Whale Cloud Technology Recognized as the

2021

Company of the Year

Asia-Pacific Artificial Intelligence in
Telecom Operations Software Industry
Excellence in Best Practices

Whale Cloud

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Whale Cloud Technology excels in many of the criteria in the artificial intelligence in telecom operations software space.

AWARD CRITERIA

Visionary Innovation & Performance	Customer Impact
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Whale Cloud Technology: Provider of AI in Telecom Operations Software Solutions

Nanking, China-headquartered Whale Cloud Technology (Whale Cloud) has provided cutting-edge solutions and professional services for almost two decades. By leveraging intelligent technologies such as artificial intelligence (AI), cloud computing, and Big Data analytics, the company outpaces its competitors in the AI and telecommunications (telecom) operations market and maintain an outstanding position among its clients in digital commerce, marketing, banking, and many other industries.

Notwithstanding harsh competition and a challenging economy, Whale Cloud advances its suite of AI-enabled solutions and services, facilitating its position in the market and meeting ever-changing customer needs across different industries worldwide. In less than two decades, the company has expanded its commercial activities across five continents and 82 countries, serving different market segments, including telecom operators, governments, and enterprises. In this regard, Whale Cloud Technology has experienced steady financial growth over the past few years.[1]

Furthermore, at the heart of Whale Cloud's success is its strong research and development (R&D) activities. The company is committed to investing $145.3 million to advance the R&D of its critical AI, Big

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[1] https://www.financialexpress.com/industry/whale-cloud-targets-order-book-of-100-million-in-india-next-year/1736674/#:~:text=Whale%20Cloud%20recorded%20a%20revenue,to%20BSNL%20and%20Vodafone%20Idea.

Data, and cloud-computing technologies in the next 3 years.[2] Namely, Whale Cloud aims to launch a city brain research institute and AI lab while also implementing cloud computing application development base programs in collaboration with Alibaba Cloud, a Chinese technology company, to support the speedy implementation of novel AI-based products and technologies.[3]

The company has at its disposal thousands of AI-specialized researchers based at 19 centers in Asia (China and Malaysia), Europe (Benelux, Germany), America (Chile, Mexico), and Africa (Ethiopia). They focus their activities on advancing the company's AI-based solutions and services to support customers across different industries worldwide. More than 150 telecom providers that serve more than 850 million end-users have relied on the company's operations support system (OSS) suite and business support system (BSS) services worldwide. At the same time, Whale Cloud has been at the forefront of providing smart city solutions supporting the construction of more than 100 cities globally, providing versatile services in such spheres as transportation, public security, governmental infrastructures, and many others.

Additionally, the company has also broadens its strategic cooperation with various technology companies worldwide. For instance, in 2020, Whale Cloud Technology partnered with DITO Telecommunity, Filipino's third-largest telecom company, to enable its next-generation telecom solutions to achieve faster connections, better customer service, and comprehensive coverage for its services.[4] DITO Telecommunity utilized Whale Cloud's solutions that comprise data analytics, professional consultation services, and self-service diagnostics. Such a combination of tools has enabled DITO Telecommunity to advance its position in the expanding communications market.

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> **- Maksym Beznosiuk, Best Practices Research Analyst**

Also, in 2020, Whale Cloud partnered with Smartfren, a leading Indonesian telecom provider, to upgrade Smartfren's services with its ZSmart Multichannel Campaign Management (MCCM) solution to improve customer engagement across Whale Cloud Technology's services portfolio, including email, social media, WhatsApp, and its MySmartfren application.[5] The company's MCCM solution will enable Smartfren to gain 360-degree customer insights and personalized customer offerings. Also, this solution allows Smartfren to assess the effectiveness of marketing campaigns and support marketing teams in producing promotional packages catered to customer needs.

