Google Cloud

How customers solve for innovation with Google Cloud

Learn how leading companies use Google Cloud to innovate faster, solve business challenges, and make smarter decisions to serve their customers.

Google Cloud

Solve for innovation with Google Cloud

When looking at cloud computing technologies, companies today want flexible and agile platforms that are well equipped to handle the complete digital transformation of their business. These digital transformations are not simply about 'lifting-and-shifting' legacy IT infrastructure to the cloud for cost saving and convenience. Organizations are looking to drive the complete transformation of their entire business by inventing new ways to accomplish their goals - from making core processes more efficient, to improving how they reach and serve their customers.

Google Cloud is the trusted innovation partner to accelerate companies' digital transformation. From artificial intelligence and infrastructure, to security and collaboration, we've helped more than 7.5 million customers around the world become the best technology company in their industry.

We are proud to share our most inspiring stories from customers around the world. Take Macquarie Bank for example, a global financial services group headquartered in Australia. With the help of our data analytics solutions, they are delivering personalized banking experiences to their customers and partners.

Canadian telecommunications company TELUS has increased their data processing time by 20X so that they can quickly understand their customers' journey and deliver better services. In the United States, Equifax is undergoing a multi-year digital transformation with Google Cloud to become a leading data provider so they can accelerate decision-making with real-time access to consumer credit data. And in France, Carrefour uses our cloud as the platform to modernize its IT infrastructure and reduce energy consumption to become a more sustainable company.

We've gathered valuable insights and success stories from these and many other customers who are digitizing their businesses and becoming more sustainable. We are inspired by their work and it's our honor to share their learnings and successes with you.

Thank you,
Thomas Kurian,
CEO, Google Cloud

Learn more @ **cloud.google.com/contact**

Contents

Contents

Contents

01

Consumer Packaged Goods

Solving business challenges
in the CPG industry

Asahi Group Holdings ↗   **Japan**

Rodan + Fields, LLC (SAP) ↗   **United States**

Accelerating innovation and global collaboration with API-first strategy

About

Asahi Group Holdings Ltd. engages in the manufacture and sale of food and beverages. It operates in the following segments: alcoholic beverages, soft drinks, food, and other areas, including logistics and other businesses.

The company was founded on September 1, 1949, and is headquartered in Tokyo, Japan. As a result of its sustainability initiatives, the Asahi Group received various environment-related awards and certifications, including CDP's Climate Change A-List for three consecutive years.

Location

Japan

Solutions

Application modernization

Infrastructure modernization

Databases

Google Cloud products

Apigee API Management

BigQuery

Cloud IAM

Google Kubernetes Engine

> "We're on a mission to modernize our architecture by 2027, but our global business needs won't wait until 2027. That's why we need an API-first strategy to allow legacy systems to support rapid innovation and global collaboration, while we move our architecture to the public cloud."

Hiroshi Shimizu, Digital Transformation Department Manager, ASAHI Group Japan, LTD.
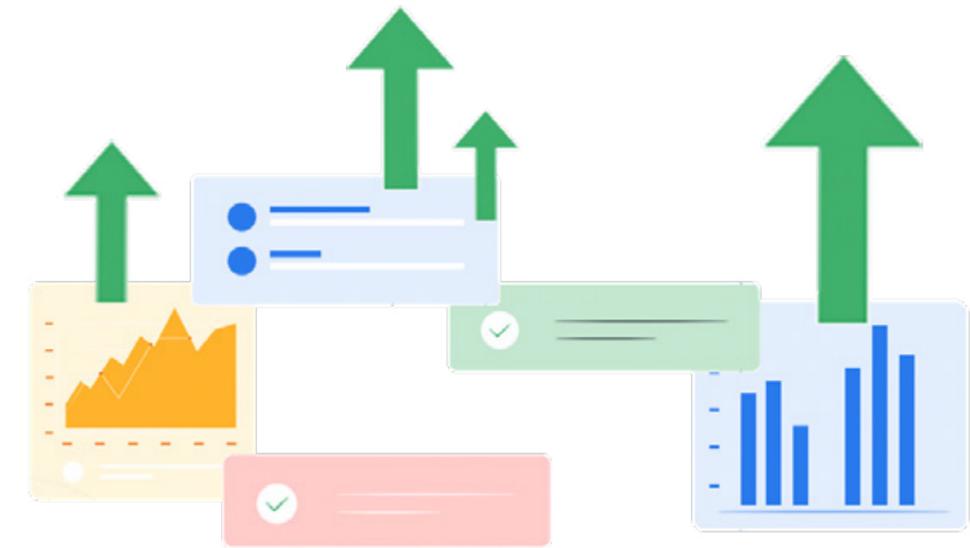
Tapping into customer tastes by analyzing data with BigQuery

Over the years, the Asahi Group built up a complex network of on-premise VMs and cloud applications. Leveraging Google Cloud and Apigee, the Group speeds up data processing by connecting legacy applications to cloud services.

Onboarding new employee data that used to take days can now be done in real-time. Using API integration, the Group propagates new employee data across departments so employees are productive from day one of work. To support real-time business decisions in tandem, the Group also analyzes consumer and market data on BigQuery in real-time.

The impact

Minimizes risks by managing granular access to data with Cloud IAM

Improves demand forecasting by connecting data sources with BigQuery

Eliminates infrastructure burden with a fully managed Google Kubernetes Engine

![Rodan + Fields logo]

Revitalizing customer experience to drive business growth
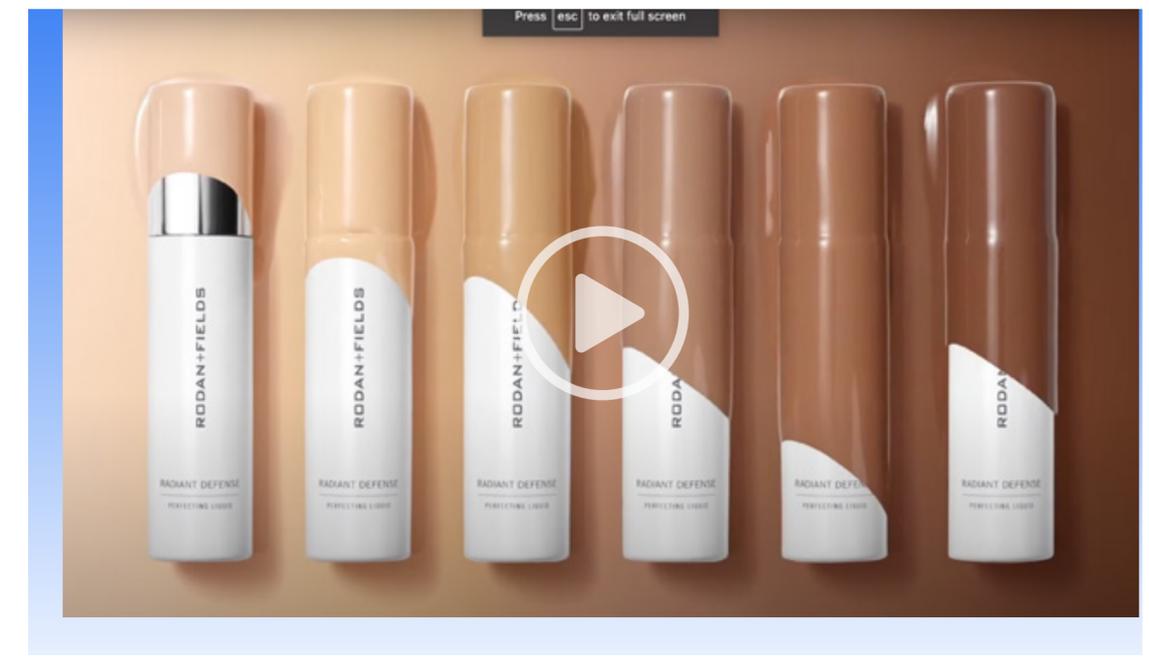
About

Rodan + Fields was founded by dermatologists Dr. Katie Rodan and Dr. Kathy Fields in 2000 with the mission of giving consumers the best skin of their lives.

Rodan + Fields disrupted the industry with its regimen-based skincare and powerful independent consultant community.

Location

United States

Solutions

Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Cloud Data Fusion

Cloud Storage

"
Empowering our consultants is fundamental to our business. Running SAP on Google Cloud presents further opportunities for them to increase their revenues and create a world-class digital experience."

Steve Dee, Chief Information Officer, Rodan + Fields
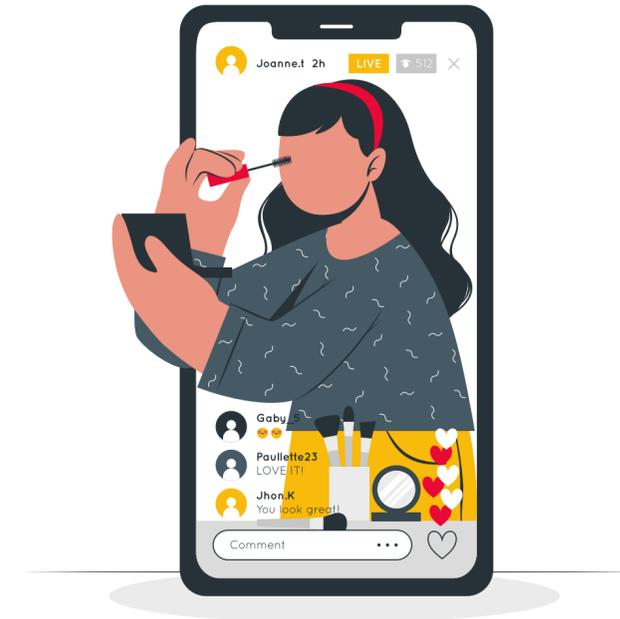
Building a scalable platform that delivers results

Founded by two Stanford-trained dermatologists, Rodan + Fields serves customers throughout North America, Japan, and Australia. The company's websites run on SAP Hybris e-commerce, but it has built a modern data architecture using Google Cloud.

It uses Cloud Data Fusion to move its data from its legacy database to a data warehousing environment based on BigQuery, and uses Google Confluent Cloud for real-time data streaming. It has also seen significant improvements using the Kubernetes environment in Google Cloud, which can spin different clusters up and down according to customer and consultant requirements.

Google Cloud delivers a more agile environment that will support Rodan + Fields as it targets new areas for growth.

The impact

Reduces expenditure and improves the bottom line by more accurately matching IT resources with demand

Delivers non-stop system availability for worldwide operations and customers

Uses a mix of behavioral and transactional data analysis to enhance customer and consultant experiences

02

Cross Industry and Digital Native

Solving business challenges across industries

Cleartrip ↗	**India**
Etsy ↗	**United States**
GoTo/Tokopedia ↗	**Indonesia**
Lightricks ↗	**Israel**
Geotab ↗	**Canada**
LIXIL ↗	**Japan**
MRV ↗	**Brazil**
Wix ↗	**Israel**

Helps solve 90% of production issues with Google Cloud
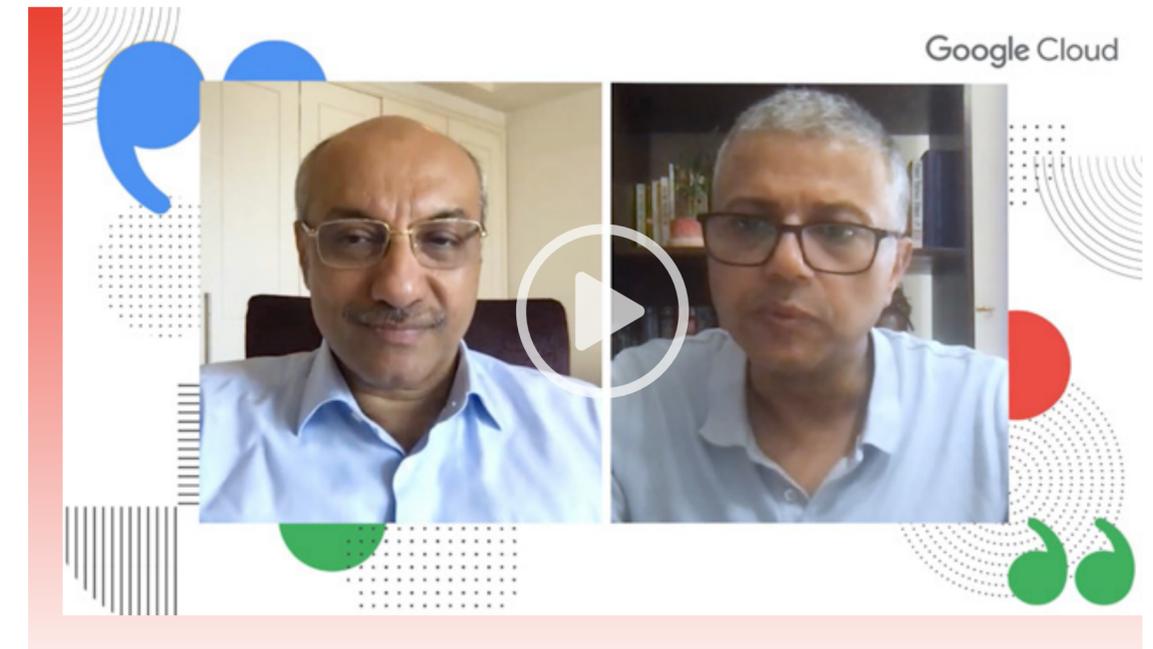
About

Cleartrip is the leading online travel and leisure aggregator in the Middle East and India. Founded in 2006, Cleartrip offers its customers a comprehensive and personalized travel experience through its innovative and award-winning mobile and desktop solutions.

The app is used by more than 25 million users worldwide.

Location

India

Solutions

Infrastructure modernization

Google Cloud products

- BigQuery
- Cloud Storage
- Cloud Monitoring
- Google Kubernetes Engine
- Memorystore

"

We are in the business of offering travel solutions to our customers, so having zero downtime is essential. For this reason, we believe that Google Cloud is a very viable solution for us because of its high availability and scalability."

Manoj Sharma, Chief Technology Officer, Cleartrip

Creating an end-to-end travel experience with high-performance infrastructure

Cleartrip leverages technology to simplify travel for its customers, whether it's a vacation or a work trip. Using Cleartrip's web and mobile apps on Google Cloud, customers can plan their ideal travel journey with a wide selection of flight, hotel, and train options for a seamless booking experience. Leveraging Google Kubernetes Engine, Cleartrip can develop features faster without dependencies on infrastructure availability.

The app scales dynamically to meet traffic spikes when more people search for travel during festivities. Cleartrip uses Cloud Monitoring to monitor and troubleshoot network issues to deliver a positive experience for customers. To grow its business with data insights, Cleartrip analyzes customer behavior and preferences with BigQuery to offer targeted travel offerings and turn visitors into customers.

The impact

Saves 10% of operational costs and improves uptime for a more reliable app

Improves reliability by 66% by monitoring app performance with Cloud Monitoring

Easily manages traffic spikes during festivities with the containerization of Google Kubernetes Engine

![Etsy](Etsy logo)

Seamlessly migrated data from 2000 on-premise servers to the cloud

About

Etsy is a global marketplace for unique and creative goods, serving more than 2.8 million sellers and offering more than 65 million unique products.

Etsy's mission is to keep commerce human.

Location

United States

Solutions

Infrastructure modernization

Smart analytics

Productivity

Google Cloud products

- BigQuery
- Google Kubernetes Engine
- Google Workspace
- Looker

> "
> Etsy's mission is to keep commerce human, and technology plays a vital role in this. We have more than 65 million one-of-a-kind items in our marketplace and are using cutting-edge machine learning to continually improve the experience for our community. We needed a technology partner that was both a culture fit for Etsy in terms of agility, efficiency, and innovation, and also had the technical chops to move our business forward. Google Cloud met those requirements."

Mike Fisher, Chief Technology Officer, Etsy
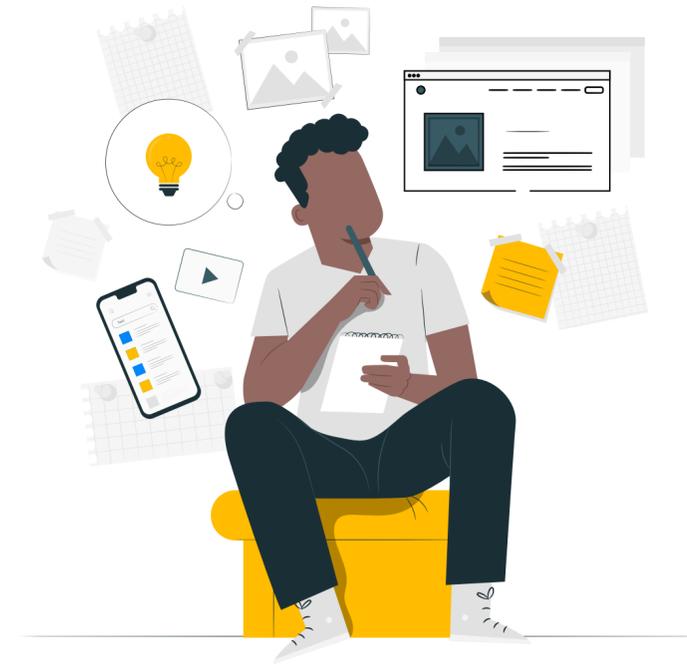
Crafting innovation for buyers and sellers with rapid development

Like its buyers and sellers, Etsy shares a passion for creativity. By moving its online marketplace and services to Google Cloud, Etsy can leverage cloud resources for developing features that inspire customers instead of waiting for physical servers to arrive.

Etsy empowers different teams such as data scientists and machine learning engineers with cloud usage visibility on BigQuery and Looker to improve efficiency and overall accountability.

With Google Kubernetes Engine powering Etsy Search, Etsy enables creative businesses to optimize their listings and sell more, especially during peak holiday seasons.

The impact

Scales seamlessly to 3X normal traffic to deliver a smooth customer experience during holiday traffic spikes

Increases deployment velocity by 115% in 2019 by automating deployment

Frees up 15% of its engineering headcount from managing infrastructure to improving features such as search and recommendations

Creates customer data platform for consistent user experience

About

GoTo Group formed by Indonesia's tech giants Gojek and Tokopedia aims to provide businesses and consumers with e-commerce, on-demand delivery, and payment services on a single platform.

GoTo accounts for more than 2% of GDP in Indonesia, with more than 100 million monthly active users, 2 million driver partners and 11 million merchant partners.

The company looks to expand beyond Indonesia to make digital opportunities more accessible to businesses everywhere.

Location

Indonesia

Solutions

Artificial intelligence

Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Cloud BigTable

Google Kubernetes Engine

Google Workspace

" As GoTo looks to reduce more friction for consumers and create new growth opportunities for the millions of drivers and merchants in our ecosystem, collaboration will be absolutely crucial. Google Cloud will continue to play an integral role in helping us leverage data to understand our users, optimize our operations, and ultimately ensure that we deliver on our promises in the most efficient and effective manner."

Severan Rault, Chief Technology Officer, Gojek

Improving customer experience across the platform

Tokopedia and Gojek have been working with Google Cloud since 2015 and 2018 respectively. Gojek uses Google Cloud for its advanced AI and ML platform, which captures and analyzes data across its more than 20 services, from food delivery to logistics. By leveraging scalable machine-learning models, Gojek can deliver dynamic pricing, analyze driver productivity, and optimize dispatch times for increased efficiency and profitability.

With Google Cloud, Tokopedia delivers a frictionless shopping and checkout experience to customers so they're motivated to keep coming back. For major sales campaigns, Tokopedia utilizes autoscaling in Google Kubernetes Engine to scale up and down, and AI and ML technologies to forecast demand, logistics delivery and costing, and customer insights. The company also leverages Google Workspace to maximize enterprise-wide collaboration which enabled remote teams to stay productive through the pandemic.

The impact

Targets the right user with the right marketing message

Supports growth by optimally scaling up to 30x with automated provisioning

Reduces operating costs by 90% by migrating to Google Cloud

Creating and scaling state-of-the-art content creation tools
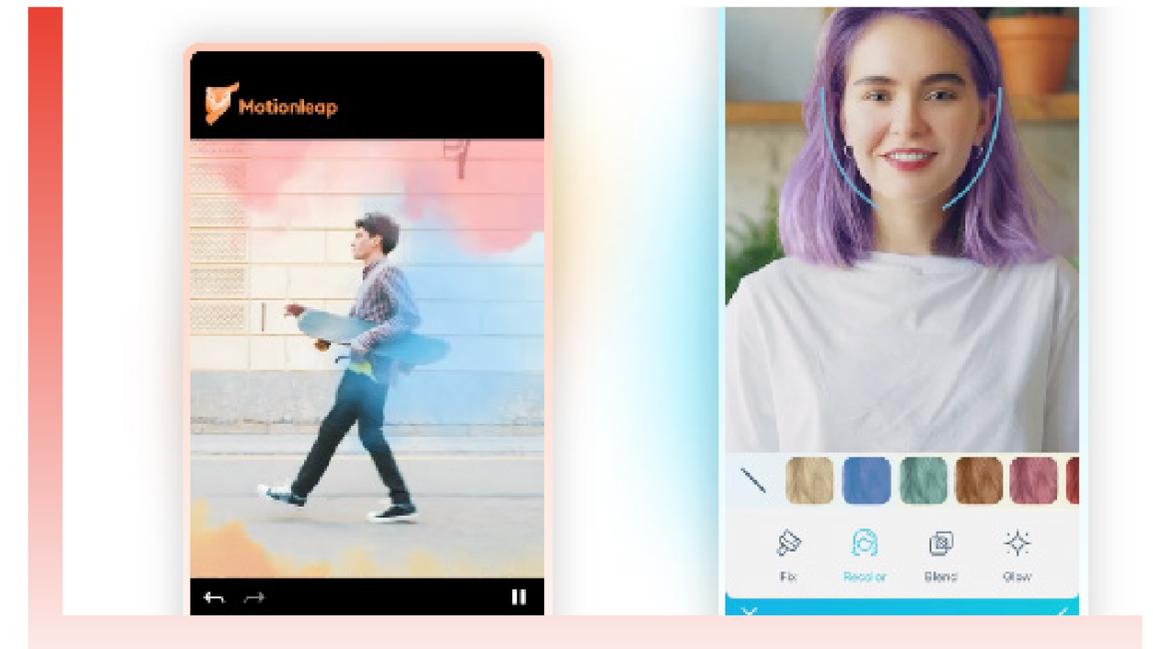
About

Lightricks creates content creation tools, including its flagship products Facetune2, Videoleap and Photoleap. Its apps have been downloaded over 500 million times and it has over five million paying subscribers worldwide.

Location

Israel

Solutions

Infrastructure modernization

Smart analytics

Google Cloud products

- BigQuery
- Dataflow
- Google Kubernetes Engine
- Vertex AI

> **"**
> We will be sending more data and improving the data science and machine learning models that we run. With the support of Google Cloud, we know that we can achieve this quickly, cost-effectively, and at scale."
>
> **Yaron Inger, Chief Technology Officer and Co-founder, Lightricks**

Processing vast amounts of data for an improved user experience

Lightricks collects huge amounts of data and applies sophisticated algorithms to build its popular content creation apps. When the company grew beyond the limits of its infrastructure, it turned to Google Cloud. Lightricks uses BigQuery and Dataflow to ingest a billion events a day and analyze the data almost immediately.
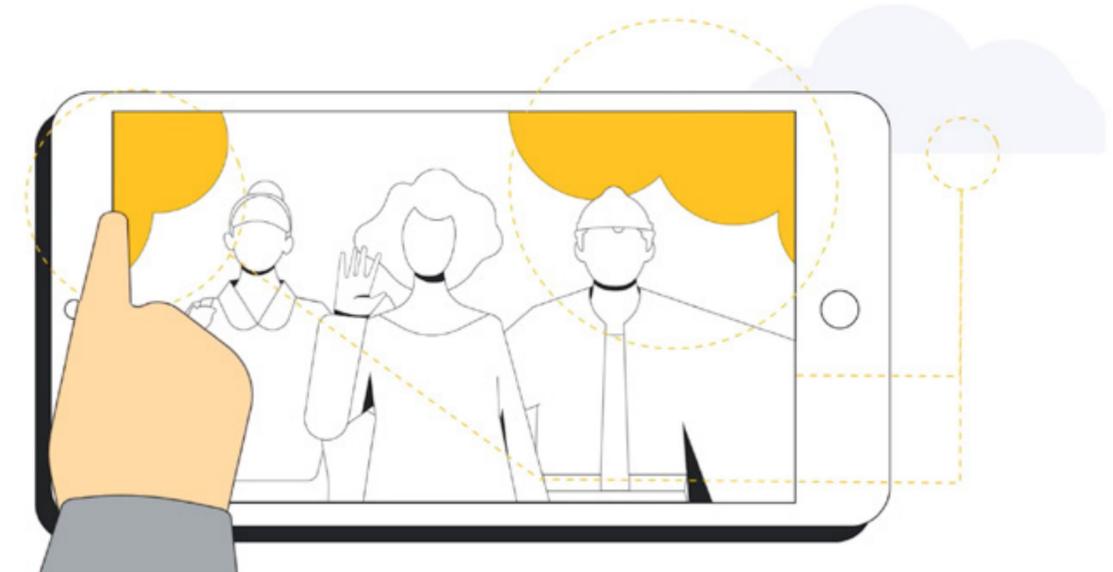
With Kubernetes Engine, the company developed a containerized infrastructure in weeks that improves stability and reduces maintenance overhead, allowing developers to focus on delivering value to customers. Meanwhile, developers are using Vertex AI to develop machine learning models with unprecedented speed. Lightricks now has the infrastructure to continue offering state-of-the-art services long into the future.

The impact

Ingests and analyzes around a billion events a day with BigQuery and Dataflow

Develops stable, managed infrastructure on Google Kubernetes Engine in weeks

Develops large-scale machine learning models at speed with Vertex AI

Processes 40 billion data points a day in BigQuery
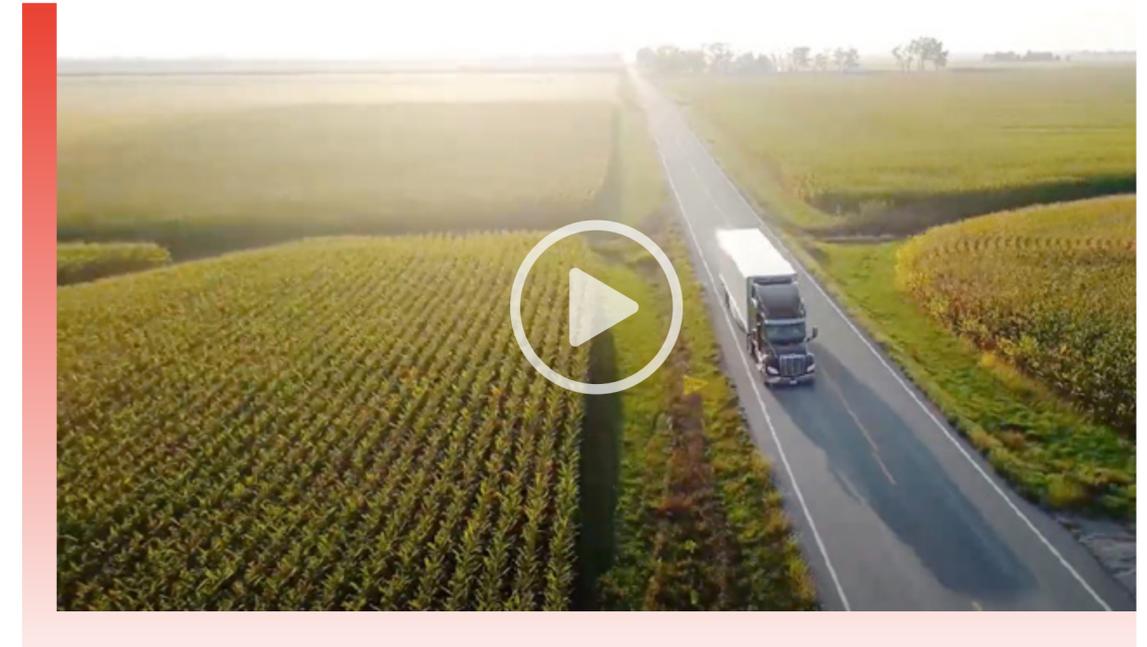
About

Canada-based Geotab provides fleet management solutions for businesses of all sizes. Geotab's software leverages real-time and historical trip data from more than 1.4 million in-vehicle sensors to help businesses and municipalities manage drivers and vehicles and create more efficient transportation systems. Founded in 2000, Geotab is one of the fastest-growing telematics companies.

