

VOLUME 5

Cloud-based Sustainability and Growth



^{SMB}dynamo

The People and Cisco Technologies Propelling Small and Medium Businesses

Technology Trends

Digital Journeys

Expert Perspectives

Story Links

Technology Trends

How cloud connectivity protects climate resiliency in agribusiness

Digital Journeys

Serving up new dining experiences in Korea

Inside a Dutch MSP's automated compliance reporting

Expert Perspectives

Simple ways to support SMB sustainability

How digitally advanced food production starts in the cloud



If you want additional information about the technologies featured in this edition of *SMB dynamo* or have story suggestions for future editions, please contact us at dynamo@cisco.com.

Growing on a cloud

Farming may be humanity's original and most essential small business. Modern society is rooted in the innovative application of technologies for agriculture productivity and higher yields. So it makes sense that now, in the age of rapid climate change, SMBs at every link in the food supply chain are finding ways to adapt and grow food more sustainably through cloud computing.

We explore these trends [beginning on page 4](#), but agriculture is just one example of how the cloud can transform SMBs—a story playing out in all industries, with resiliency and sustainability common themes. As Craig Cieplinski, Cisco's senior director of global SMB sales at Cisco, [notes in our interview with him](#), "One of the most profound IT advances that enables SMBs to reduce their footprint is the adoption of cloud technologies."

In this edition of SMB dynamo, we look at how cloud technologies are powering smarter, safer small and medium businesses around the world: [simplifying cyber security and compliance reporting](#) in the Netherlands, [creating tech-infused dining experiences](#) in Korea, and [digitizing Swedish food production facilities](#).

In many ways, the opportunity that cloud-first solutions present SMBs is a modern version of the business lesson farmers have known since the very beginning: to adapt and thrive, you must make the best use of the tools at your disposal. May your harvest be bountiful.

