slogan “from smart city to smart citizen.”



[Read the full story](#) →



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Reduce environmental impact of operations



Create sustainable value chains



New business models

## Sacred Heart School: Creating a more sustainable and accessible teaching environment

Sacred Heart has made a complete transition from whiteboards and textbooks to a fully digital pedagogy, offering sustainable and financial benefits as well as a stable hybrid-learning platform during the 2020 COVID-19 restrictions.



[Read the full story →](#)

## Lillestrøm municipality adopts digital smart city solution to remotely monitor hydro utilities, anchor broad sustainability effort

To the environmental engineering folks at Lillestrøm municipality, water is both a blessing and the source of a few headaches.



[Read the full story →](#)

## Microsoft FarmBeats for Students harnesses data and AI to plant big ideas in young minds

With funding from Microsoft, CSIRO piloted Australia's first Microsoft FarmBeats for Students initiative, allowing students the opportunity to participate in a hands-on AI sustainable learning experience applying smart farming techniques to food production.



[Read the full story →](#)



Unify data intelligence



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New business models



# Manufacturing

Manufacturers are critical to our quality of life. Whether it's life-sustaining necessities like food and medical devices, industrial equipment that enables prosperity and growth, or simply the luxuries and niceties that we all look forward to, we need the things that manufacturers make.

Today's most innovative manufacturing organizations are taking responsibility for the energy and resource impacts of their operations and forging a more sustainable future. Manufacturers who innovate on a digital foundation can increase their profitability, open new revenue lines, and become more responsible stewards of our planetary resources.

Microsoft and our partners help our manufacturing customers:

- Optimize energy consumption
- Reduce emissions and carbon impact
- Improve water and waste management
- Drive responsible value chain practices

**20%**

of global CO2 emissions come from the manufacturing and production sectors<sup>1</sup>

**650B+**

cubic meters of water were withdrawn by industry in 2017<sup>2</sup>

**31%**

of manufacturers are using new sustainable materials in their supply chains<sup>3</sup>

1. ["Carbon Reduction in Manufacturing Initiative," World Economic Forum](#)  
2. ["Industrial water withdrawal," Koema](#)  
3. ["Sustainability. Good for Business. Executive Playbook," Microsoft and EY](#)



## With generational change, Taiwan's King Steel transforms into an innovation and sustainability leader



When Jim Chen left his own startup to run his family's company four years ago, he quickly saw its half-century old business model needed a reset.

King Steel Machinery was founded in Taichung, Taiwan, in the 1970s. For decades, success had come from designing and building precision shoe-making machinery for big-name footwear brands popular with consumers around the world. But soon after he became vice president for business development under a family succession plan, Chen identified a shift in the market. Footwear brands were looking for more than just machinery. They also wanted customized manufacturing solutions, data insights and sustainable outcomes.

## Changing an established company culture

The 30-something entrepreneur realized that to survive, grow, and compete, the company needed to embrace digital transformation and become an eco-friendly innovator. To get there, employees, managers and his family would have to adopt a new mindset.

“Digital transformation is the process of choosing the right digital tools. Once goals are set, choosing the tools is easy,” Chen said. “My family elders who started this company have been supportive, but we didn’t make these changes all at once. It was a step-by-step process. Both customers and employees have felt the impacts and benefits.”

Previously, Chen headed Otrajet, a startup that developed an innovative never-flat tire for bicycle-sharing fleets. It thrived under a culture based on innovation and transformation. So, when Chen moved across to King Steel, he was well versed in how to launch new product lines, add systems for easy onboarding of new hires, and open new manufacturing centers. He had a vision in place, but to execute it he needed to get more than 100 employees on board to support change.

King Steel’s staff range in age from 18 to 70, each with their own ways of thinking. When Chen asked managers what problems they were facing, they all had different answers. Reaching consensus was next to impossible.

Chen rose to the challenge. He wanted to foster an environment in which employees could talk to each other regardless of hierarchy or position. That’s when managers started training employees to use Microsoft Teams as a platform for staff communications. Six months later, he noticed a difference. Employees at all levels started exchanging ideas and company-wide communications were fluid, Chen said.

The company decided to apply Teams to even bigger projects, even using it to boost operational efficiency

by adding suppliers into the Teams ecosystem for instant communications.

