# CONSTRUCTION EQUIPMENT IN CHINA

Overview of the Component and Service Aftermarket

**Ipsos Business Consulting** 

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### INTRODUCTION

After a prolonged period of growth coinciding with China's entry on the global economic stage, the country's construction vehicles industry is experiencing a tough time. From a high of around 975,000 construction equipment (CE) units sold in China as recently as 2011, sales in 2015 were down to around 648,000. The decline continues to be felt across most of the industry despite China's plans to follow through on its highly ambitious One Belt One Road initiative, linking the country's infrastructure with economic centres in Europe, the Middle East and Africa. China's overall slowdown in construction does not mean that investors should steer clear of the industry, however. Previous years' high-volume CE sales mean that a large proportion of China's active CE is either near or past the end of its warranty, opening up a potentially lucrative and long-lasting aftermarket for companies that organise their market strategies correctly.

### NEW HORIZONS IN CHINA'S SHIFTING CONSTRUCTION LANDSCAPE

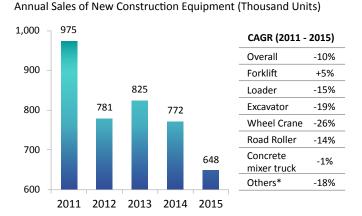
China's economic reorientation will require a proportional realignment within the construction industry, which can succeed if it adapts well to changing currents. Several large-scale construction projects in China have continued on schedule despite the country's ongoing pivot toward slower and more manageable growth. The country's One Belt One Road project is well on its way towards upgrading and developing its connections to Southeast Asian, European and Middle Eastern capitals by land, as well as several African port cities by sea. As international business is set to become the main beneficiary of these trans-regional corridors, many analysts are predicting future economic growth as a result, leading to additional boosts in construction for decades to come.

Nevertheless, despite such ongoing investments in infrastructure, previous CE purchases within the country seem to be largely sufficient to handle the country's need for its continued growth. CE sales depend, more than anything, on the rate of construction growth. With construction vehicles easily repurposed and reused from one project to the next, high demand for new vehicles appears only when the current fleet is not adequate for the task.

By contrast, the CE aftermarket flourishes when construction projects continue apace with increasingly older vehicles. Perhaps more so than in any other country, the boom in China's CE sales in the first decade of the 21st century has led to an ideal set of conditions for a sustained rise in the aftermarket economy. As vehicle warranties from this boom period continue to expire, repair and replacement for CE parts will form an increasingly sought-after and competitive industry. Success in this field can lead to high returns, but will depend on insightful market analysis surrounding the preferences of the different types of CE owners active in China today.

### RECENT TRENDS IN THE CONSTRUCTION INDUSTRY

## Sales of new construction equipment (CE) has been declining, overall and across major categories



\*Note: Others include grader, bulldozer, paver, tower crane, concrete pump, concrete mixer, and pump truck, which have a combined share of 22% of china's total CE sales in 2015. Sources: Ipsos Business Consulting Analysis, China Construction Machinery Industry Yearbook

With the exception of modest increases in demand for forklifts, direct CE sales in China have undergone an across-the-board decline following the construction boom of previous years. Sales of wheel cranes saw a precipitous drop of 26% from 2011 to 2015, with other CE types such as road rollers, loaders, excavators and other specialised equipment decreasing their sales by 10-20% over a comparable time period. New concrete mixer trucks have seen relatively stable sales figures over the years, declining by a mere 1% since the boom period.

## Population of CE is experiencing a stable growth, as compared to the decline in new sales

Total Construction Equipment Population (Thousand Units\*) 8,000 CAGR +7% 7,500 6.905 7,000 6.770 \_\_\_\_ 6,365 6,500 5.845 6,000 5,500 5,255 **.....** 5,000 2011 2012 2013 2014 2015

\*Note: Including excavator, loader, grader, bulldozer, road roller, paver, wheel crane, tower crane, forklift, concrete pump, concrete mixer, concrete mixer truck and pump truck

Sources: Ipsos Business Consulting Analysis, China Construction Machinery Industry Yearbook

Despite decreasing sales, the total CE population in China continues to grow over time, albeit at a slower rate. With roughly 7 million units of active CE in the country and significant large-scale construction projects already underway, the aftermarket for CE will serve a large population of increasingly aging equipment nationwide.