– SMB dynamo editorial team

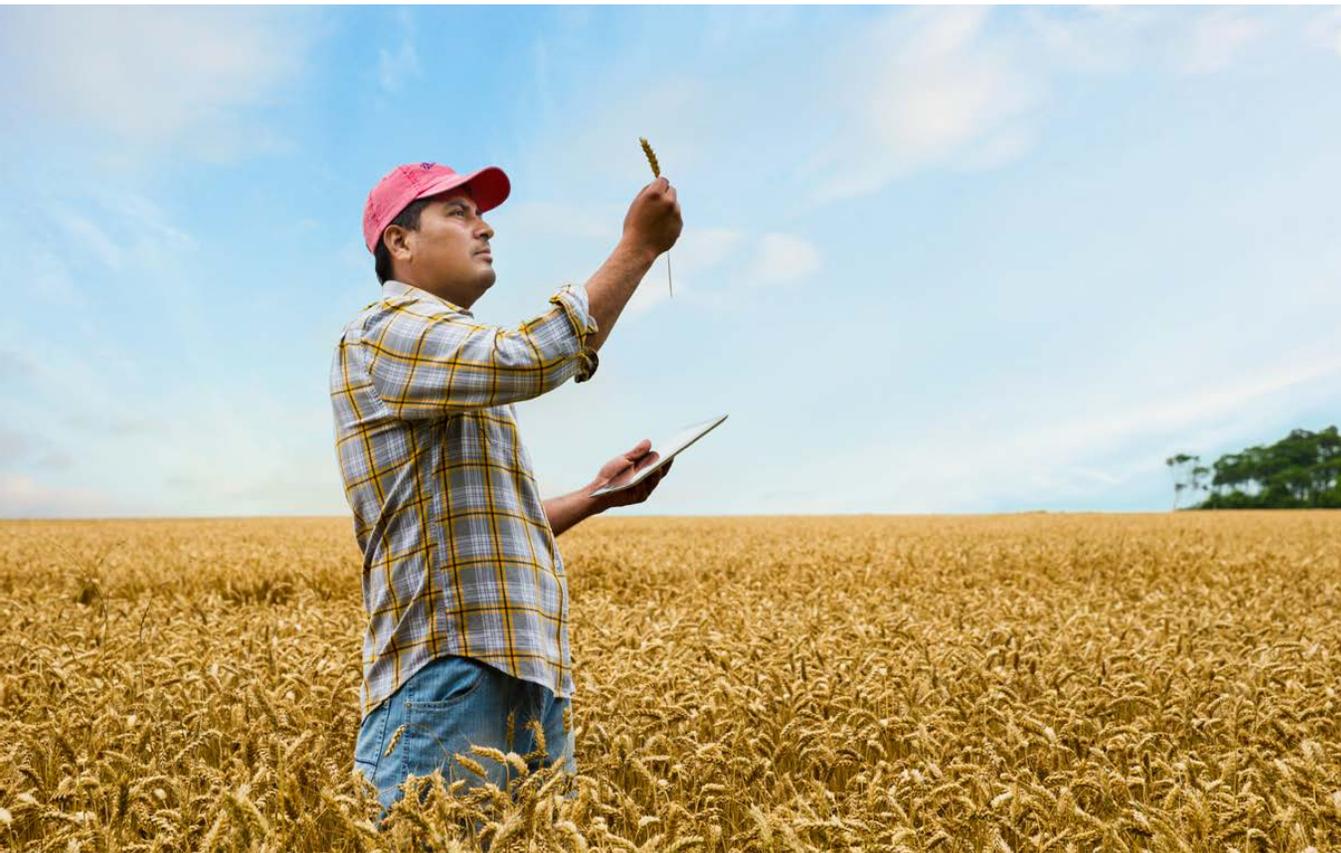


Technology Trends



Looking to the clouds

Throughout the food supply chain, farms and other SMBs depend on connectivity and cloud computing to thrive



Farmers have always fretted about the weather, but now they have more reason than ever. Climate change has begun to have a significant impact on agriculture around the world. From unprecedented heat waves across Europe and Asia to extended drought in North America, farmers are learning to quickly adapt to dramatically changing conditions.

In the western United States, the last 22 years have seen [the driest conditions in more than a millennium](#). Water is an increasingly scarce resource that must be carefully managed to help support crop yields—and success increasingly depends on connecting to the power of cloud-based technologies.

One example is [Paige Wireless](#). In Idaho's Boise River valley, Paige worked with Cisco to deploy its Long Range WAN (LoRaWAN®) technology to help agricultural communities [monitor, control, and secure the flow of water](#). The system, which is managed entirely in secure cloud infrastructure, enables farms to save an estimated three to five billion gallons of water within a 6-month season.

“Any way that we are able to save water through automation or other programs gets us excited,” says Mike Meyers, Watermaster of Idaho’s Water District 63.

“Water is the most important resource on Earth,” says Julie Bushell, president of Paige Wireless. “Leveraging technology to increase water resiliency, efficiency, and simplify management makes a significant difference for agriculture, communities, and the nation.”

In fact, smart small and medium businesses throughout the food supply chain are connecting to the cloud to improve efficiency and reduce waste. From field to market, a digital transformation of agriculture is underway.

More precise agriculture

Farming often comes down to a matter of monitoring conditions and adjusting inputs accordingly. Precision agriculture takes this to a new level, utilizing sensors and autonomous equipment to deliver the right amount of water, fertilizer, and pesticide to crops in the field.

But a major barrier to adoption of precision agriculture is a lack of connectivity, particularly on small and medium-sized farms. As the [US Department of Agriculture \(USDA\) reported in 2019](#), “Digital technologies in agriculture, including

precision agriculture, can substantially increase crop and animal yields, improve distribution, and reduce input costs. However, without reliable, affordable high-speed internet connectivity at both the farmhouse and in the field, many of these technologies cannot realize their full potential.”

Bushell and Paige Wireless aim to solve this issue. Its [LoRaWAN](#) is the largest, contiguous low power WAN network in North America, enabling farmers to utilize low-bandwidth IoT sensors to monitor groundwater, soil moisture, temperature, sunlight and more. This data informs decisions that increase crop yields while conserving vital resources.

“I don’t feel that we’ve done our job well if we don’t see individual farmers adopting this technology,” says Bushell. “Our goal out of the gate was to deliver solutions to help them be more efficient and more profitable.”