## Reinventing the shoe to enhance circularity

The company also stepped up its efforts around sustainability by developing its Nature Cross Future initiative—a direct molding process that allows shoemakers to produce recyclable midsoles. Midsoles are notoriously difficult to recycle. However, King Steel has developed high-tech machines that can produce completely recyclable midsoles.

“In 2020 we launched a new machine that’s very different. It can 100 percent recycle the midsole, helping brands enormously reduce the waste of midsoles and flip flops. It’s a big deal for the industry. Going forward, Nature Cross Future will help redefine the whole shoe industry and King Steel will focus on sustainability,” Chen said.

The company has also incorporated Microsoft digital technologies into the manufacturing process, increasing efficiency and boosting sustainability. It uses Teams and Dynamics 365 to increase the speed of research, development and manufacturing.



“In 2020 we launched a new machine that’s very different. It can 100 percent recycle the midsole, helping brands enormously reduce the waste of midsoles and flip flops.”



Chen says that by embracing digital transformation, King Steel can now offer its shoemaking customers sustainable and customized manufacturing and data solutions.

These technologies help create new machines for different brands in different production lines, so the whole industry can move into green manufacturing much faster than expected.

Additionally, Microsoft Azure IoT Digital Twins make the entire value chain transparent, reducing material waste and saving energy. Some shoe factories lose inventory when unofficial shoes get produced to be sold on the black market. Digital Twins help factories precisely manage the whole value chain.

King Steel also has been looking at other ways to reduce carbon emissions from shoemaking. The company has developed a process that uses a foam agent to collect carbon dioxide from the air. Chen says that by embracing digital transformation, King Steel can now offer its shoemaking customers sustainable and customized manufacturing and data solutions.

While it's hard to predict what he'll face next, Chen believes his family business is well prepared for challenges in the years ahead.

[Read the full story](#) →





## Manufacturer tracks food storage temperatures with Azure, helps reduce global food waste



Headquartered in Denmark, Danfoss manufactures products for heating and cooling appliances such as radiators and freezers. The company wanted to expand its offerings to software as a service (SaaS) solutions and use its decades of domain expertise to help its food retail customers become more efficient. Danfoss developed Alsense Food Retail, a cloud-based solution built on Microsoft Azure Event Hubs that grocery stores use to monitor temperatures with sensors. Customers can tightly control energy efficiency across grocery chains, leading to an estimated 30 percent decrease in their energy costs and a 40 percent reduction in food waste.

[Read the full story](#) →



## Bühler Group brings food safety to the forefront with IoT



Bühler Group is a global market leader in food processing equipment dedicated to improving food safety and sustainability. To provide critical food safety and performance data for Laatu—Bühler’s groundbreaking microbial decontamination technology for dry foods—it leveraged Bühler Insights, powered by Microsoft Azure IoT. With Bühler Insights, customers can monitor machine performance and generate accurate records for every product batch, making it a powerful tool for food safety auditing, improving supply chain transparency, and opening new avenues of visibility for commodity food producers.

[Read the full story](#) →

# More manufacturing sustainability stories

## Green manufacturer Ingevity builds resilience with well-planned migration to Microsoft Azure

When the 1,700 employees at Ingevity signed on to their systems around the world on Monday morning, they didn't notice anything different from the previous Friday.



[Read the full story](#) →

## Northvolt standardizes on Microsoft Surface because of sustainability and innovation factors

Northvolt needs IT that just works and tools that support their fast growth, innovation speed and sustainability commitment.



[Watch the video](#) →

## LoxamHune, first Spanish company in the equipment rental sector to receive official zero carbon footprint certification, relies on Microsoft technology

LoxamHune, which has an annual turnover of around 100 million euros and employs 700 workers in Spain and Portugal, has taken a further step on the road to efficiency and sustainability by adopting Microsoft cloud solutions.



[Read the full story](#) →

## MYTILINEOS streamlines large-scale logistics with Azure Custom Vision

Today, the largest vertically integrated alumina and aluminium producer in the European Union is benefitting from almost zero error rates when loading final products and is unlocking ever more efficiencies along its massive logistics chain.