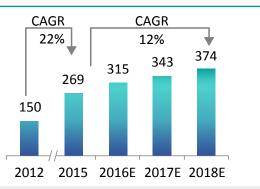




Source: Ipsos Business Consulting Analysis

As China's economy matures, it will fall in line with other advanced economies around the world in continuing to slow its new CE purchases in favour of the range of aftermarket services which can sustain future construction projects over the coming decades.

#### China Used CE Sales (RMB Bn)



Used CE sales are expected to achieve higher growth than new CE sales. Priced at 30%-50% of new CE cost, used CE greatly lowers the financial barrier for smaller players

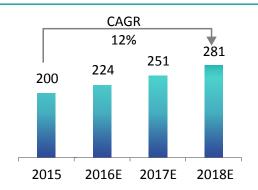


Renting equipment helps buyers to reduce the ownership pertaining to the use of equipment; excavator, loader and tower crane are three key rental eqipment

Source: Ipsos Business Consulting Analysis

Source: Ipsos Business Consulting Analysis

#### China CE Component Sales (RMB Bn)



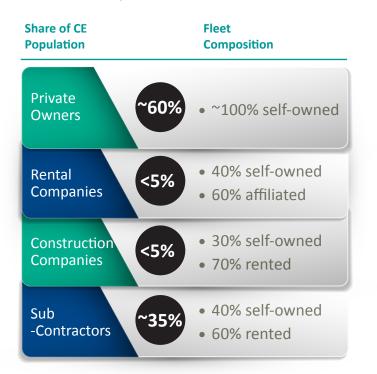
OEMs are gradually increasing their focus on CE maintenance market, and will lead to the market becoming more competitive

Source: Ipsos Business Consulting Analysis



### THE CONTOURS OF THE CE AFTERMARKET

With a high potential for returns over the coming decades, the CE aftermarket is likely to attract a strong lineup of competitors. Finding success among a crowded field will require a keen understanding of the various needs and preferences of different types of customers within the aftermarket ecosystem.



Source: Ipsos Business Consulting Analysis

By far the largest proportion of CE in China (currently about 60%) is owned by private operators for direct use. These private owners generally take responsibility for maintaining their own equipment, although there are interesting shifts and divisions within the private owner grouping. The overall number of private owners is decreasing over time, as smaller players are being eliminated or swallowed by their larger competitors, many of whom are in the process of transforming themselves into rental companies for contract work.

Rental companies currently hold less than 5% of all CE in China, a number which is expected to rise as the coming years allow the market to mature and develop. Rental companies must ensure proper functioning of equipment they own in-house, but for those using CE from affiliated sources, the actual owners remain responsible for the care and maintenance of their vehicles and equipment. Construction companies make up another small sector of the CE aftermarket, representing less than 5% of the country's total fleet. The majority of CE within this subsector are rentals, which outnumber equipment owned by the construction companies by a 70:30 ratio. Increasingly, construction companies in China are finding it more efficient to rent standard CE from other providers, while maintaining their own fleet of specialised equipment for direct use. Ownership closely correlates with responsibility for parts and maintenance, which is one reason why many construction companies increasingly prefer to depend on rentals for standard tasks.

The remainder (~35%) of CE in China is owned by subcontractors, and about 40% of the CE within this subgrouping is owned and maintained by the subcontractors themselves, leaving 60% of the total fleet as rentals to be maintained by their owners. Trends within the construction sub-contracting industry in China suggest market consolidation rather than a focus on growth, as the industry on the whole takes a 'wait and see' approach toward the new economic era unfolding in China.



