Delivering the Future 2023

FACT SHEET

1. Event Overview
   a. Delivering the Future gives attendees a behind-the-scenes look at Amazon’s latest innovations and demonstrates how the company is deploying advanced technologies like robotics and artificial intelligence to better serve its customers, support its employees, and show up for communities in which it serves around the world.
   b. The goal at this event is to share Amazon’s approach of inventing new technology and tools that support its ability to deliver for customers. Attendees will get an insight into the company’s unique culture of working backwards from the customer experience, and a glimpse into the near future of how Amazon will operate.

2. The Spheres
   a. Building The Spheres was a project that required extensive teamwork, testing, and experimentation. From February 2013 to January 2018, numerous businesses local to the Pacific Northwest collaborated to make The Spheres possible.
   b. The Spheres celebrated its grand opening on January 30, 2018. They were dedicated by Amazon Founder and Executive Chairman Jeff Bezos, former Seattle Mayor Jenny Durkan, County Executive Dow Constantine, and Washington state Governor Jay Inslee, using an Alexa voice command as the ceremonial opening.
   c. Since its opening, Amazon employees, guests, and visitors have walked through The Spheres to take in the stunning flora and unique design. The Spheres stand as a recognizable landmark in South Lake Union, Seattle. On-staff horticulturists conduct visits daily to care for the plant life and envision further ways to innovate inside The Spheres.
   d. The Spheres were developed to be the most unique workspace in the region and preserve our innate connection to nature.
   e. The Spheres provide a space to think and work differently, surrounded by nature and the wellness benefits it provides.
   f. The Spheres are a result of innovative thinking about the character of a workplace and an extended conversation about what is typically missing from urban offices—a direct link to nature. The Spheres are home to more than 40,000 plants from the cloud forest regions of over 30 countries.
   g. With more than 1,000 different species of cloud forest plants from all over the world, The Spheres living collection highlights the planet’s biodiversity and explores the value of conservation in an urban environment.
   h. With more than 25,000 plants woven into 4,000 square feet of wall, the Living Walls are an innovative demonstration of biodiversity. These walls are the brainchild of Horticulture Program Manager, Ben Eiben. Ben and his team assembled the living walls by growing the plants on mesh panels at the greenhouse. When the panels were ready, they were transported and attached to the growing surface. With careful preparation, the team assembled The Spheres’ tallest wall in only two weeks!
   i. The Spheres’ façade contains 2,643 panes of glass. The last pane was put into place in December 2016. Our plants need more daylight than the Seattle weather usually provides so the type of glass selected for the façade was important. The glass chosen is ultra-clear and energy-efficient, with a film interlayer to keep out infrared wavelengths that produce unwanted heat. To test it out, the Amazon Horticulture built a small greenhouse in Woodinville, WA using the glass planned for The Spheres. This mockup greenhouse allowed the team to test light levels, temperature, and humidity in a realistic environment.
   j. Amazon Horticulture was created to provide Amazon employees and the community a connection to nature through biophilic design by creating vibrant landscapes in our neighborhood.

3. BFI1
   a. BFI1 is an Amazon robotics development hub and fulfillment center in Sumner, Washington that officially opened in 2011. The 480,000-square foot facility brings together research and development labs, as well as a wide range of robotics and technology testing.
b. The facility started its life as a traditional (non-robotic) non-sort building and underwent four major transitions to become the research development center it is today. It was the first site to receive a robotics floor after the acquisition of Kiva in 2012.

c. Hundreds of employees at the site code, design, and test robotics and advanced technology that are rapidly deployed across Amazon’s global operations network.

d. Teams at BFI1 are responsible for fulfilling customer orders and developing hardware and software solutions throughout the space that seek to improve packaging, transport distance, and reduce carbon emissions.

e. BFI1 is home to our Packaging Innovation Lab where we experiment and test the durability of packaging—mostly packaging for our Ships in Product Packaging program. When we think about convenience of delivery for our customers, packaging is a big piece—and this lab helps us simulate our fulfillment center and delivery process to test the durability of packaging, or lack thereof, so we can find out what works, and what doesn’t so we can start implementing it in the real world as quickly as possible.