[Read the full story](#) →

## FLSmidth transcends on-premises limitations with Azure high-performance computing

With its digital transformation, FLSmidth found the perfect vehicle for optimizing the engineering simulation platforms that depend on high-performance computing.



[Read the full story](#) →



Unify data intelligence



Build a sustainable IT infrastructure



Reduce environmental impact of operations



Create sustainable value chains



New business models

## Saint-Gobain glass production efficiency shines with Dynamics 365 Remote Assist

Because the Saint-Gobain process experts who provide glass manufacturing expertise can't be everywhere, the company turned to Microsoft Dynamics 365 Remote Assist to deliver virtual, on-demand help.



[Read the full story](#) →

## Hexagon: Smarter manufacturing solutions for a sustainable future

Hexagon's mission is to use data to create autonomous, connected ecosystems that have the power to radically improve manufacturing and engineering processes.



[Read the full story](#) →

## Hygiene technologies leader Ecolab brings data science to production with Microsoft Azure and Iguazio

Ecolab, the global leader in water, hygiene, and infection prevention solutions, wanted to add to its customer offerings by developing sophisticated predictive risk models for water systems, industrial machinery, and other applications.



[Read the full story](#) →

## Outokumpu: A sustainable stainless steel giant with a data-driven mindset

"What we have achieved here in the last 14 months is unmatched. Not just in the metals industry, but probably in any industry."



[Read the full story](#) →

## Sandvik uses data, analytics and AI to make mining more sustainable

As one of the largest suppliers of mining equipment in the world, Sandvik is committed to making the mining sector more sustainable with cutting-edge technology.



[Read the full story](#) →

## How Land O'Lakes is cultivating ag-tech to help farmers harvest healthier profits

The time to choose his career had come. So, in 1994, Teddy Bekele asked his dad for advice. His father, a lifelong farmer, offered stark wisdom: Don't follow me into farming. Working the land, he warned, was risky business.



[Read the full interview](#) →



Unify data intelligence



Build a sustainable IT infrastructure



Reduce environmental impact of operations



Create sustainable value chains



New business models



## Media and telco

The media and telecommunications industries touch billions of people, every single day. The breadth and reach of these industries, and their central roles in our global digital journey, give them the capacity to inspire and drive transformation worldwide.

As the chairman of the Global System for Mobile communications Association (GSMA) said in 2021, "With 30 million employees, 2.7 trillion CAPEX since 2000, more than 5 billion people using a mobile phone and 25 billion IoT connections around the world, the mobile industry has shown that it has the power and scale to make a meaningful difference."

Microsoft and our partners can help our customers in media and telecommunications transform their own operations and then become enablers for worldwide change.

### Media

Streamline content production

Enhance creativity and collaboration

Optimize content discovery and delivery

### Telco

Empower the telco workforce

Streamline operations and business support systems

Accelerate network transformation

Elevate customer experiences



# O2 dials up a culture change with effective remote work in Microsoft Teams, saves costs and boosts sustainability along the way



O2, a leading digital communications company in the United Kingdom, has a goal to become carbon neutral by 2025, and the company is investing in digital workplace tools in Microsoft 365 and Teams that will help make that goal a reality.

## Choosing an agile, integrated platform to work more securely and effectively from anywhere

When David Cornwell, Head of Solutions at Telefonica O2 UK, took on the job in 2018, his first step was to meet his colleagues and gather their insights. With 52 people on the solutions team, many of them working in locations scattered across the United Kingdom, face-to-face meetings required lots of travel. "Meeting everyone in person was quite an effort, but very worthwhile," he says. So much so that Cornwell decided to make annual meetings standard practice for his team. But this year, he's doing it in Microsoft Teams—and tracking major benefits along the way.

Today, Cornwell and his colleagues use Teams to cut back on unnecessary travel, save money, and embrace a more efficient and sustainable way of working. It's just one way that approximately 10,779 O2 employees use Teams to collaborate and work more efficiently.

## Embracing a new meeting culture that drives productivity

As O2 employees adopted Teams and saw the value of effective virtual meetings, it sparked a culture change at the organization. "The success of Teams showed people that you can change how you operate culturally," says Richard Bond, Technical Product Owner at O2. "You don't have to be face to face to be effective."