Broadband over cropland

While sensors work on LoRaWAN’s low-bandwidth connectivity, other approaches require higher data speeds. For this, Bushell and her team developed the Paige Wireless Mobile Connectivity Unit (MCU), a lightweight communication trailer that provides wireless broadband network coverage across a farmer’s fields during the growing season.

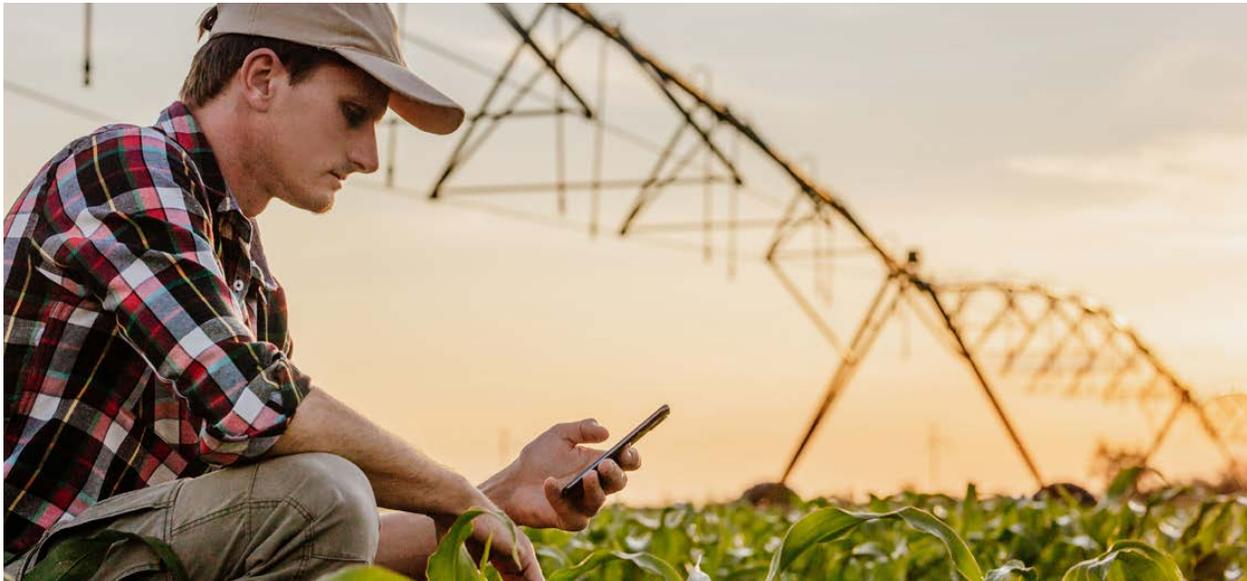


“Deploying an MCU as needed is far less expensive than deploying the fixed equipment necessary to cover hundreds or thousands of acres,” says Bushell. “The mobility of the MCU gives smaller farms a lot of flexibility to experiment and fine tune operations.”

For example, a farm can use MCUs to support mobile and autonomous equipment to lower operational costs, improve yields, and reduce environmental impacts. Autonomous robots use variable rate technology (VRT) to apply the

optimal amount of chemicals to each area of a field, [reducing chemical applications up to 80 percent and fuel consumption up to 40 percent](#), decreasing ground water contamination, and improving soil health.

Paige's LoRaWAN network and MCU rig both leverage Cisco's [Ultra-Reliable Wireless Backhaul](#). "This wireless technology deploys like Wi-Fi," explains Bushell. "It's ideal for connecting mobile assets or extending a network where running fiber isn't feasible or affordable, and it offers 99.995 percent availability. The harsh weather and temperature extremes that exist out on the farm make durability critical."



Protecting the Supply Chain

As important as connectivity and precision agriculture are to the future of farming, small and medium businesses operating in the supply chain between farm and grocery store are also turning to cloud-powered solutions to meet changing consumer demands.

"National and regional brands have moved to carry local produce because it's what consumers want," says Mark Scanlan, the global industry lead for retail at Cisco. "Using local suppliers for fresh food results in better quality and it's more sustainable—with smaller trucks, shorter transport distances, and

deliveries only as needed. The right technology is essential to enable small suppliers to interface with large, national operations."