Location

Canada

Solutions

Artificial intelligence

Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Compute Engine

Google Kubernetes Engine

Dataflow

Tensorflow

> "By going with the Google Cloud stack, we can stay hyper focused on our customers' challenges instead of diverting valuable internal resources to manage a complex IT infrastructure behind the scenes."

Mike Branch, Vice President of Data and Analytics, Geotab

Connecting commercial vehicles to the cloud for better transportation planning decisions

Geotab is in the business of providing data-driven insights on commercial fleet vehicles and transportation planning. Explosive business growth means the company needed a flexible solution that could scale with 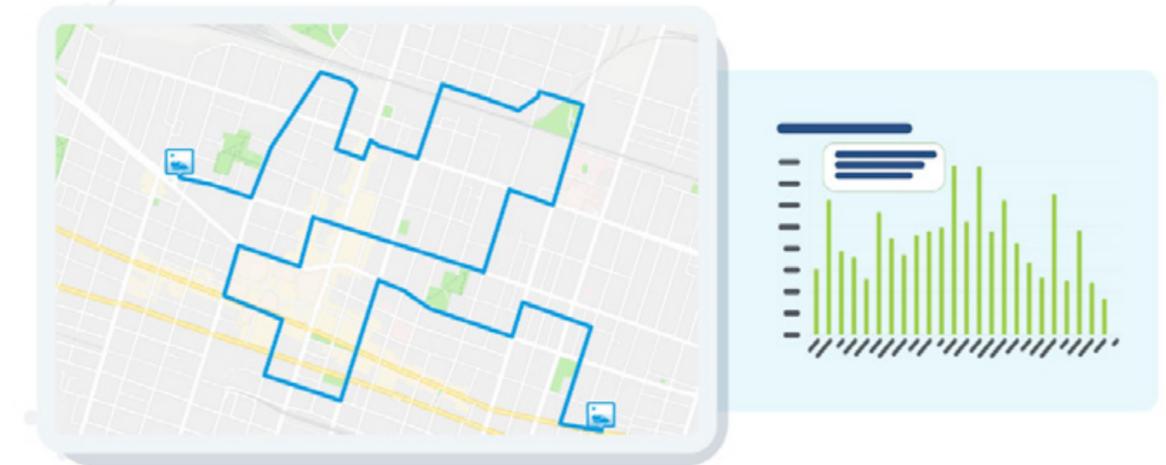them, which led them to Google Cloud. Migrating 800 VMs to Compute Engine means reduced workload on developers, so the team can focus on making inroads into new market opportunities with new solutions.

This led to the creation and operation of a new line of business currently available for the US and Canadian market, the Geotab Intelligent Transportation Systems (Geotab ITS). Leveraging TensorFlow, BigQuery and Cloud Dataflow, the company helps customers make better decisions with real-time data, aggregated from more than 3 million connected vehicles.

The impact

- Streams more than 3 billion data records daily

- Analyzes raw sensor data in 5 to 10 seconds for real-time insights

- Frees teams to focus on development instead of maintenance

- ML capabilities deliver extraordinary detail

- Increases competitiveness with new market opportunities

Supports faster management decisions globally with key insights

About

Founded in 1949, LIXIL Corporation owns a range of bathroom solutions and kitchen fittings such as toilets and sinks and housing products such as windows and doors.

To make better homes for the world today and for future generations, LIXIL makes sustainability a priority in its business.

The company earned its place in CDP's Water Security A List 2021 for its water conservation efforts.
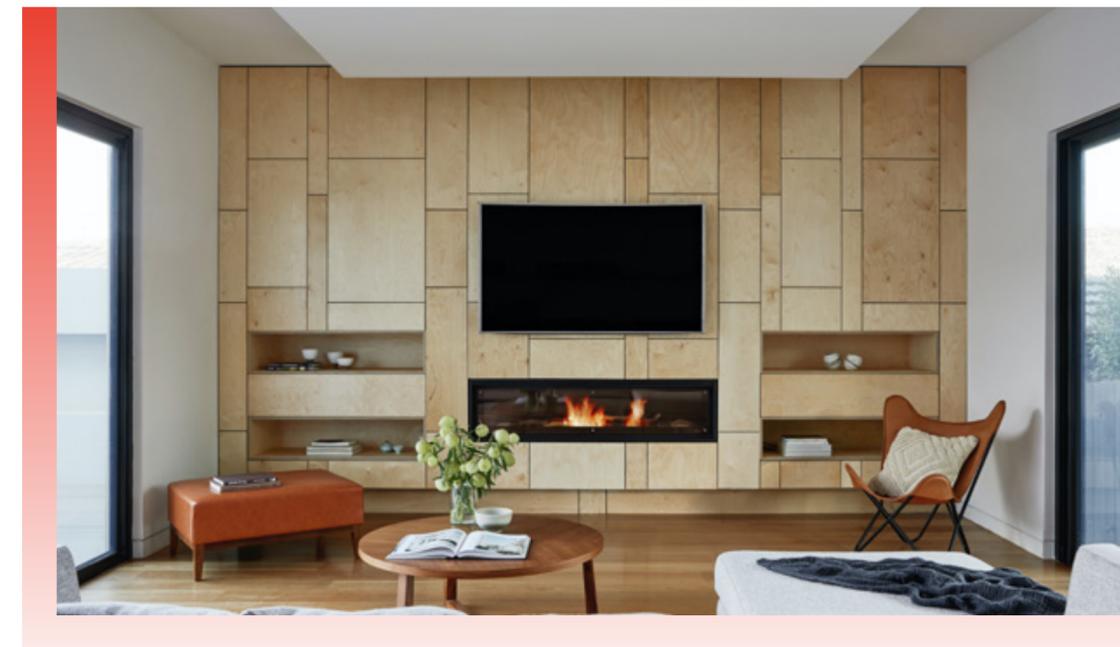
Location

Japan

Solutions

Data warehouse modernization

Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Compute Engine

Cloud Composer

Dataflow

Looker

SAP for Google Cloud

"

We chose Google Cloud because it met our data needs. Each employee produces hundreds of millions and billions of data each month. We need a user-friendly platform that even employees without an analytics background can use. BigQuery offers unrivalled computing power and scalability to process massive amounts of data on-demand, and costs less than on-premise hardware. We hope to find synergy for other parts of our businesses as we explore Google Cloud capabilities."

Osamu Iwasaki, Senior Vice President, Leader of System Development & Operation, LIXIL

Investing in long-term growth through innovation

The company rapidly digitized during the COVID-19 pandemic to overcome challenges such as remote work and increased demand for e-commerce.

LIXIL chose Google Cloud to host SAP S/4 HANA that's the core of its data and process transformation to gain operational efficiencies.

By leveraging BigQuery, the company creates a "LIXIL Data Platform" to analyze ERP and other data sources to support real-time business decisions.

The impact

Delivers a single source of truth across multiple businesses to operate as one global company

Analyzes data from budgets, forecasts, and performance results in real-time

Minimizes operational overheads from on-premise servers

Ability to handle 9,000 voice-message interactions every month
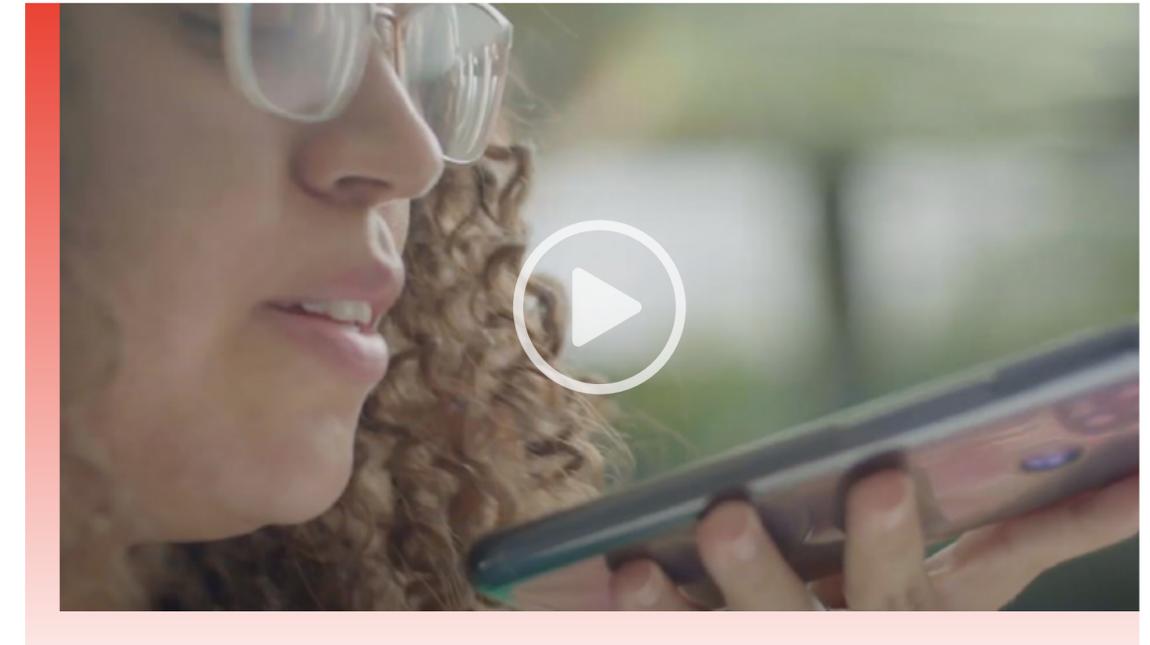
About

Since 1979, MRV has been transforming the lives of people by providing affordable housing.

As one of the largest construction companies in Latin America, MRV offers real-estate options that best fit the needs of their customers, whether it's a move-in ready home or a plot of land.

MRV has been a zero carbon company since 2015 and compensates 100% of its direct CO_2 emissions.

Location

Brazil

Solutions

Artificial intelligence

Google Cloud products

Speech-to-Text

> "We assessed the main players in the market and Google Cloud was way ahead because of Speech-to-Text, both in conversion time and transcription quality. In other words, we confirmed it would be a better, faster alternative."

Daniel Martinez, Cognitive Intelligence Core Coordinator, MRV

Building customer experiences with AI

Recognizing that some customers prefer voice messages over text, MRV launched a chatbot, MIA, with speech recognition to improve customer experience and productivity. Available on MRV's relationship portal and messaging apps, MIA helps customers and potential buyers negotiate installments and resolve queries such as project status.

Previously, a human operator listened to each voice message and transcribed it before providing a response. MIA replaces this time-consuming process with Speech-to-Text API for real-time transcription and routes the conversation to the right agent for fast response. MRV trains service bots for automated answers to routine questions while human operators work on more complex issues.

The impact

Delivers low latency to reduce response time to questions and concerns

Improves quality of voice-message transcription by 20%

Transforms customer experience with accessibility for people with disabilities

Serves tens of millions of website requests **seamlessly every day**
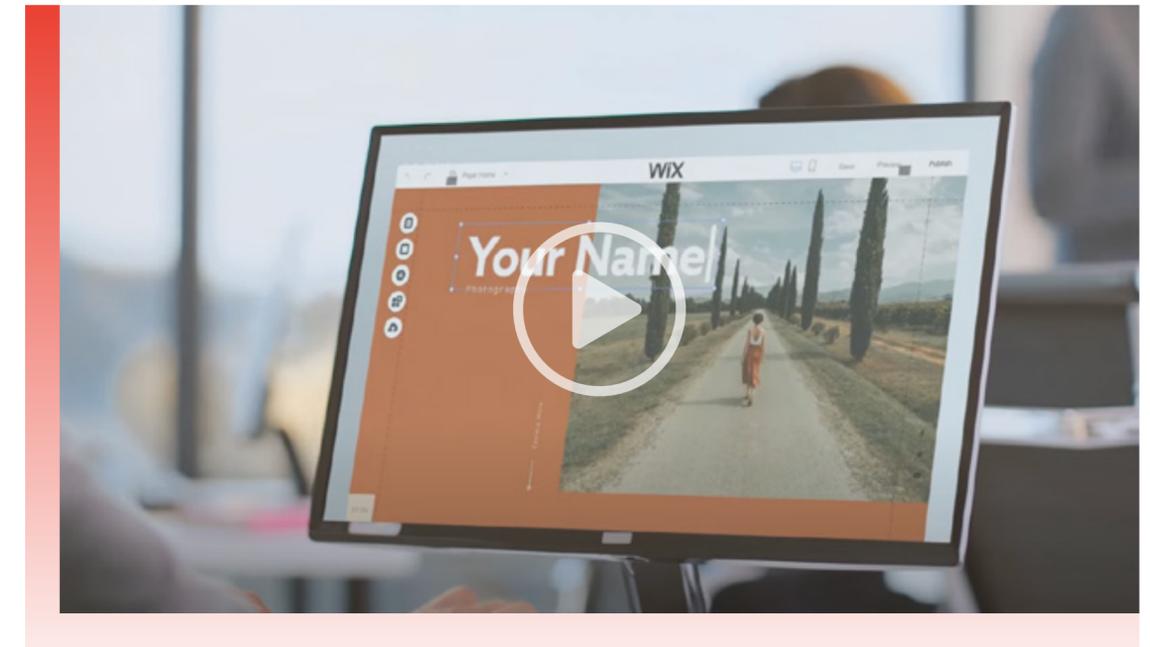
About

Wix is a cloud-based website development platform supporting more than 210 million users worldwide.

Wix empowers millions of businesses, organizations, artists, and individuals to take their businesses, brands and workflow online, from design to development.

Location

Israel

Solutions

Infrastructure modernization

Google Cloud products

- Cloud CDN
- Cloud Load Balancing
- Filestore
- Google Kubernetes Engine
- Network Intelligence Center
- Cloud Operations

"

The global presence of Cloud Load Balancing helps Wix to achieve best performance around the globe. With Cloud CDN, we are able to serve tens of millions of requests per day seamlessly, while ensuring that our customers get a consistently great web experience worldwide."

Eugene Olshenbaum, Vice President Technology, Wix
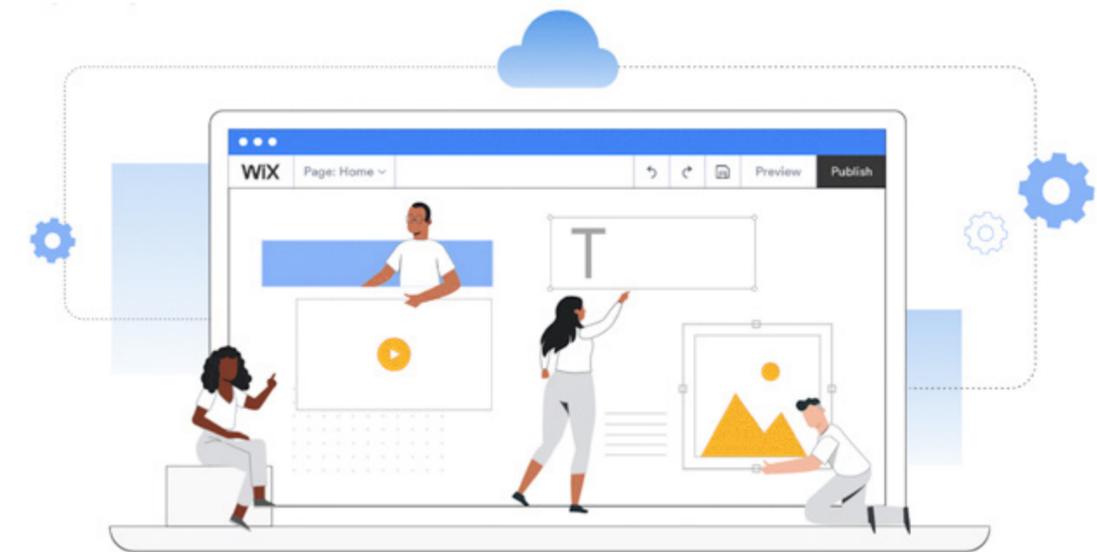
Empowers website owners with analytics

An online presence is vital for any business to connect with customers in the digital era. With Wix's Velo serverless cloud solution, designers and developers have a common platform built on Google Cloud to design, code, and integrate third-party services and web apps on Wix websites without worrying about the backend.

To maximize uptime, Wix uses Network Intelligence Center to monitor and visualize the health of its network and troubleshoot network issues quickly. Wix continues to explore Google Cloud capabilities for future use cases such as Cloud Vision to allow Wix users to label images and find them more quickly.

The impact

24 Real-time visibility into network performance to avoid downtime

Frees developers to focus on business logic rather than overheads

Speeds up containers in 20 milliseconds, instead of minutes

03

Government and Education

Solving challenges for the government and education sectors

Australia Post ↗	**Australia**
Heinrich Heine University Düsseldorf ↗	**Germany**
State of Illinois Department of Employment Security ↗	**United States**
Municipalidad de Córdoba ↗	**Argentina**
U.S. Navy and STS ↗	**United States**
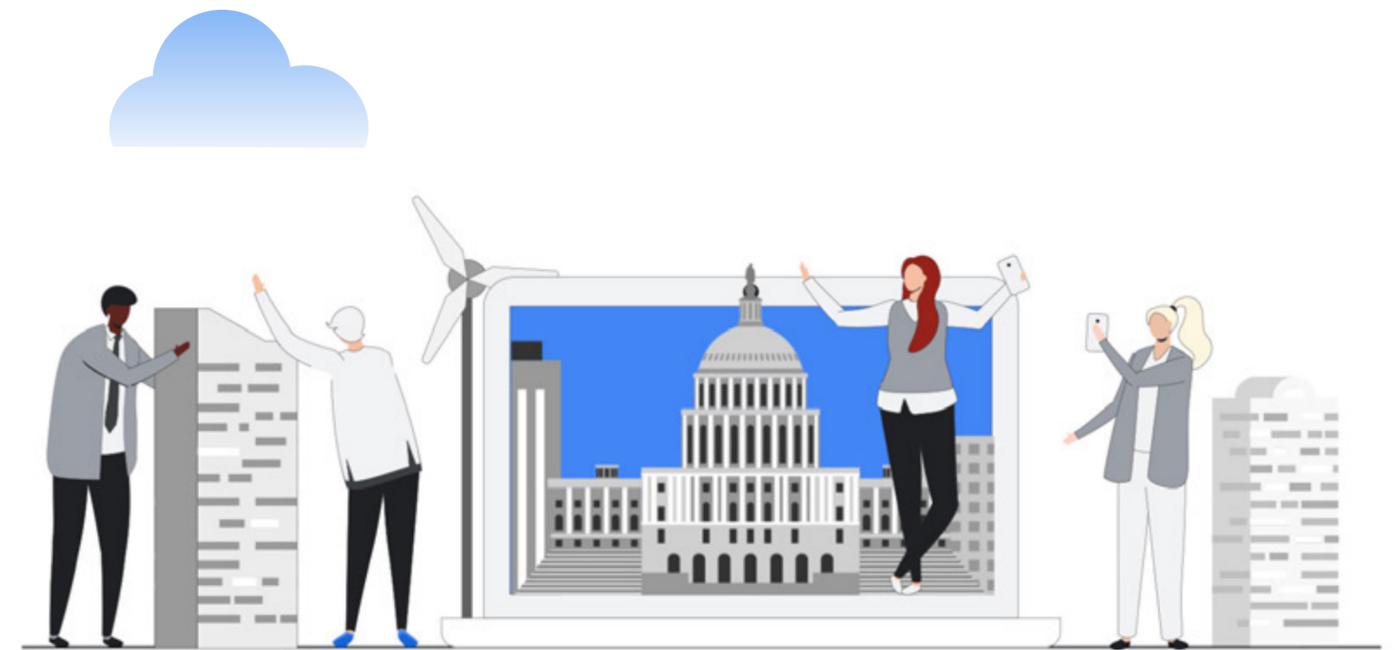
Improving delivery performance and customer experience with AI

About

Australia Post has been an integral part of Australian life for more than 200 years, connecting communities to each other and the rest of the world.

The organization processes more than 2.6 billion items a year, bringing them to more than 12 million delivery points across Australia and worldwide.

Location

Australia

Solutions

Artificial intelligence

Application modernization

Infrastructure modernization

Smart analytics

Google Cloud products

Anthos

BigQuery

Looker

"The event management platform on Google Cloud allows us to bring different sources of data together with very low latency. By analyzing how parcels move through our delivery network, we can be more proactive in the way we manage the service experience for our customers."

Munro Farmer, Chief Information Officer, Australia Post

Delivering transformation with AI

In the growing e-commerce marketplace, Australian Post embraces a data-driven approach to deliver packages to customers faster and more efficiently.

Australia Post runs its event management platform on Google Cloud to capture all scans as a parcel moves through its delivery network. Using BigQuery, Looker, and Anthos, the organization combines different data sources across clouds for real-time analytics instead of one update on the legacy event platform at the end of the day.

Operation managers can instantly identify and respond to bottlenecks in sorting facilities. By integrating event data with machine learning, Australia Post can estimate the arrival time of parcels down to a two-hour window, so customers don't need to wait all day for delivery.
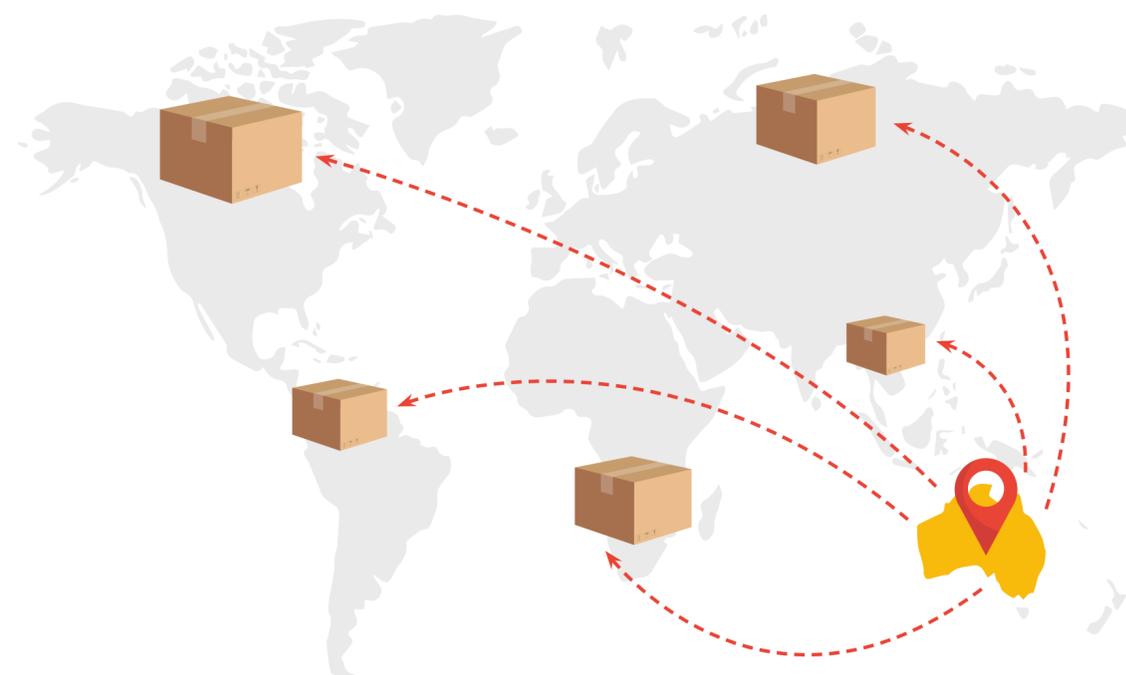
The impact

Streams data from different data sources to BigQuery with sub 30-second latency

Predicts shifts in demand with machine learning to inform staffing needs and other business decisions

Improves customer experience with reliable delivery information

Developing natural language processing **with artificial intelligence**

About

Founded in 1965, Heinrich Heine University Düsseldorf has around 35,000 students and is internationally renowned for their collaborative research centers.

The Dialog Systems and Machine Learning Group at Heinrich Heine University researches Natural Language Processing to aid the development of the next generation of artificial intelligence conversational agents.

Location

Germany

Solutions

Artificial intelligence

Infrastructure modernization

Google Cloud products

Google Cloud

Compute Engine

Cloud GPUs

"

With the support of Google Cloud, I envisage a time when we can dynamically expand NLP services based on utilizing large unstructured knowledge bases using machine learning."

Professor Milica Gašić, Chair of Dialog Systems and Machine Learning, Heinrich Heine University Düsseldorf
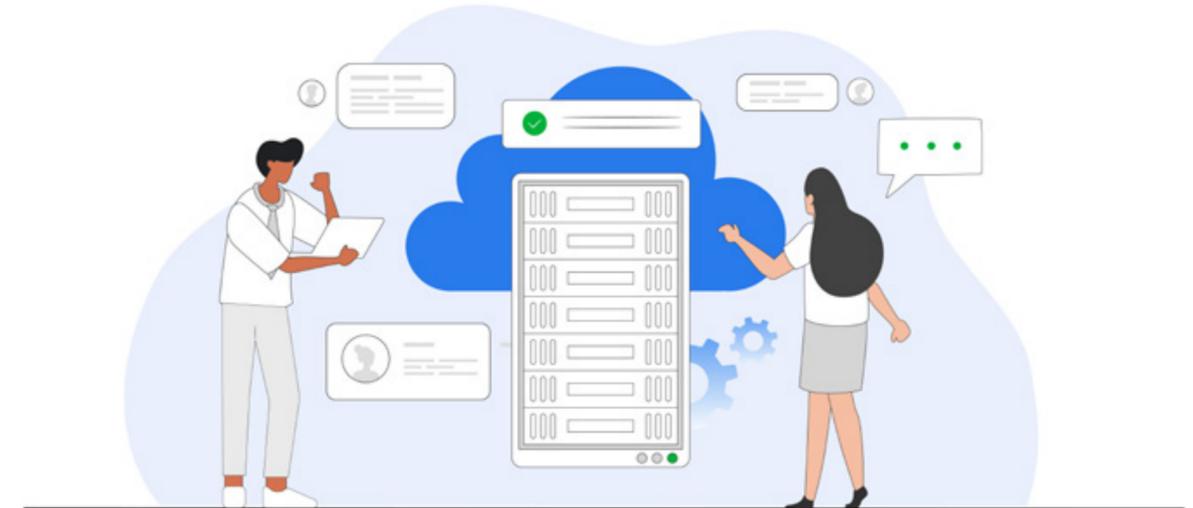
Processing unemployment claims virtually

The Dialog Systems and Machine Learning Group aimed to create a bespoke platform for conducting its research with Google Cloud. The group wanted to tailor all hardware to its specific needs, so that it could be flexible in how it starts, stops, and monitors its research experiments. Compute Engine and Cloud GPUs were key to this.

Having the flexibility and scalable memory capacity of the cloud means that the group can now run large-scale experiments within a 24-hour time frame, compared to two to three days with on-premise machines. Google Cloud has transformed the speed to develop machine learning models, allowing researchers to easily run multiple experiments simultaneously and reach results faster.

The impact

24 hours to run large-scale machine learning experiments with the cloud, 60% faster than current on-premises solution

Eliminates downtime, boosting research productivity

Saves time and offers more flexibility than the previous on-premises solution

Using AI to help COVID-19 impacted residents receive unemployment benefits

About

The State of Illinois Department of Employment Security's mission is to stimulate the economic growth and stability of its residents and employers.

The agency administers the state's unemployment benefits, runs the employment service and Illinois job bank, and publishes labor market data.

Location

United States

Solutions

Smart analytics and AI

Google Cloud products

Google Cloud

Contact Center AI

Dialogflow

> "
>
> Don't fear the unknown. We've had to push ourselves through some internal processes, and we're generally very cautious with our contact centers, but working with Google Cloud has been a great experience."
>
> **Dale Walters, Chief of Network Operations, Illinois Department of Innovation & Technology**

Processing unemployment claims virtually

The unexpected emergency of the COVID-19 pandemic led to widespread unemployment, impacting over a million citizens. As a result, the State of Illinois Department of Employment Security received an unprecedented number of unemployment claims, and turned to Google Cloud for help.