O2 employees quickly embraced Teams, not just for meetings and chat, but for the wealth of other features that streamline collaboration. "We've seen a big growth and improvement in cross-functional collaboration with Teams," says Bond. Today, coauthoring documents and presentations happens in real time in Teams meetings, with all the resources employees need available directly in the

app—a big improvement over emailing files for updates. "More people are using the coauthoring capabilities in Teams to streamline collaborative work," says Bond. "For an organization like O2, that collaboration saves a lot of time."

This new way of working made all the difference when approximately 8,500 employees transitioned to remote work in the wake of COVID-19. For example, work continued unabated on one of the company's largest IT projects, dedicated to updating O2's back-end systems, dubbed the "Transformation Project."

## Ushering in more effective, sustainable ways of working

As Cornwell demonstrated by choosing Teams to reduce his carbon footprint, save time, and improve the quality of meetings, O2 employees are embracing digital collaboration as a new way of working—now and for the future. O2 plans to extend Teams to its retail outlets to further break down silos at the organization. "We want to use Teams and Frontline Worker productivity tools like Shifts and Tasks to help integrate our retail associates into other areas of the business and make sure their insights can be shared across the organization," says Bond.

In fact, it already looks like O2 employees are choosing Teams and remote collaboration over working at the office. When work-from-home recommendations eased in August, Bond returned to the O2 office in Leeds. He found it almost empty. "People have become so comfortable with Teams and working from home, I think they'll only return to the office for specific things such as workshops," says Bond. "We are already looking at using Microsoft Teams Rooms to host blended workshops with some people in the office and some people at home. It was hugely disruptive to drive for meetings at head office. Today, that travel time is zero and employees can work productively instead of sitting in traffic."

[Read the full story](#) →





Telstra



## Telstra and Microsoft build long-term strategic relationship to advance sustainability in Australia and drive growth



Telstra and Microsoft have announced a major expansion of their strategic partnership to drive growth and value for customers and Australia as a nation. The five-year agreement is one of the largest partnerships Microsoft has established with a telecommunications provider globally.

Telstra and Microsoft intend to collaborate on ESG areas to improve sustainability outcomes in Australia and enable Telstra to meet its own commitments. The organizations plan to combine the secure data exchange capabilities of the Telstra Data Hub platform with Microsoft Cloud for Sustainability to help Telstra’s enterprise, government and small business customers to accelerate their sustainability progress and business growth through data insights and explore new initiatives including climate risk.

Microsoft will also support Telstra in achieving its own sustainability goals using Microsoft Cloud for Sustainability which will provide data insights into sustainability performance.

The strategic partnership brings together the best strengths of the two organizations. In 2020, Telstra was certified carbon neutral in their operations, and both Microsoft and Telstra both have ambitious climate targets and share a commitment to a net zero carbon future.

[Read the full story](#) →

WPP



## WPP and Microsoft to creatively transform content production through new Cloud Studio partnership



WPP and Microsoft Corp. have announced a partnership to transform creative content production, beginning with the launch of Cloud Studio, an innovative cloud platform that allows creative teams from across WPP’s global network to produce campaigns for clients from any location around the world.

Cloud Studio is the advertising industry’s first bespoke platform for virtual production that arms creatives with the technology to collaborate and create impactful work for clients, moving content creation, production and editing out of on-premises environments and into the cloud.

[Read the full story](#) →



## Retail and CPG

Sustainability is a growing priority in retail and consumer packaged goods (CPG). Industry leaders, employees, investors—and the partners and consumers who buy the goods—care about sustainability.

How can retailers and CPG organization help their customers shop more sustainably, while also boosting profits and catalyzing change across the entire value chain? Microsoft and our partners can help retailers transform on a digital foundation to optimize operations, reduce energy consumption and waste, establish responsible value chain practices, and much more.

