

Operations Practice

The hidden growth driver: China's industrial aftermarket- services sector

With fewer sales prospects on their books but plenty of assets in the field, China's industrial-equipment makers can ramp up their services businesses.

by Thierry Chesnais and Ting Wu



The early twenty-first century was a boom time for China's industrial-equipment manufacturers, as the country's growth fueled significant demand across most industrial sectors. Annual fixed-asset investment in equipment and instruments increased by an average of 21 percent annually between 2000 and 2015, an extended period of rapidly rising demand that helped many players grow substantially by focusing on new-equipment sales.

The sector is now entering a different phase of its development. While growth in new-equipment sales has slowed significantly, the installed base of industrial products across China has been transformed. For example, over the past 20 years, China's operational stock of industrial robots has grown from less than 1,000 to almost 650,000, making the country home to an estimated one-quarter of the world's robots (Exhibit 1). That shift is encouraging China's industrial equipment makers to look to aftermarket services as an increasingly important driver of growth and profitability.

In the industrial-equipment sector, aftermarket services encompass a wide range of activities. Basic services include the sale of spare parts and maintenance activities. More sophisticated offerings include mid-life overhaul, upgrade, and retrofit programs. At the high end, companies are offering condition-monitoring predictive maintenance and operational support, powered by Internet of Things (IoT) technologies and advanced-analytics capabilities.

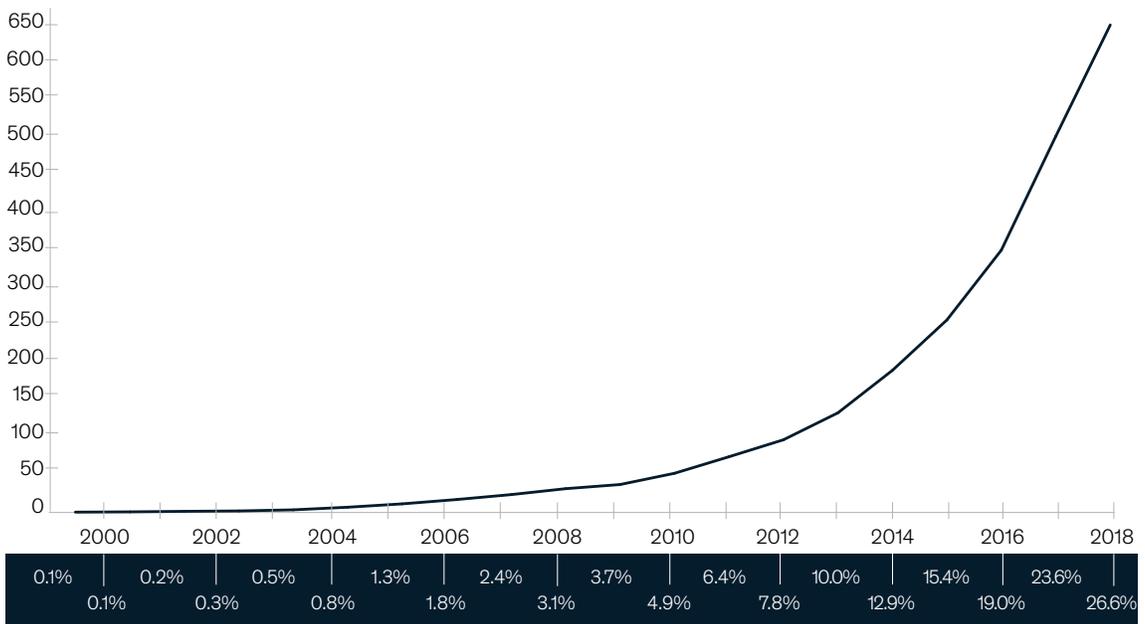
Aftermarket services have many compelling characteristics that have caught the attention of industrial-equipment players all over the world. Our colleagues' research confirms that margins for services can be several times higher than for new products: for large rotating equipment, for example, margins for new equipment average 8 percent, while those for services average 32 percent. Moreover, because services business require relatively low capital investment, they start to generate revenue quickly and can

Exhibit 1

China is now home to a quarter of the world's industrial robots.

