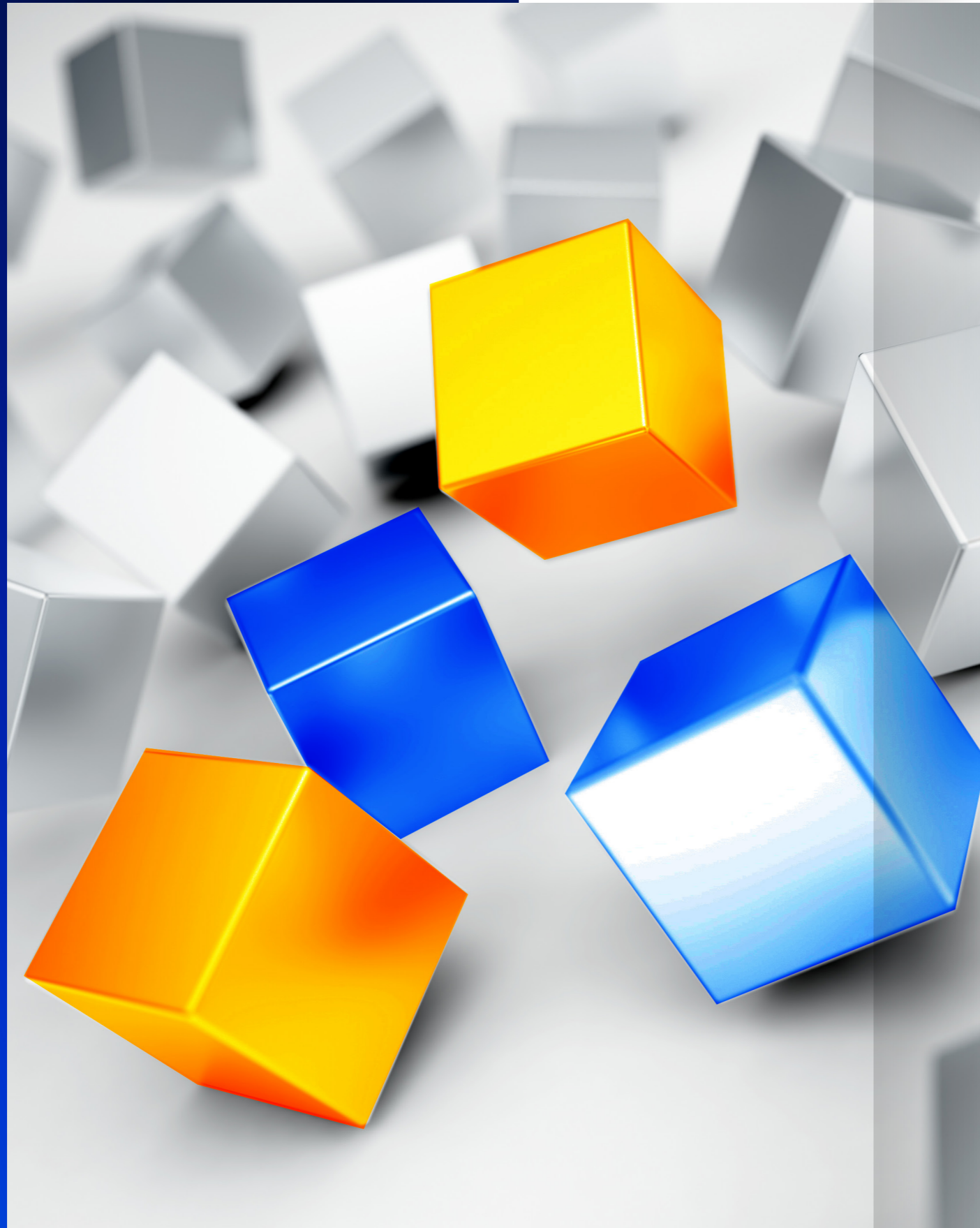




AI

FOR IMPACT

**ENTERPRISE EMPOWERMENT
THROUGH ACCELERATED AI ADOPTION**



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Empowering the Future with AI Innovation

It's no news that the present wave of AI technology breakthroughs has brought a seismic shift in how we do business today. The promise of AI has transitioned from theoretical discussions to tangible implementations worldwide, with organizations implementing it to drive supply chain optimization, build personalized customer experiences, achieve healthcare intelligence, foster data-driven decision-making for finance, create generative art, and so much more.

Most of these use cases remind us that AI transcends utility—it inspires.

That brings us to 2023, the year of AI innovation. 2023 ushered a wave of large language models (LLMs) that transcended mere text generation—they became conduits for creativity, problem-solving, and even artistic expression. Such models changed how text-based applications work, demonstrating remarkable proficiency in creative writing, coding, and complex problem-solving.

AI is the cornerstone of progress in this dynamic business landscape, where data is the new currency. At Alibaba Cloud, we recognize the immense responsibility of being at the forefront of this revolution. Our commitment extends beyond technology; it encompasses the ethical and sustainable use of AI, the democratization of knowledge, and the empowerment of every individual and organization.

Our journey with AI has been nothing short of remarkable. From pioneering cloud computing to leading the charge in AI research and development, Alibaba Cloud has consistently pushed boundaries to enable tech innovation. Our vision extends beyond mere applications; it encompasses a future where AI transcends limitations and becomes an integral part of our daily lives.

This magazine edition features inspiring customer success stories, showcasing our dedication to fostering AI excellence among our global customers using Alibaba Cloud AI technology.

Our collective journey toward AI excellence begins here, with each of you taking that step. Thank you for being part of this journey with us. Together, we will shape the future—one algorithm, one insight, and one breakthrough at a time.