**93%**

of CPG leaders spend more time on sustainability issues today than five years ago<sup>1</sup>

**55%**

of recent CPG market growth came from sustainability-marketed products<sup>3</sup>

**96%**

of fashion industry GHG emissions come from the supply chain

1. ["Industry View 2020 Report," Consumer Brands Association Industry](#)
2. ["Sustainable Market Share Index™," NYU Stern Center for Sustainable Business](#)
3. ["Unlocking the trillion-dollar fashion decarbonization opportunity: Existing and innovative solutions," Apparel Impact Institute.](#)



TREADLER

## Treadler: Leading sustainable change across the fashion industry



H&M Group is on a mission: to lead the change towards a more sustainable fashion future. As part of its efforts, in March 2020 the Group established Treadler—a B2B venture that opens H&M Group’s supply chain to other fashion brands across the industry. With access to this valuable resource, brands now have access to a wealth of insights and expertise that can help them overcome barriers and accelerate their own sustainable growth.

Lydia Odergren, Head of Communication at Treadler, is talking about the environmental challenges facing the fashion industry, and how the B2B service that Treadler provides is helping to accelerate sustainable change on a global scale.

"I believe most players across the fashion industry want to become more sustainable, and H&M Group already has a wealth of experience, the necessary expertise, and long-term supplier partnerships that can contribute to this shift," Odergren explains. "So, by creating Treadler, the H&M Group is offering access to that infrastructure, which is a win-win for everyone committed to moving the needle on sustainability.

"With Treadler, other fashion brands can leverage H&M Group's resources and benefit from the group's progressive sustainability agenda," she continues. "Our clients and their end consumers will have access to the data to track and measure performance—and produce and buy more sustainably. Meanwhile, our suppliers get rewarded with more business for sustainable behavior, and for H&M Group itself, Treadler opens up an additional revenue stream."

### **A more sustainable supply chain for the fashion industry**

In recent years, the fashion industry has faced immense challenges and increasing pressure to take responsibility for the impact it has on the planet. Nearly 10 percent of global CO2 emissions and 20 percent of the world's industrial wastewater can be linked to clothing and footwear production. And with the industry expected to continue growing substantially, the demand for sustainable fashion is high.

"Any fashion brand that wants to be competitive in the future has to start investing in sustainability," says Odergren. "Business as usual just isn't an option anymore. Customers expect brands to be doing more, which is why H&M Group invested a lot of time and resources into building and developing its global supply chain and bringing it to the level it is today—both in terms of capability and sustainability."

Even with its supply chain success, H&M Group saw that sustainability was a challenge the fashion industry needed to work towards together. From there, came the idea for Treadler: a B2B initiative that would open up H&M Group's supply chain to other fashion brands and help lead sustainable change across the fashion industry.

**Nearly 10% of global CO2 emissions and 20% of the world's industrial wastewater can be linked to clothing and footwear production.**

"The whole industry needs to change to survive, and we truly believe that the best way forward is through partnerships that share knowledge and expertise," Odergren says.

### **Accelerating sustainable change across the world**

With H&M Group's supply chain now open to other fashion companies, Treadler's clients have the necessary data to make more sustainable product development, sourcing, production, and logistics decisions. From selecting materials to choosing suppliers and factories, these sustainable choices can be traced across the H&M Group global supply chain and put towards global sustainability goals for the entire fashion industry.

Treadler's service has also helped reduce the industry's reliance on audits—a regular business process requiring a factory visit to both check resources at that time and prove the company is working in a compliant way.

Odergren explains: "Any data collected would only be a snapshot in time and quickly outdated, and suppliers could also have multiple audits from different clients that creates a lot of unnecessary travel and emissions. Working with Treadler and the Higg Index enables clients to make active choices that matter throughout the supply chain and make better production choices that work towards both the fashion brand's and the supplier factory's own sustainability goals."

[Read the full story →](#)



## The food tech company reducing global food waste with cloud technology

LMK Group is a Nordic food tech company that delivers a large variety of meals directly to its customers' doors. As part of its work, the company is on a pioneering mission to reduce global food waste and drive sustainability across the grocery retail sector. To do this, LMK has been using cloud technology to optimize its processes, provide customized options for its clients and ultimately become a fully data-driven company.



[Read the full story](#) →



## Finding magic in the mix of innovation, technology, and flavor

Consumer goods manufacturer Majans is using its delicious and innovative products to create a new movement in snacking. The company views technology as a key ingredient to making that happen while simultaneously unlocking employee potential and scaling for growth. Majans is transforming data from IoT-enabled devices into actionable insights on the production line to create data-driven manufacturing processes that extend from the farm to the factory to the consumer experience.