4. Amazon Global Robotics

a. Amazon Fulfillment Technologies and Robotics is innovating in how we strive to be Earth’s Best Employer and deliver for customers through novel advances in robotics and AI that are shaping how we design the warehouse of the future. For over a decade, Amazon has been at the forefront of innovation in supply chain technology. We take a practical approach applying cutting-edge technology in sustainable ways that can be useful today for our employees, customers and the community.

b. At Amazon, we believe that collaborative robotics and Ops tech drive career opportunities and improve safety for our employees. Designing, manufacturing and deploying robotics across our operations network creates new roles at Amazon and opportunities for our employees to learn new skills and advance their career.

c. Robotics improve price, selection and convenience for our customers and assist our employees in their everyday work. Over three-quarters of a million of our robots are deployed worldwide, taking on part of the heavy lifting and repetitive tasks our employees oversee as they move, sort and package customer orders. By leveraging the latest in AI, ML and CV and by focusing on collaborative design, our technology is making our operations safer. It is also giving time back to our employees so they can focus on what they do best: finding new ways to delight customers.

i. Proteus

1. Proteus is our first Autonomous Mobile Robot (or AMR).
2. Proteus autonomously navigates through our facilities using advanced safety, perception, and navigation technology developed by Amazon.
3. With Proteus, these robots no longer need to be confined to restricted areas, opening up a bigger range of possible uses that help with safety.
4. Proteus is designed to lift and transport Go Carts. It’s automatically directed to its work through integration with SortTech software.

ii. Cardinal

1. Cardinal is a robotic work cell that uses advanced artificial intelligence (AI) and computer vision to nimbly and quickly select one package out of a pile of packages, lift it, read the label, and precisely place it in a GoCart to send the package on the next step of its journey.
2. Cardinal reduces the risk of employee injuries by handling tasks requiring lifting and turning large or heavy packages or complicated packing in a confined space.
3. With Cardinal, package sorting happens earlier in the shipping process, resulting in faster process time in the facility.
4. Amazon shipping operations run more smoothly because Cardinal converts batch-based manual work into continuous, automated work.

iii. Hercules

1. Hercules can lift up to 1,250 pounds and travel across the 1 million square feet of our largest fulfillment centers.
2. Hercules travels back and forth in our fulfillment centers to pick up mobile shelves of products and deliver them to employees at ergonomic workstations.

3. Hercules has a forward-facing 3D camera that identifies people, pods, other robots, and any other items in the way. It uses these images to make safe decisions quickly and is also programmed to respond safely if the electricity goes out.

iv. Sequoia

1. We are proud to share that we have just launched a new robotic system in time to help support customer orders for holiday shopping this year. Sequoia is the name of this new technology and it’s now operating at one of our fulfillment centers in Houston, Texas.

2. By reimagining how we store and manage inventory at our sites, Sequoia will help us delight customers with greater delivery estimate accuracy and speed while also improving employee safety at our facilities.
   a. The system allows us to identify and store inventory we receive at our sites up to 75% faster than we can today. The means we can list items for sale on Amazon.com more quickly, benefiting both sellers and customers.
   b. Sequoia also reduces the time it takes to process an order through a fulfillment center by up to 25%, which improves our shipping predictability and increases the number of goods we can offer for Same-Day or Next-Day shipping.

3. Building on a series of research and development efforts, Sequoia integrates multiple robot systems to containerize our inventory into totes, bringing together mobile robots, gantry systems, robotics arms, and a new, ergonomic employee workstation.

4. Totes come to employees at a newly-designed workstation that allows them to do all their work in their power zone, between their mid-thigh and mid-chest. With this system, employees will no longer have to regularly reach above their head or squat down to pick customer orders, supporting our efforts to reduce the risk of injuries.

5. Robotics is already having safety impact today: company data shows that recordable incident rates and lost-time incident rates were 15% and 18% lower, respectively, at Amazon Robotics sites than they were at its non-robotics sites in 2022 and Sequoia will help continue this positive trend.

v. Digit

1. In addition to Sequoia, Amazon Robotics continues to make new bets and try novel approaches to automation. That’s why we have also begun testing mobile manipulator solutions at our robotics research and development site just south of Seattle.

2. Broadening our partnership with Agility Robotics, we will begin testing their bi-pedal robot, Digit, for use in our operations. Agility is part of the Amazon Industrial Innovation Fund and Digit can move, grasp and handle items in spaces and corners of a warehouse in novel ways.