Selina Yuan
Vice President of Alibaba Group;
President of Alibaba Cloud Intelligence International



**EMPOWERING NEXT-GEN
MUSIC INNOVATION WITH
A TRANSFORMATIVE
FOUNDATIONAL MODEL
TRAINING SOLUTION**



“

We are excited to be working with the team at Alibaba Cloud. JEN is at the forefront of AI generative music, and having access to their advanced on-demand training infrastructure and global partner network enables us to move fast and stay ahead in this rapidly evolving market.

”

**Aaron McDonald,
Founder and CEO,
Futureverse**

Alibaba Cloud Impact



Efficient resource scaling for foundational model training



Ultra-high throughput and operational efficiencies

Alibaba Cloud Solutions



PAI-Lingjun Intelligent Computing Service



About Futureverse

Offering scalable, futuristic platforms for a new digital future, Futureverse, a New Zealand AI and metaverse unicorn is helping developers worldwide conceptualize new technological visions into reality. As the name suggests, Futureverse merges Web3 technology with AI-generated innovation to build concrete foundations for the open metaverse. Offering game-changing solutions like the decentralized ASM AI protocol, digital brains, AI gaming platforms, and more, Futureverse is opening up avenues for businesses and developers to experiment with and envision concrete breakthroughs in the AI and metaverse space.

Futureverse's commitment to ushering new forms of digital engagement is proven by their strategic collaborations with renowned entities like FIFA and Muhammad Ali Enterprises, pushing the boundaries of immersive technology with a dedicated department to advancing AI research and development, specializing in generative music, avatars, objects, NPC chat, text-to-voice capabilities, and beyond.

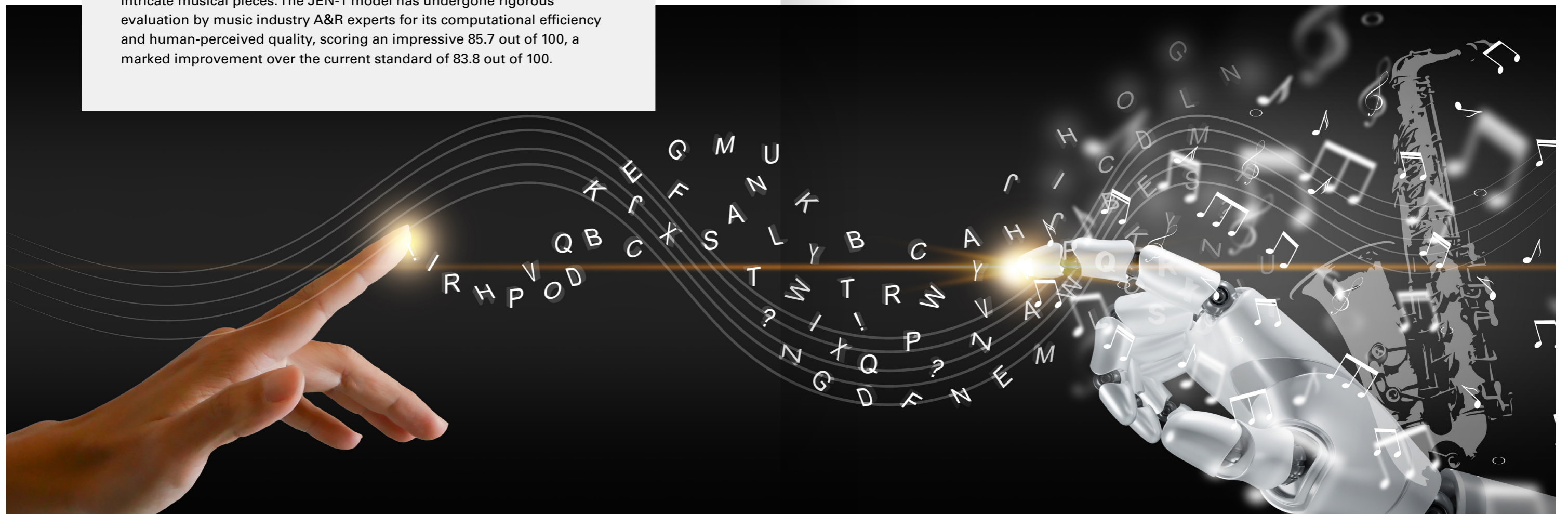
Ushering AI-driven Text-to-music Breakthroughs with an Advanced Foundational Model Training Solution

Futureverse's vision is deeply rooted in the belief that the future is a collective one; one that is owned by everyone and represents truly decentralized innovation. In this context, technology is an enabler, a platform that empowers talent and encourages ordinary people to create and express themselves freely. It provides a new lens to see the world differently and access information, expanding the horizon for unparalleled creativity and innovation. The fusion of art and technology in the digital age has led to innovative masterpieces that enhance our daily lives, offering solutions to some of our biggest problems.

Such was the concept behind JEN-1, a text-to-music generator that surpasses the limitations of existing AI music generators by delivering superior sound quality and builds on creating lengthier and more intricate musical pieces. The JEN-1 model has undergone rigorous evaluation by music industry A&R experts for its computational efficiency and human-perceived quality, scoring an impressive 85.7 out of 100, a marked improvement over the current standard of 83.8 out of 100.

Futureverse's research into the complexity of music's wide frequency range and the need for higher sampling rates to capture its nuances effectively was the founding idea behind JEN, with the research paper and method adopted surpassing that of global industry giants. In order to smoothly advance their foundational model training initiatives, they needed a reliable AI training infrastructure with the objective of continue contributing to new forms of sound innovation.

The selection of a cloud provider for Futureverse was hinged on several factors: the accessibility of resources, the robustness and user-friendliness of the platform, cost efficiency, and expert support. After conducting a comprehensive series of benchmarking Proof-of-Concepts (PoCs) with various cloud service providers, Alibaba Cloud's PAI Lingjun AI infrastructure stood out, securing a performance rating of 96%. Alibaba Cloud's provision of readily accessible resources and steadfast support position it as the option of choice for foundational model training endeavors such as JEN-1.