Frost & Sullivan recognizes that Whale Cloud Technology meets customers' needs and exceeds their expectations as clients value the top-performance and business impact of its versatile AI-based solutions:

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[2] https://www.prnewswire.com/news-releases/whale-cloud-launches-its-new-brand-and-plans-to-invest-one-billion-yuan-into-technology-research-over-the-next-three-years-300727401.html

[3] https://www.telecomasia.net/news/new-whale-cloud-brand-launched-planning-spend-one-billion-yuan-technology-research-next/

[4] https://w.media/philippines-dito-telecommunity-partners-with-whale-cloud-to-power-telecom-solutions/

[5] https://w.media/indonesias-smartfren-to-expand-telecom-services-using-ai-in-partnership-with-whale-cloud/

"With Whale Cloud Technology as our strategic partner, we believe its digital solutions, delivery track record, and industry know-how will allow us faster to achieve success in the 5G and Internet of Things era."[6]

- IT Director of DITO Telecommunity

"With ZSmart MCCM, we look forward to engaging more customers and delivering them more targeted, intelligent marketing campaigns in real-time supported by artificial intelligence or machine learning."[7]

- Group Chief Technology Innovation Officer, Smartfren

Helping Companies with Effective AI-based Telecom Operations Software Solutions

Today, telecom operators face difficulties such as outdated information technology (IT) systems that cannot support digital transformation and high operational expenditures and error rates. At the same time, they often lack an efficient billing system to attract ecosystem partners. Hence, they require instruments to standardize and streamline all the components to automate IT processes while also lowering operational costs and error rates. Whale Cloud is at the forefront of providing AI-based telecom solutions and services that help clients achieve higher safety, reliability, and cost-efficiency. Its suite of AI-based telecom solutions offers several competitive advantages such as:

- **Flexibility and Scalability:** The company's AI-based solutions allow users to utilize powerful AI capabilities simply to ensure the swift construction of intelligent applications. Simultaneously, Whale Cloud Technology's solutions provide effective interactions across cloud-edge devices to boost clients' business operation efficiency. In this regard, Whale Cloud Technology also facilitates flexible adaptation to versatile front-end devices, hardware, and deep learning frameworks.

- **Efficiency:** Whale Cloud Technology allows users to scale and easily configure its AI-based solutions dynamically. At the same time, the company's solutions enable users to leverage AI efficiently via automated AI modeling and reasoning processes. Specifically, Whale Cloud Technology's crowd-sourced intelligent labeling allows users to lower the time and complexity of data preparation and enable them to shorten coding, communications, tuning, and deployment time. At the same time, they increase the efficiency of communications between business users and developers, enable clients to ensure dynamic resource monitoring and scheduling adjustment, and substantially facilitate resource utilization.

- **Cost Reduction:** The company's solutions provide the possibility of a smart audit, supervision, and document review in a highly secure private cloud environment. As a result, users can minimize security risks, accidents, and engineering costs and lower the workforce workload. At the same time, Whale Cloud's solutions provide intelligent marketing tools that allow telecom providers to ensure a practical omnichannel and intelligent customer experience from marketing and sales to customer service. Its ZSmart MCCM, an end-to-end campaign solution

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[6] https://w.media/philippines-dito-telecommunity-partners-with-whale-cloud-to-power-telecom-solutions/
[7] https://w.media/indonesias-smartfren-to-expand-telecom-services-using-ai-in-partnership-with-whale-cloud/

that allows users to handle omnichannel real-time campaigns during every phase of customers' lifecycle to keep and increase their customer base, thereby substantially improving margins.

Best Practices Examples Confirm High Performance and Ultimate Reliability

Frost & Sullivan research analysts applaud Whale Cloud Technology for the high-quality performance and efficiency of its AI-based solutions, as demonstrated by the following use cases:[8]

Best Practices Example 1: Whale Cloud Technology aided China Telecom, a leading Chinese integrated intelligent information services operator, to support its IT modernization. The client looked to embark on a BSS transformation process to integrate intelligent operation instruments to streamline its IT operations. The company's suite of digital OSS and BSS tools helped the client to decommission 62 applications to streamline IT operations while also providing advanced integrated capabilities into more than 1,000 third-party applications. As a result, China Telecom reduced product catalog loading time by 75% and cut service provisioning time from 30 to eight minutes. At the same time, the company's solutions enabled the client to reduce alarm diagnosis time from 30 to five minutes while also increasing ten-fold call detail record and credit control processing capacities.