Unable to process these claims in person, due to lockdown restrictions, the state chose Contact Center AI, a conversational AI solution from Google Cloud that enables rich conversational experiences between virtual agents and ustomers through chat and over the phone. It managed to deploy each virtual agent in only two weeks.

The phone virtual agent was soon consistently processing an average of 40,000 constituents' calls per night, while the web chatbot was interacting with upwards of 100,000 constituents a day.

The impact

Forecasting annual savings of $100 million, based on an initial analysis of virtual agent data

Virtual agents handle more than 140,000 phone and web inquiries per day

Contact Center AI web and phone virtual agents deployed in two weeks

Improving waste management with Google Cloud

About

Córdoba is the capital of the Argentine province of the same name. The city is in the country's central region, on both sides of the Suquía River.

It is the second-most populous city in Argentina and acts as a major cultural, economic, educational, financial, and entertainment hub in the region.

Location

Argentina

Solutions

Data management

Infrastructure modernization

## Google Cloud products

- Compute Engine
- Cloud Run
- Pub/Sub
- Cloud DNS
- Cloud Storage
- Cloud Build
- Container Registry
- Cloud Functions
- Cloud Deployment Manager
- Firebase Realtime Database
- Geocoding API
- Google Maps
- Maps Static API
- Logging

> " We had never worked in the cloud before. It was our first experience and our main concern was whether the teams would manage to adapt to it. With determination and a willingness to improve, we optimized internal processes and adopted the tools very quickly."

Engr. Víctor Di Rienzo, Under Secretary of Systems and Connectivity, Córdoba City Government
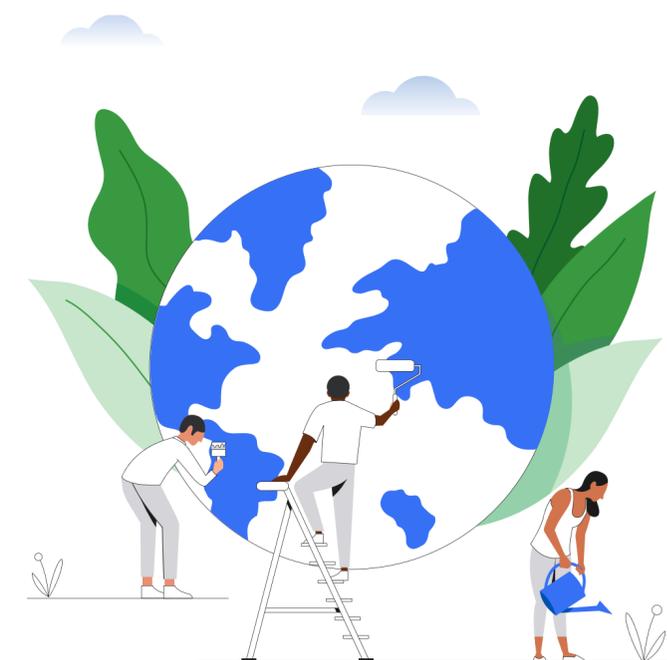
Keeping a city clean with cloud technology

The City Government of Córdoba began using Google Cloud to develop programs for better waste control and to provide residents with the relevant information they needed. By incorporating Cloud Run for the frontend, it gained a scalable, robust solution with high availability. It also chose Pub/Sub to improve the performance of an asynchronous messaging system and added other Google Cloud tools, such as Firebase, Container Registry, Cloud Storage, Cloud Build, and Cloud Functions.

Digitizing the system made it possible to track collectors and improve process efficiency. The City Government can now monitor 140 to 160 trucks from the city's collection companies and 80 from private companies in real-time. This has significantly improved inspector and collector productivity.

The impact

140–160 trucks monitored in real-time every day

99.9% uptime since launch

58,450 tons of waste recorded per month on average

The US Navy cost-effectively uses Google Cloud AI to fight corrosion

About

The US Department of the Navy has a vision to continuously innovate, adapt, and foster a culture of continuous learning and professional development.

Its mission is to deliver combat-ready naval forces to win conflicts and wars, while maintaining security and deterrence.

Location

United States

Solutions

Smart analytics

Artificial intelligence

Google Cloud products

AutoML

Cloud Storage

Google Cloud AI

> "We can do research forever, but it doesn't make any difference unless we can actually bring it to production, and fast. I can't accentuate enough our absolute drive for speed, which the STS and Google Cloud partnership is enabling."

Steve McKee, Lead, Naval Enterprise Sustainment Technology Team, US Department of the Navy
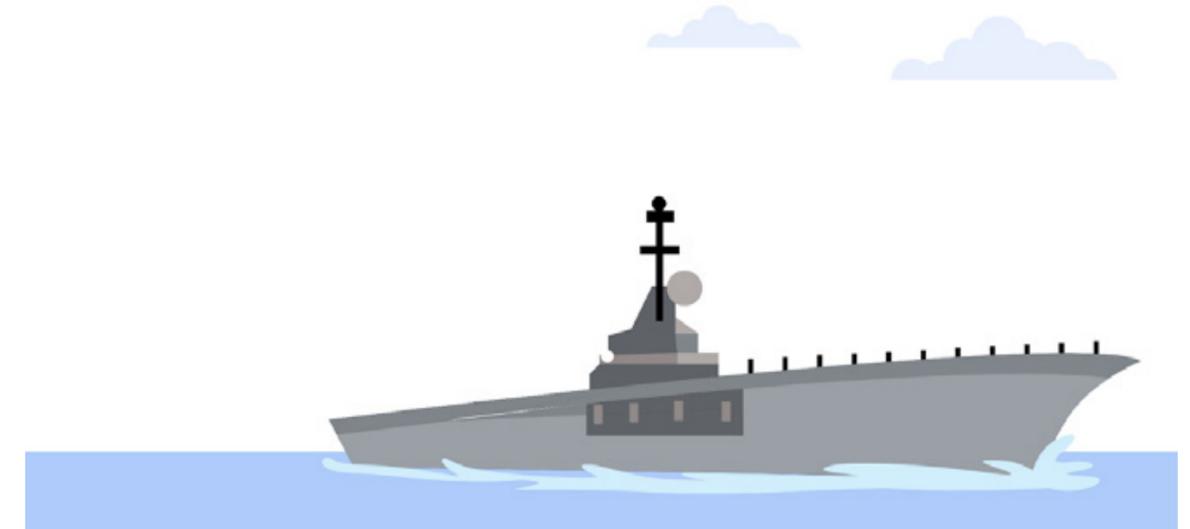
Analyzing vessel corrosion with Google Cloud AI

The US Navy spends an exorbitant amount of time and money maintaining its fleet and combating corrosion. To reduce these costs, it decided to develop an AI-based corrosion-inspection system using Google Cloud and its Cloud Storage, Google Cloud AI, and AutoML tools. Working with Simple Technology Solutions (STS), this strategy is designed to spot corrosion and grade its severity.

It's already predicted to save the US Navy billions of dollars in maintenance costs. Moving from pilot to production in just six months, the US Navy is now ready to take the system out into the field. There are also plans to expand it to the US Airforce and eventually to commercialize it, so that its benefits are felt across all relevant industries and society.

The impact

Moved the US Navy's AI system from pilot to production in 6 months

Detects and analyzes corrosion on vessels with 90% accuracy

Billions of dollars in projected savings across the US federal government

04

Financial Services

Solving business challenges
for the financial services industry

BBVA ↗	**Spain**
Commerzbank ↗	**Germany**
Equifax ↗	**United States**
Macquarie Bank ↗	**Australia**
Minna Bank ↗	**Japan**
PayPal ↗	**United States**

Leading finance in digital workplace transformation and cybersecurity

About

With a strong leadership position in Spain, BBVA serves 78.9 million customers. It has been a Google Workspace customer since 2011 and was the first bank in Europe to use Chronicle.

Location

Spain

Solutions

Infrastructure modernization

Google Cloud products

BigQuery

App Engine

Cloud SQL

Chronicle

Google Workspace

"

We don't see Google Cloud as a provider but rather as an ally. We work with the mindset to collaborate on the final solution and roadmaps."

Ivan Gomez Gonzalez, Vendor Strategy Senior Manager, BBVA

Challenging the status quo of the financial sector with cloud migration

While concerns around data security and privacy have generally kept bank infrastructures on on-premise systems, BBVA's move to the cloud was driven by a desire to stay one step ahead of its customers' banking needs.

Adopting Google Cloud enabled it to compete with digital-native companies, delivering new products and features to customers through its digital-first channels. The migration also improved employee collaboration, reduced carbon footprint, and further optimized security as the first bank in Europe to deploy Chronicle, a specialized security layer built on top of core Google infrastructure.

BBVA now plans to go even further and derive more and faster actionable insights from data via artificial intelligence and machine learning solutions.

The impact

Delivers new products to customers through digital-first channels

Enables better threat detection, classification of events, and speedier response

Reduces customer costs by optimizing backend systems

Driving customer-centric banking experiences with cutting-edge financial services applications

About

With 30,000 corporate clients and 11 million private and small-business customers in Germany, Commerzbank is one of the country's leading financial services providers. By combining digital innovation with a customer-centered approach and a focus on sustainability, Commerzbank strives to add value to everyone's banking experience.

Location

Germany

Solutions

Infrastructure modernization

Google Cloud products

Bare Metal Solution for Oracle

"

Our main IT challenge is to maintain and replace legacy landscapes while leveraging the benefits of new technologies in a sector with high regulatory requirements. That's where Google Cloud comes in."

Christoph Beetz, Managing Director and Principal Project Manager, Commerzbank

Modernizing legacy infrastructure while

As part of its Strategy 2024, Commerzbank strives to run 85% of its decentralized applications in the cloud by 2024 with a hybrid multi-cloud approach. Since 2017, Google Cloud has been an instrumental part of that journey.

As Commerzbank identified the need to replace some of its on-premises hardware, the team was confident that a large part of its Oracle estate could find a new home on Google Cloud.

With its Bare Metal Solution for Oracle, Google Cloud enabled Commerzbank to bring parts of its Oracle workloads to the cloud, migrating 135 Oracle databases efficiently and securely. The bank's team can also tap into the data analytics, AI, and machine learning capabilities of Google Cloud to add value for its customers.

The impact

Modernizes Commerzbank's infrastructure by migrating 135 Oracle databases for 35 applications in less than nine months

Speeds up launch of new banking applications by facilitating a CI/CD approach driving agility and flexibility

Gives customers more visibility into financial data while accelerating loan processing

Delivering real-time credit data to financial **institutions**
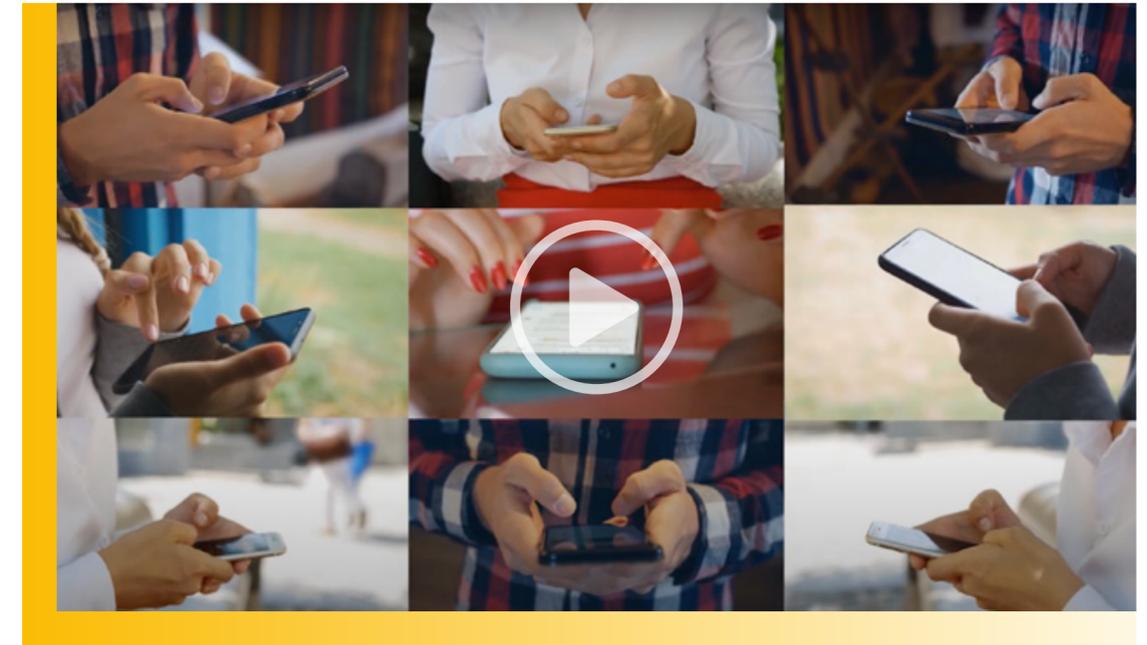
About

Headquartered in Atlanta and supported by more than 11,000 employees worldwide, Equifax's unique blend of differentiated data, analytics and cloud technology drives insights to power business decisions.

It operates or has investments in 25 countries in North America, Central and South America, Europe, and the Asia Pacific region.

Location

United States

Solutions

Productivity and work transformation

Data management

Infrastructure modernization

Smart Analytics

Google Cloud products

Google Workspace

"

Developing on Google Cloud allows us to innovate faster, to test out new ideas in a way that is more agile."

Cecilia Mao, Chief Product Officer at Equifax

Powering innovation with Google Cloud

Equifax creates innovative solutions and insights that help businesses improve their processes and operations. With the migration to Google Cloud, Equifax also increased its protection against security vulnerabilities, while taking advantage of cloud infrastructure to deliver innovative new products and services to help its customers.

Working with Google Cloud and Google Cloud Partner EPAM Systems, Equifax can now give businesses faster access to its data. This helps its B2B customers make more informed decisions that ultimately benefit consumers. Lenders, for example, can improve the quality of their data, avoid credit surprises, and enhance their own reputations in the marketplace.

Equifax has also adopted Google Workspace to improve productivity and collaboration across its workforce of 22,000 employees.
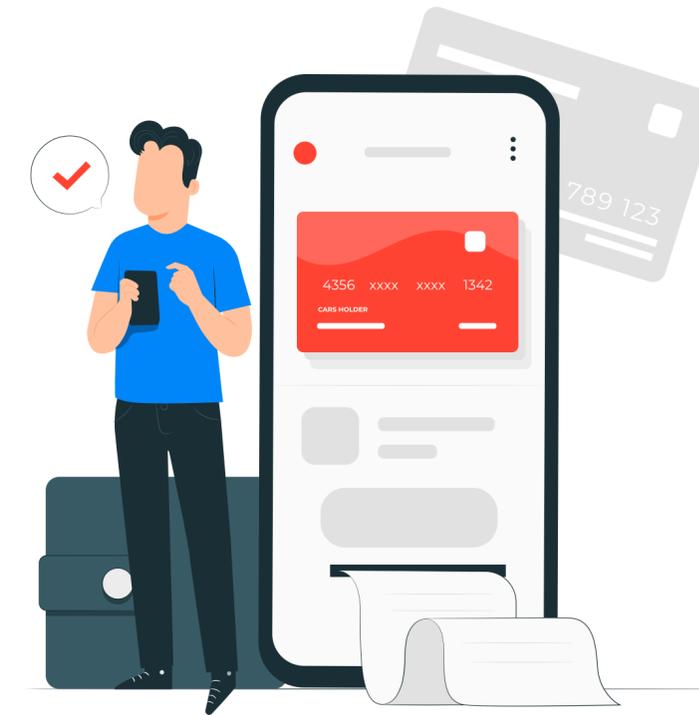
The impact

Adopts advanced security practices to strengthen protection of consumer data

Drives innovation and faster time-to-market for new B2B products and services

Delivers consumer credit data to financial institutions in real-time to facilitate faster, more-informed business decisions

Accelerating digital banking with customer insights on Google Cloud
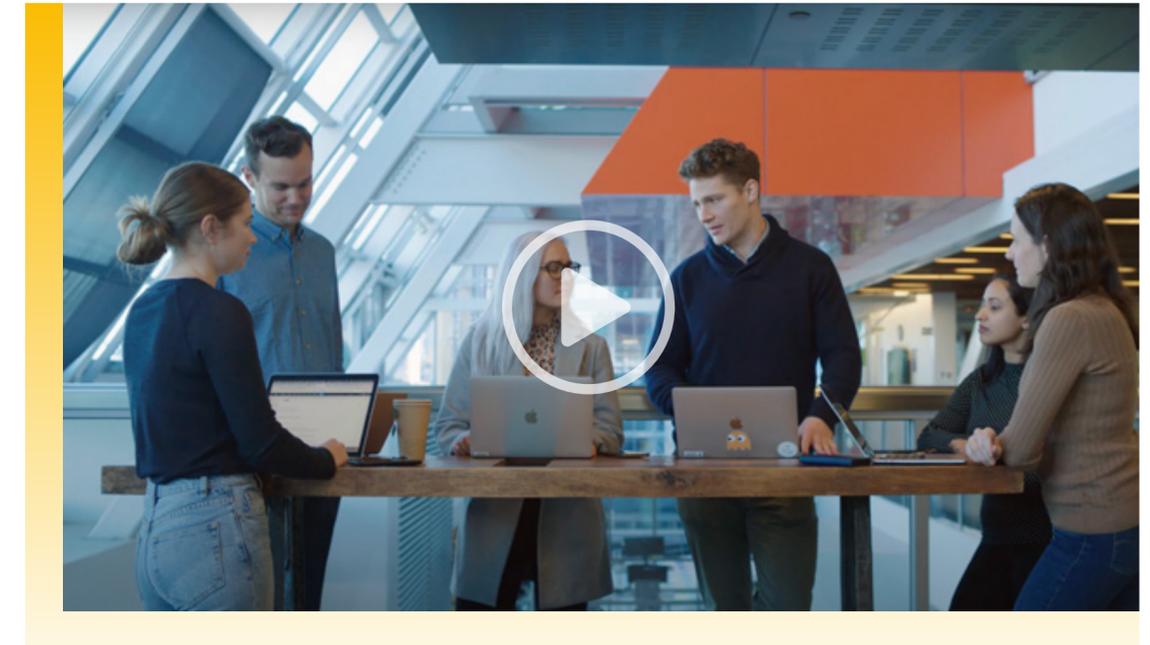
About

Macquarie's Banking and Financial Services Group comprises retail banking and financial services businesses that includes personal banking, wealth management, and business banking for retail clients, advisers, brokers, and business clients.

Macquarie won the 2021 5-Star Banks award by Australian Broker for its responsiveness, digital experience, and support.

Location

Australia

Solutions

Application modernization

Business application platform

Databases

Google Cloud products

Anthos

Apigee

BigQuery

Google Kubernetes Engine

"

We're not using Google Cloud for our regular lift and shift workloads—we're using it for workloads where we can have massive scale and we do not need to burden our developers with operations."

Jason O'Connell, Chief Technology Officer, Macquarie's Banking and Financial Services Group

Delivering digital banking experiences at scale to excite customers

Macquarie's Banking and Financial Services Group uses Google Cloud to manage its hybrid cloud infrastructure with Anthos. By moving Kubernetes workloads to a fully managed Google Kubernetes Engine, developers can reduce provisioning time and focus on improving the mobile banking app with new features such as opening an account in minutes.

The bank delivers a personalized customer experience by analyzing customer insights on BigQuery at each stage of the customer journey. Using Open APIs on Apigee, Macquarie gives customers control over how they share their financial data with third-party providers and creates new digital business models to grow its business.

The impact

Harnesses the power of data on BigQuery and Open APIs with Apigee to deliver highly personalized customer experiences

Empowers developers to speed up time to market with managed services on Google Kubernetes Engine

Boosts digital innovation by using Anthos to orchestrate Kubernetes workloads across a multi-cloud environment

Banking on connections for a digital world with Google Cloud

About

Minna Bank means "a bank for everyone" in Japanese.
With a mission to "Deliver valuable connections to everyone," Minna Bank is a wholly owned subsidiary of Fukuoka Financial Group, and commenced operations in 2021.

It is the first financial institution that has won the Red Dot Design Award Brand of the Year.

Location

Japan

Solutions

Application modernization

Business application platform

Smart analytics

## Google Cloud products

Apigee API Management

BigQuery

Cloud Spanner

"

We built our banking system as a service (BaaS) with functions that appeal to digital natives. Google Cloud gives us the scale and flexibility to extend these services to partners across different industries. We aim to be a pioneer in this space and deliver this cloud native banking system worldwide."

Koji Yokota, President, Minna Bank
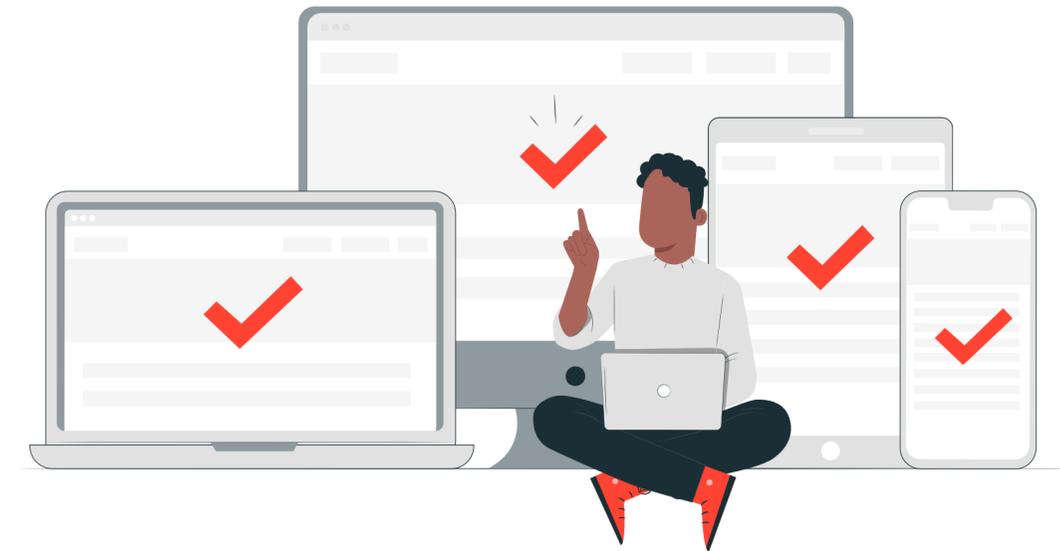
Bringing cloud native banking to digital natives globally

Minna, Japan's first digital bank, aspires to be a bank of the future that listens to customer feedback and analyzes data with BigQuery to transform the banking experience. Google Kubernetes Engine drives innovation at Minna Bank by allowing DevOps to focus on improving banking services such as deposits and withdrawals instead of maintaining infrastructure.

Tapping on Apigee API Management, Minna reaches new customers and grows revenue opportunities by enabling partners to embed financial services through secure API integration. For a smooth banking experience, Minna uses Cloud Spanner to keep data consistent across Tokyo and Osaka so the bank can stably continue to operate even if there's a large-scale disaster on either side.

The impact

Accelerates development of cloud-first bank on GKE from idea to launch within 18 months during the COVID-19 pandemic

Seamlessly integrates with financial services firm and business partners through Apigee API Management

Increases business resilience with Cloud Spanner database for multi-region support

Leveraging Google Cloud to flawlessly manage surges in financial transactions

About

PayPal has been at the forefront of the digital payment revolution for over 20 years.

By leveraging technology to make financial services and commerce more convenient, inclusive, and secure, the PayPal platform empowers more than 377 million consumers and merchants in over 200 markets to join and thrive in the global economy.

Location

United States

Solutions

Productivity and work transformation

Data management

Infrastructure modernization

Google Cloud products

BigQuery

Google Kubernetes Engine

Tensorflow

> "
>
> Google Cloud allows us to innovate and serve our customers at the speed we require. We can bring as much data as we want to the platform and manage it in a secure, cost-effective way."

Sri Shivananda, Chief Technology Officer, PayPal

Democratizing online financial services with Google Cloud

PayPal was one of the first businesses to enable digital transactions swiftly and securely. With more than 377 million active accounts, PayPal is shifting its mission-critical workloads from on-premises infrastructure to the cloud to better support its customers' needs.

Moving its payment platform to Google Cloud means PayPal can now quickly adjust to handle changes in traffic without the cost of maintaining on-premises infrastructure. Following the migration, the PayPal team saw immediate improvements. During peak traffic times, such as Black Friday and Cyber Monday, PayPal processed 1,000 payments per second.

Google Cloud helps manage any high-traffic event by staggering workloads, while also scaling up or down to manage off-peak times effectively.
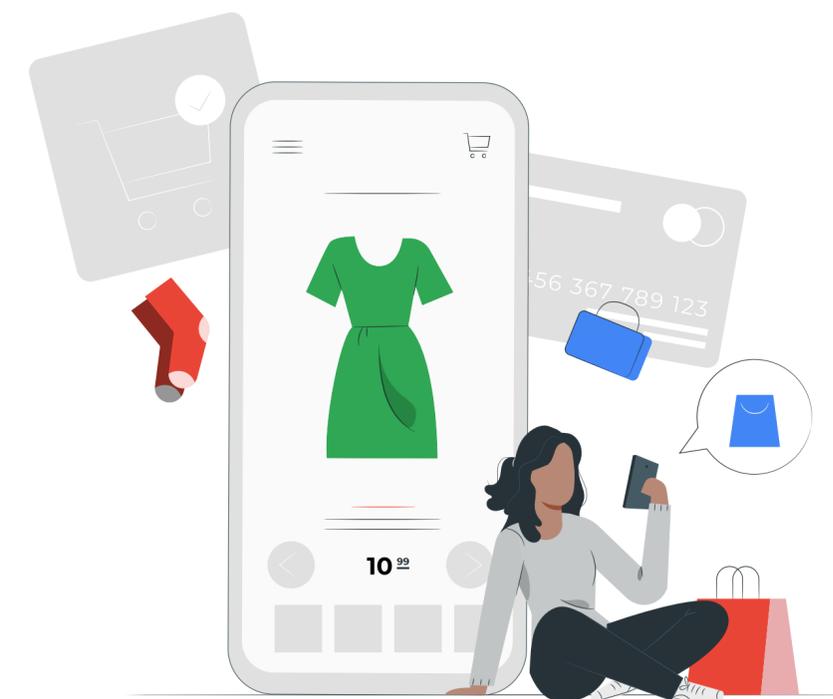
The impact

Shifted the horizontally scalable applications of its payment platform and transaction workloads to the cloud

Completed a month's worth of on-premises work in minutes in the cloud

Experienced significant cost savings over what it would cost to capacitize for peak volumes on-premises

05

Gaming and Sports

Solving business challenges
for the gaming industry

Bepro ↗   **Korea**

LINE GAMES ↗   **Korea**

Ubisoft ↗   **France**

Shaping the future of sports with player performance analysis
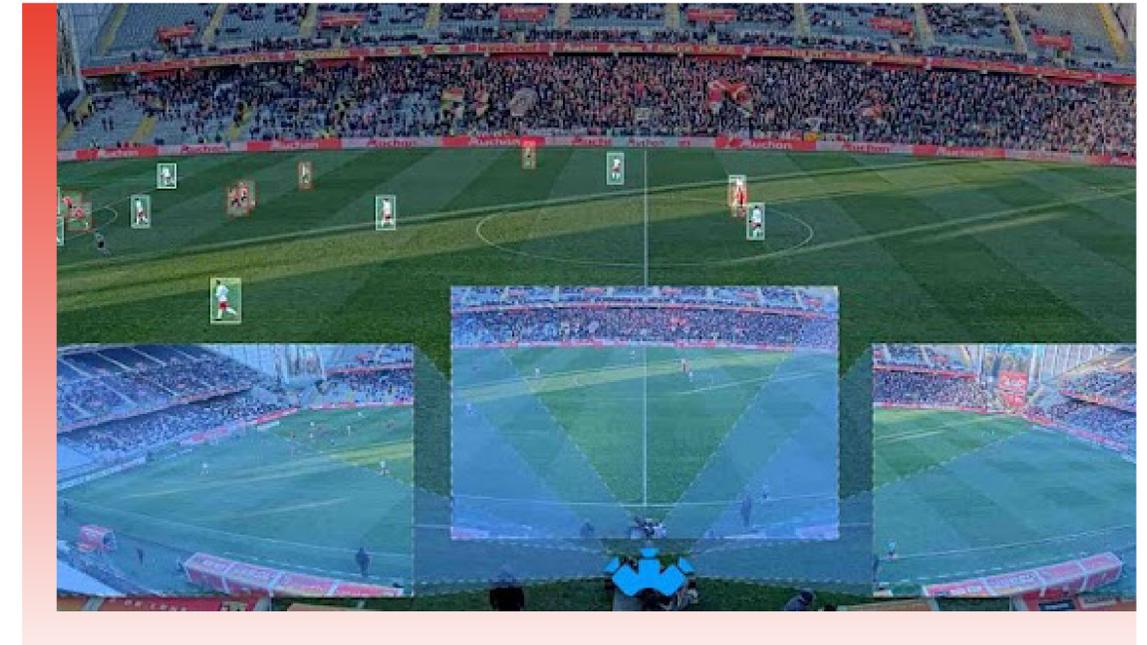
About

Bepro helps sports teams measure and improve player performance with its AI-powered sports analytics platform, Bepro11.