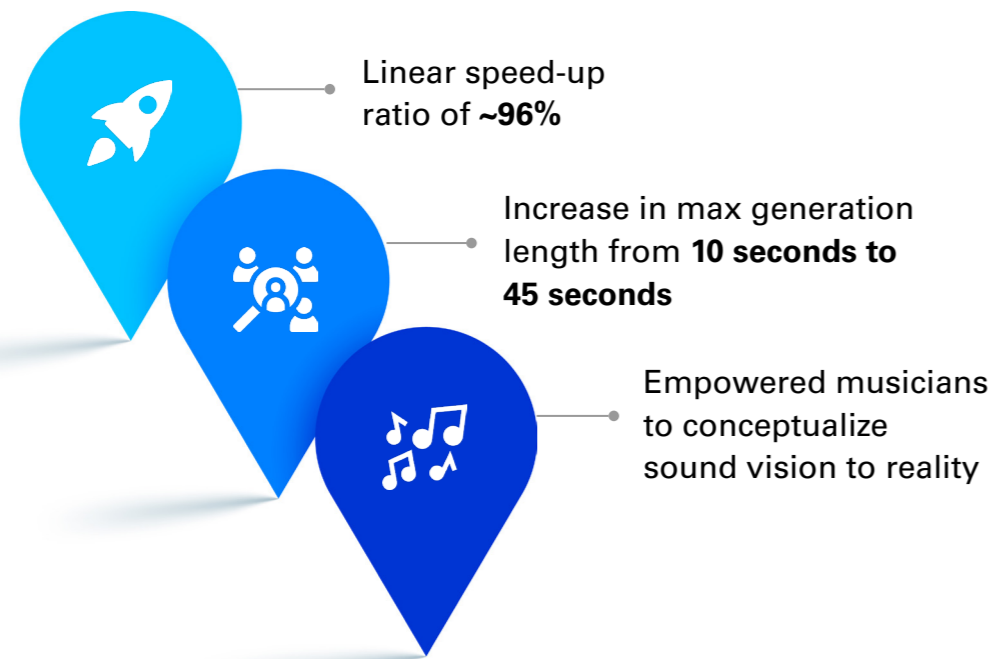


High-performance Computing and Comprehensive AI Acceleration with a Cutting-edge Platform

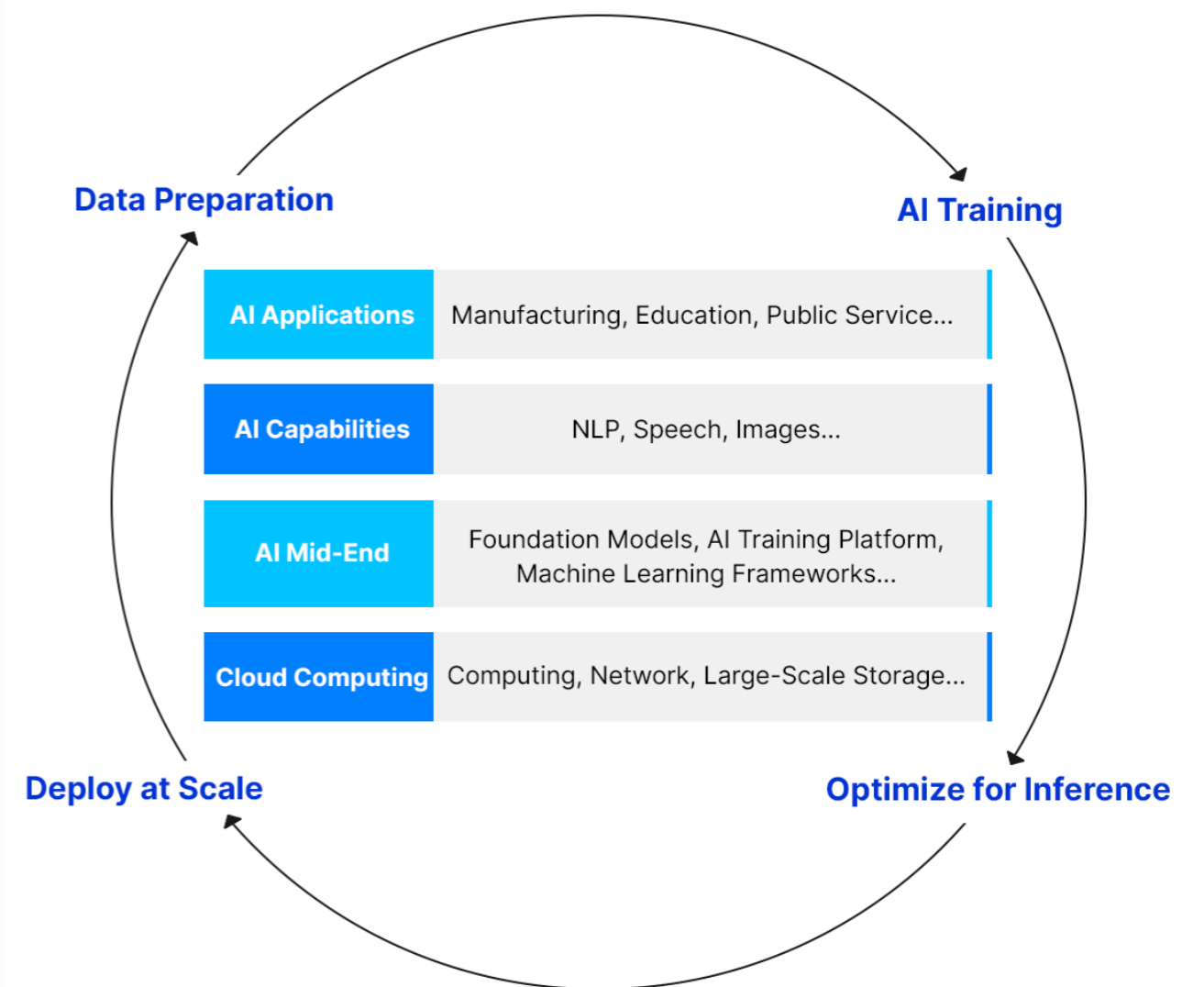
With PAI Ling-Jun, Futureverse strengthened its AI training infrastructure for foundational model training integrating advanced hardware and software to create an exclusive cluster and AI platform. This served as a heterogeneous computing foundation for large language model (LLM) training and leveraged streamlined operational management using Alibaba Cloud's integrated and standardized services for computing, storage, and networking.