[Read the full story](#) →

# More retail sustainability stories

## IKEA empowers and engages its frontline coworkers with Microsoft Teams to support more great days of serving customers

Looking to improve retail coworkers' engagement and incorporate more environmentally conscious business practices, the company deployed Microsoft 365 to all 166,000 coworkers.



[Read the full story](#) →

## Würth transforms the customer experience and drives business growth with mixed reality

Würth Italia, the leading distributor of fastening products in Italy, has introduced mixed reality in both its online and traditional sales activities.



[Read the full story](#) →

## Fashable reimagines the future of fashion design with Azure Machine Learning and Pytorch

Fashable created an AI algorithm that can generate original clothing designs.



[Read the full story](#) →

## Anheuser-Busch InBev brews up game-changing business solutions with Microsoft Azure

The company is using technology to drive commercial and operational growth and increase sustainability by moving its IT operations to the cloud.



[Read the full story](#) →

## Now it's personal: Unilever's digital journey leads to real results for consumers and employees

"We are digitally rewiring our supply chain, focusing on generating real-time, democratized information, artificial intelligence planning, capitalizing on robotics and building digitally connected factories. All this will allow us to readily predict and respond to whatever the future throws at us."



[Read the full story and watch the video](#) →

## L'Oréal is revolutionizing work with Dynamics 365 Remote Assist on HoloLens 2

By connecting employees around the globe through mixed reality, L'Oréal is reducing costs, optimizing operations, and cutting down on travel.



[Read the full story](#) →



Unify data intelligence



Build a sustainable IT infrastructure



Reduce environmental impact of operations



Create sustainable value chains



New business models

# Professional services and smart spaces

## Professional services

People care about sustainability—and professional services is the people business.

Professional services encompasses a broad range of knowledge work, often focused on helping other organizations succeed. This includes accounting, management consulting, IT services, legal services, architecture, engineering, and more. Professional services firms can excel in their sustainability performance to attract the best staff and win customers. They also have the ability to be impact multipliers as they enable transformation at other companies.

Microsoft is proud to partner with the world's leading professional services firms to drive sustainability across their own operations and all the other organizations they serve.

## Smart buildings

Building owners, real estate managers, and tenants are using technology to manage resources in their buildings. Digital transformation represents an incredible opportunity for these organizations to reduce costs while moving toward net zero.

Whether it's investing in renewables, optimizing energy consumption, or preventing water waste, Microsoft and our partners can help design the sustainable smart buildings of the future.

**75%**

of global carbon dioxide emissions comes from urban areas<sup>1</sup>

**38%**

of total global energy-related CO2 emissions is associated with the buildings and construction sector<sup>2</sup>

**25-30%**

of water consumed in buildings is wasted<sup>3</sup>

1. "Microsoft.EY Sustainability Executive Playbook," Microsoft
2. "2020 Global Status Report for Buildings and Construction," UN Environment Programme
3. "Artificial Intelligence Can Prevent Enormous Amounts Of Damage And Water Loss From Building Leaks," Forbes



## Organica Water optimizes wastewater treatment processes while driving sustainability with Azure and Power BI



Organica facilities appear far more like beautiful botanical gardens than wastewater treatment plants. By enabling customers around the world to build and operate space- and energy-efficient biological water treatment facilities, Organica Water is helping address the challenge of urban water scarcity. With more than 120 treatment plants, it's important to have an efficient way to remotely monitor and actively manage water quality, Organica turned to Microsoft Azure and Power BI for a solution. Today, the bio-centric company is better equipped to ensure only the purest water is made available for re-use, while advancing in their sustainability goals by reducing travel, manual work and energy use.

For cities around the globe, the need to operate more sustainably is growing daily. Among the resources that need most careful preservation and management is water. Particularly in the developing world, effluent limits and water quality standards are getting stricter as cities struggle to provide clean, safe water for all. This puts a greater demand on the capabilities of future and existing treatment plants.

Companies like Organica Water are helping urban areas meet the challenge of providing safe water sustainably and at scale. "Organic technology such as ours is not only good for new wastewater treatment installations, but also for upgrading existing plants, as our technology is easily incorporated into an existing system," says Andrea Bolgár, Senior Engineer, Technical Innovation & Data Management at Organica Water.