Bepro11 takes the sports experience to a new level by analyzing video clips and providing data visualization of plays such as shots, passes and tackles.

The company produces real-time and post-game analysis for more than 700 football teams around the world.

Location

Korea

Solutions

Artificial intelligence

Smart analytics

Google Cloud products

BigQuery

Cloud Storage

Compute Engine

TensorFlow

> " It's challenging for a start-up to operate its own infrastructure. Concentrating on our business is more important. We can count on Google Cloud for the best technology for networking, storage, analytics, and security. It enabled us to quickly build our platform and conveniently access cutting-edge cloud services."

Kim Hoseung, Developer, Bepro

Leveling the playing field with AI-powered sports analysis on Google Cloud

Bepro11 democratizes data for sports clubs with performance analysis as a service to win games and develop talent. The company records each match and training session with high-resolution cameras strategically placed in the stadium. It analyzes video footage and numerical data such as shots and saves the information on Google Cloud.

Compute Engine hosts a video processing solution that stitches video clips into a panoramic view, so Bepro11 data analysts don't miss any details. Each data point is linked to its corresponding video frame and saved in Cloud Storage for easy viewing on the Bepro11 app from anywhere. Bepro11 runs a machine learning model on TensorFlow to analyze the physical movement of players without missing a single frame.

The impact

Automates video processing and analysis for real-time game updates

Efficiently manages large files such as high quality video and optical tracking data without a CDN

Focuses time on improving UX/UI instead of maintaining hardware

Reduces user churn by 5% by improving the gaming experience
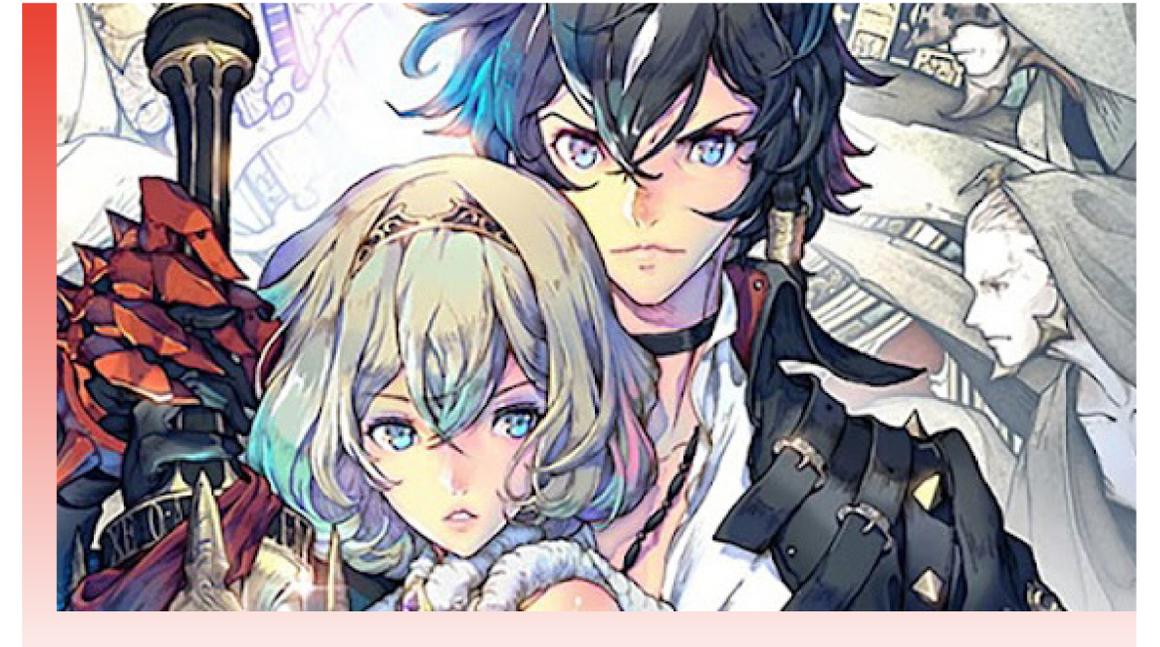
LINE GAMES

About

LINE GAMES is a subsidiary company of mobile messenger app operator LINE Corp with a focus on game development and publishing.

Since its merger with Korean game developer Nextfloor in 2018, LINE GAMES expanded its lineup with popular games such as Exo Heroes, Dragon Flight, and Smash Legends, all delivered to mobile devices, PCs, and game consoles.

Location

Korea

Solutions

Smart analytics

Google Cloud products

BigQuery

"

We found BigQuery far superior to existing relational databases in processing large volumes of data quickly. In addition, BigQuery supports standard SQL, so our team members did not need any further education about how to use the service."

Ji-Eun Kim, Data Analyst, LINE GAMES
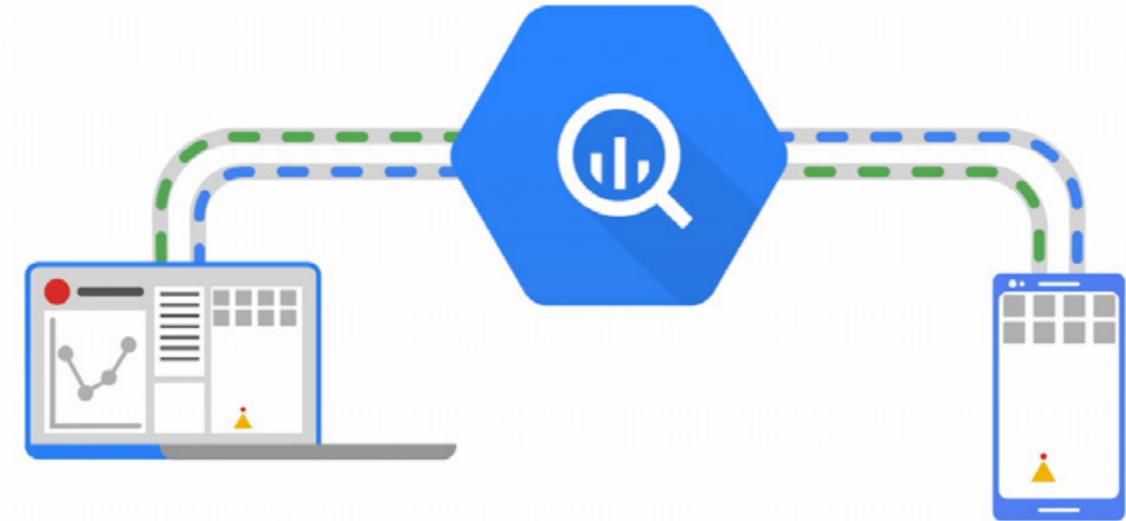
Delivers winning games with data on BigQuery

Appealing to a global fanbase, LINE GAMES wants to give players a fun gaming experience, regardless of the platform. With BigQuery and Holistics, LINE GAMES improves retention by analyzing user behavior and preferences, while reducing costs by moving from an internet data center to a cloud-based solution.

Using BigQuery, LINE GAMES can make real-time decisions by looking at how each game performs against key performance indicators and visualize in multiple dimensions the information held in the data warehouse.

The impact

Lowers data costs up to 50% by moving from internet data center to cloud-based data warehousing

Gains real-time visualization of performance against KPIs

Improves planning and revenue opportunities by accurately identifying and targeting user segments

Using machine learning to transform our understanding of the ancient world

About

French video games company Ubisoft is known for its original and immersive world-creating franchises, including Rainbow Six and Assassin's Creed. Innovation is at the company's core, and while it started out as a family business, it currently has over 19,000 employees in offices across the globe.

Location

France

Solutions

Artficial Intelligence

Databases

Google Cloud products

 Cloud AutoML

 App Engine

 Firebase

 Cloud Firestore

 Chrome

> " Rather than just build a data repository, we wanted to create a toolset that could then be adapted and developed by both the AI and the Egyptology communities. This kind of research project is all about engaging people and pushing the limits of what is possible."

Guillaume Carmona, VP Marketing, EMEA, Ubisoft
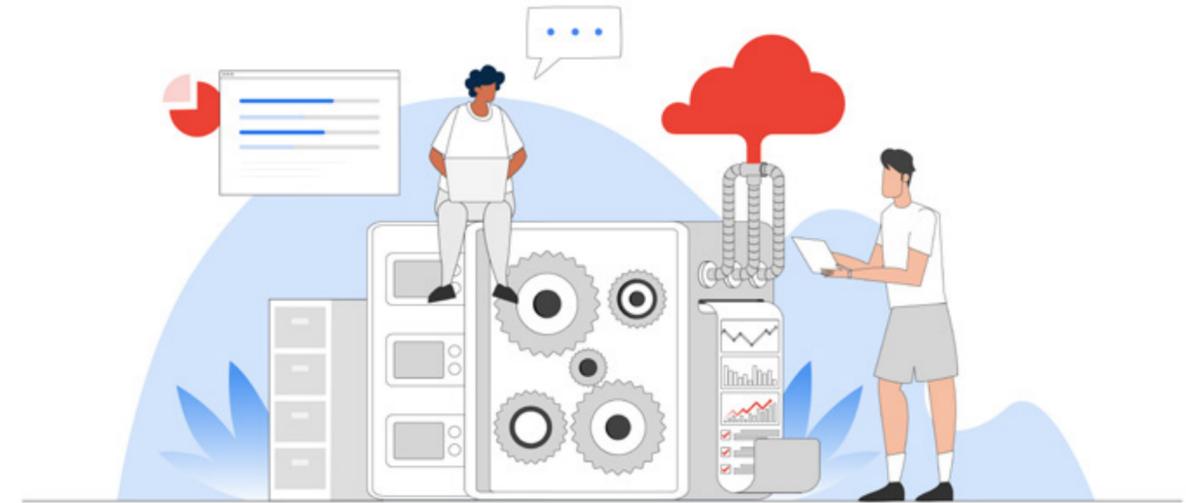
Bringing Middle Egyptian hieroglyphics back to life with Google Cloud

Ubisoft wanted to find a way to translate hieroglyphics using AI, creating a toolset that could then be adapted and developed by both the AI and the Egyptology communities. The company mobilized the gaming community to draw hieroglyphics to train custom machine learning models on Google Cloud. To collect the necessary data, Ubisoft used Firebase to build a drawing tool that feeds images into a Firestore Cloud Storage database and uses Cloud Firestore to sync user data. Users access the tool online using Google Chrome via their Google or Ubisoft account to trace individual glyphs. In one night, 80,000 glyphs were contributed by crowdsourcing.

The impact

Builds a machine learning model capable of recognizing hieroglyphics using Cloud AutoML

Creates tools replicating the translation process used by Egyptologists with a platform designed for deployment on Google Cloud

Enables the crowdsourcing of data using a custom-built drawing tool on Google Firebase

06

Healthcare and Life Sciences

Solving business challenges for the healthcare and life sciences industries

Cardinal Health ↗	**United States**
Balgrist Campus ↗	**Switzerland**
Muru Music Health ↗	**Australia**
Schrödinger ↗	**United States**
SulAmérica ↗	**Brazil**

Taking SAP into the cloud for an enhanced healthcare experience
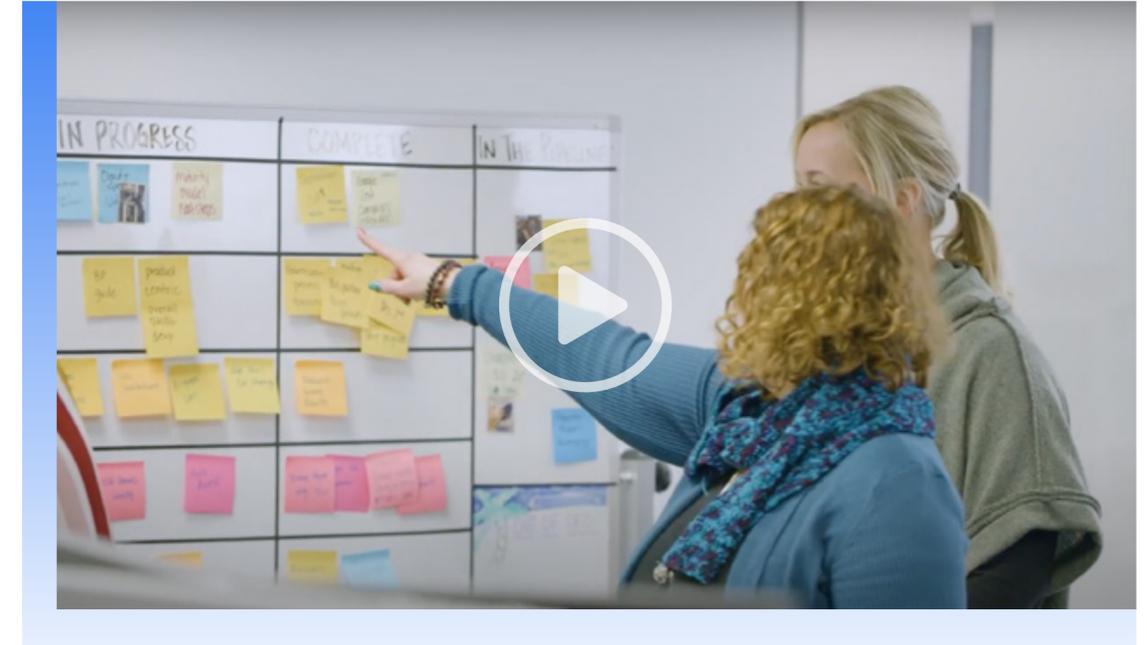
About

Headquartered in the US, Cardinal Health is a global manufacturer and supplier of medical and laboratory products, a distributor of pharmaceuticals, and a provider of performance and data solutions for healthcare facilities.

Its 50,000 strong workforce is spread across its global network of offices.

Location

United States

Solutions

Infrastructure modernization

Google Cloud products

SAP for Google Cloud

60

"

Cardinal Health and Google Cloud are creating a better healthcare experience for our customers and our patients."

Duy Trinh, Director SAP CoE, Cardinal Health

Achieving significant cost savings with cloud technology

Cardinal Health is focused on bringing value-based product, business and logistics solutions to those tasked with navigating the changing global healthcare environment. To optimize its processes, it migrated its 300 on-premises data center to Google Cloud.

Moving its Enterprise Resource Planning (ERP), including all transactions based on SAP, to Google Cloud ensured cost effective scaling up and down based on demand and more flexibility to suit its different business needs. It has saved over 25% quarter over quarter.

Next it plans to develop its services with Google Cloud using its machine learning artificial intelligence solutions to deliver an even better service for its customers and its clients.

The impact

25% cost savings achieved quarter over quarter

Workloads successfully moved from 300 on-premises servers to the cloud

Moving SAP from on-premises to Google Cloud makes scaling up and down much simpler

Supporting medical research **with hybrid cloud**
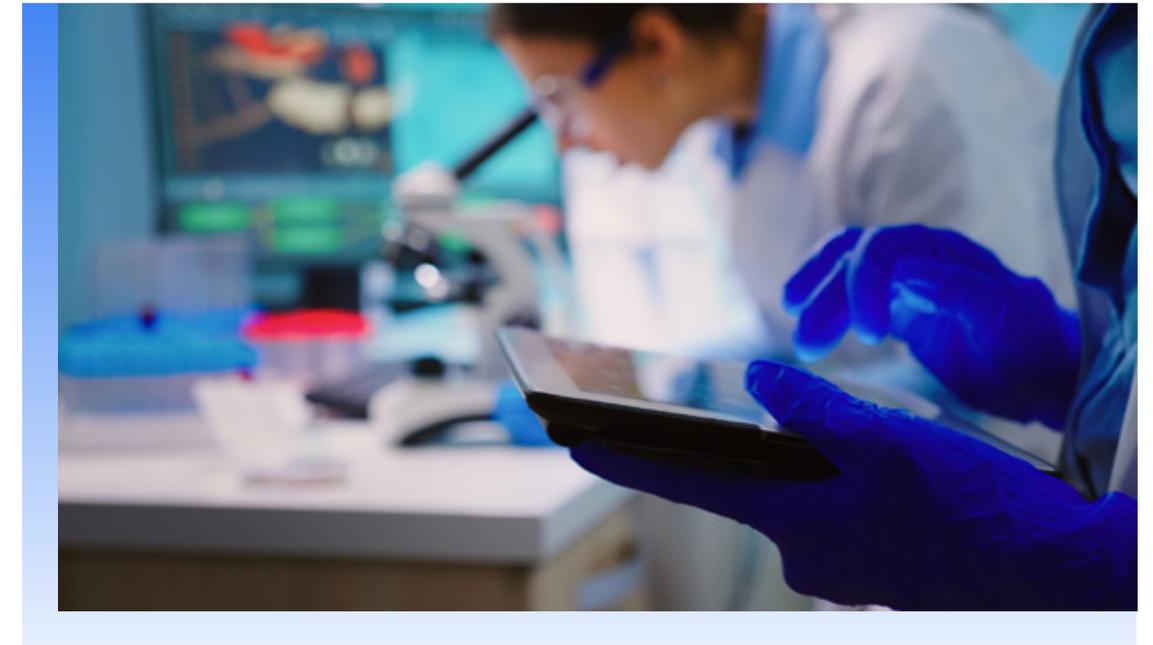
About

Balgrist Campus is an internationally renowned institute for musculoskeletal medical research. Based at Balgrist University Hospital, Switzerland, it opened in 2015 and quickly became Research Institution of National Importance in 2016, and today accommodates over 250 research professionals.

Location

Switzerland

Solutions

Infrastructure modernization

Google Cloud products

Compute Engine

Cloud Storage

"

Google Cloud is really the tool we need to ensure the future of our research, especially when it comes to predictive models regarding the development and persistence of lower-back pain. It provides the architecture necessary to enable the kind of data gathering and analysis that we hope to perform."

Michael Meier, Principal Investigator, Balgrist University Hospital

Integrating a hybrid cloud solution to improve security, stability and collaboration

Experts leading the research into lower-back pain at Balgrist Campus had been using on-premises data centers to store their data. When this infrastructure caused several challenges, particularly around security and scalability, with a fast-growing workforce and an increasing amount of data collection, the team needed new digital solutions that could offer greater flexibility, while remaining cost-effective.

By integrating Google Cloud with Compute Engine, they could add virtual machines alongside their supercomputers to enable remote work without impacting their operating costs. By seamlessly blending on-premises and cloud-based systems, the team was able to maximize computing power, improve security, boost performance, and future-proof their system.

The impact

Enhances built-in security and eliminates the need for a VPN

Enables team growth through a scalable infrastructure

Establishes data gathering and analysis architecture for future projects

Allows more effective collaborations between researchers and colleagues

![MURU]

Processes two petabytes
of sound data a week
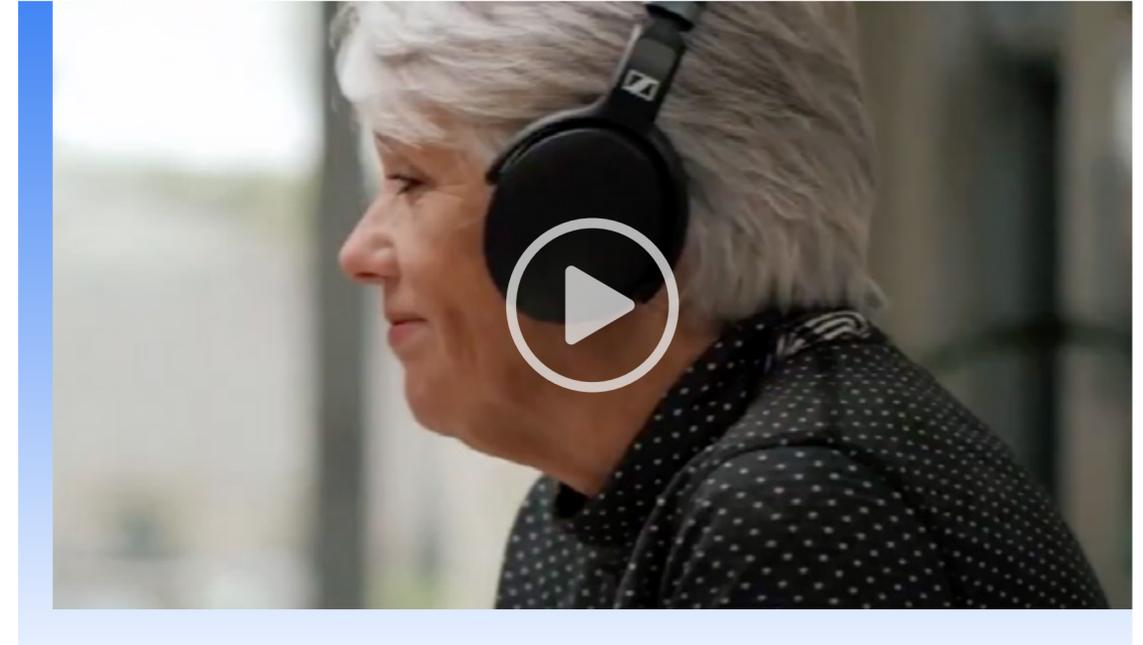
About

"Muru" is an Aboriginal word (Dharug) that means "pathway," "gateway" or "journey."

Muru Music Health (Journey to Music Health) was launched in September 2020 in Australia.

The AI-powered music therapy platform allows therapists, caregivers, and families to create personalized music experiences for people with dementia to help them in their effort to reclaim their memories.

Location

Australia

Solutions

Artificial intelligence

Databases

Infrastructure modernization

Smart analytics

Google Cloud products

AI Platform

BigQuery

Cloud CDN

Cloud Storage

Dataflow

Google Kubernetes Engine

Cloud Logging

Cloud Monitoring

Google Workspace

"

We work with lots of data to make our platform possible, but with our previous system we spent more time fixing data pipelines than building features With Google Cloud, we can get more reliable data solutions, scale up more efficiently, and put time and resources saved into features."

Nicc Johnson, CEO and founder, Muru Music

Soothing dementia patients with AI-generated music

Muru Music built Muru Music Health, an AI-powered music therapy platform powered by Google Cloud. By using AI Platform to score the vibe based on the feeling and sentiment of a song, a recommended playlist is created based on data points such as the person's hobbies, interests, and where they grew up. This enables therapists, care givers, and families to create personalized music experiences for people suffering from dementia.

Google Kubernetes Engine handles the main infrastructure, allowing Muru Music to offload much of the management overhead to Google Cloud, while Cloud Logging and Cloud Monitoring give engineers a clear view into operations at all times. The data platform relies on Cloud Storage and BigQuery to hold and analyze the data, while AI platform draws out new insights.

The impact

Coordinates an international team via Google Workspace solutions such as Meet for online conferencing and Drive for collaboration

Speeds up the completion of heavy data processing tasks using Dataflow and AI Platform

Drives efficiency and quick, effective decision-making by empowering engineers to experiment with new approaches

Expediting drug discovery using the cloud

About

Headquartered in New York City, Schrödinger is a computational chemistry and chemoinformatics company that specializes in accelerating drug discovery and materials science using physics-based computational modeling.

Location

United States

Solutions

Productivity and work transformation

Smart analytics

Artificial intelligence

Google Cloud products

Google Cloud

"

What stood out was the way the Google Cloud team shared our belief in the potential of combining the right platform with the right technology. This partnership could lead to a broader adoption of these methods by the pharmaceutical industry and could transform the way all of pharma is doing drug discovery."

Dr. Ramy Farid, CEO, Schrödinger

Using Google Cloud to fuel groundbreaking drug discovery

The scientists at Schrödinger aim to get efficacious new medicines to patients more quickly, and with less up-front expense, by using computer modeling. With Google Cloud, Schrödinger has access to a near-infinite volume of processing power on-demand. This allows it to run simulations that require bursts of on-demand compute power, something that was difficult to achieve with its on-premises data centers.

Leveraging Google Cloud's high-performance computing resources, the Schrödinger team can explore a larger chemical space and model a much vaster number of compounds, improving the odds of identifying a promising and groundbreaking therapeutic candidate for a given disease. The company is also able to run simulations without concern over network stability.

The impact

Ability to model vastly more compounds, improving the odds of identifying a promising therapeutic candidate for a given disease

Helps significantly speed up the preclinical drug discovery process from 5 years to 2.5 years

Customizing the type of VM that the GPUs use increases flexibility and cost efficiency

Significantly reducing IT costs
while furthering innovation
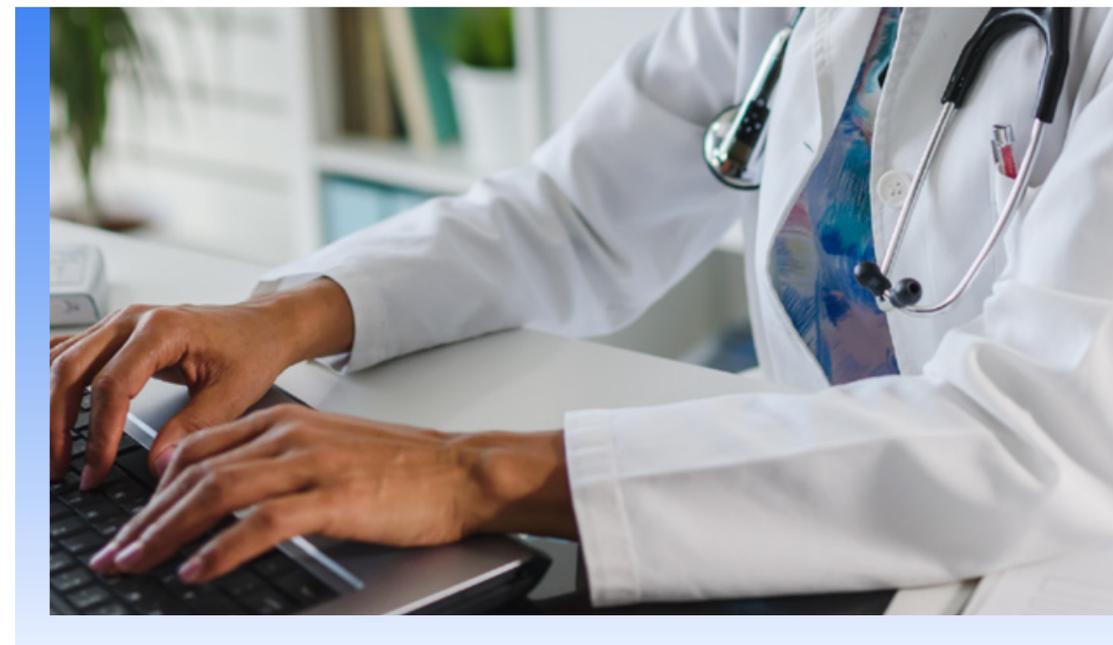
About

Established in 1895, SulAmérica is Brazil's largest independent multi-product insurer.