China's operational stock of multipurpose industrial robots

Number of units (thousands)



continue to do so over the long term. It can be easier to convince customers to sign off on services purchases than on capital investments. And services revenues can be more stable and less affected by economic cycles than original-equipment sales.

Compared with the rest of the world, China's industrial-equipment services sector is still in its early stage. In the elevator market, for example, aftermarket services account for around 40 percent of the revenues of major global manufacturers, but for the leading Chinese companies, they make up only 4 to 27 percent of revenues—a similar picture in other sectors (Exhibit 2).

Service faults

Despite the clear opportunity, industrial-equipment players have historically struggled to build their services businesses in China, with companies facing a number of barriers (Exhibit 3). For example, some manufacturers attempting to persuade customers that their services offered real value fell short. Many of their target customers took a basic approach to

purchasing that prioritized low upfront costs, and gave little consideration to total cost of ownership. Lower labor costs than in mature economies made it easier for customers in China to employ their own in-house service personnel, while counterfeit and grey-market parts could be confusing for customers seeking high-quality replacements.

Other significant barriers remain, however. Companies will naturally want to create service offerings that are sufficiently profitable for them—and sufficiently valuable for their customers. That calls for a service organization and infrastructure with the right capabilities and scale to deliver those offerings across the entire country.

The rapid growth of industrial Internet of Things (IIoT) technology is unlocking opportunities for companies around the world to offer more sophisticated and more valuable aftermarket services, and to do so at greater scale and lower cost. Connected machines can transmit data on their own performance health to manufacturers,

Exhibit 2

Services form a smaller share of revenue among Chinese manufactures than among multinationals.

Service revenue share for industrial equipment players, %

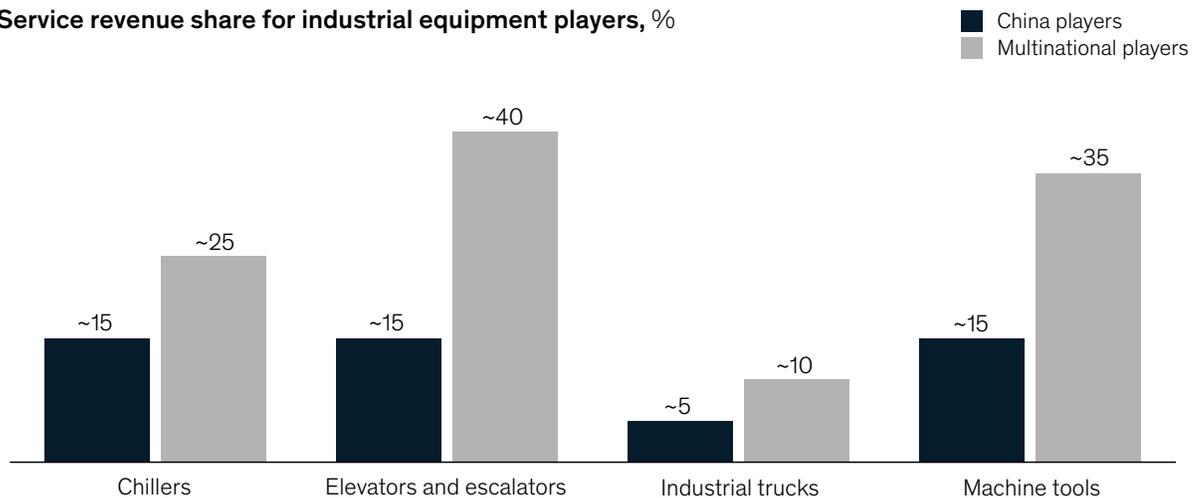


Exhibit 3

China has been a notoriously difficult market to penetrate for industrial-equipment services.

Customer focus on upfront cost vs. TCO ¹	Many end customers still rely on basic purchasing approaches , eg, lifecycle cost estimates are missing or rudimentary. Companies therefore prioritize new-equipment sales volume over customer lifetime value
Availability of in-house service	Historically small opportunity cost of in-house service teams given immediate availability and lower labor rates vs developed economies
Distribution depth and coverage	Market size and geographical spread makes it difficult to provide critical scale in breadth and depth of coverage to drive services as source of competitive differentiation
Availability of will-fit substitutes	Counterfeit and grey-market components and consumables make it difficult for customers to differentiate genuine parts
Potential channel conflicts	Many distributors and resellers already provide basic services , eg, installation, inventory management, and maintenance, often at minimal cost

¹Total cost of ownership

and use that information to conduct remote troubleshooting, manage condition-based and predictive maintenance activities, or help customers maximize machine performance.