With more than 120 active facilities, Organica Water needed a way to ensure that treatment locations were run the most efficient way possible, producing effluent water meeting the strictest requirements. "It used to take up to an hour for on-site engineers to understand the effects of changing a system setting, plus even more time archiving and using that data for deeper analysis," says Bolgár. "Also, when problems arose, we couldn't follow up or fix them as rapidly as we would have liked."

The company had already been working within the Microsoft 365 environment in its daily operations. It decided to try Azure and Power BI to power the solution it needed.

With the help of technology partner Systemfarmer, Organica Water moved swiftly ahead, completing the implementation in only three weeks. "Our needs required a different approach than the usual business case because we collect minute-by-minute time series data. Through our partner, we worked with an industry expert to solve the challenges involved when dealing with this kind of information," shares Bolgár.

## An efficient, energy-saving solution

Today, Organica Water's system for remote monitoring of water quality is fluid and streamlined. "Daily data analysis starts with our on-site hardware, which gathers water quality data and sends it to the Azure IoT Hub. From there, it's processed in the cloud by Azure Stream Analytics and passed to Power BI for the first layer of real-time data visualization. It is also sent to Azure SQL Database for storage and deeper reporting," says Bolgár.

The remote system allows less site presence while maintaining control over the water treatment. This was significant especially during COVID-19 restrictions, when travelling to sites wasn't possible. "We can now effectively cut down our on-site visits by half, reducing our carbon emissions from taking flights," says Bolgár.

The data archived also allows more in-depth analysis over a longer period of time to ensure optimal system operation. Most importantly, it has enabled Organica's treatment plants to remotely economize on energy use, thanks to more flexible control of water oxygenation levels.



**"We can now effectively cut down our on-site visits by half, reducing our carbon emissions from taking flights."**



“The biggest cost in a wastewater treatment plant is water aeration because microbes in the water need oxygen to break down organic material. We run blowers to ensure enough oxygen is provided to meet the effluent limits of each plant,” says Bolgár. “Thanks to the new remote system, we can optimize our use of blowers and energy. We saw a 30 percent energy saving at one Hungarian plant, equating to about HUF3 million (USD\$9,200) a month.”

This has helped equip Organica for the future in the case of energy price hikes. “Water treatment plants will be expected to continue using just as much energy as we do now to treat water to the effluent limit. If more plants applied our approach, they could cut their energy consumption down by at least 15 percent,” says Bolgár.

The implementation has also saved time and man-hours with automation and streamlined reporting. “We don’t have to spend hours saving and processing operational data from the plants because the process is now fully automated,” says Bolgár. Obtaining reports is also quicker. “It used to take between four and six hours to draw up comprehensive reports. Now, we have a central report that we can apply to any of our plants, which only needs to be refreshed to generate results.”

[Read the full story  
and watch the video →](#)

# Vasakronan



**Global sustainability leader targets new heights of carbon neutrality with Azure Digital Twins**



Sweden’s largest real estate company and a global leader in sustainability, Vasakronan manages a real estate portfolio worth SEK170 billion (USD19.6 billion). To reduce operating costs for its commercial properties, the company has adopted ProptechOS, an IoT solution that uses Microsoft Azure to unlock the potential of connected, intelligent properties. Adding Azure Digital Twins to this solution, the company expects to realize a year-on-year savings of six million krona (USD700,000) in energy consumption costs alone.

[Read the full story  
and watch the video →](#)



## CSIRO and Microsoft partner to tackle plastic waste, illegal fishing, and efficient farming



[Read the full story](#) →

AI and other digital technologies will be harnessed to tackle global challenges including illegal fishing and plastic waste, and to boost farming as part of a new partnership between Australia's national science agency, CSIRO, and Microsoft.