3. Our initial use case for this technology will be to help with tote recycling, a highly repetitive process of picking up and moving empty totes once inventory has been completely picked out of them.

5. Sustainable Packaging

   a. Our highly-automated Amazon fulfillment center in Euclid, Ohio (CLE3) is the first in the U.S. to replace plastic delivery packaging with paper packaging solutions that are curbside recyclable.

   b. Like most retailers, Amazon has traditionally used a mix of plastic and paper packaging to optimize for durability, weight, and size. However, recycling plastic packaging generally requires customers to head to a drop-off location, so our packaging engineers have been researching and experimenting for years to ensure we find the right solutions to deliver products to customers with paper.
c. By rebuilding existing machines to use paper instead of plastic, creating durable and flexible paper packaging, improving made-to-fit technology, and transitioning from plastic air pillows to paper filler, the team enabled this building to transition fully to paper packaging.

d. This work is part of a multi-year effort to convert U.S. fulfillment centers to paper, and these new paper solutions will provide the convenience of allowing many customers to recycle at home.

6. Delivery

a. Amazon Logistics (AMZL) provides our customers a seamless delivery service through the last mile of their orders. To do this, we work with small delivery companies (Delivery Service Partners), independent contractors (Amazon Flex), and small business owners (Amazon Hub Delivery).

i. Through the DSP program, launched in 2018, we have empowered 3,500 hands-on entrepreneurs to build and scale their businesses, which, in turn, have created 279,000 driving jobs, generated $45 billion in revenue, and are now delivering over 20 million packages every day across 19 countries.

ii. In September 2023, we announced we are investing over $840 million in DSP rates and new programs for delivery drivers, including education opportunities and family support. With these announcements, Amazon’s investment in DSPs will total more than $8 billion since the program began in 2018.

iii. Automated Vehicle Inspection (AVI) is AMZL’s latest AI-powered technology, launched in partnership with UVeye. It’s an archway equipped with sensors and cameras that will be rolled out across delivery stations in the U.S., Canada, Germany and the UK. It performs a full-vehicle scan in just a few seconds, catching and reporting any issues before the delivery vehicle heads back out on the road the next day. AVI relies on machine “stereovision,” meaning that it uses two vantage points to then construct a full 3D image; and deep learning, a subset of machine learning in which a layered neural network mimics the learning processes of the human brain.

b. Micromobility

i. Electric Yard Tractor – Gaussin: The Gaussin Automotive Trailer Mover (ATM) is an electric yard tractor used in Amazon distribution centers and sort centers. The vehicle includes safety features such as a collision warning sensor and 360-degree camera. Amazon has been using electric yard tractors to help move trailers around its sites since 2019 and has ordered more than 300 from Gaussin for its fleet in the U.S.

ii. Rivian 700: Amazon’s electric delivery vans from Rivian were designed from the ground up with safety, sustainability, and comfort in mind. The custom vehicles are packed with industry-leading safety, navigation, and design features, including superior 360-degree visibility, automatic emergency braking, adaptive cruise control, and collision warnings. Step inside to see the ergonomic cabin and cargo area, ventilated seat for fast heating and cooling, and powered bulkhead door that opens when drivers reach their delivery location. With its commitment to have all 100,000 electric delivery vehicles on the road by 2030, Amazon will eliminate millions of metric tons of carbon per year.

1. Amazon began rolling out its electric delivery vans in the summer of 2022 and now has more than 10,000 across the U.S. To date, Amazon’s vans from Rivian have delivered more than 260 million packages to customers in the U.S.

2. Amazon has also brought the custom vans to Europe and recently announced more than 300 will hit the road in Germany, joining a fleet of thousands of electric vans already in operation in Europe.

3. Amazon’s custom electric vans are on the road making deliveries in more than 1,800 cities across the country, including Alpharetta, Austin, Baltimore, Boston, Cleveland, Charlotte, Chicago, Cincinnati, Dallas, Denver, Grand Rapids, Houston, Indianapolis, Kansas City, Las Vegas, Madison, Miami, Nashville, New York, Newark, Oakland, Omaha, Orlando, Philadelphia, Phoenix, Pittsburgh, Portland, Provo, Rochester, Salt Lake City, San Diego, San Jose, Santa Rosa, Seattle, St. Louis, Tampa and Toledo. Amazon is also rolling out vans in Anaheim, Green Bay, Lexington, and Silver Spring.