The PAI-Lingjun Intelligent Computing Service facilitates smooth AI advancement via serverless computing, providing expert training for foundational models like Stable Diffusion, Llama 2, and Open Pre-trained Transformer (OPT). The service delivers finely-tuned intelligent computing solutions for image generation, text creation, audio enhancement, and video refinement using generative AI, significantly bolstering the performance and productivity of AI training.

With Alibaba Cloud, Futureverse achieved:



Foundation Model Training



Driving Text-to-music Efficiency with an Added Competitive Edge

As Futureverse navigates the dynamic sound innovation landscape, they look forward to partnering with Alibaba Cloud on further innovations across AI, Open Metaverse, and Web3 development.



Achieved linear speedup close to 1 for their LLM training



High-performance computing intelligence for superior AI training capabilities



Streamlined operational management

With JEN, Futureverse is committed to further enhancing the model to meet the standards of commercial music production as they bridge the gaps between creators and technology and continue to empower an artist's creative thinking process.





NEKOMATA: A STATE-OF-THE-ART JAPANESE LLM TRAINED ON OPEN-SOURCE QWEN



rinna

Alibaba Cloud Impact



High Japanese language performance and inference efficiency

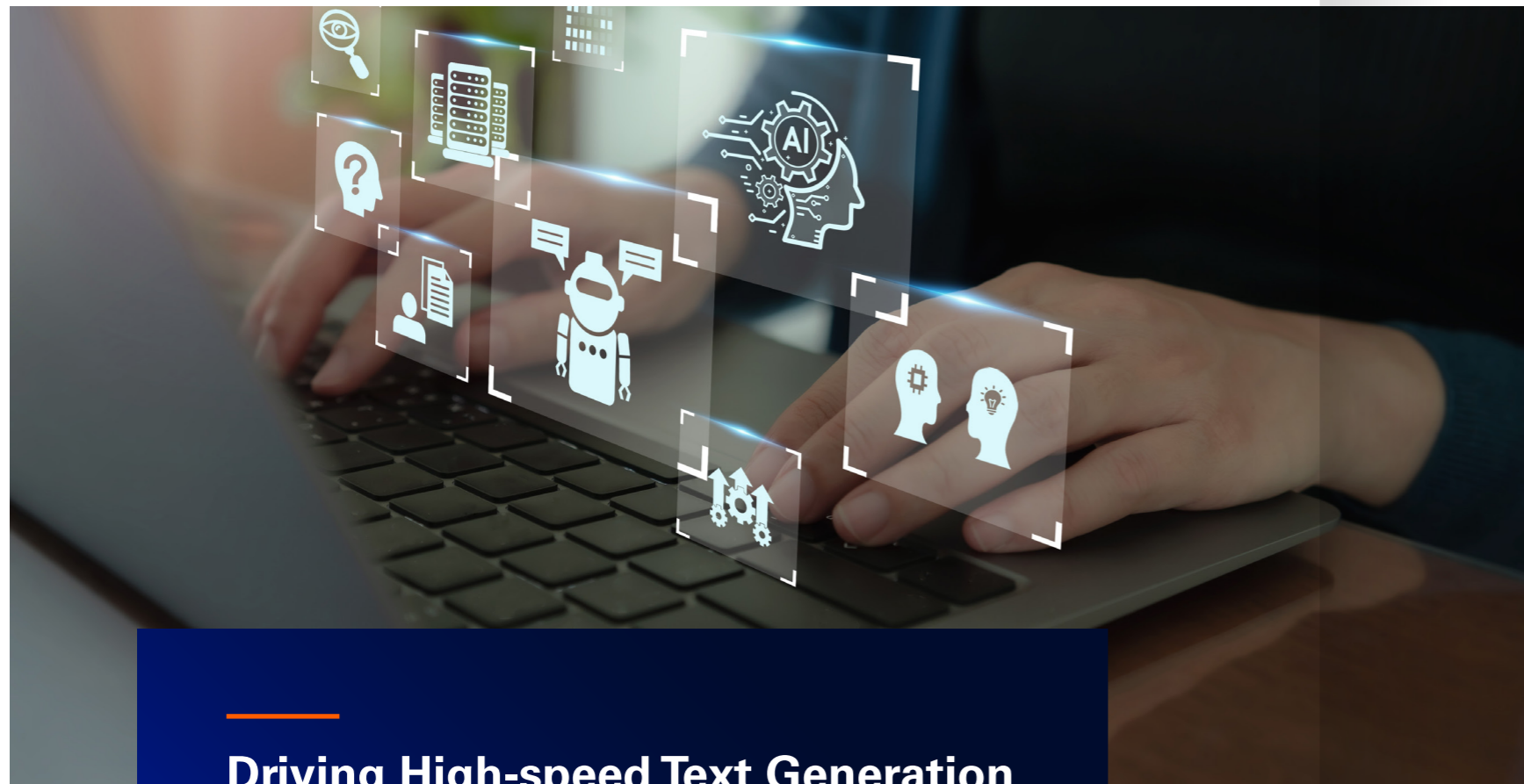


Open-source multimodal LLMs for shared innovation

Alibaba Cloud Solutions



Alibaba Cloud Qwen



Driving High-speed Text Generation Capabilities and Inference Efficiency

rinna, a pioneer enterprise in AI innovation, recently developed the “Nekomata” series of Japanese language pre-learning models for Qwen 7B and 14B. rinna has contributed to Japanese-language AI development by training base models for processing the Japanese language in text, audio, and images, including those of GPT, BERT, HuBERT, CLIP, and Stable Diffusion.