With over 7 million customers, it is the largest healthcare operator in the country, and also offers private pensions, asset management, and savings bonds.

The company's mission is to improve people's lives, offering support, security and autonomy at all times and in physical, emotional and financial health decisions.

Location

Brazil

Solutions

Infrastructure modernization

Google Cloud products

Apigee

Cloud Functions

Cloud Healthcare API

Cloud Task

Pub/Sub

"

The data flow platform is organized around events, and that's important.
The Cloud Healthcare API handles those requirements for us, and Google
Cloud's solutions have helped us streamline processes."

Reynaldo Pérez Sánchez, IT Architect, SulAmérica

Deploying the cloud technology to improve the use of data

With over 7 million customers, 4,000 employees and a distribution network of thousands of insurance brokers, SulAmérica needed a unified method to store and sort the clinical data it receives from its partner ecosystem. However, with partners using their own system to manage their information, data reached SulAmérica in a decentralized way, making it challenging to achieve a 360-degree view of policyholders.

Using Google Cloud's API to implement the FHIR protocol provides a centralization hub for information, thus driving interoperability, as it creates a connection between every system in a single location, with unique intelligence, based on cloud-computing features. The SulAmérica team now has a comprehensive view of policyholders, and speedy access to its CRM data.

The impact

Handling over 5 million requests daily with zero unavailability in the production environment

Reducing processing time to send information to the CRM from 24 hours to 3.5 minutes

Synthesizing data for company's internal use with a single interface

Focusing on taking care of policyholders with agility

07

Manufacturing

Solving business challenges
for the manufacturing industry

Kia ↗	**Korea**
Ather Energy ↗	**India**
Doosan ↗	**Korea**
FIH Mobile ↗	**Taiwan**
Grupo Malwee ↗	**Brazil**
JB Hunt, AES (Broadcom) ↗	**United States**
Mitsubishi Heavy Industries ↗	**Japan**
Quimmco ↗	**Mexico**
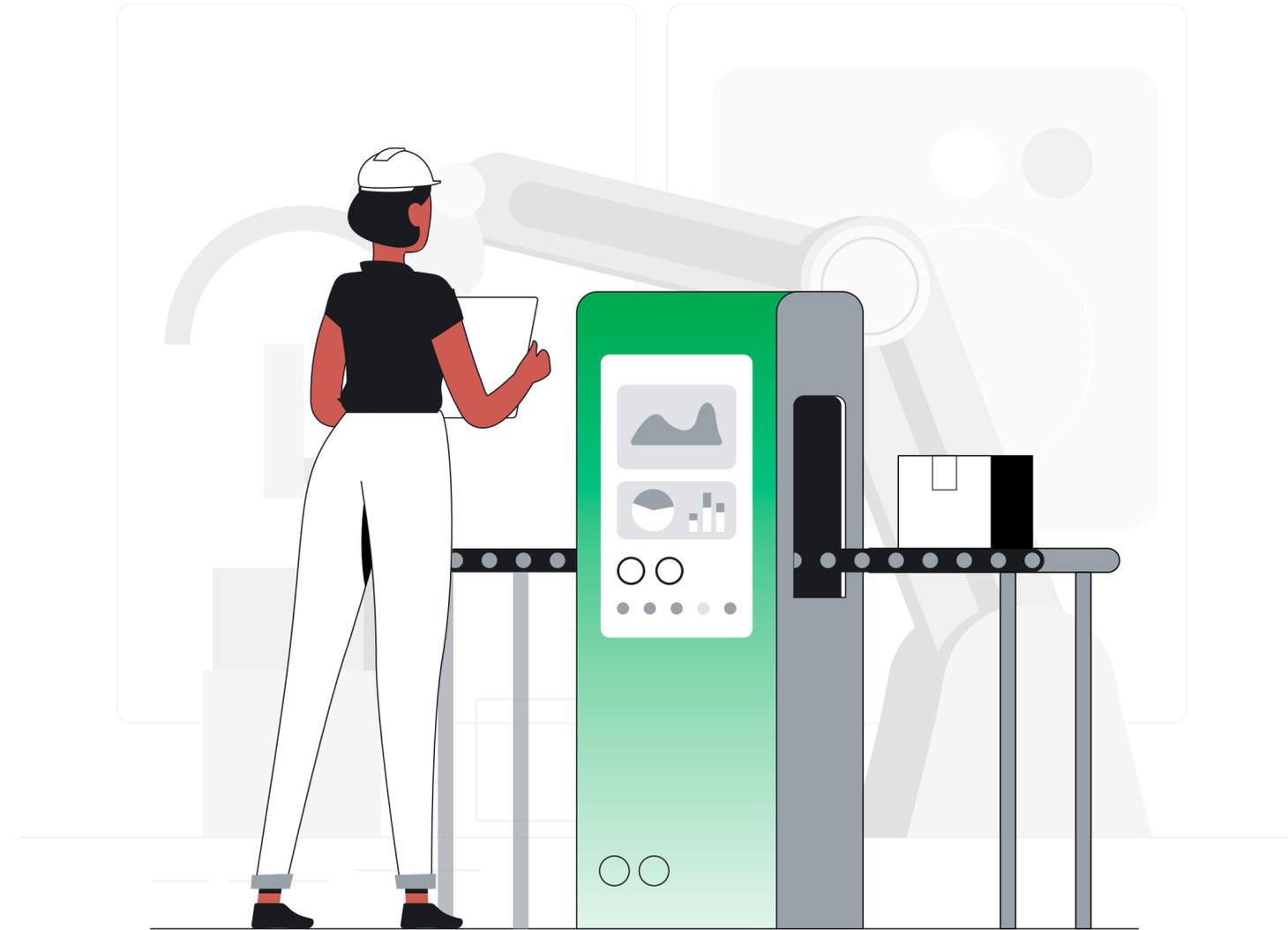
Driving innovative virtual dealerships and mobile apps with Google Cloud

About

Kia manufactures over 2 million cars and commercial vehicles a year, which are sold through a network of dealers in 172 countries.

Established in 1944, the company originally started manufacturing bicycles, and today, employs 44,000 people worldwide.

Location

Korea

Solutions

Machine learning

Productivity & collaboration

Google Cloud products

Cloud Storage

Firebase

TensorFlow

Google Workspace

71

> "The Kia Owner's Manual App offers a unique customer experience with our products. Kia drivers can enhance the safety and convenience of ownership with the app, which provides easy and intuitive information on the various functions of their vehicle and our latest technologies."
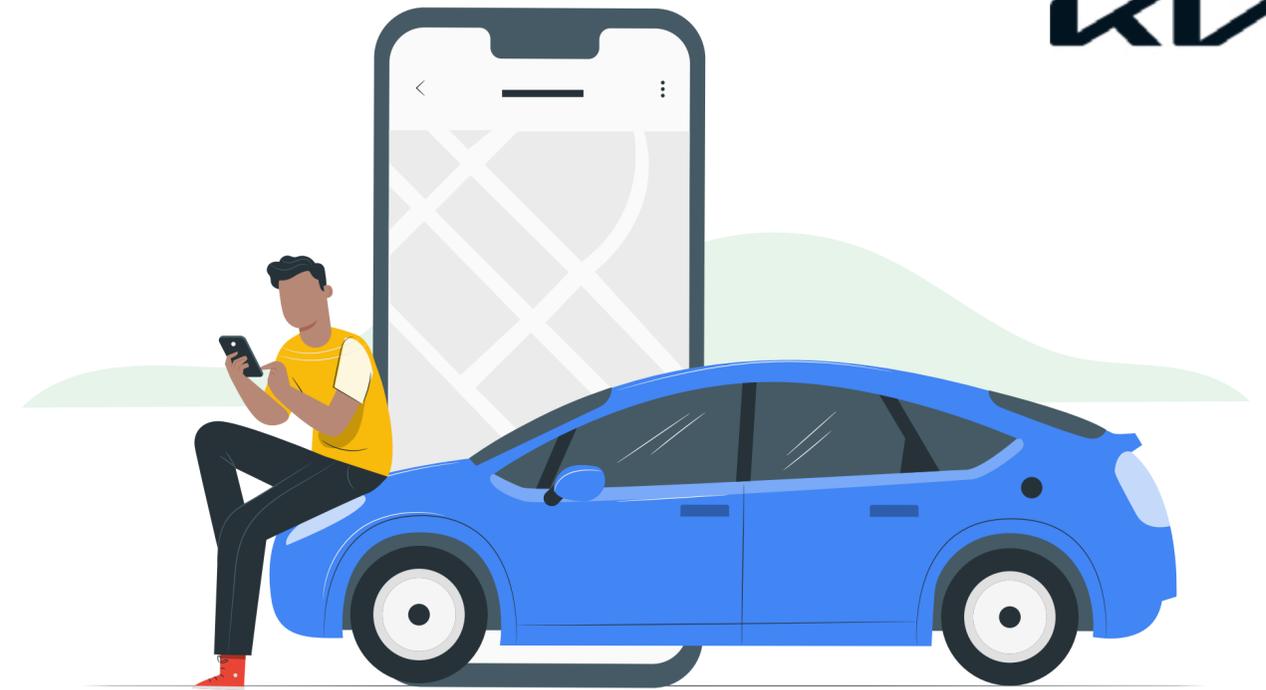
Pablo Martinez Masip, Global VP, Ownership and Product Experience, Kia

Enhancing customer experiences with Google Workspace and AI

Kia believes that innovation is the key to staying at the forefront of the global automotive market, so it created a virtual dealership concept using Google Workspace. Customers' feedback and intention to proceed is first captured through a digital survey on Google Forms. This then launches its Live Stream Showroom for global dealers and customers using Google Meet. Follow up data is then flowed to the dealer's calendar, with user name, meeting detail, and subject information, while additional details such as contact information, country, and vehicle are saved in Google Drive as a Google Sheet.

Using Google Cloud, Kia also developed a digital owners' manual using Cloud Storage, AI Platform for model training and evaluation, TensorFlow for object detections and Firebase to launch it on a mobile app.

The impact

Enables car owners to quickly locate important information about their cars with AI and machine learning

Easy collaboration via Google Workspace saw rollout of Live Stream showroom across 28 countries in just 6 months

Live Stream showroom provides a 'natural' and enhanced customer experience comparable to in-person visits

Empowers a small engineering team to invent a unique IoT mobility system

About

Ather Energy is the Bengaluru-based startup that launched India's first "intelligent" electric scooter, providing mobility solutions to people across the region.

The company operates a charging network to provide EV owners with a stress-free ride, and believes that intelligent vehicles have the power to innovate and revolutionize the commuting experience.

Location

India

Solutions

Artificial intelligence

Smart analytics

Google Cloud products

BigQuery

Cloud IoT Core

Google Maps Platform

"

We are churning out a few hundred megabytes of data every day, on every vehicle. With that sort of data and a few thousand vehicles on the road, we are doing things which would have been impossible without Google Cloud."

Swapnil Jain, Co-founder, Ather Energy

Driving the future of mobility in India with BigQuery and Cloud IoT Core

Ather Energy's founders shared a vision to build an intelligent electric scooter that positively impacts people's livelihoods in India through mobility. The Ather app hosted on Google Cloud delivers on this vision by providing drivers with easy access to real-time data to improve driving efficiency and overcome urban challenges such as traffic congestions and potholes. The company created an IoT platform that gathers data such as driving habits and vehicle performance from 43 sensors on each vehicle.

BigQuery combines and analyzes real-time IoT data and road data to provide route optimization with the help of the Google Maps Platform. Thanks to Google Maps Platform, developers can improve the app with user-friendly features such as location sharing without maintaining the IT infrastructure.

The impact

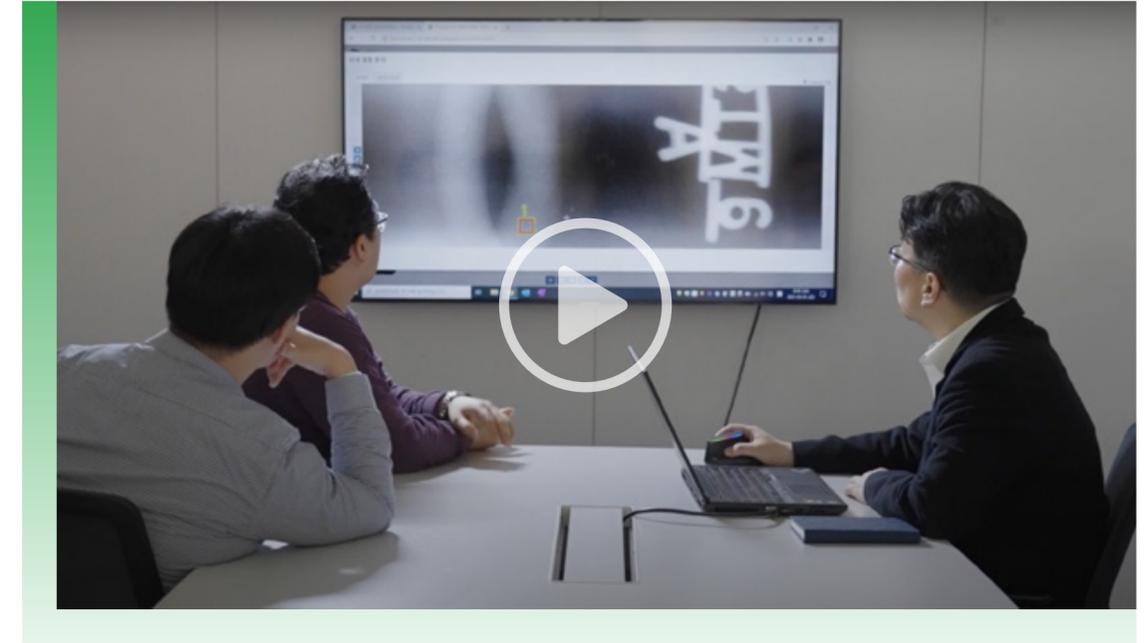Facilitates platform updates monthly versus twice a year

Enables deployment of 43 IoT sensors on each scooter for granular data on driver experience

Delivers data insights that keep costs down for both the company and the consumer

Reduces AI model training times from 20 days to a few hours

About

Doosan Heavy Industries & Construction is a leading engineering, procurement, and construction (EPC) contractor offering a wide array of services ranging from the manufacturing of castings and forgings to the construction of power plants.

Founded in 1962, the company strives to create a better future by bringing more sustainable energy solutions to the world.

Location

Korea

Solutions

Artificial intelligence

Infrastructure modernization

Google Cloud products

Compute Engine

Vertex AI

> To increase the accuracy of the deep learning model, the training must be repeated and the parameters revised countless times. In the past, it took around 20 days of training for the model to process tens of thousands of pieces of data, but since we have migrated to Google Cloud, we can now finish the training within hours."

Jang Se-young, Digital Innovation Head, Doosan Heavy Industries & Construction

Accelerating industrial innovation with Google Cloud

Doosan Heavy Industries is a global engineering and construction company that undertakes large-scale projects like building water and power plants, wind farms, and many more.

Doosan is transforming its business by leveraging data. With GPUs on Compute Engine, where the company accesses the compute power needed to train its deep learning model to detect any defects such as welding flaws during manufacturing that might not be visible to the naked eye.

The AI model can perform analysis with 98% accuracy and inform inspectors of the results. Doosan uses the scalability of Google Cloud to offer the solution to customers through a software-as-a-service model.

The impact

Provides the computing power to support iterative training that improves the AI model's accuracy to 98%
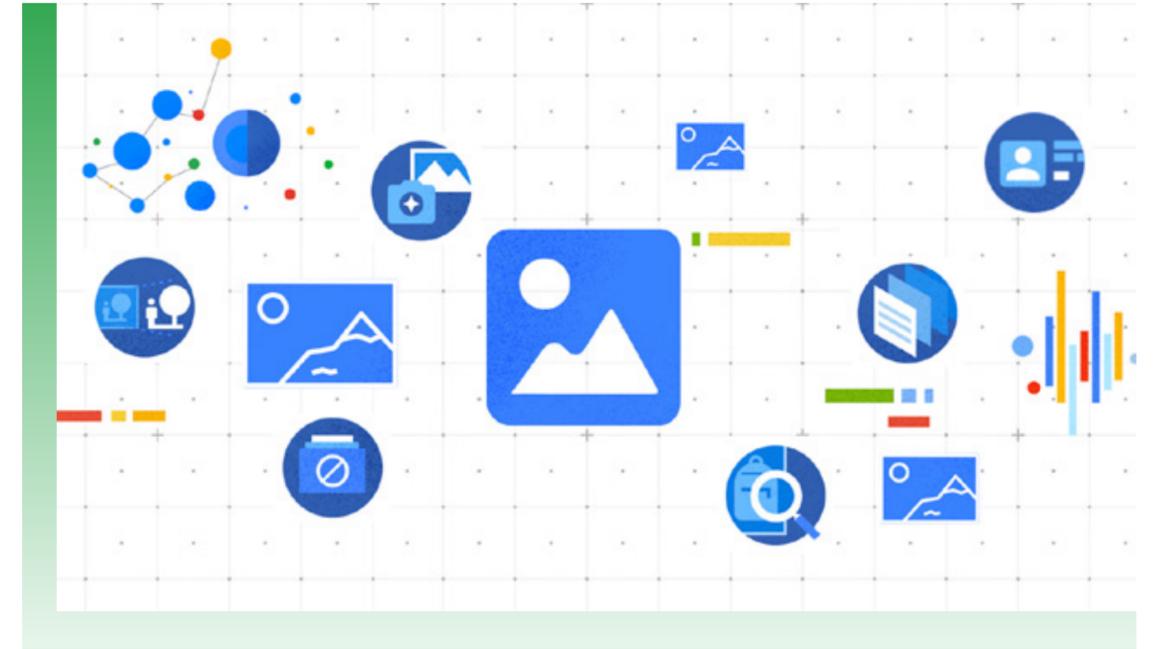
Supports distribution of the completed model as a service via Google Cloud

Enables the model to accommodate changes in industrial site conditions and different weld shapes and defects

Reduces time and cost by decreasing defect "escape" rates to just 10%

About

FIH Mobile is a leading global mobile communication manufacturing company with a global footprint of design centers and manufacturing capacities in Taiwan, China, India, Vietnam and US.

Its business spans OEM, ODM, IDM for mobile devices, IoT and 5G products, and further expands into Internet of Vehicles. More than 80,000 employees provide comprehensive, real-time services to customers worldwide.

Location

Taiwan

Solutions

Artificial intelligence

Google Cloud products

Cloud AutoML

"

With AutoML Vision, we are able to reduce our unfound defect rate for printed circuit boards from 40% to 10%, while the time to inspect each component decreased dramatically to 0.3 seconds, or 1.3 seconds once fixture movement time is taken into account. In addition, all our inspection stations apply the same inspection process, ensuring consistency and improving confidence."

Sabcat Shih, Senior Associate Manager,
FIH Mobile Doosan Heavy Industries & Construction
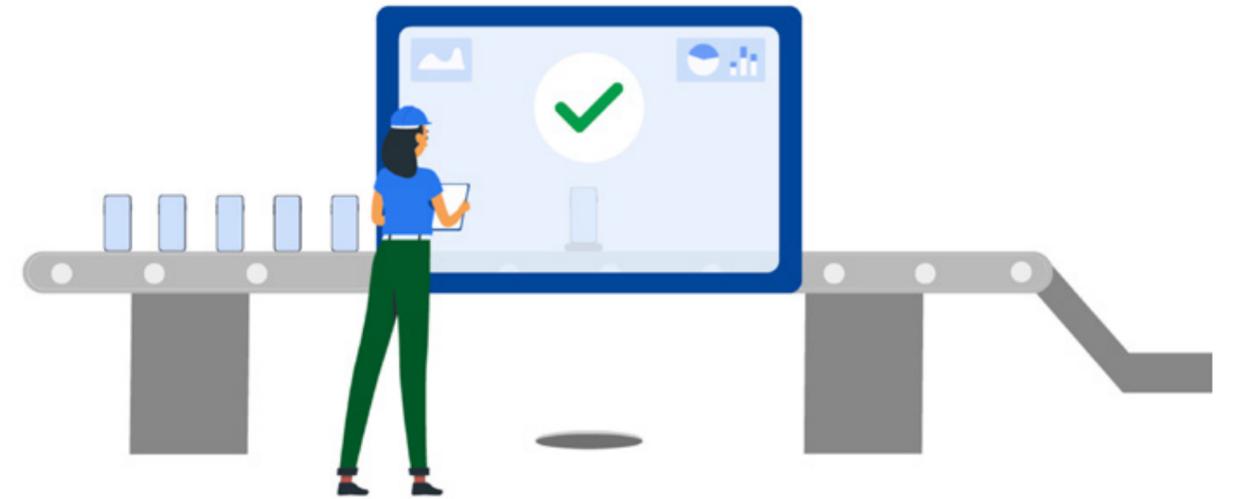
Automating mobile handset manufacturing processes with Google Cloud visual inspection products

Traditionally known as a smartphone manufacturer, FIH Mobile is expanding into future growth areas in electric cars, digital medicine, and advanced robotics. In order to achieve these business goals, the company has to operate very efficiently. One area for cost savings for FIH is automating printed circuit board (PCB) defect detection.

FIH builds a machine learning model using AutoML Vision to identify defects such as scratches and holes in PCB that a human operator might not notice. With fast and accurate detection, the company can minimize PCB defects, thus improving the quality of the final product.

The impact

Inspects each component for defects in just 0.3 seconds

Removes inconsistency by standardizing defect inspection across each station

Enhances company's competitiveness in a rapidly changing market

Navigating the Industry 4.0 journey with Google Cloud

About

Grupo Malwee is one of Brazil's leading fashion companies and the owner of famous brands in the country's market.

It stands out as a pioneer in sustainability, having incorporated groundbreaking technologies into its processes.

It produces more than 35 million pieces of clothing annually, and promotes self-esteem and well-being through fashion.

Location

Brazil

Solutions

Infrastructure modernization

Smart analytics

Work Transformation

Google Cloud products
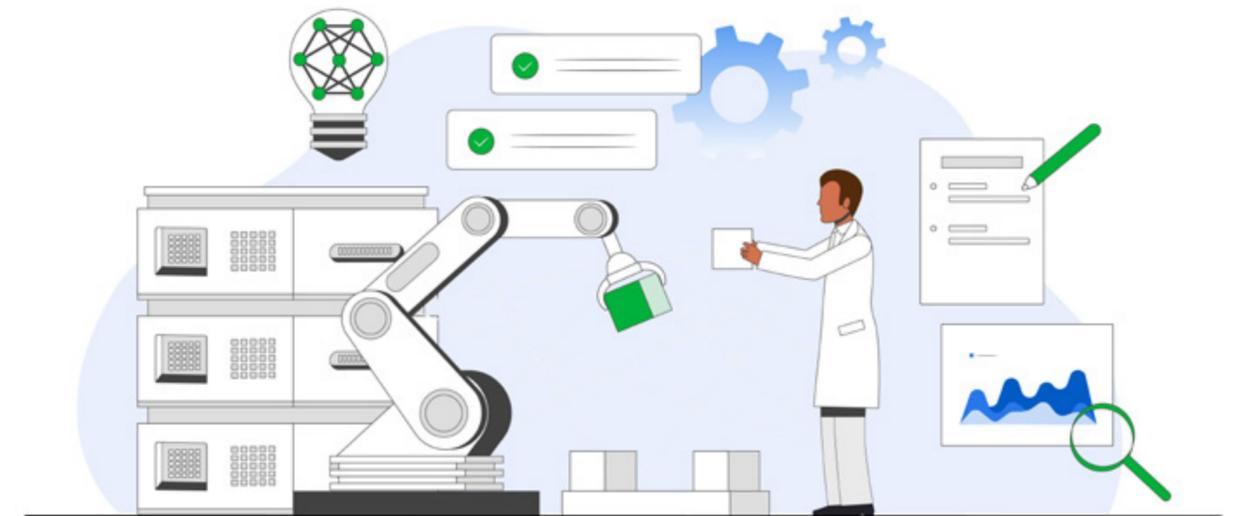
Google Cloud

Compute Engine

Kubernetes Engine

Google Workspace

"

The migration has elevated Grupo Malwee to a new standard for technological infrastructure. The cloud environment delivers flexibility and speed in making infrastructure available for new projects and enables cost management to allow for quick decision making and budget predictability."

André Frederico, CEO and Head of Cloud Solutions, TIVIT

Using artificial intelligence to power the manufacturing process and improve production

Grupo Malwee, one of Brazil's most innovative fashion companies, migrated 90% of the company's technology infrastructure to Google Cloud, including critical systems, such as SAP.

Thanks to the migration, the team can now create new resources in minutes, scale as needed and replicate data in different regions of Brazil and the world. The migration has led to an increase in productivity, with compute times improving by up to 200% and report processing reducing from hours to minutes. Process time improvements were also seen in the SAP environment: backup has shortened from nine to three and a half hours; global material requirement planning has decreased from 90 to 40 minutes; and production query times have reduced from 10 to three minutes.

The impact

Improves effectiveness with 90% of technology infrastructure and critical systems running smoothly on Google Cloud

Improves compute times by up to 200%

Infrastructure costs fell by 17%

Report processing reduced from hours to minutes

Aiming to create the most efficient transportation network in North America

About

J.B. Hunt is an S&P 500 company that provides innovative supply chain solutions for a variety of customers throughout North America.

Utilizing an integrated, multimodal approach, the company applies technology-driven methods to create the best solution for each customer, adding efficiency, flexibility, and value to their operations.

Location

United States

Solutions

Smart analytics and AI

Infrastructure modernization

Google Cloud products

Google Cloud

AutoML

BigQuery

Data Cloud

Data Science

Open Cloud

Recommendations AI

"

Powering J.B. Hunt 360 on Google Cloud will help drive us forward in our mission to create the most efficient transportation network in North America. This alliance is groundbreaking in our industry and we expect it will produce innovative solutions meeting transportation and logistics needs."

John Roberts, President and CEO, J.B. Hunt

Digitally transforming the shipping and logistics experience

J.B. Hunt is focused on accelerating innovation in transportation and logistics and to achieve these goals, it turned to Google Cloud. It is expanding its J.B. Hunt 360°® platform to improve its real-time data insights to deliver faster services. It is also using Cloud AI Platform, AutoML and Recommendations AI to create enhanced visibility into the supply chain; Open Cloud capabilities to create a sophisticated operating model; Data Science to drive efficiency; and Data Cloud for its data analytics and AI and ML capabilities to build reliable, repeatable, workflows.

And, by leveraging Google's data analytics solutions, such as BigQuery, J.B. Hunt can now create a secure, scalable, and cost-effective data warehouse to support the J.B. Hunt 360 marketplace.

The impact

Increasing optimization of the $1 trillion logistics industry

Using Open Cloud capabilities to create a sophisticated operating model

Reducing waste, friction and inefficiencies

Taking flight with artificial intelligence and machine learning

About

Mitsubishi Heavy Industries, Ltd. has been synonymous with industrial machinery since 1884.

The company is made up of three main business domains: the Energy division that manufactures nuclear and thermal power generators, the Commercial Aviation/Integrated Defense/Space division that manufactures aircrafts and rockets, and the Logistics/Infrastructure/Industrial machinery division that manufactures machinery from shipbuilding to chemical plants and beyond.

Location

Japan

Solutions

Digital transformation

Smart analytics

Artificial intelligence

Infrastructure modernization

Google Cloud products

AutoML

Vertex AI

Vision AI

"

Vertex AI makes it possible to continuously develop AI algorithms with a small amount of learning data, even if you are not familiar with coding."

Shunsuke Nakamura, Assembly manufacturing engineering section, Manufacturing engineering department, Mitsubishi Heavy Industries, Ltd.

Utilizing cloud services for the business not only helps push digitization, but also helps in improving safety, quality, and business efficiency."

Tatsuya Matsuda, Production planning section, Manufacturing department, Mitsubishi Heavy Industries, Ltd.

Transforming aviation manufacturing processes and productivity

Mitsubishi Heavy Industries (MHI) is undergoing a multi-year digital transformation with the help of Google Cloud. In 2020, MHI introduced Google Cloud AI services to its Eba Plant in Hiroshima, its largest manufacturing facility for commercial aircraft fuselage parts and assemblies.