4. Amazon has installed over 12,000 chargers across over 100 delivering stations in the U.S. to support its electric delivery vans.

iii. Mooevo Pushcart: This electric pushcart was designed by Mooevo to require little to no effort in delivering packages to our customers in central city locations, thanks to its electric
motor and ergonomic design. With a range of about 25 miles it can operate on sidewalks and dense urban areas. The Mooevo pushcart was designed with great maneuverability that allows it to navigate around obstacles on sidewalks, making the delivery experience more efficient. The pushcart is equipped with lights and a top-of-the-line braking system. This pushcart is currently being used in Spain.

iv. MK27 Drone: Prime Air currently offers drone delivery in two U.S. states, enabling Amazon customers to safely get packages, up to five pounds, in their hands in under an hour via drones. Prime Air customers can choose from thousands of items, including household products, everyday essentials, beauty items, and tech supplies. For deliveries, the drones fly to the designated delivery location, descend to the customer's backyard, and hover at a safe height. It then safely releases the package and rises back up to altitude. The MK27 drone is one of our latest drones that features a unique hexagonal design, and the propellers have been specifically designed to minimize high-frequency soundwaves. Prime Air is one of many initiatives supporting Amazon's vision to reach the goals of The Climate Pledge by 2040.

v. Delivery E-Bikes: E-Bikes are a new way for our delivery partners to deliver Amazon packages conveniently and safely in dense urban areas across Japan. With hundreds of e-bikes operating in 25 states across the country, they help make deliveries in crowded neighborhoods more convenient for our delivery partners due to their compact size and maneuverability. The e-bike has a low maintenance cost, making it an efficient and sustainable way to deliver packages.

vi. Volvo EDC: The Volvo VNR Electric Truck was designed as a zero-tailpipe emission solution for logistics companies supporting local and regional distribution, pickup and delivery, and food and beverage distribution. The Class 8 Volvo VNR Electric model is available in a variety of configurations with a four- or six-battery package and has a range of up to 275 miles. It features a dedicated battery thermal management system to maintain ideal environmental temperatures and can achieve an 80% charge in about 90 minutes for the six-battery package and 60 minutes for the four-battery package. The Volvo VNR Electric Truck provides uninterrupted torque and smooth acceleration and produces less vibration and noise, which results in a more comfortable and relaxing driving experience.

7. Prime Air

a. Prime Air is a delivery system from Amazon designed to safely get packages, up to five pounds, into customers' hands in 60 minutes or less using drones.

b. Last year at Delivering the Future, we revealed a digital look at our latest drone design, the MK30, which includes key features such as:
   i. Increased range; the drone can now fly twice as far
   ii. Expanded temperature tolerance and capability to fly in light rain
   iii. Ability to land in smaller areas
   iv. New custom-designed propellers which will reduce the MK30's perceived noise by almost half from previous models.

c. The MK30 notably came together in about 18 months, because of our expertise and experience in the aerospace and technology space, enabling us to create a new aircraft from the ground-up.

d. Prime Air delivers to customers in parts of California and Texas, and started delivering in December 2022. To date we have successfully delivered thousands of items. We are starting in these communities and will gradually expand deliveries to more customers over time.

e. Drone delivery will no longer only take place out of our stand-alone Prime Air Delivery Centers, like those in California and Texas. Moving forward, we will also be integrating drones into the Amazon delivery network, transforming how we operate, and potentially the future of deliveries overall.

f. In the U.S. where we offer drone delivery, we will also operate out of some of our Same-Day Delivery stations. These sites offer a selection of products that are well aligned with what the drones can safely deliver – products that customers want and need quickly, and that fit the size and weight capabilities of the drone.

g. By the end of next year, we will use the new MK30 to launch drone deliveries in our third U.S. state. We’ll reveal the exact location of this site in the coming months.

h. We are also expanding commercial drone delivery outside the U.S. By end of 2024, we will start drone deliveries in the U.K. and Italy.
i. We’ve been working closely with national regulators, international regulators and communities in the EU, Italy, the UK and the U.S. to develop and test these programs. We have committed the necessary time and resources to build a safe and scalable service. We have refined the technology, and are now building the right infrastructure to ensure the service provides the ultimate convenience for our customers.