## REPAIR AND MAINTENANCE PREFERENCES WHITHIN THE CE AFTERMARKET

During the warranty period, close to 100% of CE owners across all categories choose to stay with official dealers for CE upkeep, as their warranties support genuine OEM parts and services for repairs and maintenance. These dealers closely adhere to equipment guidebooks throughout the maintenance process, guaranteeing standardised service that follows manufacturer recommendations. Roughly 1.5 million units are maintained annually by OEM service providers during the warranty period.

By contrast, OEM dealers service around 2 million units of CE per year whose warranty period has already expired – but this figure represents only 30-40% of total CE maintenance, as repairs and replacement parts are needed with increasing regularity through the long life of construction units. Independent service providers take the remainder of the aftermarket business (~3.5 million vehicles serviced per year) by offering lower prices and more convenient locations.

The 30-40% average retention rate for OEMs after the warranty period is not divided evenly throughout the industry. During the post-warranty period, customers are more likely to use official dealers when purchasing CE with more complex technical requirements, or in cases where the official dealers' prices are competitive.

There are also significant differences between the preferences and priorities across different subgroupings of CE owners. An emphasis on quality (defined as the ability to meet technical specifications, and to ensure the smooth operation of equipment) is present across all subgroupings, but other variables take on different levels of importance depending on the type of owner. In general, when seeking repairs or replacements for CE parts, private owners are more concerned about price, while other types of owners tend to be more interested in factors related to service reliability and performance.

New analysis by Ipsos Business Consulting shows that rental companies value brands and their reputations when choosing CE parts, in addition to the focus price and quality that private owners have demonstrated. By contrast, construction companies and sub-contractors have shown themselves to be less interested in the best prices, and more interested in brands as well as positive relationships with their service providers. Industry data indicates that sub-contractors value service provider recommendations in addition to the other factors.

#### **Prioritized Consideration Factorsfor CE Component Purchase**

Factor	Private Owner	Rental Company	Construction Company	Sub-contractor
🔵 Quality	$\checkmark$	$\checkmark$	V	<b>V</b>
Brand	<ul> <li>Image: A second s</li></ul>	<b>V</b>	V	<b>V</b>
Price	<ul> <li>Image: A start of the start of</li></ul>	$\checkmark$	$\checkmark$	$\checkmark$
🗰 Relationship	<ul> <li>Image: A second s</li></ul>	<ul> <li>Image: A second s</li></ul>	<b>V</b>	<b>V</b>
Service Provider Recommendation	<ul> <li>Image: A second s</li></ul>	<ul> <li>Image: A second s</li></ul>	$\checkmark$	<b>V</b>
Cost-Driven segment	Performance-driven segment			

• Product quality is the basic consideration in CE component selection across four segments, referring to the ability to meet technical specifications and to ensure the smooth operation of equipment.

• Private owners care more about cost-related factors as they face cash flow pressure and have limited budget.

Source: Ipsos Business Consulting Analysis

In general, private owners and rental companies are more likely to be on tighter monetary budgets, while construction companies and sub-contractors face tougher time constraints which influence them toward favouring parts suppliers that can offer them consistently reliable products and responsive service.

Within these subgroups of CE owner types, variations also exist in the decision-making process for choosing a parts supplier. The process tends to be less formal among private CE owners, rental companies and sub-contractors. Parts and services are typically sought only when needed, and are unaccompanied by thorough parts supplier evaluations.

Construction companies are far more likely to agree to regular purchasing plans with CE parts suppliers, and these agreements are usually preceded by fact-finding missions managed by the companies' purchase departments. Construction companies often solicit technical requirements and specifications from their in-house workshops, then pass these requirements to parts suppliers. The construction companies then review and analyse several suppliers' offers in terms of price and quality, and finally come to a long-lasting agreement with their supplier of choice.