Using a combination of Vertex AI, AutoML, and Vision AI, MHI creates a machine learning model to increase the efficiency performance of labor-intensive work via visualized efficiency data and improve their production automation technology "M-PAL". In "M-PAL", the predictive model collects data via visual capture, and is able to surface issues with prompts, before the product is damaged.

The impact

Picks debris on product parts with near-perfect accuracy

Able to create an AI algorithm in just a month

Improve training and output of new team members with field work data

Elevating team collaboration during the COVID-19 pandemic and beyond

About

Grupo Quimmco is an industrial consortium that covers the metal, mechanical and chemical industries. Its two divisions specialize in metalworking, precision machining, forging, castings, complex manufacturing assemblies, and formulation of polyols.

Its services range from design to assembly and it has more than 5,600 employees worldwide.

Location

Mexico

Solutions

Productivity and work transformation
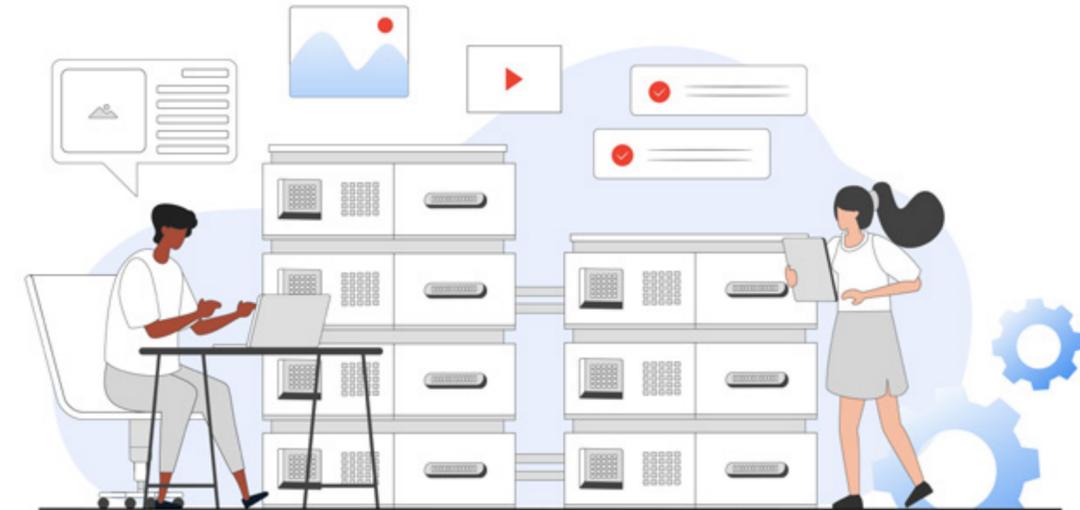
Google Cloud products

Google Workspace

"

We now use Google Workspace for more than 90% of our communications and collaboration. It has allowed us to build employee relationships and trust and address unforeseen challenges. Without it, we could not execute our strategy."

Jorge Treviño, Chief Information Officer, Quimmco

Reliably collaborating on work inside and outside the company

As a multinational company, Quimmco's vision is focused on creating an intelligent, reliable, and secure collaborative digital ecosystem, in compliance with international standards. For this it turned to Google Workspace.

Employees quickly learnt to use tools such as Google Meet, Google Sheets, Google Docs, Google Slides, Google Calendar, and Gmail. A training portal was created on Google Workspace to help employees advance their skills. When the COVID-19 pandemic struck, thanks to their familiarity with Google Workspace, employees were able to quickly adjust to working from home, using two-factor authentication to stay secure. Managers even found that their employees became more productive following the pandemic, and continue to support the flexible working culture moving forward.

The impact

Increases employee productivity and more than doubles use of Google Drive during COVID-19 pandemic to 24 million+ files

Boosts productivity by 50% with Google Workspace

Transitioned to a fully remote office workforce during COVID-19 pandemic with no disruptions

08

Media and Entertainment

Solving business challenges
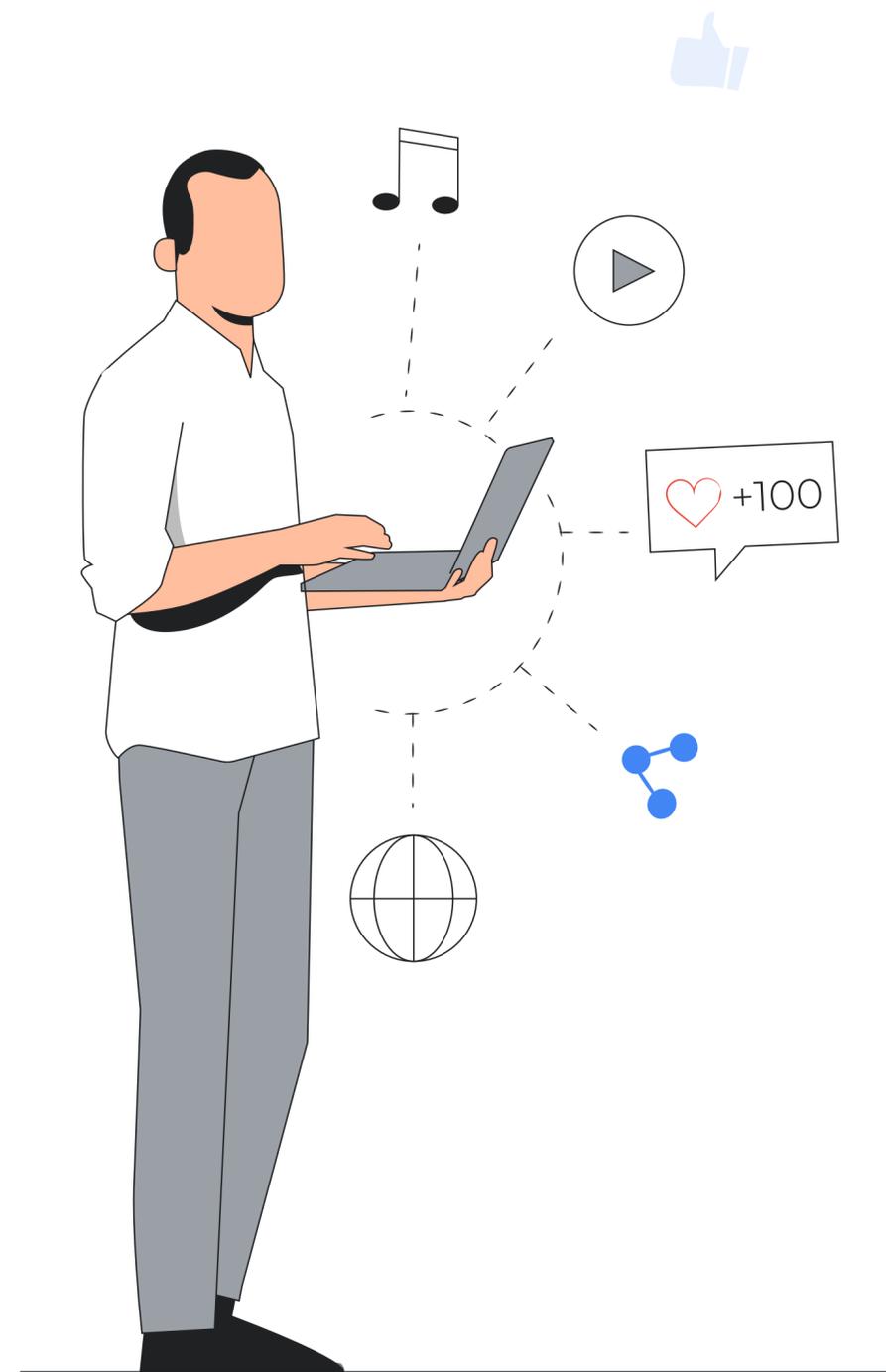for the media and entertainment industries
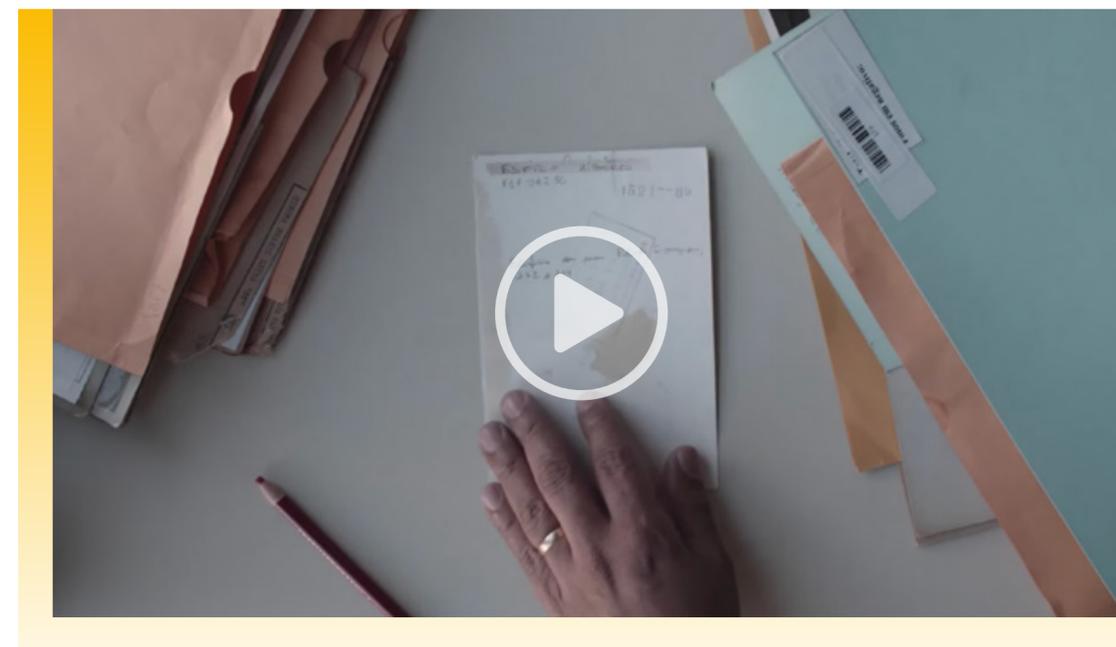
Folha de S.Paulo 🗗   **Brazil**

Haaretz 🗗   **Israel**

ShareChat 🗗   **India**

Twitter 🗗   **United States**

Univision 🗗   **United States**

Digitizing 100 years of history
with Google Cloud

About

Grupo Folha is one of the largest media conglomerates in Brazil. It controls the Folha de S.Paulo newspaper and website, the Datafolha research institute, Folhapress news agency, the CTG-F printing plant, logistics and distribution companies Transfolha and SPDL, and the printing company FolhaGráfica.

Location

Brazil

Solutions

Infrastructure modernization

Smart analytics

Data management

Google Cloud products

◆	Cloud Vision API	▦	Cloud Storage
▤	Cloud Logging	▣	Compute Engine
⬚	Cloud Monitoring	◈	Google Kubernetes Engine
▧	Cloud SQL	⁜	Pub/Sub

"

Many images printed in the articles and the centennial's book collection wouldn't be there if it wasn't for Assetway's program. It would have taken us too long to find certain things, because one subject could appear in up to 10 different folders. On the platform, all we have to do is type."

Jair dos Santos, Coordinator Database Digitization Project, Folha
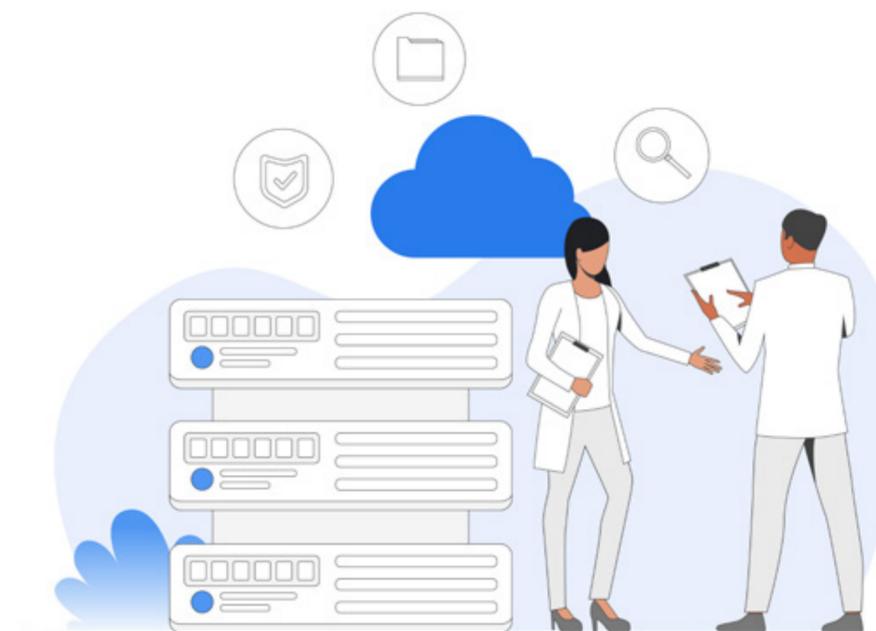
Indexing 2.5 million photos in the cloud

Folha de S.Paulo is one of the largest newspapers in Brazil, and its photographic archive has more than 27 million photographs. It wanted to migrate the digitized images to a cloud environment, making it possible to search images quickly and accurately.

Folha joined up with Assetway, a company offering a platform based on Google Cloud technologies. The files were migrated to Assetway Media Center, which is fully based on Google Cloud's infrastructure. This platform runs on Google Kubernetes Engine. Files are stored in Cloud Storage and imported and processed to be searchable using Pub/Sub. All resources are monitored 24/7 using Cloud Monitoring and Cloud Logging. The result is an ideal architecture for a large scale, complex project.

The impact

Migrated 10 TB of data files

2.5 million images, 26,000 cartoons, and 350 million words indexed

The project evolved from 6,000 pictures processed per month to 200,000 per day

Adding value to the news with a personalized experience

About

Established in 1918, Haaretz is one of Israel's leading international news organizations. It publishes a Hebrew newspaper, an English edition, and a business-focused periodical daily, in print and on a range of digital platforms.
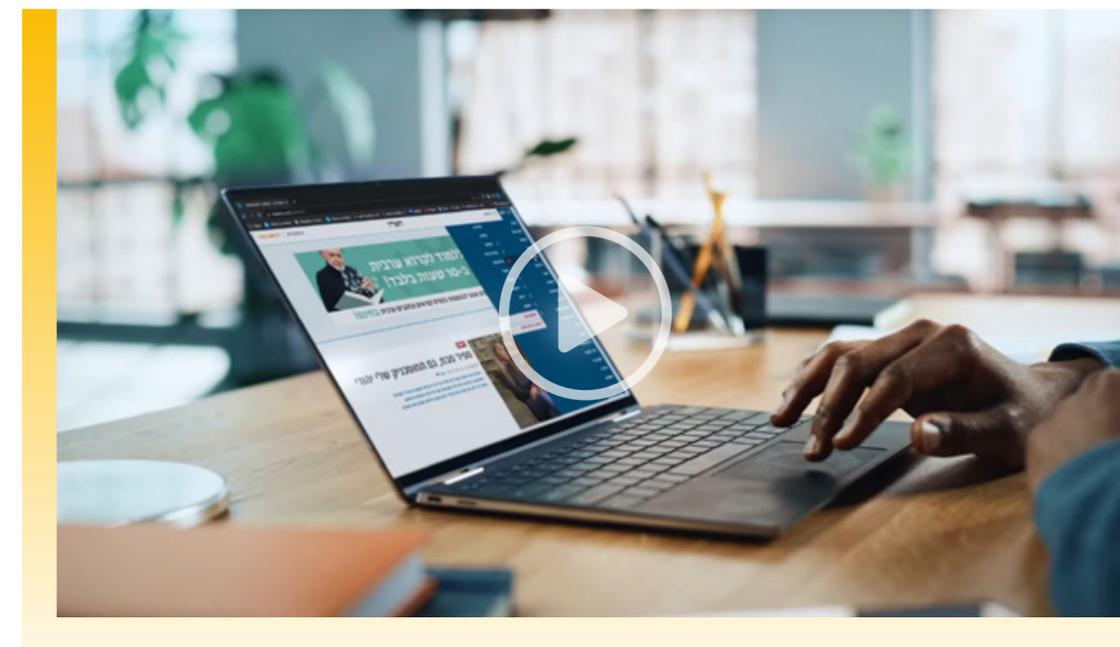
Location

Israel

Solutions

Infrastructure modernization

Data analytics

Google Cloud products

- BigQuery
- Compute Engine
- Cloud SQL
- Cloud Storage
- Dataflow
- Google Kubernetes Engine
- Looker

"

Google Kubernetes Engine has been transformational for us. It's easy to use, highly scalable, and we can run our whole technology stack with it. It improved both our front and back ends."

Inon Gershovitz, CTO, Haaretz

Responding to increased demand in minutes, rather than weeks

International news organization Haaretz migrated from its traditional on-premises infrastructure to Google Cloud in stages. The first step involved a lift-and-shift of the website to virtual machines managed with Compute Engine, along with a migration of the Content Management System data to Cloud SQL databases and Cloud Storage buckets.

Google Kubernetes Engine (GKE) is the heart of the new infrastructure, allowing Haaretz to scale quickly and easily without worrying about managing hardware. BigQuery is the backbone of the new data platform, serving as both a data warehouse and analytics tool, while Dataflow helps with processing. Haaretz also uses Looker in conjunction with BigQuery to gather enhanced business intelligence insights to provide a better, more personalized content experience.
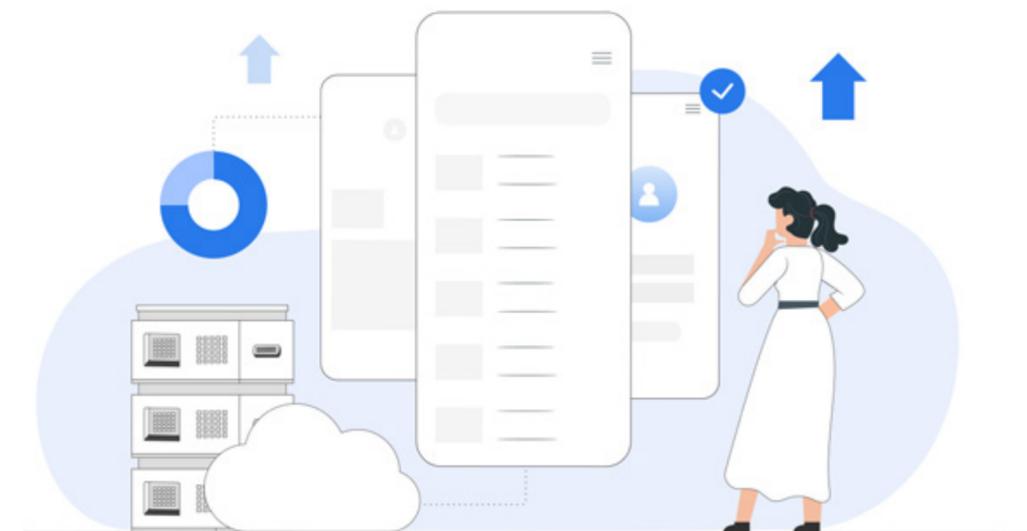
The impact

Delivers a more reliable, responsive, and faster service to readers

Improves subscription rates with enhanced business intelligence and personalized content

Enables developers to release more updates and features without having to worry about management overheads

Migrated 60 million users in five hours with no downtime

About

ShareChat is the leading Indian social media platform that allows users to share their opinions, document their lives, and make new friends in their native language.

With an average of 180 million users monthly, it aims to spearhead India's internet revolution, and change the way in which the next billion users will interact on the internet.
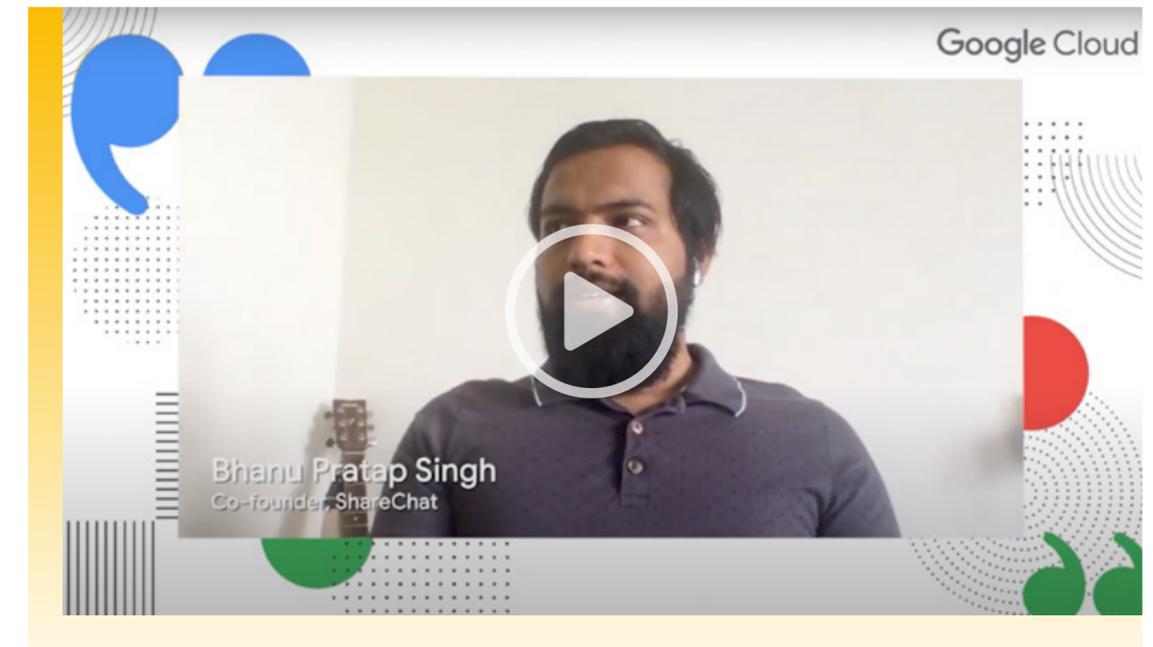
Location

India

## Solutions

Databases

Smart analytics

Google Cloud products

BigQuery

Cloud Bigtable

Cloud CDN

Cloud Spanner

Pub/Sub

> Google Cloud makes things very simple. It offers an efficient DevOps pipeline for releasing changes on Google Cloud. We can deploy bug fixes and new features such as our Moj app for short videos, without spending hours writing scripts for testing and deployment."

Venkatesh Ramaswamy, Vice-President of Engineering, ShareChat
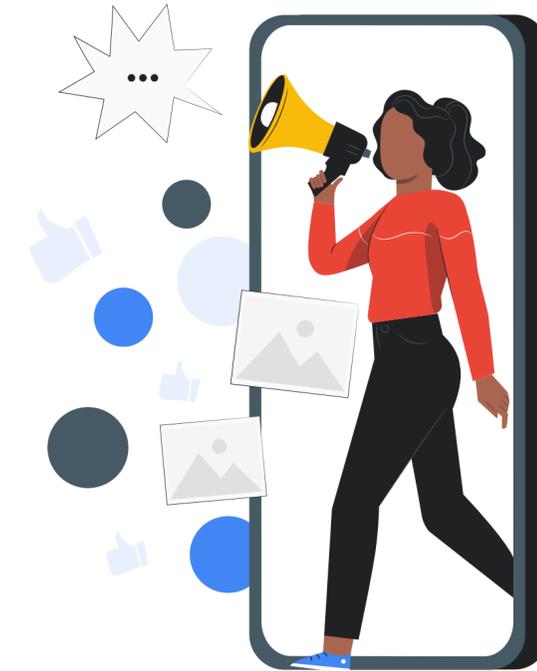
Building scalable data-driven social media with Google Cloud

In a country with more than 100 major languages, ShareChat engages social media users by speaking their language. The app allows users to chat and share photographs, posts, and cartoons on a variety of topics in more than a dozen regional languages. To support millions of users, ShareChat deploys and scales its app on Google Kubernetes Engine.

To analyze up to 70 terabytes of data, ShareChat uses a combination of managed data analytics and database services from Pub/Sub for data pipelines, and BigQuery for analytics of read-only data. Cloud Spanner manages real-time app serving workloads, with Cloud Bigtable for less-indexed databases. ShareChat also uses Cloud CDN to distribute high-quality, low-latency content to users anytime, anywhere.

The impact

Improves effectiveness of cache at fulfilling content requests from 90% to 98.5% by using Cloud CDN

Automatically scales to nearly 7 billion web requests per day for a consistent user experience

Analyzes 70 terabytes of data to enrich customer experience and business performance with deeper insights

Modernizing Twitter's ad engagement analytics platform

About

Twitter is a global social media app with over 300 million monthly active users, who use the platform to find out what's happening in the world at any given moment, whether they're interested in music, sports, news, celebrities, or everyday moments.
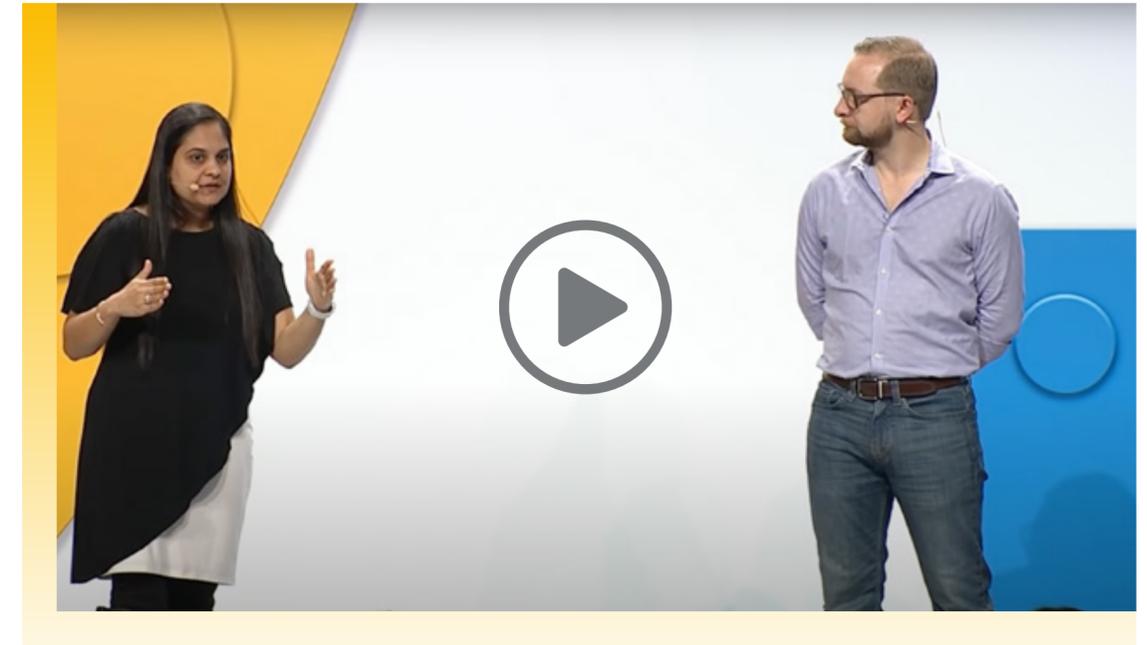
Twitter serves the public conversation because it believes it is a force for good in the world.

Location

United States

Solutions

Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Cloud Bigtable

Cloud Storage

Dataflow

Google Kubernetes Engine

Pub/Sub

> "At Twitter, we've had a long-term desire to have a cloud presence. Being in the cloud gives us a convenient way to test changes at scale and business continuity, as well as access to all that Google Cloud has to offer."