8. Disaster Relief and Response by Amazon

a. Disaster Relief by Amazon
   i. Amazon’s disaster relief and response efforts utilize our global logistics capabilities to provide the fastest, most effective aid. These strengths enable us to ship Amazon-donated items, and items donated by partners, to communities as soon as possible after a natural disaster.
   ii. Since 2017, Amazon has donated more than 23 million relief items to support people impacted by over 113 disasters around the world.
   iii. Using data and forecasts from relief organizations, Amazon teams are able to pack tens of thousands of relief items and have them ready to deploy as soon as it’s safe following a natural disaster. Some of the most frequently requested products include diapers, tarps, cots, blankets, heaters, tents, solar lights and chargers, and cleaning supplies.

b. AWS Disaster Response Jeep
   i. Amazon Web Services (AWS) enables disaster response organizations to access cloud services at the edge, even in the harshest conditions.
   ii. The AWS Disaster Response Action Team allows customers to focus on mission-critical functions, while AWS implements deployable infrastructure based on customer need.
   iii. The AWS Disaster Response team helps with testing proof-of-concepts and fine-tuning existing innovations under simulated disaster conditions, with support from AWS Disaster Response vehicles. These vehicles are enabled with technology like AWS Snowball Edge devices, which are powerful and portable cloud computing devices designed for rugged deployments in the harshest physical environments.
   iv. AWS has used cloud technology to help standby partners with mapping and damage assessment of hard-hit areas, re-establishing internet connectivity, and scaling call centers to handle increased requests after a disaster.

9. Amazon Health Services

a. Much of the current health care experience is simply too hard. At Amazon, we believe we can make health care easier by relentlessly applying customer-obsession to experiences that deliver the value, selection, and convenience customers deserve.

b. Amazon Health is focused on making it easier for customers to Get Care, Get Medications, and Get Well. Amazon’s health services include Amazon Pharmacy, Amazon Clinic, and One Medical. These three separate health services pair well, especially when a customer seeks quick, convenient care for an acute condition.

c. Amazon Pharmacy
   i. Amazon Pharmacy is a full-service pharmacy on Amazon.com—essentially, a pharmacy in your pocket. We carry most medications prescribed at the doctor’s office, and deliver free to your door.
   ii. The current pharmacy experience has not evolved in decades. Like Amazon.com, Amazon Pharmacy is focused on creating new convenience, value, and selection for customers. We’re doing this by offering more ways to save including RxPass, automatic coupons, and innovative partnerships with insurance providers.
   iii. At Amazon Pharmacy, we’re proud to offer 24/7 access to pharmacists and upfront pricing on all our medications. No guessing the price, no driving, and no waiting in line.

d. Amazon Clinic
   i. Not all health concerns require a trip to urgent care or waiting for an appointment with your doctor. That’s where Amazon Clinic comes in – helping you get the treatments you need, when and where you need them.
ii. Amazon Clinic is a virtual health care marketplace that connects customers to third-party, licensed clinicians to help manage common health conditions like urinary tract infections, pink eye, and erectile dysfunction.

iii. We make it easy for customers to shop for healthcare. Available 24/7 on the Amazon website and mobile app, customers can view a list of available telehealth providers, select the provider that best meets their schedule and budget, then connect directly via message or video-based consultation.

e. One Medical

i. One Medical is on a mission to transform health care for all through a human-centered, technology-powered model, delighting members with better health outcomes, better care experiences, and more value, within a better care team environment.

ii. One Medical offers seamless in-office and 24/7 virtual care services, on-site labs, and programs for primary and preventive care, chronic care management, common health conditions, and mental health concerns.

iii. A One Medical membership (reg: $199/year) provides access to on-demand and asynchronous virtual care services as well as high-touch personal services such as insurance navigation and referral management.

f. Prime Air + Amazon Pharmacy

i. Amazon is taking prescription medication delivery to new heights with the launch of drone delivery of medications from Amazon Pharmacy.

ii. Eligible customers in College Station, Texas can now get their medications delivered to their home via drone within 60-minutes of their order with Amazon Pharmacy.

iii. They’ll have access to 500+ common medications, which can help them get well faster, with less friction, so their focus can be on getting well.

iv. Amazon Pharmacy customers with an urgent health care condition can access Amazon Clinic, which offers virtual, 24/7 treatment for 35 conditions including a newly launched cold and flu condition, or One Medical, a hybrid virtual and in-person primary care offering that recently announced a new Prime pricing option.

v. Rapid access to care paired with fast medication delivery can improve treatment outcomes, while allowing the customer to stay in the comfort of their home.

