China's tech giants are bringing their AI capabilities to the global market

Ye Ji

[Artificial intelligence](#) (AI) simulates human intelligence from perception and cognition, providing machine learning and inference capabilities. Together with [5G](#) communication technology, IoT and cloud computing, AI has become a science and technology that can truly change our production technology.

China's Ministry of Science and Technology announced a new wave of "open innovation platforms" in November 2017, relying on Baidu for rolling out autonomous vehicles, on Alibaba Cloud (Aliyun) for smart cities, and on Tencent for medical imaging and diagnostics.

This blog looks at some highlights and strategies of China's tech giants – Baidu, Alibaba and Tencent, collectively called BAT.

Baidu's AI offers comprehensive capability, accelerating the promotion of industrial intelligence

Baidu was the first to pioneer and apply deep learning, scoring a big win in 2014 with the hire of Andrew Ng to head its Silicon Valley AI lab.

By 2015, Baidu's AI algorithms had surpassed human ability to recognise Chinese speech, a full year before Microsoft achieved the same feat in recognising English speech.

In 2016, Baidu set AI as its strategic development goal. It continues to improve the AI ecosystem and accelerate AI productisation and commercialisation.

Global leading open AI platform Baidu Brain, today accounting for c.80% of market share, has accumulated years of technology and business practices, providing all businesses with AI capabilities and underlying support, and empowering industry and developers. Driven by AI, Baidu Mobile formed a product matrix of "Only Super Power and Multi-great Powers" and built a mobile ecology with "Baijiahao" and "mini-programs" as the core.

As an important part of the AI ecosystem, Baidu already has two open ecosystems: the Apollo autonomous driving open platform and the DuerOS voice-based AI operating system. Baidu has so far obtained more than 50 intelligent network vehicle road test licences, pioneering the effort in China. Xiaodu Assistant, with Baidu's DuerOS-powered smart speaker additions, maintains its leading position in China, ranking #1 in the domestic market and #3 in the world in terms of

shipments of smart speakers in the first quarter of 2019. Meanwhile, Baidu's intelligent cloud-based AI, [big data](#), and cloud computing (ABC) strategy has also made a significant achievement, enabling users to develop their own computing applications.

Baidu's AI ecosystem

Basic capability layer	Platform layer	Internal system application	External commercial delivery	Application scenarios
AI chip	**Open platform** Baidu's deep-learning platform: PaddlePaddle AI technology: AI open platform Automatic driving: Apollo Natural language interaction: DuerOS	Short video	Delivered through Baidu Cloud	Transportation
Face recognition				Financial services
AI-based human body parts		iQiyi	Platform service developer landing	Medical services
Image recognition		Information flow		Intelligent manufacturing
Video analysis	**Application platform** Understanding and interaction techniques: UNIT Healthcare AI: 01.com Omni marketing platform: Dianshi	Xiaodu Assistant	Project-based direct customer service	Agricultural monitoring
Natural language processing				Energy management
Knowledge map		Intelligent cloud	Integrated by industry partners	Education/scientific research

(Left vertical band: Independent R&D/invested in startups)

Alibaba focuses on industrial AI, positioning technology base

China's leading e-commerce behemoth Alibaba has made a substantial dent in the country's retail and financial sectors.

Leading the world in fintech disruption, Alibaba's Ant Financial Services Group controls the world's largest money market fund, has provided loans to tens of millions, and handled more payments in 2017 than Mastercard.

Alibaba proposed "AI for Industries" and integrated AI technical ability into adaptive technology platform ET Brain. ET Brain is powered by AI and machine learning, and has a large number of use cases in the industry, finance, retail, transportation and other fields.

Alibaba has also invested in many AI enterprise unicorns, including SenseTime, Face++, YITU Technology, and Cambrian.

Given its accumulative commercialisation scenarios and the underlying infrastructure of cloud computing, Alibaba has the ecological advantages of computing resources and applied data value mining and aggregation. It expects Alibaba Cloud to undertake a technology-based role and build segmented industry solutions by integrating ecological partners, and with the help of ET Brain to provide intelligent capabilities, better serve customers.

Alibaba's AI ecosystem

Business support	Core competence	AI products	Technical direction	Application solutions
The internet as a general-purpose technology	Cloud computing, storage, database, network capabilities	Platform: Deep-learning platform PAI, AliGenie	Intelligent voice interaction	Smart hardware
Commercial scenario			Image/video recognition	ET City Brain
Mobile payment	Intelligent computing solves complex problems	X-dragon Super-Computing Cluster instance SCC-GN6	Sentiment analysis	ET Industrial Brain
			Multidimensional awareness	ET Agricultural Brain
ET Brain				ET Environmental Brain
	Real-time big data, search, analysis and visualisation capabilities	Deep neural network inference engine	Global insight	ET Medical Brain
Ali Research			Real-time decision-making	ET Aero Brain

Tencent focuses on consumer AI with multi-dimensional application scenarios and industrial AI technology enablement

Tencent uses its AI strategy Connect to apply its AI capabilities to the consumer and industrial internet. At the consumer end, AI for games uses data-mining algorithms and machine-learning algorithms to understand player behaviour characteristics, to further optimise the game experience. Content AI pushes thousands of music recommendations for QQ Music and other users. At the industrial end, Tencent has developed medical AI, security AI, education AI, smart government, smart retail, and smart campus and other scenarios through Tencent Cloud, Tencent Youtu, Tencent Minying and other subsidiaries.