Since April 2021, rinna’s released models have been downloaded over 5.6 million times and are widely used by researchers and developers. rinna advanced the **Qwen-7B** and **Qwen-14B** models with extensive Japanese training datasets, culminating in the **Nekomata series**, characterized by its exceptional Japanese text-generation capabilities and swift inference speed.

Leveraging open-source multimodal LLMs helped build a culture of co-innovation within the Japanese technological community and nurtured the creation of an open ecosystem for future breakthroughs and partnerships in the years to come.

Paving the Way for Open-source LLM Innovation with AI-powered Intelligence

rinna’s journey with Tongyi Qwen helped them leverage:



Resource optimization with fewer training hours required



High-performance language training, setting new industry benchmarks



AI-driven Intelligence for exceptional text generation and translation capabilities

Looking ahead, Alibaba Cloud strives for a future where our commitment to open-sourcing and training LLMs highlights our dedication to shared innovation and the global advancement of AI adoption.

CHARLES & KEITH

TRANSFORMING
STRATEGIC RETAIL
EXPANSION ON THE CLOUD

CHARLES
& KEITH



“

Choosing Alibaba Cloud as a partner is one of the best choices for us.

”

Charles & Keith

Alibaba Cloud Impact

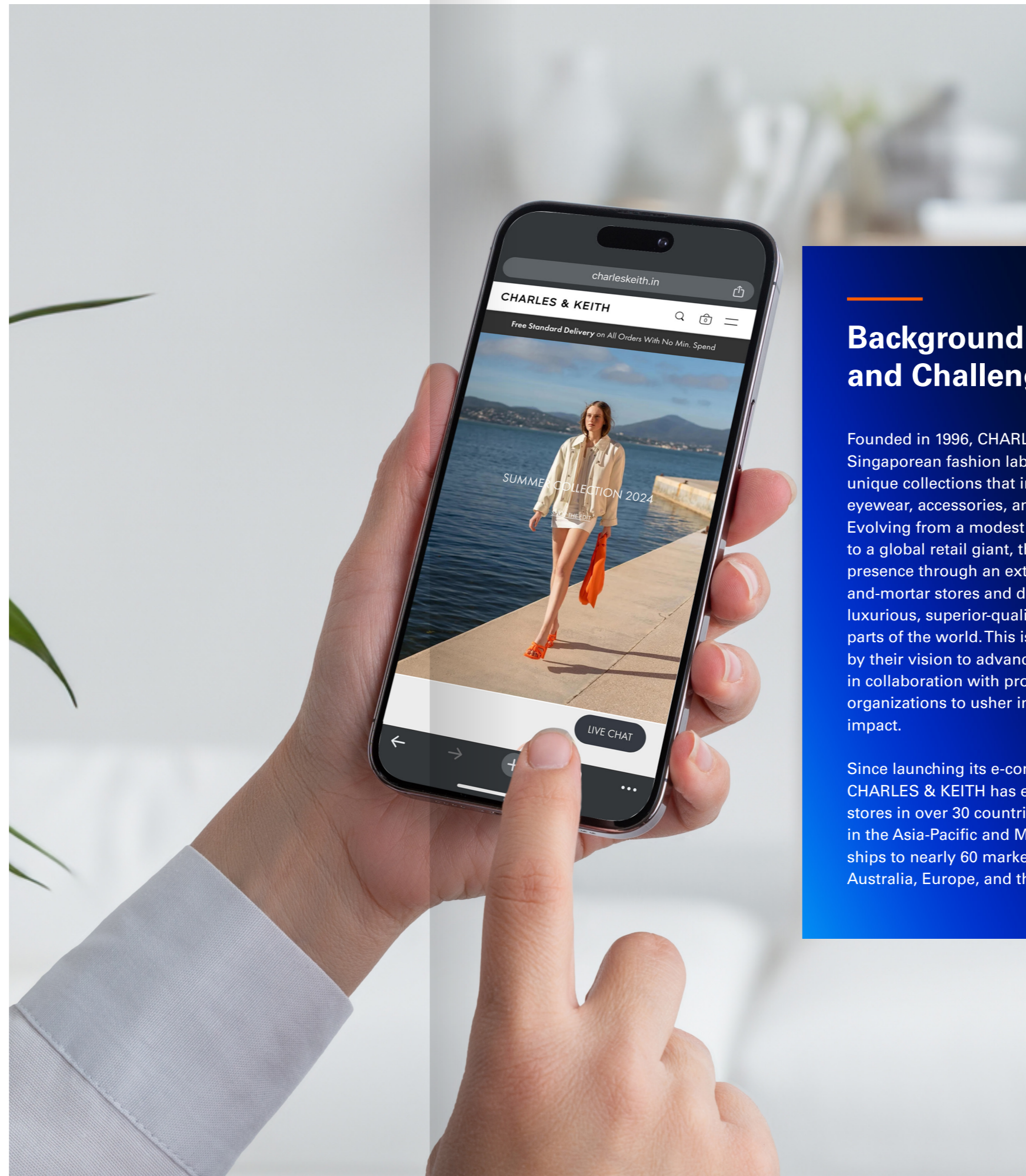


- Streamlined operational workflows
- Data-driven insights for faster decision-making
- Smooth compliance with regulatory requirements
- Improved regional accessibility and audience reach

Alibaba Cloud Solutions



- Image Search
- Data Middle-End Platform
- DataV
- DataWorks + MaxCompute
- Hybrid Backup Recovery
- SAP Migration to the Cloud



Background and Challenges

Founded in 1996, CHARLES & KEITH is a reputed Singaporean fashion label, committed to crafting unique collections that include footwear, bags, eyewear, accessories, and costume jewelry. Evolving from a modest shoe store in the suburbs to a global retail giant, the brand has expanded its presence through an extensive network of brick-and-mortar stores and digital marketplaces, offering luxurious, superior-quality products across different parts of the world. This is further underscored by their vision to advance sustainability efforts in collaboration with prominent international organizations to usher in positive environmental impact.