Vrushali Channapattan, Senior Engineering Manager, Twitter
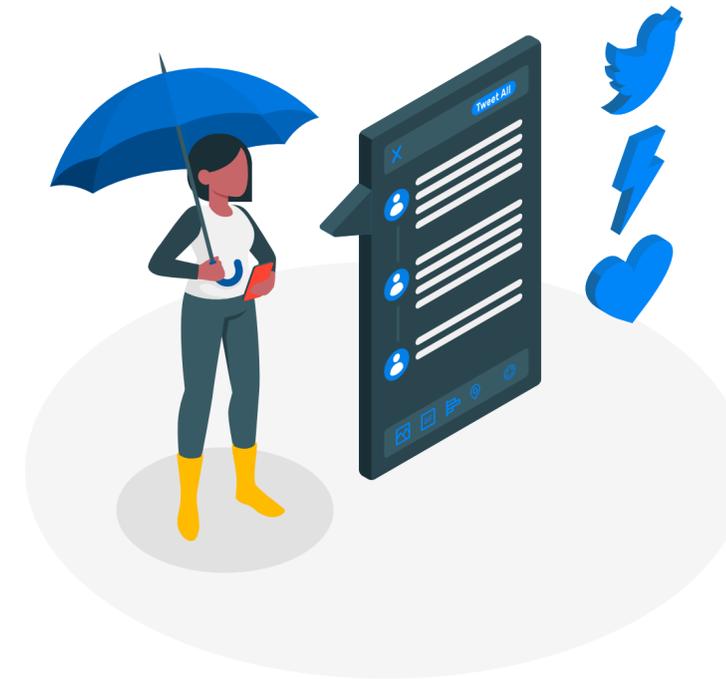
Moving to the cloud to increase data processing capacity and reliability

Migrating on-premises architecture to Google Cloud would enable Twitter to boost the reliability and accuracy of its ad analytics platform.

Twitter had developed powerful data transformation pipelines to handle its ever-growing global user base, initially running in Twitter's own data centers, but this organically grown architecture was reaching its limits, particularly in terms of cost, reliability, and flexibility.

Using a two-phase approach, Twitter was able to migrate its data storage and processing to Google Cloud, before redesigning its data analytics pipeline. This resulted in improvements in system performance as well as an overall increase in data processing capacity and reliability.

The impact

Extremely low latency for data access which decreased from 2+ seconds to 300 milliseconds

Significant increase in reliability, with virtually no pages received for the serving system

Ability to build new features much faster and easy configuration of existing data pipelines

Univision partners with Google Cloud to transform media experiences
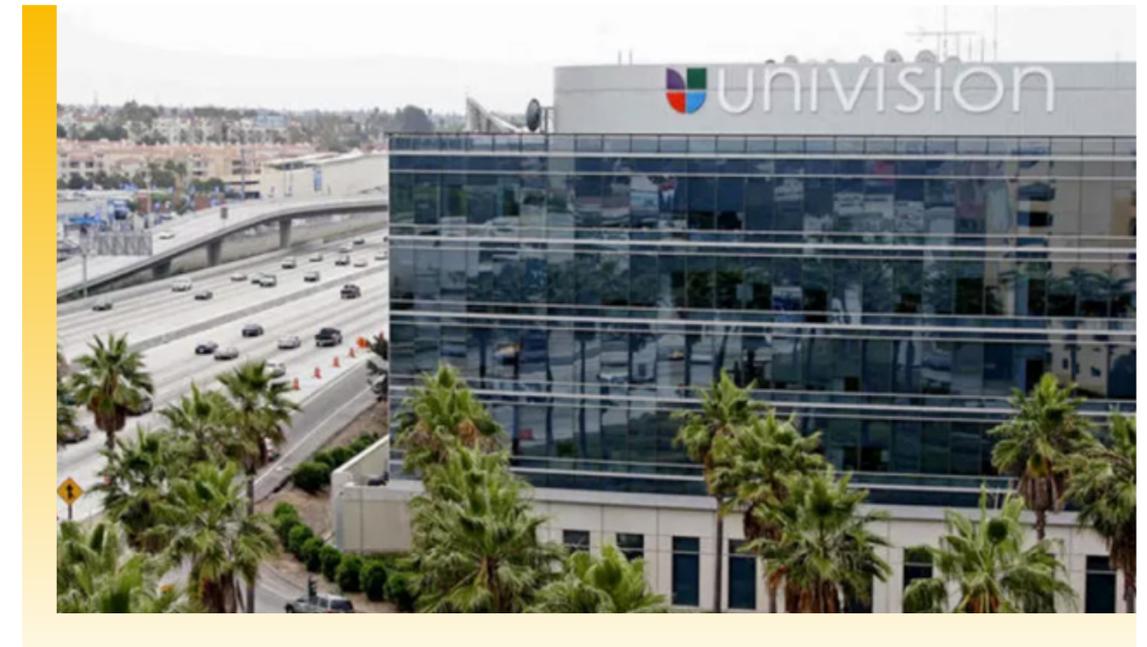
About

As the leading Hispanic media company in the US, Univision Communications Inc. entertains, informs, and empowers its Spanish and English speaking audiences with news, sports, and entertainment content across broadcast and cable television, audio, and digital platforms.

The company's top-rated media portfolio includes the Univision and UniMás broadcast networks.

Location

United States

Solutions

Infrastructure modernization

Smart analytics and AI

Google Cloud products

Looker

BigQuery

"

Google Cloud will transform our infrastructure and bring our customers an enhanced media experience."

Wade Davis, Chief Executive Officer, Univision

Personalizing content with Google Cloud AI and ML

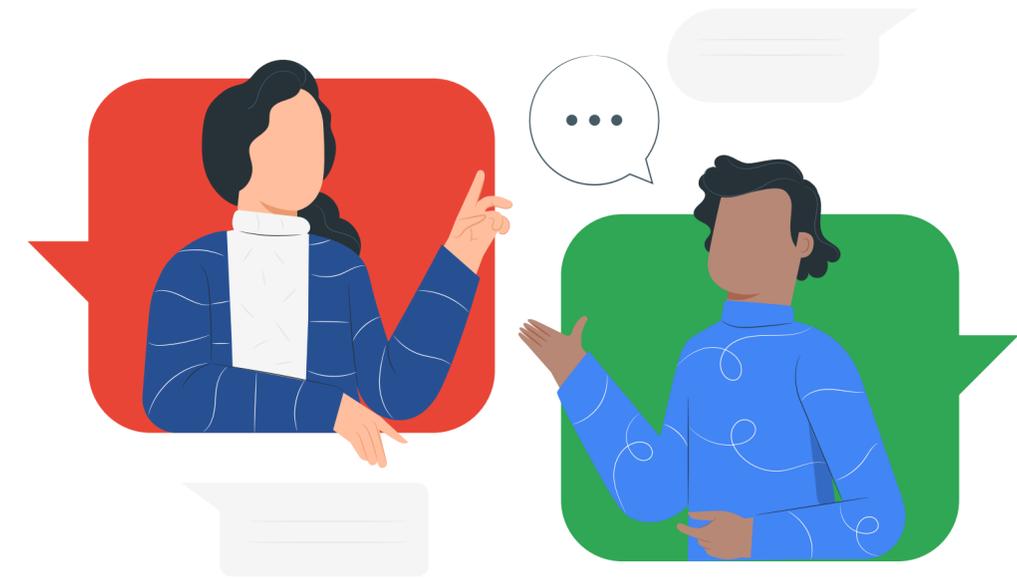Univision is the United State's leading Spanish-language content and media company that also offers options in English. With such a large audience, Univision wanted to target its content to viewers' preferences.

By applying Google Cloud's artificial intelligence (AI) and machine learning (ML) technology, Univision can now personalize content based on shows users have previously watched. It uses Google Cloud's data and analytics suite to glean insights on audience preferences. With Looker and BigQuery, Univision employees have access to real-time data to make the most informed business decisions about programming.

Univision distributes its content and services on Google Play across Android phones and tablets, as well as Google TV and other Android TV OS devices.

The impact

The AI and ML technology of Google Cloud offers personalized content to users

Access to real-time data with Looker and BigQuery helps to make programming decisions

Google Cloud provides the infrastructure to reach more viewers across the Spanish-speaking world

09

Retail

Solving business challenges for the retail industry

Albertsons ↗	**United States**
Carrefour ↗	**France**
Lowe's ↗	**North America**
Macy's ↗	**United States**
Mercari ↗	**Japan, United States**
Seven-Eleven ↗	**Japan**
Tiki ↗	**Vietnam**
Target ↗	**United States**
Woolworths ↗	**Australia**

Provides accurate, real-time information for shoppers

About

Albertsons Companies is a leading food and drug retailer that operates stores across 34 states and the District of Columbia under 20 well-known banners, including Albertsons, Safeway, and Vons.

The company is committed to helping people across the country live better lives by maintaining the highest standards of environmental stewardship (including sustainably sourced products), workplace excellence and community engagement.

Location

United States

Solutions

Artificial intelligence

Machine learning

## Google Cloud products

Cloud AI

Google Maps Platform

Google Search

> In bringing together Google's technology expertise with our commitment to customer-centric innovation, we're providing our customers with a superior shopping experience no matter how they choose to shop with us."

Chris Rupp, Executive Vice President and Chief Customer and Digital Officer, Albertsons Cos.
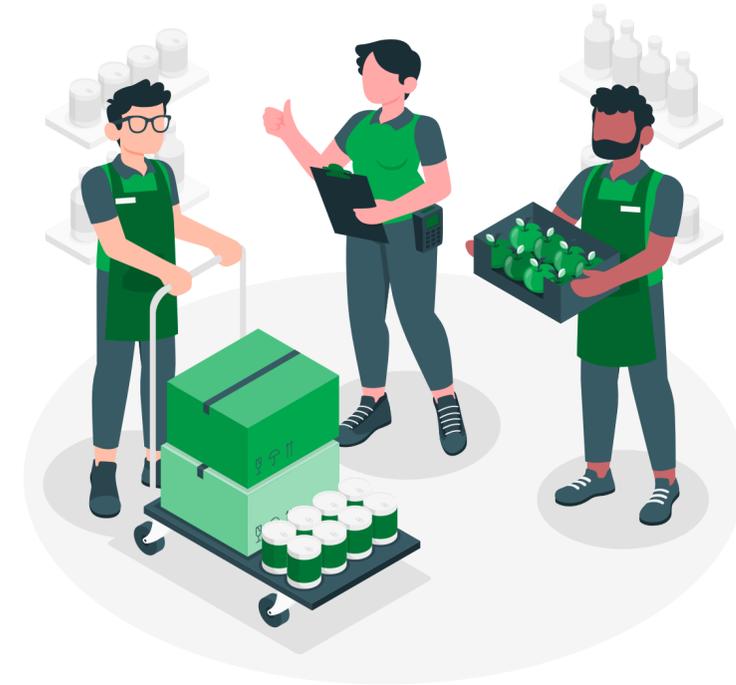
Makes grocery shopping easier with AI

Albertsons Companies is working with numerous teams at Google to transform the shopping experience for customers. For example, creating predictive shopping experiences by integrating with Google Search and Maps to help shoppers find what they need with shoppable maps, and by building AI-powered conversational commerce utilizing Google Cloud AI technologies such as Vision AI, Recommendations AI, and Business Messages.

During the COVID-19 pandemic, Albertsons leveraged Google's Business Messages to provide customers with accurate and up-to-date information about vaccine eligibility, availability, appointment booking, and frequently asked questions.

The impact

Improves shopper experience via maps with dynamic hyperlocal features

Builds AI-powered conversational commerce

Provides predictive grocery list building

Driving a digital transformation to bring healthy, sustainable food to everyone

About

With 13,000 stores in more than 30 countries, Carrefour is a global retailer with a pioneering spirit.

Driven by the desire to make high-quality products affordable for everyone, Carrefour is constantly evolving its retail formats to simplify shoppers' lives and create a healthy and sustainable food future.

Location

France

Solutions

Data management

Infrastructure modernization

Smart analytics

Google Cloud products

Apigee

BigQuery

Google Cloud VMware Engine

Google Kubernetes Engine

Looker

> When you're in charge of such a critical transformation, you simply want to have the best partners with you and that's definitely the case with the Google Cloud team.

Olivier Luxon, Chief Information Officer, Carrefour Belgium

Building a shared vision of customer centricity

Carrefour decided to modernize its aging IT infrastructure by moving to Google Cloud and selected Google Cloud VMware Engine to migrate its on-premises workloads to Google Cloud.

Using BigQuery, the Carrefour French data teams have developed a new platform called Darwin that enables access to many datasets in a uniformed and secure way. Carrefour uses Looker to visualize data and analyze the results in intuitive dashboards, boosting the company's data monetization program. By providing data-based insights to suppliers, Carrefour can also improve collaboration with business partners.

Carrefour now has a more agile and efficient IT landscape, improved customer insights, and a continued commitment to sustainability.

The impact

Reduces operating costs by 40%

Reduces energy consumption by 45%, by moving from on-premises data centers to the cloud with Google Cloud VMware Engine

Builds smoother e-commerce experiences by managing APIs with Apigee, scaling up and down with ease

Scales effortlessly to large-scale shopping events

About

Lowe's Companies, Inc. is a Fortune 50 home improvement company serving approximately 20 million customers a week through its stores and online platform in the United States and Canada.

Based in Mooresville, N.C., Lowe's supports its communities through safe, affordable housing initiatives and develops the next generation of skilled trade experts.

Location

United States

Solutions

Infrastructure modernization

Database

## Google Cloud products

- BigQuery
- Cloud Storage
- Google Kubernetes Engine

"

We are making substantial investments in technology to modernize our platforms and advance our digital capabilities to better serve customer needs and deliver the best service and value across every channel. Partners like Google Cloud provide the innovative tools and support we need to execute our digital transformation."

Seemantini Godbole, Executive Vice President and Chief Information Officer, Lowe's
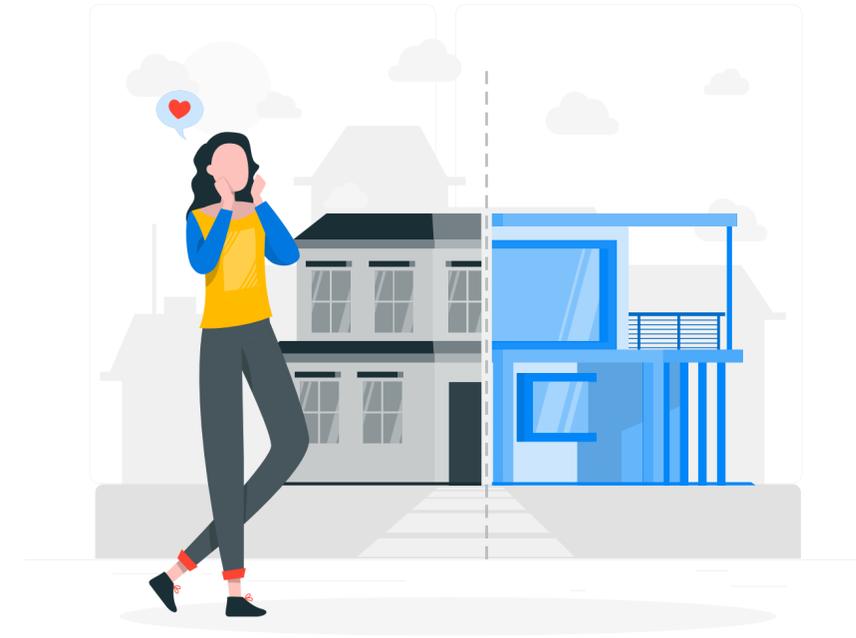
Builds a true channel-less customer experience, regardless of where they shop

Lowe's chose Google Cloud to increase the speed, reliability, and performance of Lowes.com. The highly scalable platform delivers uninterrupted service even as traffic peaks during holiday buying seasons.

The company focuses on three main areas to further improve customer experience. Firstly, a personalized digital experience from product discovery to return visits. Secondly, empowering store associates with real-time inventory data on Android-based mobile devices to help customers find what they need. The third area of focus is data analytics and machine learning. By leveraging BigQuery for real-time visibility across its business, Lowe's is improving data-driven decisions such as price changes to stay profitable.

The impact

- Improves speed to market from one release every two weeks to 20+ releases daily by adopting Site Reliability Engineering framework
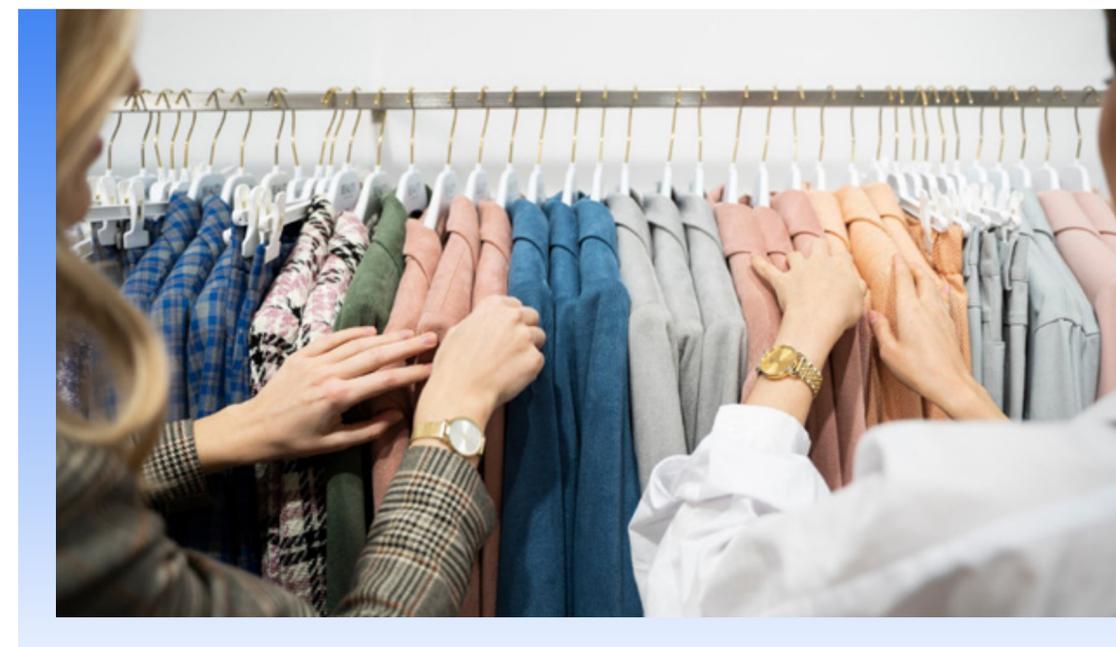
- Reduces mean time to recovery (MTTR) by over 80%, from two hours in 2019 to 17 minutes in 2021

- Harness data and machine learning to deliver real-time business insights on BigQuery

Connects stores and distribution centers for faster omnichannel fulfillment

About

Macy's has a long tradition as one of America's most iconic retailers. With more than 160 years in business, the company comprises three retail brands, Macy's, Bloomingdale's and Bluemercury and connects customers with brands online and in stores.

Since 2003, Macy's has donated more than $137 million to Make-A-Wish, granting more than 16,200 wishes to children with critical illnesses.

Location

United States

Solutions

Databases

Smart analytics

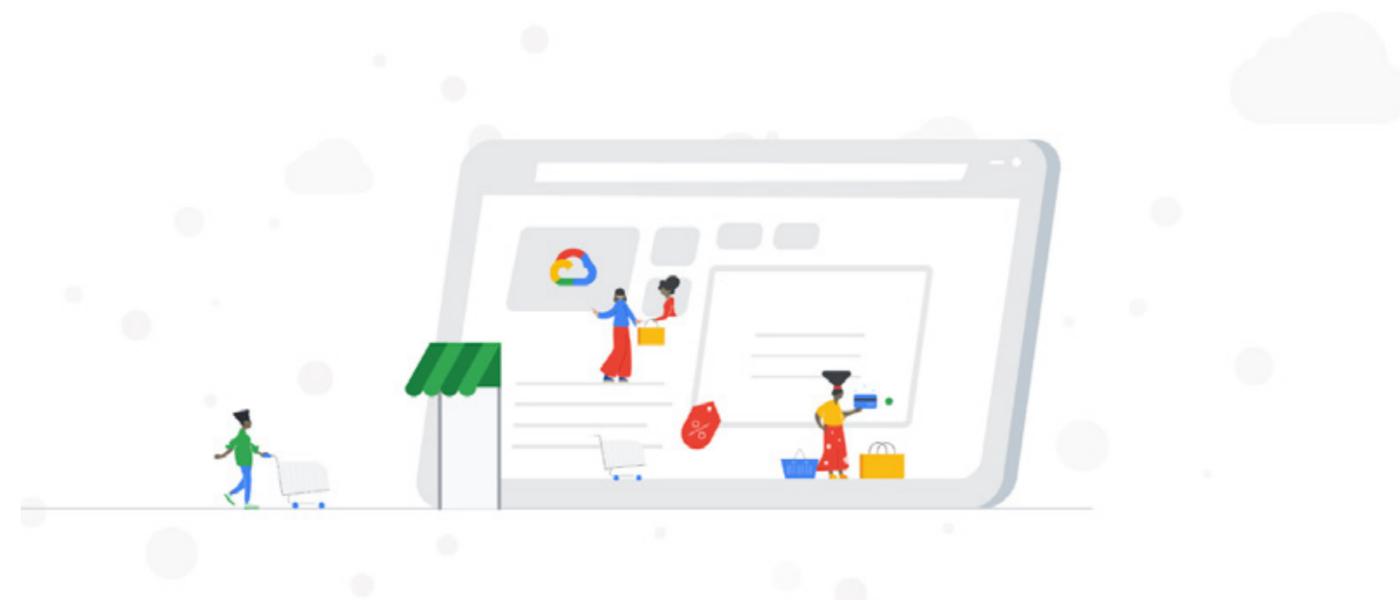## Google Cloud products

- BigQuery
- Pub/Sub
- Cloud Spanner
- Dataflow

"

Powered by software developed at Macy's technology, this new distribution center is a fantastic first step in our cloud journey. Working with Google Cloud allows us to be more nimble, efficient and flexible in how we utilize our warehouses."

Naveen Krishna, Chief Technology Officer, Macy's

Improving retail efficiency with data visibility

As the nature of retail continues to evolve, Macy's is building a customer-centric shopping experience to help customers find and buy products they love, regardless of how they shop.

Macy's migrates to Google Cloud to streamline its order and inventory management to boost customer experience. Leveraging BigQuery and Cloud Spanner for analysis, Macy's gains visibility into real-time inventory data across its network of stores and distribution centers to prevent out of stock or surplus inventory. Cloud Spanner automatically replicates data between multiple regions to maintain a consistent database so Macy's can operate smoothly and serve customers, even if networking issues affect one region.

The impact

Improves search experience to help customers find what they want

Optimizes supply chain from sourcing to inventory management

Minimizes downtime by replicating data across multi-regions

Zero downtime
when app traffic exceeded 80,000 requests per second

About

Established in February 2013, Mercari Inc. created a global marketplace where anyone can easily and safely buy and sell from their smartphone.

More than 20 million monthly active users browse the Mercari marketplace app, listing 2 billion items.

Operating out of Japan, the UK, and the US, it offers value-added services to Mercari customers such as Merpay mobile payment service, Mercari Shops (Souzoh) e-commerce platform for small businesses, and Merlogi logistics service.

Location

Japan
United States

Solutions

Application modernization
Databases
Smart analytics

Google Cloud products

BigQuery

Cloud Spanner

Cloud Storage

Dataflow

Pub/Sub

Spinnaker

> " There are several reasons we chose Google Cloud. First, its load balancing service is very good. Second, we can reserve compute capacity in advance to accommodate [traffic spikes]. I also like Google Cloud's ease of use and its compatibility with Kubernetes, which supports a range of container runtimes."

Takashi Namura, Chief Technology Officer, Mercari
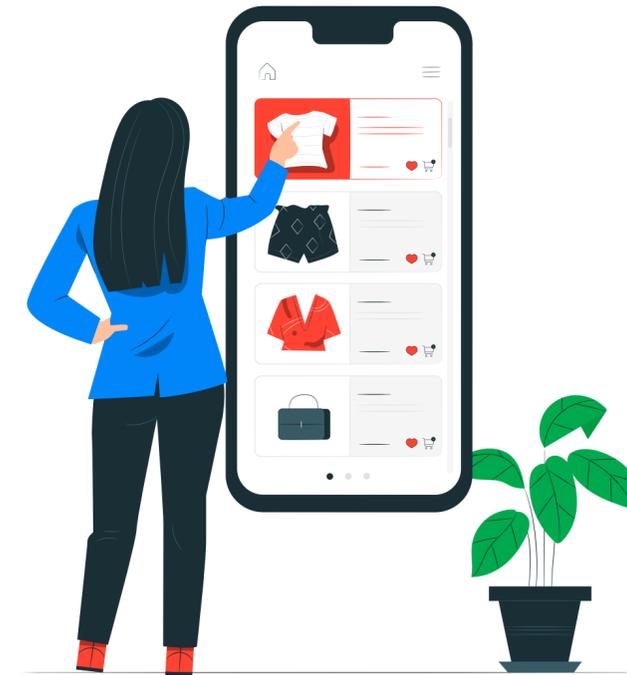
Accelerating smart payment with Google Cloud

Mercari started as a user-friendly marketplace app that allows sellers to create product listings in minutes with their mobile phones. The company migrated to a microservices architecture on Google Kubernetes Engine to continuously improve features within the app such as Merpay mobile payment service.

Using Cloud Spanner, Mercari combines different data sources to allow customers to earn points for purchases and pay with Merpay at retail stores. Additionally, Mercari creates data pipelines to evaluate KPI analytics, fraud detection, credit scoring, and customer support cases. Using Cloud Pub/Sub and Dataflow, Mercari loads data from Cloud Spanner into BigQuery and Cloud Storage for analysis to improve customer experiences.

The impact

Supports more than 100 microservices on Google Kubernetes Engine, including user services, item services, and payment processing services

Automates deployment workflows with Spinnaker so engineers can focus on developing features such as a cryptocurrency service

Delivers reliable payment processing for Merpay's rapid growth without exponentially adding Cloud Spanner nodes

Mulberry

Adopting a modern approach to data to deliver time-honored products worldwide
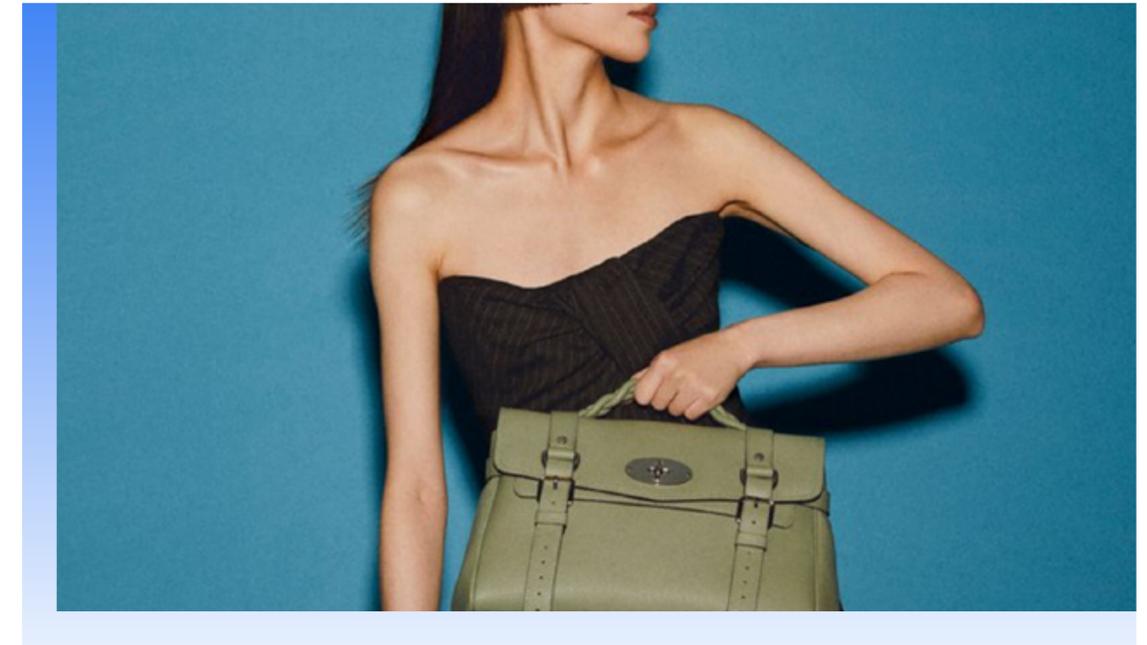
About

Renowned for its leather craftsmanship and iconic luxury handbags, Mulberry's quintessentially British, built-to-last accessories are sold to millions of customers every year online and in stores across 25 countries.