## Purchase decision is more informal for private owners, sub-contractors and rental companies as compared with large construction companies

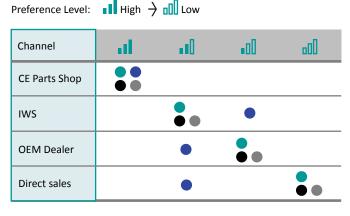
Component Purchase	Private Owner/Rental Company/Sub-contractor ( <u>LESS-STRUCTURED</u> decision-making process)	Construction Company (WELL-DEVELOPED decision-making process)	
Purchase Plan	Purchase when needed	Purchase on a regular basis according to purchasing plan	
Decision Model	Simple decision-making and no pre-purchase supplier evaluation process	Systematic decision-making process with pre-purchase evaluation and only purchase from qualified suppliers	
Budget Control	Owner/Management Team	Management Team	
Supplier $ ef{eq: Supplier} $ Evaluation	Only in some occasions	Purchase Department	
Brand $\checkmark$ Selection		<ul> <li>In-house Workshop: Provide technology specifications</li> <li>Purchase Department: Decide on final brand selection</li> </ul>	
Channel + Selection	Owner/Purchase Team	Purchase Department	

#### Preference of Maintenance Service Provider



The more structured, deliberate and well-informed approach that construction companies tend to take in choosing parts suppliers manifests itself in their purchasing habits for CE components (see above right). While private owners, rental companies and sub-contractors uniformly see CE parts shops and independent workshops as preferred vendors, followed by OEM dealers and then direct sales options as a last resort, construction companies follow different priorities. Specialised CE parts shops continue to be the most frequently used sources for CE parts, but these are instead followed by OEM dealers and direct sales outlets in roughly equal measure, followed by independent workshops as a comparatively rare alternative.

#### Main Channels for CE Component Purchase



Source: Ipsos Business Consulting Analysis

Construction companies also typically perform all their own repairs and maintenance in-house (see above left), and impact the aftermarket only when they need to purchase new parts. Sub-contractors and rental companies perform about 85% of their own repairs and maintenance via their in-house technicians, splitting the remaining work among OEM dealers and independent workshops. Private owners do an average of 80% of the necessary repairs and maintenance work on their own fleet, leaving 15% to independent workshops and 5% to OEM dealers.

The bulk of the aftermarket across all sectors therefore relates to the selling of replacement parts rather than repairs and other services. Different types of parts suppliers offer varying advantages over the others, and an understanding of how each type of vendor can maximise its potential for success is therefore crucial in helping it secure its corner of the market over competitors.

### CHALLENGES AND OPPORTUNITIES FOR GENUINE PARTS VENDORS AIMING TO RETAIN CUSTOMERS

For genuine parts sellers, the most immediate and pressing challenges come from the significant price difference typically found between genuine parts and the wide range of will-fit parts that are available in spare parts markets. The price differential is a particular drawback for non-core parts that have been imported from elsewhere, especially as this type of will-fit equipment is of acceptable quality to most consumers.

Genuine parts suppliers are also highly specialised towards the installation of the products they carry, and are far less skilled in general repairs and services work. Their service personnel are often inadequately trained to diagnose and repair problems where a new part installation is unnecessary, as the lack of a technical skillset impairs their staff members' ability to correctly diagnose CE problems at the customer's location. A further challenge for genuine parts sellers is in their inability to track down and establish a positive relationship with new owners of equipment that has been resold via the used CE market.



While some limitations such as price differentials for genuine parts and an inability to track parts after they have changed hands in the used CE market are difficult to overcome, our analysis shows that such issues can be addressed indirectly by creative and proactive management decisions. We recommend several related courses of action to strengthen the customer-vendor relationship, making it worthwhile for customers to tolerate higher parts prices and seek out well-managed GP sellers on their own.

Better-trained staff can allow for more useful and varied customer-vendor interactions, including monthly or quarterly field visits to customer locations. Other complementary offerings, such as free on-site equipment checks, labour and maintenance services, can enhance personal relationships with customers, establish trust, provide real convenience, and make higher parts prices much more palatable.

This increased level of customer interaction could take other forms as well. Parts suppliers can inform customers of the importance of GP to the successful operation, overall lifetime cost, and longer life span of CE as compared to will-fit parts. Technical demonstrations of the superior performance of GP versus will-fit and other non-branded parts can also be used to promote customer loyalty.