[Pacific International Marketing](#) is one such smart SMB operation that now relies on cloud-enabled IT for many aspects of its agribusiness, including keeping it safe from cyber threats. Pacific grows, packages, and ships a wide range of conventional and organic produce across North America from locations in California and Arizona, and must keep its supply chain operating at a breakneck pace. Its spinach, for example, has a lifespan of less than two weeks, and [must move quickly](#) from harvesting to cold storage to processing in order to reach grocery stores and restaurants in a matter of days. If anything goes awry—poor temperature control, transport delays, equipment failures—the spinach can spoil, and profits can evaporate faster than rain puddles in a desert.

Migrating to the cloud for resiliency

Naturally, Pacific's small IT team is under pressure to keep all systems running smoothly. They used to work around the clock managing an on-premises data center and an aging network. "There was so much to do," says Bryan Searcy, Pacific's IT director, "from monitoring, to patching, to backups. I used to patch the servers manually myself on weekends."

Searcy turned to Cisco partner [ZAG Technical Services](#), which specializes in IT managed services for western U.S. agribusiness, to migrate Pacific's data center, network, and security all to the cloud. "Initially, I was a little worried about putting so much of our critical data in the cloud," says Searcy, "but ZAG demonstrated to us it was cost-effective, secure, flexible, and reduced the risk of owning hardware and maintaining it. It's exponentially better for us to be cloud-based."

ZAG, which also provides managed services to Pacific, helped Pacific migrate its cybersecurity to the cloud, deploying [Cisco Duo](#) for multi-factor authentication (MFA) and endpoint security. "We take security very seriously," says Searcy. "Because of the importance of the food supply chain to the nation, the produce industry is becoming a target for ransomware."

Another component of ZAG's security upgrade was to deploy [Cisco Meraki](#) switches and firewalls across Pacific's network—all managed in the cloud. "Meraki makes managing our infrastructure really easy from a central dashboard," adds Searcy. "It's like a single pane of glass where I can see all of my sites and how they're connected. I can understand what's happening so much faster."

Because when it comes to something as critical as agriculture, precision matters now more than ever. Whether it's to manage precious water or get products to market quickly, advanced connectivity and cloud computing will help protect the food supply chain that sustains us all. ■

CASE STUDY

Read how Ireland's Centenary Thurles, a farmer-owned co-operative, improved communication and collaboration across its sites



Digital Journeys



Reinventing the restaurant

Mad for Garlic serves up a new dine-in experience using smart cloud technology

Restaurants never intentionally make patrons wait. But running a crowded eatery can be a challenge and it's hard to avoid the occasional delay or mistake, especially when short staffed.

But one South Korean restaurant chain is trying to make waiting a thing of the past—and used the cloud to ensure their solution was easy to manage, even with minimal IT resources.

Mad for Garlic, a chain of Italian-themed restaurants with 41 locations across the country, has developed a contactless ordering solution to offer a frictionless dine-in experience with fast, accurate service.

Known as much for their technological innovation as their wine- and garlic-infused menu, Mad for Garlic and its operating company, MFG Korea, even rolled out an **AI-powered robot server** early in the pandemic. Now with Tab Order, a digital menu displayed on tablets at each table, the chain is responding to customer demand for a streamlined ordering process.