Since launching its e-commerce website in 2004, CHARLES & KEITH has expanded to nearly 700 stores in over 30 countries, with a strong presence in the Asia-Pacific and Middle East. The company ships to nearly 60 markets worldwide, including Australia, Europe, and the USA.

Charting Retail Digital Transformation Journeys with an Intelligent Cloud Solution

As the retail industry undergoes a prominent transformation, driven by omnichannel customer experiences, the rise of e-commerce, and predictive analytics, it is imperative for companies to embrace these changes and pave the way for enhanced customer-centric innovation. At the core of such innovations lies a proven cloud solution that can help build better operational workflows and build cross-channel customer engagement.

Having worked with clients across the globe towards revolutionizing the retail landscape with cloud, big data, and AI technologies, Alibaba Cloud empowers more retail businesses to thrive in the digital age.

With smooth market penetration becoming a priority for CHARLES & KEITH, agile processes and a faster time-to-market soon became imperative for the brand to upscale. Being a market leader, customer-centricity and accessibility were at the core of their digital strategy.

They needed a partner that could help facilitate:

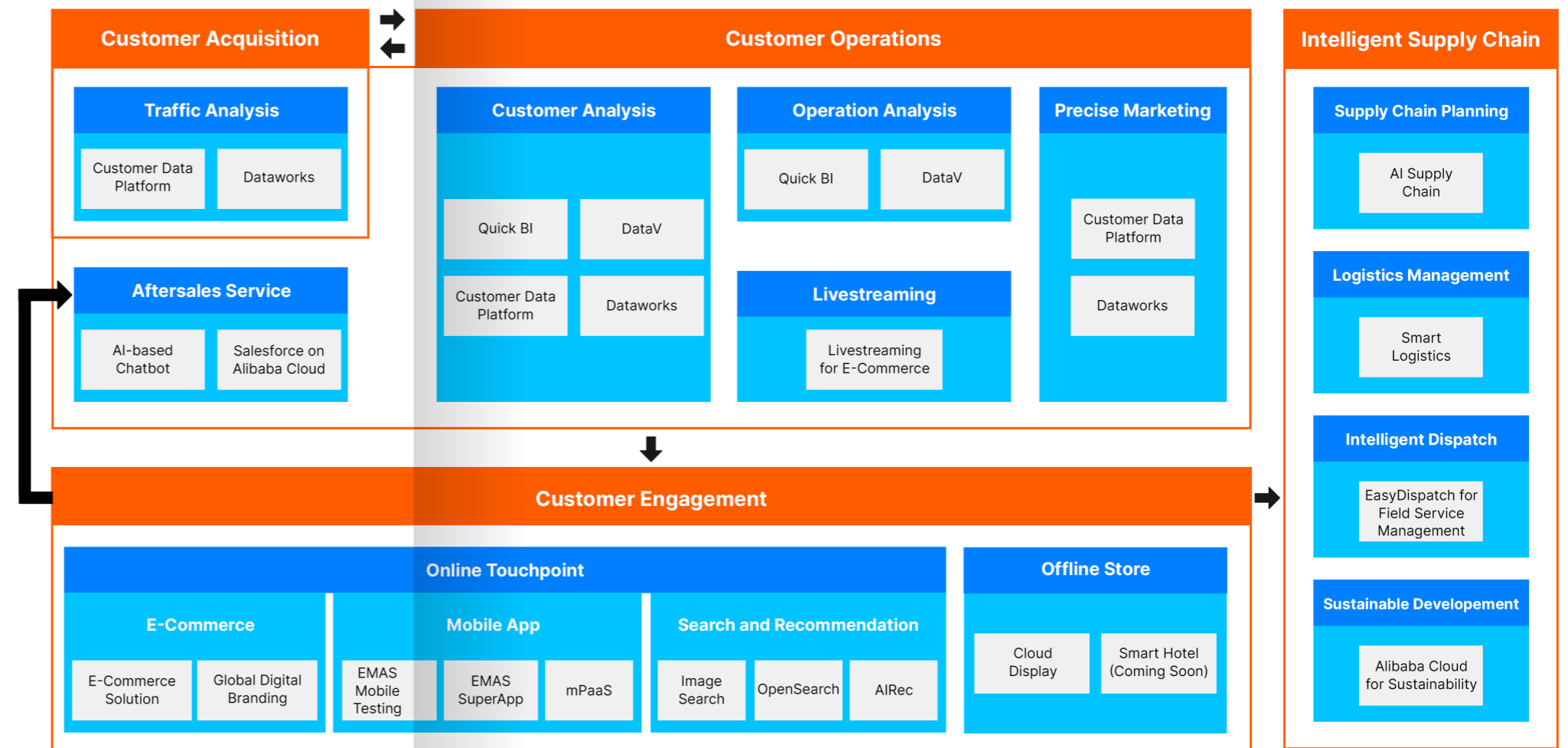
Global Reach and Localization: An extensive network of local data centers and CDN nodes to ensure complete regional customization and accessibility

Compliance and Security: Comprehensive compliance with regulatory requirements aligned with robust data security

Retail Expertise and Data Intelligence: Proven success in managing large-scale events demonstrating data intelligence capabilities to elevate retail business

CHARLES & KEITH partnered with Alibaba Cloud to eliminate data silos, develop predictive insights, and activate operational efficiencies to simplify their overall IT infrastructure. The smooth digital transformation empowered the customer with localized services, smooth international regulatory compliance, and cloud-secure operations, helping them spearhead retail innovation worldwide.