Location

United Kingdom

Solutions

Smart analytics

Google Cloud products

BigQuery

Cloud Functions

Pub/Sub

Cloud Scheduler

Cloud Storage

Data Studio

"

BigQuery enables us to sell every single Mulberry product online, no matter its location, which led to a 25% sales increase. Some of our stores even got back to their normal trading levels, despite COVID-19."
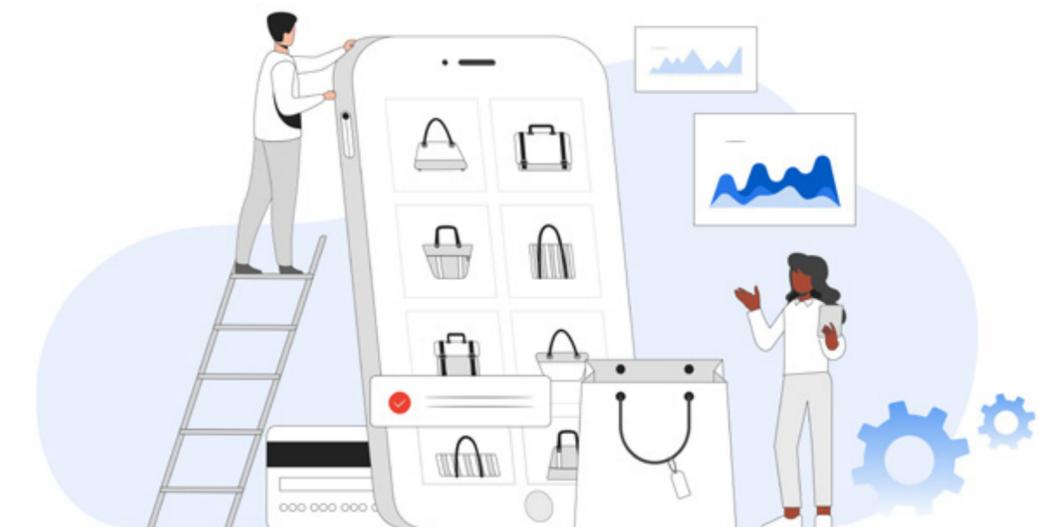
Neill Randall, Solutions Architect, Mulberry

Building a data warehouse for better stock management, customer loyalty and sales

When COVID-19 forced the temporary closure of its physical stores, Mulberry leant on its online sales but was hindered by a lack of stock visibility. The company needed a data solution that brought together multiple data streams in one place.

Mulberry built a data warehouse with BigQuery to consolidate customer, stock, and order data, breaking down data silos across the company's stores, website, order management system, and warehouse system. A dashboard created with Data Studio visualizes every order from placement to delivery.

With all its data now in one place, Mulberry is able to offer hyper-personalized services to customers, improving click-through rates by 37% and ad-spend returns by 110%, helping boost sales.

The impact

Delivers a single view of stock with BigQuery, resulting in faster shipments to customers and improved sales

Reduces shipping issues by clearly visualizing each order on a dashboard built with Data Studio

Raises click-through rate by 37% and return on ad spend by 110% with data-based hyper-personalized campaigns

Improves real-time store insights with POS data from 21,000+ stores
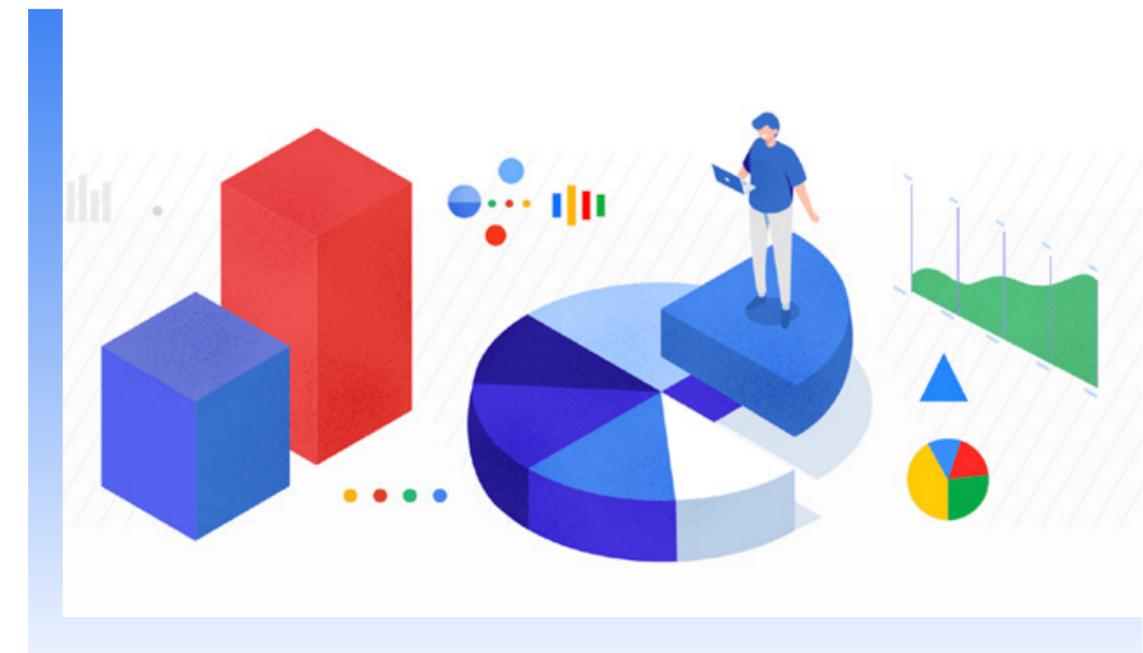
About

As an operating company of the Seven & i Group, Seven-Eleven Japan runs Japan's largest chain of convenience stores with 21,218 stores nationwide as of November 30, 2021.

WIth its leadership position in the industry, Seven-Eleven Japan represents an example of innovation and commitment to creating a sustainable society.

Location

Japan

Solutions

Data analytics

Google Cloud products

Apigee API Management

BigQuery

Cloud Spanner

Dataflow

"

With Seven Central, each division in Seven-Eleven Japan gains a near real-time snapshot of any store's data and business performance to support decision making. We prioritized scalability, security, and openness in choosing Google Cloud to build a data cloud that can serve the needs of the organization well into the future."

Izuru Nishimura, Executive Officer and Head of ICT Department, Seven-Eleven Japan Co., Ltd.

Delivers convenience with digital innovation on Google Cloud

Seven-Eleven is one of the most popular convenience store chains in Japan, that rapidly digitized during the COVID-19 pandemic. The company created its data platform, Seven Central, on Google Cloud to drive innovations such as buying online and picking up in-store and food home delivery for customers.

By unifying online and in-store point of sale (POS) data, the company can analyze sales performance and inventory with BigQuery in near real-time. Dataflow collects POS data from more than 21,000 stores in near real-time, and Cloud Spanner provides backend storage for sharing data with partners via API. When a customer makes a purchase or an item is delivered, the transaction is synchronized on Seven Central to reflect accurate stock availability across the network.

The impact

Eliminates data silos by creating and connecting POS and inventory data to a brand-new data platform

Creates a secure data cloud API with Apigee to grow business with partners such as delivery companies

Supports future digital initiatives such as personalized product recommendations with BigQuery's machine learning capabilities

Migrates 200+ services and 30 TB of data in 24 days without downtime

About

Tiki is an all-in-one digital platform in Vietnam that operates the Tiki e-commerce marketplace, TikiNOW Smart Logistics, an integrated supply chain platform, and Tiki Trading, a retail subsidiary.

Tiki, which is short for "Tim Kiem" (Searching) and "Tiet Kiem" (Saving), is focused on enabling customers to find any item they need, while helping them save time and money.

Location

Vietnam

Solutions

Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Google Kubernetes Engine

Tensorflow

"

If we'd surpassed our previous peak sales traffic, we would have certainly struggled with our on-premises arrangement. But what happened instead was that we delivered 98% of orders on time despite the massive spike in traffic because Google Cloud enabled us to scale dynamically."

Hoa Nguyen Manh, Director of Architecture, Tiki

Engaging shoppers with ultrafast delivery

In 2019, Tiki migrated to Google Cloud to meet skyrocketing computing needs. Using autoscaling on Google Kubernetes Engine, Tiki can deliver a smooth customer experience during large-scale sales events without adding and provisioning more physical servers.

To meet its two-hour delivery promise, Tiki uses BigQuery to synchronize more than 20 million price and quantity changes in real-time across all systems, including checkout, inventory, and payment, so the warehouse packs the right item for delivery as soon as the customer places an order online.

The company also uses TensorFlow to train and manage models for fraud detection and plans to introduce machine learning for forecasting demand in the future.

The impact

Scales app automatically on Google Kubernetes Engine to support 10-fold traffic spikes during large campaigns

Processes thousands of orders per minute and triggers real-time warehousing workflows to meet the two-hour delivery promise

Rolls out more than 40 daily updates with CI/CD for thousands of server applications to ensure optimum user experience

Optimizing omnichannel retail experiences and store operations on Google Cloud

About

Minneapolis-based Target Corporation (NYSE: TGT) serves guests at 1,816 stores and on Target.com. Since 1946, Target has given 5% of its profit to communities, which today equals millions of dollars a week.

Target won Supermarket News Retailer of the Year in 2020 for its omnichannel and store innovations.

Location

United States

Solutions

Artificial intelligence

Infrastructure modernization

Google Cloud products

Google Kubernetes Engine

TensorFlow

> "
We want to be a positive force behind millions of people, every day. If we're going to keep doing that, we need a cloud technology that focuses on experiences. That's elegant, simple, and adaptive. That doesn't lock us in."

Krishnan Srinivasan, Vice President of Cloud and Compute Infrastructure Platforms, Target

Delighting customers with a frictionless online to offline experience

Target strives to be America's easiest place to shop with omnichannel retail options such as curbside pick up for online orders. By leveraging Google Kubernetes Engine, Target's Application Platform (TAP) reduces deployment time, so that developers can focus on building apps to delight customers and team members, without worrying about infrastructure.

Thanks to autoscaling, Target was well prepared to handle a sudden surge in online shopping during the COVID-19 pandemic. Target developed an AI model with TensorFlow to tag product images on its website and app, which helps customers find the products they're searching for.

The impact

Frees up developer to build and improve apps on Kubernetes-based platform instead of managing infrastructure

Improves product discovery with AI on TensorFlow to tag images, so customers find what they are looking for

Delivers smooth customer experience by autoscaling for massive demand without downtime during the COVID-19 pandemic

Queries 80 billion rows of data for real-time insights in seconds

About

Founded in 1924, Woolworths, or Woolies, as it's affectionately known to Australian consumers, is Australia's biggest supermarket chain.

Customers can shop online or at more than 1,000 stores across Australia and New Zealand for their grocery needs. WooliesX, Woolworth's innovation arm, creates digital initiatives such as the Everyday Rewards loyalty program and Click & Collect service to provide customers with convenient ways to shop, wherever they are, in the store, at home, or on-the-go.

Location

Australia

Solutions

Smart analytics

Google Cloud products

Apigee

BigQuery

Dialogflow

"

We want customers to connect with Woolworths and our business units in a way that's comfortable for them. It could be through social media, or any smart home devices. So, we leveraged Google Cloud's Dialogflow and Apigee API management solutions to build Olive, a conversational virtual assistant on your phone."

Nick Eshkenazi, Chief Digital Technology Officer, Woolworths

Strengthening digital innovation strategies with data analytics and AI

Leveraging BigQuery for its data warehouse, Woolworths analyzes multiple data sources such as historical data, customer data, and sales data that identifies trends to help store managers decide what to introduce, promote, or discard. WooliesX uses Apigee to launch contactless payments such as its Scan&Go platform, allowing shoppers to scan and pay for items in-store using their smartphones. For a connected online and offline experience, customers can use the virtual assistant and search for products before turning up at a store, finding the product in a particular aisle, and getting information about store operating hours and COVID-19 related updates.

The impact

Creates a single source of truth to overcome data silos in each business division

Migrates from on-prem to Google Cloud in 4 months

Manages more than 1,000+ APIs with Apigee API Management

10

Supply Chain

Solving business challenges
for the supply chain industry

Ninja Van 　　　**Singapore**

Migrates to Google Cloud
24/7 without downtime

About

Ninja Van is a tech-enabled express logistics company providing hassle-free delivery and supply chain solutions for consumers and businesses of all sizes across Southeast Asia.

Today, Ninja Van's network covers six countries: Singapore, Malaysia, the Philippines, Indonesia, Thailand, and Vietnam.

Location

Singapore

Solutions

Infrastructure modernization

Google Cloud products

Google Kubernetes Engine

Dataproc

Cloud Load Balancing

Cloud Storage

Compute Engine

"

Technology is what sets us apart from traditional delivery providers. It's the bedrock of what we do at Ninja Van. Google Kubernetes Engine helps us to push out new features more quickly than we could have on our legacy platform."

Shaun Chong, co-founder and Chief Technology Officer, Ninja Van

Delivering best-in-class service with Google Kubernetes Engine

Ninja Van is one of the region's fastest growing last-mile logistics companies with an innovative logistics platform powered by Google Cloud. On Google Cloud, the company saves up to 57% on overall costs with committed-use discounts, without locking in machine type. Using autoscaling on Google Kubernetes Engine, Ninja Van efficiently handles high load events to ensure a smooth customer experience, even if traffic increases by 10X.

Ninja Van processes data with Dataproc before running a machine learning model on previous delivery orders and driver efficiency to forecast manpower demand for peak periods.

The impact

Processes data in the scale of hundreds of gigabytes to speed up analytics

Delivers network performance 10 times faster between data centers

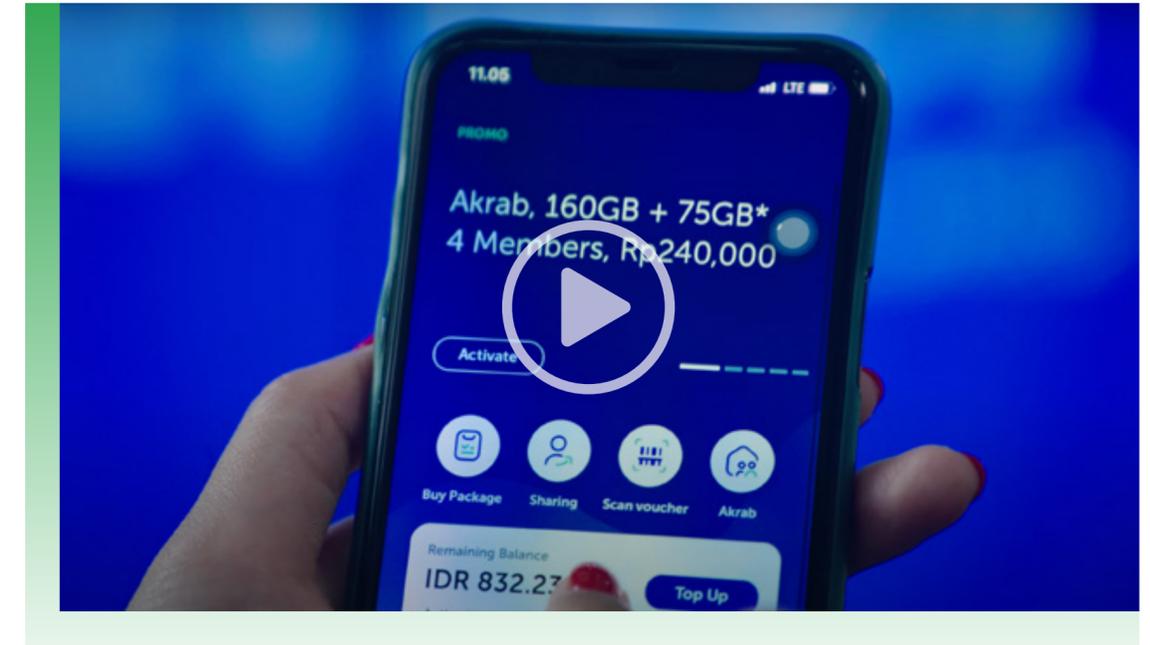Improves business agility by ramping up VMs quickly to handle traffic spikes

11

Telco and Service Providers

Solving business challenges for telco and service providers

XL Axiata ↗   **Indonesia**

TELUS ↗   **Canada**

TOTVS ↗   **Brazil**

UPC Polska ↗   **Poland**

Transform faster to emerge stronger with Google Cloud

About

Founded in 1996, XL Axiata is a digital service provider that offers fixed broadband, home fiber, and a wide array of data offerings to businesses and consumers in Indonesia.

As a Google Cloud Interconnect Partner, XL Axiata provides enterprise businesses with reliable and secure high-speed access to their workloads hosted in its five data centers and Google Cloud's Virtual Private Cloud.

The company demonstrates a commitment to building a digital Indonesia through initiatives such as digital skills training and smartphone donations to underprivileged students for online learning.

Location

Indonesia

Solutions

Application modernization

Infrastructure modernization

Google Cloud products

Anthos

BigQuery

Google Kubernetes Engine

"

XL Axiata is committed to the modernization of our infrastructure to get more business agility and increase application deployment velocity. Anthos was a natural fit as it lets us adopt containers while letting Google, a leader in Kubernetes, manage our container infrastructure for us."

Yessie D Yosetya, Chief Information and Digital Officer, XL Axiata

Dialing up the customer experience by extending microservices across cloud

XL Axiata uses Google Cloud's compute, storage, and networking services to modernize its on-premises infrastructure. The digital service provider aims to move 70% of workloads, such as web and mobile apps, from on-premises to Google Kubernetes Engine within three years, by 2023.

Leveraging Anthos to automate, manage and scale workloads, XL Axiata can extend its microservices across its on-premises and cloud-based resources in a cost-effective manner. The company expects to save as much as 30% in costs by moving to the cloud. XL Axiata plans to enhance the customer experience by combining data analysis and AI to offer customers the right products at the right time based on their behavior through its virtual agents.

The impact

Deploys real-time event-driven applications across hybrid and multi-clouds by using Anthos

Achieves up to 30% cost savings by moving on-premises to cloud

Scales effortlessly on GKE to support exponential data usage, with 33% year-on-year growth in the first half of 2021

Improving connectivity through data-driven experiences

About

TELUS is a leading Canadian communications and information technology company. It offers households and businesses a wide range of telecommunications products and services including internet access, voice, entertainment, video, and IPTV television.

The company puts social purpose at its core and aims to make positive impacts with the use of technology.

Location

Canada

Solutions

Data management
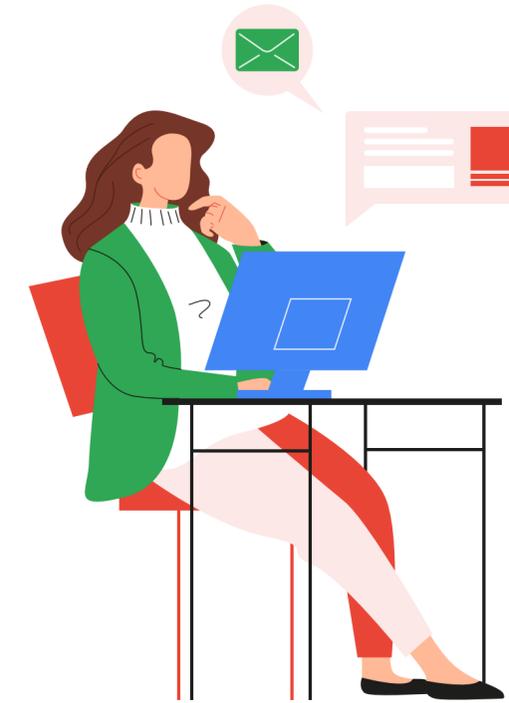
Infrastructure modernization

Smart analytics

Google Cloud products

BigQuery

Dataflow

Cloud Data Loss Prevention

Cloud Storage

Cloud Natural Language API

Pub/Sub

"By combining Accenture's expertise and the data unification we've achieved with Google Cloud, we can accomplish truly great things."

Dinesh Mahtani, Director, Digital Analytics & Insights, TELUS

Optimizes the customer experience through real-time, data-driven decisions

TELUS, a leading Canadian telecommunications company, embarked on a data supply chain project to overhaul its approach to managing and sharing information. Through Google Cloud's Partner Success Services program, Accenture and Google Cloud Professional Services' engineers worked together to deliver a best-in-class solution for TELUS.

With unlimited storage through Cloud Storage and solutions such as BigQuery and Dataflow, TELUS' data scientists can explore countless query iterations and receive results faster. Data processing is now 20 times faster, so TELUS can now combine data from various sources to get a complete view of its customers in real-time.

The impact

Increases success using automated systems to resolve customer issues by 50%

Accelerates data processing by 20X

Reduces customer service costs while improving customer experiences

Enables data-driven decision making for investments in network infrastructure, customer journey enhancements, and more

Google Workspace increases productivity **at TOTVS and drives innovation**

About

TOTVS is the largest tech company in Brazil, with a robust portfolio of management, back office, and business performance solutions; it also includes a fintech unit offering a suite of financial and technology solutions.

Location

Brazil

Solutions

Infrastructure modernization

Smart analytics

Google Cloud products

Google Workspace
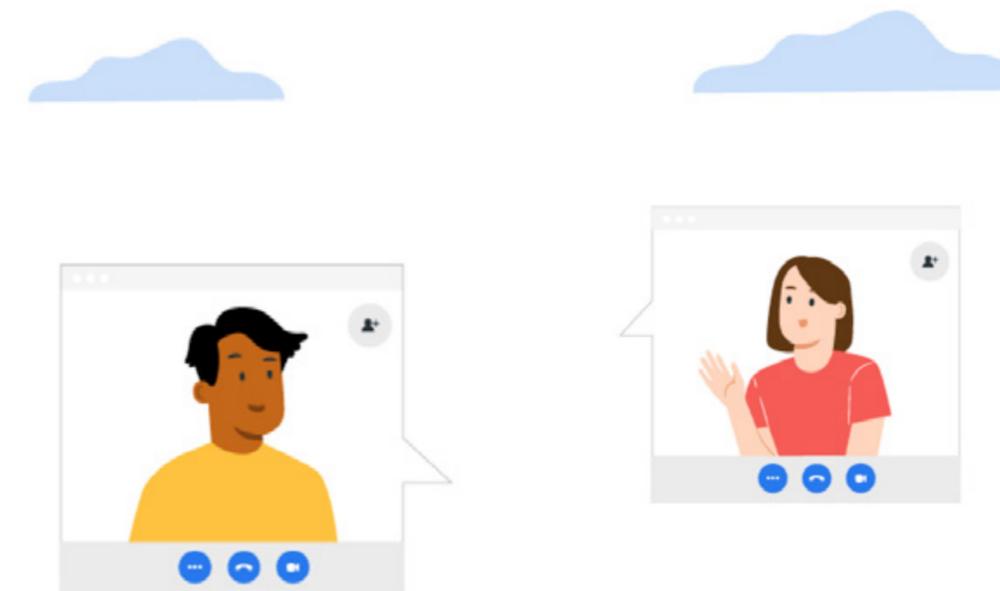
"

The tools we used before were not as user-friendly as Chat and Meet. Having these solutions at hand with easy access from the same email tool was a big change, a huge step forward for us."

Mara Maehara, Chief Information Officer, TOTVS

Boosting productivity through greater autonomy and collaboration with Google Workspace

TOTVS chose Google Workspace to replace its previous on-premises email solution and video call tools. It migrated to Google Workspace with the help of its partner SantoDigital. Google Workspace tools now drive a new culture of collaboration at the company.

TOTVS has more than 13,000 active Google Workspace accounts in Brazil and abroad. Now 90% of the company uses Google Meet and Google Chat to communicate, reducing travel costs. With Google Docs, Sheets, and Slides, TOTVERS can directly control access to files and work on documents collaboratively. Drive offers greater file traceability and sharing capabilities. This improved autonomy and collaborations for all employees, resulting in higher productivity across teams.

The impact

Increased total storage used from 285 TB to 352 TB in only six months

Google Chat and Google Meet used by 90% of the company, reducing commuting time and logistic challenges

7,000 employees were moved to home working in five days, without disrupting operations

Transforming services and app development through hybrid IT

About

UPC Polska, the Polish telecommunications arm of Liberty Global Europe, offers cable television, broadband internet, and other services to 1.5 million customers across Poland.
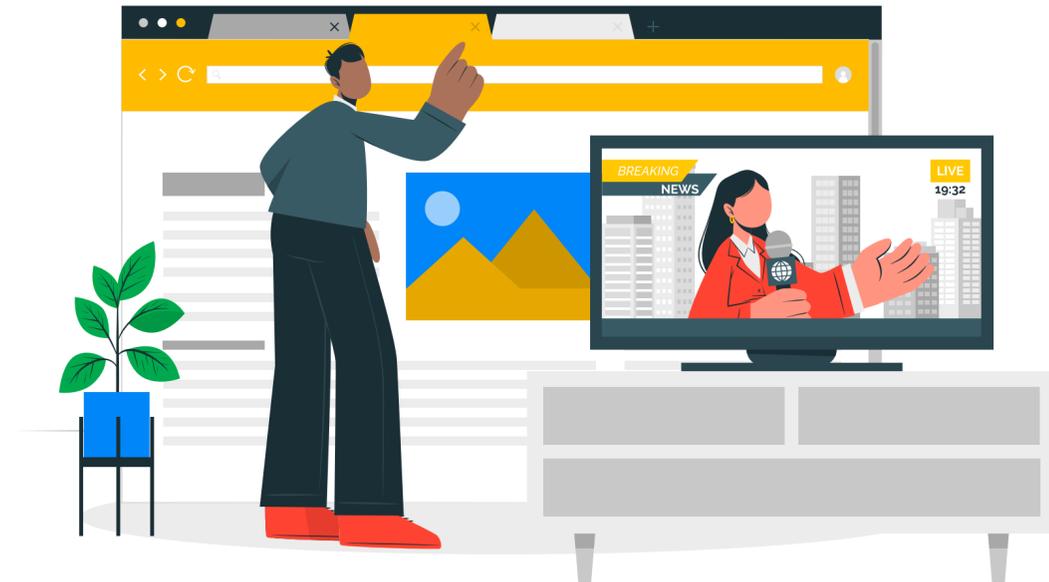
Location

Poland

Solutions

Infrastructure modernization

Google Cloud products

Anthos

> " When you bring everything together, you see an exciting picture emerge across our product portfolio and our working environment. Google and Accenture will be important players for us as we continue on our journey."

Monika Nowak-Toporowicz, Chief Technology and Innovation Officer at UPC Polska

Utilizing Anthos to create a competitive hybrid IT solution

UPC Polska identified the opportunity to adopt a hybrid approach to IT and achieve a competitive competitive edge over its competitors. It selected Google Cloud for its Anthos application modernization solution and partnered with Accenture to help with the deployment.

Transitioning its customer service application to Anthos allowed the UPC Polska team to change its software delivery method from Waterfall to Agile. This increased speed to market on new features, while transitioning to the CI/CD model. And, by running Anthos in the data center, UPC Polska has the fully compliant Kubernetes experience, including managing and scaling the use of containers. Anthos enabled UPC Polska to achieve its desired release schedule and process improvements while keeping security as a priority.

The impact

Enables content personalization delivery for 1.5 million customers

Improves scalability and resilience through containerized GKE clusters on Anthos

Accelerates CI/CD pipeline by 2 to 3x for developers working in an agile hybrid environment

Now it's your turn

For solutions and products that can help businesses to innovate faster, more and more companies are turning to Google Cloud.

With Google Cloud Platform, companies can use secure storage, powerful compute, and integrated data analytics products to achieve their business goals. And with Google Workspace, they're working more effectively as teams, with enterprise-ready apps powered by Google AI. Our products and solutions showcase the success of our customers, but more importantly, they prove that whether it's enterprises, startups, or anyone in between, our customers trust Google Cloud.

Learn more about why Google:

https://cloud.google.com/why-google-cloud/

Google Cloud

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