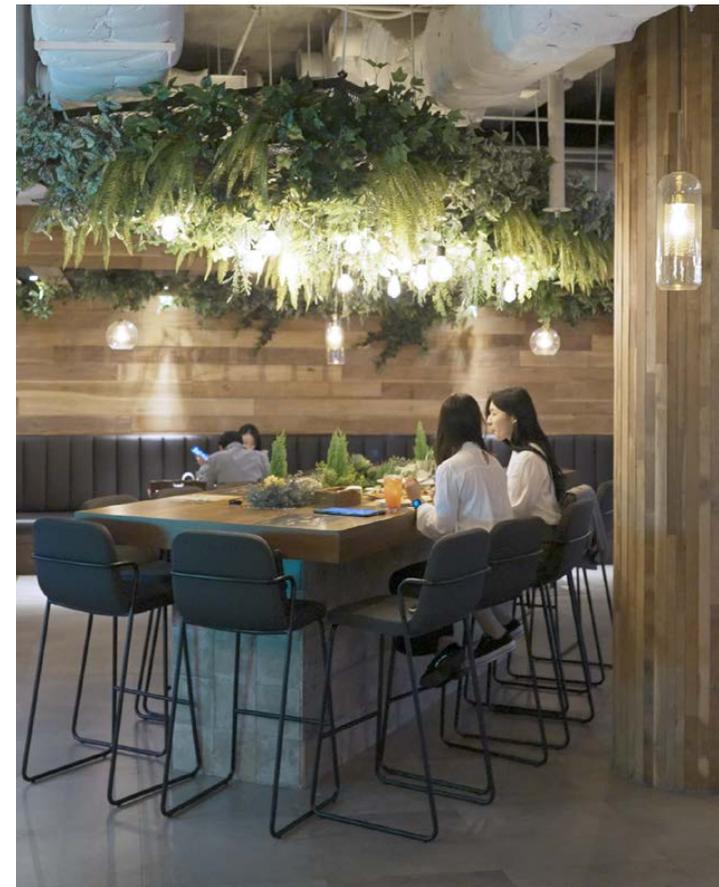
MFG Korea's Tab Order initiative exemplifies how changing customer preferences are pushing

restaurants to rethink the dining experience. A recent **Deloitte survey** found that “consumer demands for convenience and seamless digital experiences are on the rise” among restaurant patrons. Self-ordering isn't just for quick service restaurants anymore: the **2022 Future of Restaurants report** revealed 45 percent of casual dining customers now prefer it to ordering through staff.

Streamlined ordering

In concept, Tab Order is relatively simple: Diners order through an easy-to-navigate tablet interface featuring pictures and descriptions of menu items along with prices. Customers make their selections with a tap, and orders are relayed automatically to the kitchen. Restaurant staff bring food to the guests—and are on hand to offer personalized assistance if needed.

The challenge according to Jeong Sik Woo, Chief Operating Officer of Data On, MFG Korea's IT subsidiary, was in its implementation: “Our biggest concern was how to build and effectively manage a powerful, stable, and secure network to run Tab Order at our 41 branches.”



The task was complicated by Mad for Garlic’s small IT staff. There were not nearly enough personnel for onsite management at every restaurant. “We needed to be able to manage all of the branches remotely—and efficiently,” says Woo.

Cloud technology to the rescue

MFG Korea found what they were looking for in KT Managed ON, a managed service built on [Cisco Meraki](#). Offered by [KT](#), South Korea’s leading telecom company, KT Managed ON leverages Meraki’s cloud-based endpoint management approach to address the IT challenges that SMBs face.

With this final piece of the puzzle in place, MFG Korea was able to make Tab Order a reality. The fast, stable network meant they could take the system live without fear of outages. And to ensure security, the IT team set up automatic firmware updates.

But perhaps most importantly, the company found ways to capitalize on the technology’s ease of use. “Cisco Meraki really helped us with its remote monitoring and management technology,” says Woo, emphasizing that MFG Korea was able to implement their Tab Order system “without having to deploy IT personnel at each site.”

A recipe for hospitality success

After just a short one-month trial at a busy downtown Seoul location, the company was convinced and soon deployed Tab Order across its restaurant chain.



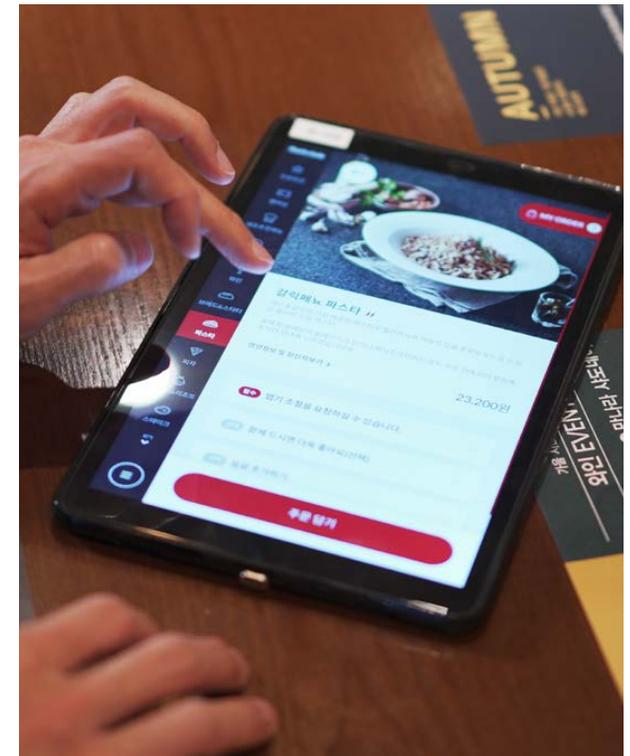
Convenience-hungry guests appreciated the improved quality of service, enabled by the fast and accurate ordering system. Mad for Garlic saw direct benefits as well: an increase in operational efficiency and speed, and new opportunities for upsells and special promotions. In addition, it helped the chain manage staffing impacts from the pandemic and a nationwide [shortage of restaurant workers](#).