Alibaba Cloud was the ideal partner of choice for CHARLES & KEITH, given their demonstrated expertise in helping retail companies transition towards an intelligent, customer-centric business model, leveraging predictive analyses for omnichannel customer engagement and quicker decision making.



By leveraging core cloud capabilities, CHARLES & KEITH implemented a suite of solutions to fortify their operations, facilitating smooth market expansion. Additionally, they streamlined their IT infrastructure to enhance overall system reliability and security through SAP migration to the cloud.



Image Search

Accelerated predictive analysis image search capabilities to perform searches based on visual similarities. This solution analyzes image attributes and sales trends of past products to predict the success of new launches



Data Middle-End Platform

Established a centralized data hub with Alibaba Cloud's Data Middle-End Platform, integrating data into the business workflow to foster faster decision-making and dissolve any pre-existing data compartmentalization



DataV

Built dashboards for real-time customer traffic, streamlining communication with store personnel



DataWorks + MaxCompute

Boosted operational efficacy, in conjunction with the MaxCompute computing engine for secure, efficient big data management. The goal was to activate data assets and apply data analytics customized to their business needs



Hybrid Backup Recovery

Leveraged the Hybrid Backup Recovery for its 99.9% reliability and availability, offering a cost-effective, manageable hybrid cloud storage solution for backup needs and all-round availability



Building Retail Intelligence with Rich Customer Insights and Faster International Expansion

The partnership with Alibaba Cloud strengthened CHARLES & KEITH's conviction in the role of digital transformation for retail companies across the globe. Looking ahead, we are committed to collaborating closely to advance the complete cloud migration of CHARLES & KEITH's operations.

With Alibaba Cloud at the core, CHARLES & KEITH maximized on:



99.9% availability & reliability



Customer-centric predictive analyses leveraging expert analytics



Customer-centric transformation for enhanced compliance and accessibility



FATHOMX

**ACCELERATING ADVANCED
HEALTHCARE DIAGNOSTICS
WITH AI-POWERED
EXCELLENCE**



“

Scaling healthcare innovation globally with Alibaba Cloud’s advanced solutions.

”

Stephen Lim
CEO of FathomX

FathomX

Alibaba Cloud Impact



Robust cloud infrastructure for accelerated service delivery

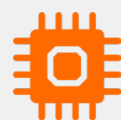


Smooth regulatory compliance and security across the international market expansion



Real-time scalability and cost reduction

Alibaba Cloud Solutions



Alibaba Cloud's GPU-powered instances



Elastic Compute Service (ECS)



Background and Challenges

FathomX, a digital health AI enterprise, was founded by Professors Mikael Hartman and Feng Meng Ling at the National University of Singapore and the National University Health System. The company's genesis is rooted in its engagement with The Dream Challenge, an internationally recognized competition supported by the White House. This contest aimed to discover AI innovations that could enhance the clinical procedures for breast cancer screening, addressing a global health issue and the foremost cause of mortality among women across various countries.

FathomX's flagship product, FxMammo, employs AI to enhance mammogram screenings by significantly reducing false positives and negatives, thus streamlining clinical workflows and improving diagnostic accuracy. This breakthrough is the culmination of over three years of research at NUS, with findings published in esteemed journals and presentations at notable workshops. FathomX is also recognized within the MedTech JUMPStart Program.

Strategically positioned in Singapore's healthcare nexus, today, FathomX is poised to address the rising demands of the Asia-Pacific region, leveraging Singapore's exceptional health services, research, and educational prowess to enhance healthcare workflows with its cutting-edge technology.



Charting Predictive Patient Care with AI-powered Diagnostics

The demand for AI-driven diagnostics like FathomX's predictive intelligence solutions is rapidly expanding, driven by an increase in healthcare data and supportive government initiatives.

As a leading healthcare provider, FathomX wanted to strengthen its technology ecosystem to manage and process large volumes of data in real-time in compliance with data security standards. It wanted to elevate its cloud infrastructure to smoothly integrate AI analytics capabilities to strengthen its predictive intelligence and AI-powered diagnostics capabilities.

Through a strategic partnership with Alibaba Cloud, FathomX accesses advanced computing resources, enhancing its AI analytics and diagnostics capabilities. FathomX harnessed Alibaba Cloud's GPU-powered instances to build an advanced AI-driven breast cancer detection system. Committed to advancing medical diagnostics through artificial intelligence, FathomX was able to build an AI model tailored for breast cancer detection from mammograms.

With Alibaba Cloud, FathomX leveraged:

- Easily available computing resources, crucial for the flexibility in processing power and data storage necessary for AI training in research and development
- Vast extensive network across Asia ensuring tailored local development and deployment, in precise alignment with customer needs
- Comprehensive certifications and commitment to healthcare data security compliance standards, allowing FathomX to concentrate on enhancing its core technology and enterprise growth, in compliance with data security

FathomX utilized the GPU-accelerated instances provided by Alibaba Cloud to build an AI-based Breast Cancer Detection System. In line with a three-step implementation approach and a specialized team at its core, FathomX oversaw the development of an AI model tailored for identifying breast cancer in mammograms. The model reflects the pioneering drive that challenges the limits of medical technology, incorporating a comprehensive strategy that leverages knowledge from multiple fields.

PHASE 01

AI Model Development on Alibaba Cloud

FathomX devised complex algorithms capable of devising intricate patterns in medical imaging. Alibaba Cloud's GPU instances provided the necessary computational resources to handle and scrutinize the high data volumes in addition to strengthening accuracy towards detecting subtle malignancy indicators. Alibaba Cloud's scalable GPU instances also supported the iterative training cycles needed to refine the AI model.