10. Customer Shopping Experience

a. From the beginning, our focus has been on offering a wide selection, low prices, and fast delivery. Decades later, this hasn’t changed and we continue to innovate across our store. Selection, value, and convenience are the enduring customer experience tenets we’ve always focused on to make Amazon the store customers turn to for their shopping needs.

b. Recently, we announced Amazon is delivering its largest selection of products to U.S. Prime members at the fastest speeds ever. With more than 300 million items available with free Prime shipping and tens of millions of the most popular items available with free Same-Day or One-Day Delivery, we hit our fastest Prime speeds ever in Q2, 2023. Across the top 60 largest U.S. metro areas, more than half of Prime member orders arrived the same or next day. Through the end of Q2, 2023, we delivered more than 1.8 billion units to U.S. Prime members the same or next day—nearly four times what we delivered at those speeds by this point in 2019.

i. There are a few important innovations that came together in order for us to make this exciting milestone possible for customers:

1. First is regionalizing our U.S. operations network. In short, we divided the country into smaller, easier-to-reach regions. Previously, we fulfilled orders from any of our operational sites across the country. Now we have eight interconnected regions serving smaller geographic areas. We keep a broad selection of inventory in each region, making it faster and less expensive to get those products to customers. Today, more than 76% of the orders we fulfill come from within the customer’s region. Items shipped from nearby fulfillment centers or delivery stations helps packages get to customers not only faster, but also with fewer emissions.

2. Second, is our ongoing work to place products closer to customers. We use increasingly advanced machine learning algorithms to better predict which items customers in various parts of the country will want and when they will want
them, and we work with our vendors and selling partners to store those products closer to customers. This helps to ensure that we have the right inventory, in the right places, at the right time. We’re also expanding our capacity to place products in the right fulfillment center in each region. This allows us to shorten replenishment times while maintaining the broadest selection of products available to fulfill a customer’s entire order at one time from the Amazon location closest to them.

3. **Third** is the continued growth of our Same-Day Delivery network. Same-Day facilities are smaller buildings situated close to the large metro areas they serve, which decreases the distance to customers. These buildings are designed for speed with smaller footprints, streamlined conveyors, and picking directly to pack stations. As a result, the average time from picking a customer’s items to positioning the customer’s package on the outbound dock is 11 minutes in Same-Day facilities, more than an hour faster than our traditional fulfillment centers. And these hybrid facilities allow us to fulfill, sort, and deliver all from one site—making the entire process of delivering customer packages even faster. Selection varies by city, as we regularly update our product offering based on what we’re seeing as top customer items purchased or based on seasonal demand in the area. And with connections to the larger Amazon fulfillment centers nearby, we dramatically increase the number of items available for fast delivery. Same-Day Delivery is currently available on millions of items for customers across more than 90 U.S. metro areas, and we have plans to double the number of sites in the coming years.

c. Fast, reliable delivery on a wide selection of products is a key part of convenience and an enduring priority for us, and we’ll keep prioritizing and investing in it.

d. A convenient shopping experience means customers are able to navigate Amazon easily, find the products they’re looking for, have their packages arrive on their doorstep quickly, and if they aren’t satisfied with their purchase, return the item hassle-free.

e. As our selection has grown, we make it easy for customers to order everyday essentials and rely on them to arrive fast. This saves countless trips to the store, allowing our customers the gift of time back that they can use to spend doing things that they love.

11. **AI**

   a. **AI** is the most transformational technology of our time, capable of tackling some of humanity’s most challenging problems. That is why, for the last 25 years, Amazon invested heavily in the development of machine learning, infusing these capabilities into every business unit, everywhere in the world.

   b. The technology is used for both customer-facing services and internal operations, from the recommendation engines that personalize the shopping experience on Amazon.com to the AI-powered robots that optimize order fulfillment in our warehouses.

   c. We launched entirely new businesses based on AI, like Alexa, our general purpose, personal AI.

   d. We play a critical role in the widespread adoption of AI in other industries, with more than 100,000 businesses using machine learning services offered through Amazon Web Services.