In fact, the solution worked so well that MFG Korea’s subsidiary has begun offering it to other restaurant franchises, with plans to provide an integrated IT platform for the food and beverage industry in the future.

In Korea and in many regions around the world, the restaurant industry still faces challenges. But Mad for Garlic’s experience shows how smart cloud technology can help innovative SMBs thrive in a challenging environment—and even find new business opportunities as well. ■

Start your [free trial of the Cisco Meraki cloud-first platform](#)

Learn more about [Cisco Meraki Wireless LAN and Switches](#)



Simplifying compliance

How a Dutch MSP uses cloud security to keep customers safe—and prove it



Cybersecurity is now a high-stakes game. Every organization, SMBs included, faces growing pressures from auditors, regulators, and cyber insurance companies to demonstrate their security protections.

[Open Line](#) has felt the impact in its business. A fully certified managed services provider (MSP) based in the Netherlands, it manages and secures its customers' IT infrastructure. For an MSP like Open Line, the heightened oversight means that in addition to responding to more threats, it also needs to offer a more granular level of reporting.

“More and more we see organizations have to prove that they are in control of security, or at least compliant,” says Eric IJpelaar, Open Line’s

security and privacy officer. “We naturally get more customer requests to show them the evidence that Open Line is in control on their behalf.”

But Open Line saw an opportunity in the additional bureaucracy—and had the cloud-based tools to seize it.

Integrated automation

In late 2021, Open Line, an SMB in its own right with 300 employees, adjusted its security processes to deliver greater transparency to its customers. As a leading Cisco Partner, it implemented [Cisco SecureX](#), a cloud-native platform that integrates Cisco Secure tools, including [Cisco Secure Endpoint](#) and [Cisco Umbrella](#). Open Line engineers now work off a single pane of glass, using SecureX to manage events.

SecureX also integrates with ServiceNow, Open Line’s platform for troubleshooting tickets. In addition to streamlining the incident management process to reduce reaction time and improve response effectiveness, this integration enables Open Line to automate a monthly service report. Clients now receive comprehensive details about

Discover how [Open Line](#) delivers cloud services

Activate a [free trial of SecureX](#)



what security events required action and the actions taken to resolve the issue.

“Automated detailed reporting proves that we are in control of our environment,” says IJpelaar. “It also demonstrates our activity and the value of our service.”

The value of transparency

IJpelaar adds that many SMBs might regard cybersecurity as a form of insurance—“there just in case the unthinkable happens,” as he says—but that it plays no meaningful role in daily operations. “Our reporting shows the opposite,” he says. “We are constantly acting against threats and defending clients every day.”

For IJpelaar, SecureX helps reinforce Open Line’s brand promise. “Our mantra is to enable the carefree use of IT,” says IJpelaar. “Our value is in creating an environment where users operate freely without the pressures of managing security incidents on their own.” And now customers—as well as their auditors—get insight into the protections Open Line provides. ■

Expert Perspectives



How the cloud enables SMB sustainability

A conversation with Craig Cieplinski, senior director of global SMB sales at Cisco

SMB dynamo: How are you seeing SMBs around the world address the need to run more sustainable businesses?