Many companies in China are positioning themselves to be early beneficiaries of Industry 4.0 technologies. For example, expertise in software development is readily available, and many customers already have robust, high-speed data connections.

Some industrial players have already used new technology to transform their services business. A turbomachinery maker, for example, has developed a cloud-based intelligent service platform covering the full lifecycle of its products—collecting data from machines installed at customer sites, then processing the data to provide predictive-

maintenance capabilities. Between 2017 and 2018, the company's industrial services business grew by more than 30 percent, while growth in sales of new equipment tailed off.

Optimizing service-network performance

In a market as large as China, managing an industrial-services organization is a formidable undertaking. The service networks of major equipment manufacturers in China have a minimum of 100 branches to cover their installed base. Some have up to 500 branches, with 15 to 20 service personnel per branch—translating into organizations of 1,500 to 10,000 people. If companies don't deploy those resources in the right places, or don't manage them effectively, their service organizations can quickly become

an expensive overhead cost rather than a source of profitable growth.

High-performing industrial organizations can take a systematic approach to the management of their service-sales and service-operations teams. They **standardize** the activities of their service organization, with clearly defined processes, deliverables, metrics, and responsible parties. They **tailor** their service offerings, pricing, and support levels to the needs of particular customer groups, segmenting them by service-relevant characteristics such as organization size or the age of the installed equipment. And they **define** performance metrics and incentives in a way that drives the optimal sales and service behaviors for each offering and customer segment.

One Chinese industrial equipment maker conducted a major reorganization program of its service organization and incentive system to boost service sales. Historically, the company had adopted a one-size-fits-all approach, with the service and service sales teams split regionally and offering all aftermarket services in the company's portfolio. Channel conflict was rife, as the service team prioritized high-revenue, low-margin retrofit projects over smaller, higher margin service-maintenance contracts. At the same time, experienced service sales agents focused mainly on winning repeat business from existing customers, rather than taking on the extra effort needed to hunt for new ones.

To overcome those challenges, the company revamped its structure, segmenting its service organization into specialties. It created a dedicated team to manage its retrofit business, which involved relatively small numbers of large, complex projects. Another group took responsibility for maintenance services, with specialized subteams allocated to different types of customer. Setting up the organization this way allowed the company to align

targets, metrics, and incentive plans according to the needs of each segment, improving the performance of the whole services business.

Next, the company set up a dedicated sales unit to capture white-space customers—organizations that had bought the company's equipment but never made use of its service offerings. Staff in the new white-space unit were given special training and support, and offered high incentives for each successful conversion. That approach was designed to motivate sales agents so they could earn at least as much from new-customer acquisition as their colleagues who looked after existing customers.

Three years after introducing the new system, the company had raised its attachment rate—the share of original equipment customers who continue to buy services—from 35 percent to 45 percent.

Increasingly, companies in China and elsewhere are using advanced analytics and smart digital tools to measure and improve the performance their services businesses. Propensity-to-buy models, for example, can predict the likely win rate and potential value of service deals, while dynamic deal-scoring techniques use historical data to help companies optimize pricing and improve margins. Applied internally, digital tools can help companies track the performance of the service, sales, and operations teams, allowing them to lift overall performance by identifying and replicating best practices. Companies that have deployed advanced analytics and digitization across their service operations have increased revenue by 30 percent and margin by 20 percent.

Aftermarket services provide a potentially valuable new source of revenues for industrial-equipment companies in China. Technology offers companies the opportunity to develop innovative service

offerings and delivery methods, and customers are becoming increasingly receptive to the right value propositions.

Yet managing a services business remains a complex and demanding undertaking. Companies

can no longer afford to let the aftermarket be an afterthought. Those that emphasize the development of their services business and deploy the right management and resources will have a valuable head start.

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