PHASE 02

Deployment with CADE Integration

Smoothly integrated with a sophisticated Computer-Aided Detection and Diagnosis (CADE) system, which aids radiologists in early breast cancer detection, the model leveraged on a secure and reliable platform for deploying the SaMD system. This was further enhanced by the platform's seamless scalability and security and compliance capabilities to meet healthcare benchmarks.

PHASE 03

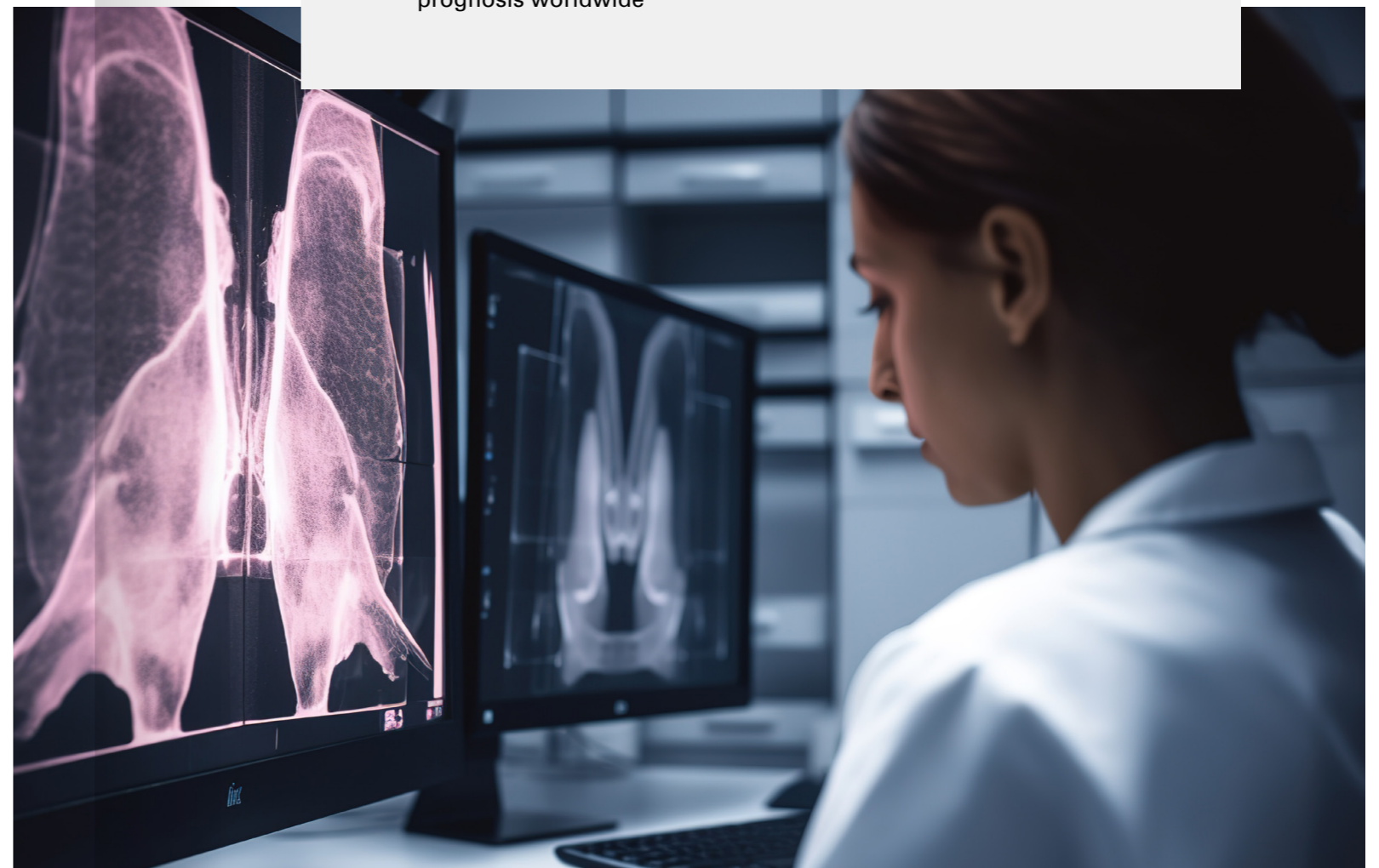
Regulatory Compliance and Better Patient Care

The primary objective of FathomX's AI-driven CADE system was to elevate the standard of care by enabling more precise and faster breast cancer detection. To ensure the system's safety and effectiveness, it was to pass rigorous regulatory evaluations, a process that Alibaba Cloud was able to support with a compliance-ready cloud environment in adherence with international protocols, helping FathomX navigate the complex regulatory landscape.

Leveraging Alibaba Cloud's robust ecosystem of GPU instances and cloud services, FathomX was not only able to develop but also deploy and maintain an AI-driven diagnostics solution that positively supercharged patient outcomes. The partnership successfully enabled faster and more accurate breast cancer detection, leading to earlier interventions and better patient prognosis worldwide.

In partnership with Alibaba Cloud, FathomX achieved:

- Sophisticated Computer-Aided Detection and Diagnosis (CADE) system to aid in early breast cancer detection
- Real-time scalability with Alibaba Cloud's Elastic Compute Service (ECS), handling the computational demands of the CADE system in compliance with security protocols
- Development and regular upgrade of the solution for accurate breast cancer detection, earlier interventions, and improved patient prognosis worldwide





Transforming Healthcare Innovation Across the Asia-pacific

Looking ahead, FathomX will continue to utilize Alibaba Cloud’s innovative cloud solutions to scale operations and enhance healthcare services globally. Embracing Alibaba Cloud’s robust cloud infrastructure will empower FathomX to achieve new levels of innovation and service excellence, ensuring its position at the forefront of healthcare technology advancements.



Decreased infrastructure costs by 27.6% annually



Reduction in lead time for the acquisition of computational resources



Accelerated project delivery and lower TAT