Craig Cieplinski: Every organization has a responsibility to operate in more sustainable ways, including small and medium businesses. One of the most profound IT advances

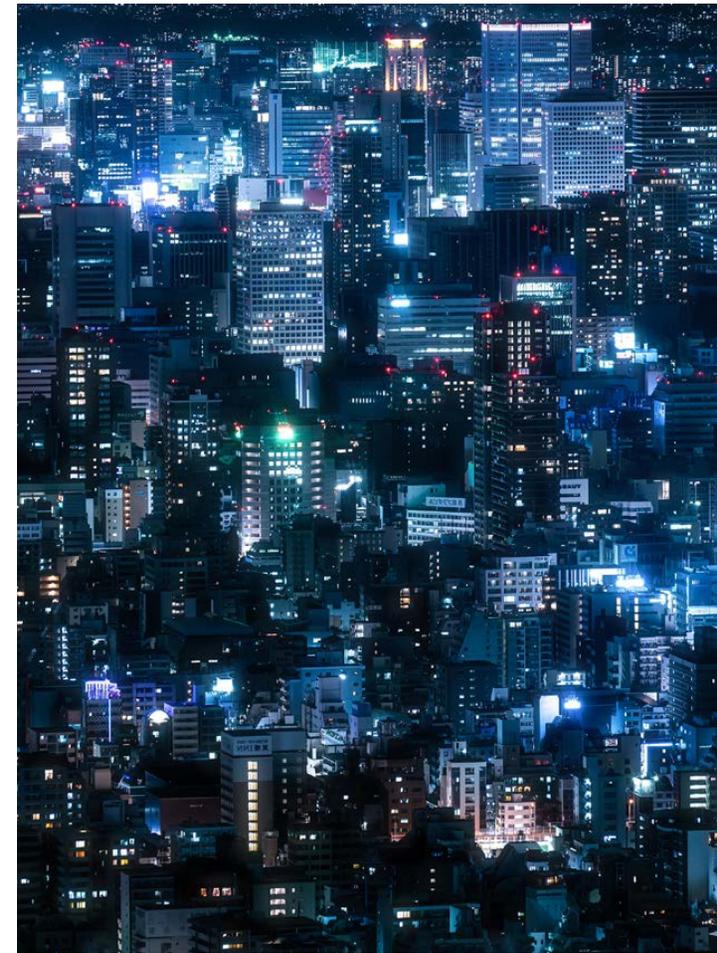
that enables SMBs to reduce their footprint is the adoption of cloud technologies. SMBs are taking advantage of SaaS [Software-as-a-Service] apps and cloud IT infrastructure platforms at a fraction of the cost and complexity we saw less than a decade ago. The ability to securely work and collaborate from anywhere transforms productivity, but it also dramatically reduces the energy consumed by commercial real estate, commuting, and travel. Even IT tasks like network deployment and support can be accomplished via the cloud. Cloud-first solutions are now pivotal to SMB growth and sustainability, and our portfolio of products reflects that.

SMB dynamo: Cloud technologies are more sustainable, but how do they impact SMBs' ability to compete?

Cieplinski: Sustainability has become a competitive necessity. An SMB's customers, whether they're consumers or other companies, expect the organizations that they do business with throughout their supply chains to run smart, sustainable operations. But just as importantly, cloud and SaaS have made enterprise-scale digitization available to every player, enabling them to compete at new levels. Digital transformation is rooted in taking advantage of innovative apps that previously required investment in in-house infrastructure. The cloud lets SMBs use these advances as a service. Of course, Cisco Partners are integral in helping customers drive business value and process improvements, but the technology has really thrown wide open the gates of opportunity for SMBs.

SMB dynamo: Is Cisco taking other steps to support sustainability for SMBs and its Partners?

Cieplinski: Partners and their customers, particularly in the European region, have made it



clear they want best practices and programs to help support their sustainability commitments. Our [Environmental Sustainability Specialization](#), which was launched in April, trains Partners in how customers can participate in the Circular Economy, migrate to cloud-enabled solutions, and generally drive sustainable outcomes, like reducing energy use and waste. It's one of our fastest growing programs and includes a [Takeback Incentive](#) for Partners to get commitments from customers to return products to Cisco. We've made it easy and automated for Partners, while also holding them accountable through reports and tracking, which we've found they appreciate.

SMB dynamo: How does taking back products help SMB sustainability?