Customised membership and loyalty programmes offered by GP vendors can further increase the value of parts they supply, thereby promoting a relationship that includes substantial repeat business. Other value-added services may be included as well, such as complimentary service hours, discounts, and shorter response times.

Customers can also be encouraged to take extended warranty packages offered by some OEMs, which require as a precondition that the CE under warranty use only genuine parts. Extended warranties typically last for 1-2 years beyond the additional period, and cost ~1-2% of the total price of the CE.

By ensuring that the vendor-customer relationship is satisfying and long-lasting, CE owners are much more likely to demonstrate loyalty. This improvement may also increase the probability that customers selling their CE secondhand will choose to make introductions between the vendor and the new CE owner for their mutual benefit.

## CURRENT MARKETING STRATEGIES RELY INCREASINGLY ON NEW TECHNOLOGY

Online tools and platforms are changing the landscape for rental companies as well as OEMs and other CE parts suppliers, in addition to opening up new possibilities for customer relations strategies industrywide. Although rental companies currently account for only a small portion of active CE across China, these numbers may soon rise as a consequence of the added convenience their new online presence allows.

Early online CE rental platforms offered customers a wide range of equipment and aftermarket services available from renters, but had not yet scaled up the database to make room for an interface that could conveniently serve a large customer base. More recent market trends have seen the rise of a variety of specialised online rental platforms which focus on carving out distinct niches within the CE rental economy, in order to avoid putting themselves in direct competition with general CE rental companies.





One example of a comprehensive online rental platform is Jihui365, which offers diversified services including purchase information, repair and maintenance information, market analysis and rental services. On the other end of the strategic spectrum are the specialised services of 21-rent.com, which focuses on providing CE rental information for both lessor and lessee.

Internet-based rental platforms such as these are starting to take full advantage of the added transparency and efficiency that online platforms now offer. Information about CE supply and demand, reflected through inventory reports that are updated in real time, allows customers to determine the availability of specific CE parts and then enter into a rental agreement at a moment's notice. Direct B2B e-commerce channels for CE are still at an early stage of development, but represent a potential catalyst for growth among OEMs and other parts suppliers. B2B e-commerce channels promise optimised parts distribution efficiency by enlarging distribution coverage, especially in areas where parts suppliers do not have a strong presence. This segment of the aftermarket is well-positioned to capitalise on the standardised specifications within the industry, logistics convenience, and increasing cost consciousness – particularly for consumable parts.



Some OEMs, such as SANY and ZOOMLION, have entered this market with self-owned platforms in an attempt to directly control and profit from the more geographically diverse customer base than an online presence allows. Self-owned platforms allow the added benefit of establishing direct relationships with new customers, which can then be further developed without an intermediary. Open platforms such as 21part.com cooperate with a number of distributors to sell products that are owned by parts dealers.

Through features such as telematics, technology can play a role in customer satisfaction and retention, independently of how purchases and rentals are conducted in the marketplace. Customers with connected CE can receive alerts regarding ongoing events which may affect their work, and can also use collaborative tools to work efficiently by sharing location information and project status reports.

Dealers can keep their customers informed about notable environmental or other factors in their area, and can receive telematics reports regarding customers' maintenance needs. Dealers can also control the use of their CE via remote lock/unlock functions, as well as GPS tracking. Future upgrades of telematics systems are likely to provide more detailed information for dealers, such as real-time updates on customers' credit status.

While TMS has been widely available to customers, the market is farfrom mature with customers having basic and limited utilization needs

Needs	Customers (End-users)	Dealers
Key Needs	<ul> <li>GPS location</li> <li>Fuel efficiency</li> <li>Operation status tracking</li> <li>Alert for abnormal emergent situations</li> </ul>	<ul> <li>GPS location and remote lock/unlock function</li> <li>Alert for abnormal emergent situations</li> <li>Operation status tracking</li> <li>Maintenance service</li> </ul>
Unmet Needs	Most of customers' need for TMS are quite basic, which ususlly have been very well met by dealers	Level of information details could be enhanced, e.g., checking credit payment status on branch level

Source: Ipsos Business Consulting Analysis

### TAKEAWAYS FROM CHINA'S CE AFTERMARKET

As China's construction expansion slows, building projects for the coming decades will rely on increasing amounts of aging equipment. The CE aftermarket now presents an excellent opportunity to maintain the country's large fleet by meeting a growing demand for replacement parts and a variety of services.