In general, Tencent provides multi-dimensional intelligent applications, and smart infrastructure, open technology centres, and has collaborated with multiple partners to build an innovation ecology.

Tencent's AI ecosystem
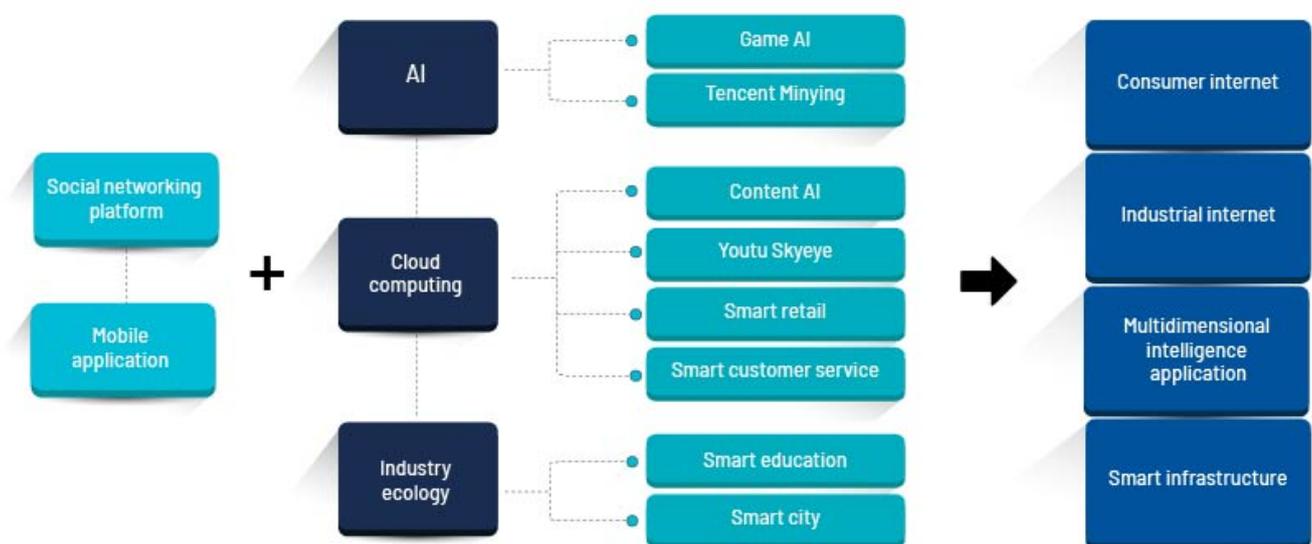
Partnering with China for AI

From 2010 to July 2019, 36 private companies joined the Global AI Unicorn Club, according to CB Insights. China, with 12 unicorns and ranked second after the US, is now universally regarded as the global AI leader in terms of talent pools, number of startups, financing activities and monetisation opportunities. Roughly 50% is controlled or backed by BAT.

Two-thirds of global investment in AI is to China; this helped the AI industry there grow 67% last year alone. Hence, any partnership between a global and Chinese company would be win-win.

[Acuity Knowledge Partners](#) understands the opportunities presented by China's rise in the AI space, BAT's leading position and the marketing needs of global companies. We, therefore, leverage our global and local knowledge bases to offer market insights and theme-based research to help companies engaged in the sector make important business decisions. Our professional services include industry research, risk mitigation, monitoring programmes, and regulatory analysis.

As the BAT companies clash to capture a lion's share of China's tech space, we believe [private equity firms](#) will find it challenging to close deals in the China market. We pride ourselves on our professionals who provide such firms with the research acumen and [RFP support](#) they require.

Sources:

- China AI industrial report

- https://www.weforum.org/agenda/2018/09/the-top-5-chinese-ai-companies/

- [Baidu, Alibaba, and Tencent: The Rise of China's Tech Giants](#)

- https://www.exascale.org/bdec/sites/www.exascale.org.bdec/files/Baidu_ABC_Platform.pdf

- https://www.cnbc.com/2020/01/10/china-tech-outlook-2020-baidu-bidu-alibaba-baba-and-tencent.html

- [Baidu Cloud launches its open-source edge computing platform](#)

Acuity Knowledge Partners is a leading provider of high-value research, analytics and business intelligence to the financial services sector. The company supports over 350+ financial institutions and consulting companies through a team of over 3,000+ subject matter experts who work as an extension of the clients' teams based out of various global delivery centres.

We empower our clients to drive revenues higher. We innovate using our proprietary technology and automation solutions. We enable our clients to transform their operating model and cost base.