Cieplinski: Customers often struggle to know what to do with old equipment—it's costly, and complex to write-off and generally difficult to figure out, so we've developed ways to make it as easy as possible. Our programs are a perfect entry point to reduce waste. Customers can return legacy or unwanted hardware directly, either through our free [Send IT Back app](#), which is available in North America, EU, and UK, or our global [Customer Recycling Solutions](#). Any customer can simply let us know and we will pick it up for free, and we will either recycle it according to local rules or bring it to a Cisco facility for refurbishing. We take care of shipping,



taxes, and any cross-border implications. And just as importantly, Cisco then sends a report confirming what was received so SMBs can prove how they safely divested the equipment to comply with regulations. We take all of that off customers' hands. We're proud that in our 2021 fiscal year, 99.92 percent of everything that has been returned to us is either refurbished for [Cisco Refresh](#) or other programs, or recycled. Almost nothing goes to landfill.

Learn more about
[Cisco Refresh](#)
and the [Cisco Takeback and Reuse Program](#)

SMB dynamo: You noted Cisco Refresh, which offers fully certified and warrantied remanufactured equipment. What role is refurbished technology playing in SMB customers' approach to sustainability?

Cieplinski: We see a lot of SMBs building it into their strategy. Refurbished solutions are cost effective, help alleviate any potential issues with supply chains, and as SMBs look at their own sustainability goals, the lifecycle of IT plays a big part. Customers often seek at least a blend of new and remanufactured products, based on how they will be used.

SMB dynamo: It sounds like you've made SMB sustainability a top priority.

Cieplinski: Absolutely. [Cisco has set an aggressive target](#) to reach net zero greenhouse gas (GHG) emissions across our value chain by 2040, which means a commitment to deep GHG reductions across our operations and supply chain, but also the lifecycle of our products. This naturally includes SMBs, and a big part of that is enabling a future powered by SaaS and cloud-delivered networking for our small and medium-sized customers. ■

Our secret ingredient? The cloud

Inside Abdon Food's digitally advanced food production

By Michael Jørgensen, IT-Chef / CTO, Abdon Food

If you live in Northern Europe, you likely enjoy Abdon Food's breakfast cereal, toast, or pastries. We take great pride in our traditions and reputation for exacting quality, but our vision also looks forward. Although we have just 300 employees, we aim to be our region's most digitally advanced food production company.

Cloud-based solutions have been core to our strategy. We wanted to manage our six locations centrally, incorporate all production equipment into the network, and collect machine data. To make this a reality, we needed a unified network design that could reliably scale across all factories but still isolate them to secure access to the data.

Like many SMBs, we run a small IT department, so we knew from the start this needed to be straightforward to deploy and manage. On the recommendation of our IT partner [Atea](#), we selected [Cisco Meraki](#) for its cloud-first approach,

as well as its ease of installation and the ability to directly ship replacement devices if something went wrong. (It didn't.)

Connecting the cloud

We completed our full deployment with only a minor amount of configuration—all done through the Cisco Meraki cloud-based dashboard, including VLANs, failover, and wireless SSIDs.

Today, every factory is connected to the internet through either 1 Gbps or 100 Mbps fiber connections. Each facility's primary connection point utilizes a Cisco Meraki firewall and switches that form the wired backbone. While some machines are cabled, our wireless network blankets our facilities, including offices, production buildings, and cold storage areas.

Despite the scope of our unified network, we've discovered Cisco Meraki requires minimal support or attention. Atea offers a single point

Start your [free demo of the Cisco Meraki dashboard](#)

Learn more about [Abdon Food](#) and [Atea](#)



of contact and remotely runs diagnostics, troubleshoots, and remediates issues. Simple matters we often solve ourselves.

A foundation to innovate

Most importantly, the cloud-powered network enables us to undertake more advanced digital and IoT initiatives. Just one example: deploying cloud-based [Cisco Meraki Smart Cameras](#) to monitor our production machinery and loading docks.

Eventually, our goal is to integrate the cameras with image analysis through artificial intelligence and machine learning. This will allow us to track with precision the number of items we produce and even flag—in real time—production issues like misshapen buns or bread.

All of this is possible due to our embrace of cloud-first technologies. Even with our company's modest IT team, we can still transform into a digital leader. ■