The wide-ranging agreement was signed by CSIRO Chief Executive Dr Larry Marshall and Microsoft Australia Managing Director Steven Worrall, and is designed to accelerate critical research that will use AI and machine learning to:

- Tackle illegal fishing by analyzing information gathered from high resolution cameras and underwater microphones to assist with fishing management in Australian marine reserves like the Great Barrier Reef, and detection of fishing with explosives in Indonesia.
- Target marine debris by analyzing videos of rivers and stormwater drains to identify and track garbage flows into waterways and inform intervention efforts, like placement of river garbage traps and reverse vending machines where the public can recycle bottles and cans in return for a fee.
- Equip farmers with custom, digital insights from a diverse range of data sources, including sensors and satellites, but importantly deep domain knowledge integrated with analytics and modelling to provide insights on tactical and strategic decision-making including soil condition, crop growth and farm management. This work will commence at CSIRO's new agricultural research facility at Boorowa, NSW.

# More professional services and smart spaces sustainability stories

**Urbaser enables remote work for 2,000 employees in one weekend, thanks largely to Windows Virtual Desktop**  
Urbaser, world leader in environmental management, opts for Windows Virtual Desktop so that their employees in Spain can continue developing their work activity from any location.



[Read the full story →](#)

**LoxamHune, first Spanish company in the equipment rental sector to receive official zero carbon footprint certification, relies on Microsoft technology**  
LoxamHune, which has an annual turnover of around €100 million and employs 700 workers in Spain and Portugal, has taken a further step on the road to efficiency and sustainability by adopting Microsoft cloud solutions.



[Read the full story →](#)

**PCL Construction uses IoT with Azure to revolutionize the construction industry**  
Using Microsoft Azure and Azure IoT technologies, PCL created the mobile-ready Job Site Insights™ application to provide a single-pane view into all aspects of construction.

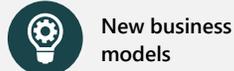
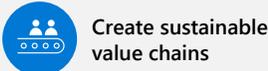
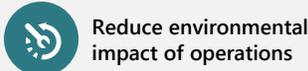


[Read the full story and watch the video →](#)

**Schindler: elevating the cities of the future**  
“Right now, most elevator journeys start and end at the elevator door, when you enter or exit. We want to extend that to cover the whole journey of the passenger, from coming into the building until reaching your final destination.”



[Read the full story →](#)



# Our commitment to a more sustainable future

Microsoft is accelerating progress toward a more sustainable future by reducing our environmental footprint, accelerating research, helping our customers build sustainable solutions, and advocating for policies that benefit the environment.

What are our sustainability commitments?

## Carbon negative

Microsoft is committed to be a carbon negative company by 2030. To achieve this, we are improving efficiency in our operations, devices, and supply chain; we are delivering technology to help our customers measure and manage their carbon emissions more effectively; and we are breaking new ground with carbon removal purchases and investments to help develop the crucial, nascent carbon reduction market.

## Water positive

Microsoft is committed to be a water positive company by 2030. To achieve this, we will continue our water stewardship work across our operations, building on the steps taken to reduce the water consumption in our datacenters and campuses over the past decade. In addition to reductions, we aim to become water positive through expanding access to clean water and replenishment projects.

## Zero waste

Microsoft is committed to become a zero waste company by 2030. We are taking an increasingly circular approach to materials management to reduce waste and carbon emissions. Our approach includes design and material selection, responsibly sourcing materials for our operations, products, and packaging, and increasing the use of recycled content. We keep products and materials in use longer through reuse, repair, and recycling programs.

## Ecosystems

Microsoft is committed to protect more land than we use by 2025 while also building a Planetary Computer. We need a strong, efficient, scalable way to monitor, understand, measure, and ultimately manage the impact of our actions or inactions on ecosystems—both globally and locally. Microsoft is well on our way to providing access to the world's critical environmental datasets and delivering a computing platform to measure, monitor, model, and manage healthy ecosystems.

# Learn more about the work we do

Our customers and partners create sustainability impact across five scenarios:



Unify data intelligence.



Build a sustainable IT infrastructure.



Reduce environmental impact of operations.



Create sustainable value chains.



New business models

Learn more about these scenarios at [Microsoft.com/sustainability](https://Microsoft.com/sustainability). Get the latest information about [Microsoft Cloud for Sustainability](#) and how we enable every organization to pursue their sustainability goals.

Read our [2021 Sustainability Report](#), where we share our progress toward our goals and lessons learned.

Learn how we deploy capital for the climate through our [\\$1 billion Climate Innovation Fund](#).