Best Practices Example 2: Whale Cloud Technology aided China Mobile, a leading telecom services provider in China, to develop an intelligent platform that supports intelligence and integrated development of front-end applications while providing information technology capabilities to its external and internal partners to empower enterprise customer intelligent operations.[9] The client wanted to build a platform that would combine an open partner ecosystem and launch online and offline collaborative marketing campaigns. Whale Cloud Technology's MCCM solution suite helped China Mobile advance its business agility with a scalable infrastructure for faster time to market and minimize operational expenditures. Specifically, the company's solution enabled the client to reduce time to market by 80% and boost on-demand development efficiency by 30%. As a result, the client could prioritize its core business activities instead of spending time on regular infrastructure maintenance and operation.

Excelling in Innovation

At the heart of the company's success is its commitment to the continuous implementation of innovative solutions to support ever-changing customer needs across different sectors worldwide. For instance, in 2020, Whale Cloud Technology partnered with Alibaba Cloud, a cloud computing company, to launch a cloud-based telecom solution suite comprising ZSmart Digital Business Enablement Platform (D-BEP) and digital transformation services.[10] This suite allows communication service providers (CSPs) to achieve effective IT operations and minimize regular infrastructure operation and maintenance expenditures. This suite leverages Alibaba Cloud to provide CSPs with full-range application programming interfaces (APIs) to realize unified service registration, API orchestration, and multiple protocols conversion, boosting their network operation and data intelligence with cloud-native

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[8] http://en.iwhalecloud.com/?backurl=https://www.iwhalecloud.com/page87?_l=en
[9] http://en.iwhalecloud.com/?backurl=https://www.iwhalecloud.com/page118?article_id=573&_l=en
[10] https://www.prnewswire.com/il/news-releases/whale-cloud-launches-cloud-based-bss-oss-suite-in-partnership-with-alibaba-cloud-875012452.html

architecture. As a result, its solution suite enables CSPs to gain unified multi-channel service access, minimize expenditures with cloud-based subscription services and achieve faster time-to-market.

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What's more, the ZSmart D-BEP solution contains versatile, intelligent features such as chatbot-powered agents for customer service, analytics, and AI-driven marketing for Internet of Things business for different applications such as smart vehicles, smart cities, and smart energy. Thus, by leveraging Alibaba's cloud-based technologies and combining them with its telecom capabilities, Whale Cloud Technology is well-positioned to expand its commercial activities from information communication technologies to automotive, gas, energy, and many other vertical industries.

Conclusion

Currently, telecom operators face such challenges as outdated information technology (IT) systems and high error rates. They look for ways to automate IT activities to improve efficiency and reduce maintenance and operations costs. Whale Cloud Technology leads the way by providing AI-based telecommunication solutions and services that enable clients to reach improved cost-efficiency, efficiency, and safety unmatched by the competition.

With its unrivaled expertise and experience, innovation-driven solutions, and customer-centric approach, Whale Cloud Technology earns Frost & Sullivan's 2021 APAC Company of the Year Award in the artificial intelligence in telecom operations software market.

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios through Mega Trends: Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first to market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create on-going growth opportunities and strategies for our clients is fuelled by the Innovation Generator™. Learn more.

Key Impacts:

- ■ **Growth Pipeline:** *Continuous flow of Growth opportunities*
- ■ **Growth Strategies:** *Proven Best Practices*
- ■ **Innovation Culture:** *Optimized Customer Experience*
- ■ **ROI & Margin:** *Implementation Excellence*
- ■ **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our six analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- ■ Mega Trend (MT)
- ■ Business Model (BM)
- ■ Technology (TE)
- ■ Industries (IN)
- ■ Customer (CU)
- ■ Geographies (GE)