The diverse reality of CE ownership across China ensures that there will be no single best approach to winning over the market, as private owners, rental companies, construction companies and sub-contractors have different sets of priorities when seeking aftermarket supplies and services. Private owners require more maintenance services than the other types of owners, and make less structured purchasing decisions that prioritise price over other variables. In contrast, construction companies tend to do all their own repairs and maintenance, favour other factors beyond price when seeking parts suppliers, and enter into regular purchase agreements only after conducting extensive market analysis. Genuine parts dealers offer the most trusted and reliable products on the market, but face unavoidable cost-related barriers when selling their wares. A deep understanding of customers' needs suggests that GP dealers can take other initiatives to add value to the parts and services they provide, effectively circumventing their price disadvantage through follow-up visits, free maintenance work for parts sold, and other convenient services that lead to stronger customer relationships and better loyalty.

As in other industries, technology offers an additional way forward for those who embrace it. Online platforms are likely to increase their market share as they offer better and more efficient services to customers. Rental platforms as well as e-commerce channels can easily connect customers with the parts they demand, and features such as telematics can add value to CE long after it is rented or sold.

Finding success in China's promising CE aftermarket depends on a forward-thinking strategy that targets a specific customer base by incorporating key insights gained from market analysis across the industry. Regardless of the segment that your business is targeting, an in-depth understanding of individual markets and their corresponding characteristics and sensitivities is needed to pave the way forward.





Preparing for market entry has never been so complex. The rise of global connectivity, both online and in terms of real-world trade infrastructure, means that businesses need to adapt to rapid changes throughout the world of commerce. New trade partnerships allow competition to come from all sides, e-commerce requires a revolution in logistics, and the rise of internet advertising demands mastery of this new media platform.

These new market realities affect consumer preferences in terms of products and their method of purchase, advertising models, logistics in an e-commerce world, legal requirements at every step of the way, and competitors both local and overseas. Companies must remain ready to respond to real-time evaluations of sales performance, while continuing to monitor progress toward long-term goals.

Now more than ever, a detailed understanding of the market is an essential element of a winning business model. The Ipsos Business Consulting proprietary model for Go-to-Market strategy, combined with our world-class marketing research service in 88 countries around the world, puts us ahead of the pack in preparing our clients for the new realities of the global marketplace.

Ipsos begins its Go-to-Market process with a detailed assessment of the existing marketplace to identify its needs, opportunities and limitations as well as the strengths and weaknesses of competitors. We then provide a clear entry strategy based on our clients' products and their unique selling points, identifying reliable local partners to assist in market entry.

By determining market growth potential through a realistic analysis of its drivers and barriers, Ipsos clearly maps the business landscape to show the way forward. Precise customer demographic profiles identify your target market, while a breakdown of your product value chain allows you to optimise the logistics network from end to end. This framework allows us to identify your company's inherent strengths, match each product to its ideal marketplace, and position your brand for maximum impact. We help you set realistic goals, whether your KPIs focus on growing your market share, increasing penetration or finding a new niche for your products. Ipsos's own visual model to compare pilot projects in terms of cost, timescale, ease of implementation, and potential performance level, makes deciding on strategy a straightforward process.

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Along the way, we continually seek out strategic levers your company can use to gain a market advantage, and then we convert them into clear initiatives for fast implementation. Our Project Management Office provides you with status reports and simple dashboards so that a current evaluation of your progress is always at your fingertips.

Well-researched, comprehensive and easy to use: Our dedicated multi-level approach makes Ipsos an ideal partner for Go-to-Market in both emerging and developed markets. For more information on how you can get started on the path to market success, go to www.ipsosconsulting.com to find your nearest office.

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- $\cdot$  Brand Strategy & Value
- uting
  - B2B Customer
    - Segmentation

· Sales Detector

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