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TRENDS IN CHINA’S AUTOMOTIVE COMPONENT MANUFACTURING INDUSTRY

Market Drivers, Manufacturer Overview, and Intellectual Property Protection Issues

September 2014

Introduction

- In 2013 sales of new vehicles surpassed the 20 million mark in China and new vehicle sales will continue to drive demand for automotive components.
- The independent aftermarket* will soon start to grow substantially given the rising number of cars no longer covered by manufacturer warranties.
- As used cars become a more viable option for first time buyers, increased government scrutiny of the developing sales network will positively impact the independent aftermarket.
- Based on these strong fundamentals, China's component manufacturing industry is expected to experience growth of more than 20% per year for the next 5 years.
- While the outlook remains positive, the central government has identified over-capacity as a potential threat for the industry and has put it under observation since early 2012.
- Counterfeiting will increase as the market expands and continue to threaten manufacturer's profits, requiring parts makers to implement stringent intellectual property protection practices.
- Exporting products remains challenging, especially for domestic component manufacturers, due to a lack of technology development and low competence in exporting high value-added products.
- Ongoing pressure from rising labour costs and the expected appreciation of the yuan will continue to challenge exporters of low value components.

Note*: The independent aftermarket refers to the independent non-OEM aftermarket

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    - DRIVERS OF AUTOMOTIVE COMPONENT DEMAND
    - COMPONENT MANUFACTURER INDUSTRY OVERVIEW
    - INTELLECTUAL PROPERTY PROTECTION BEST PRACTICES IN CHINA
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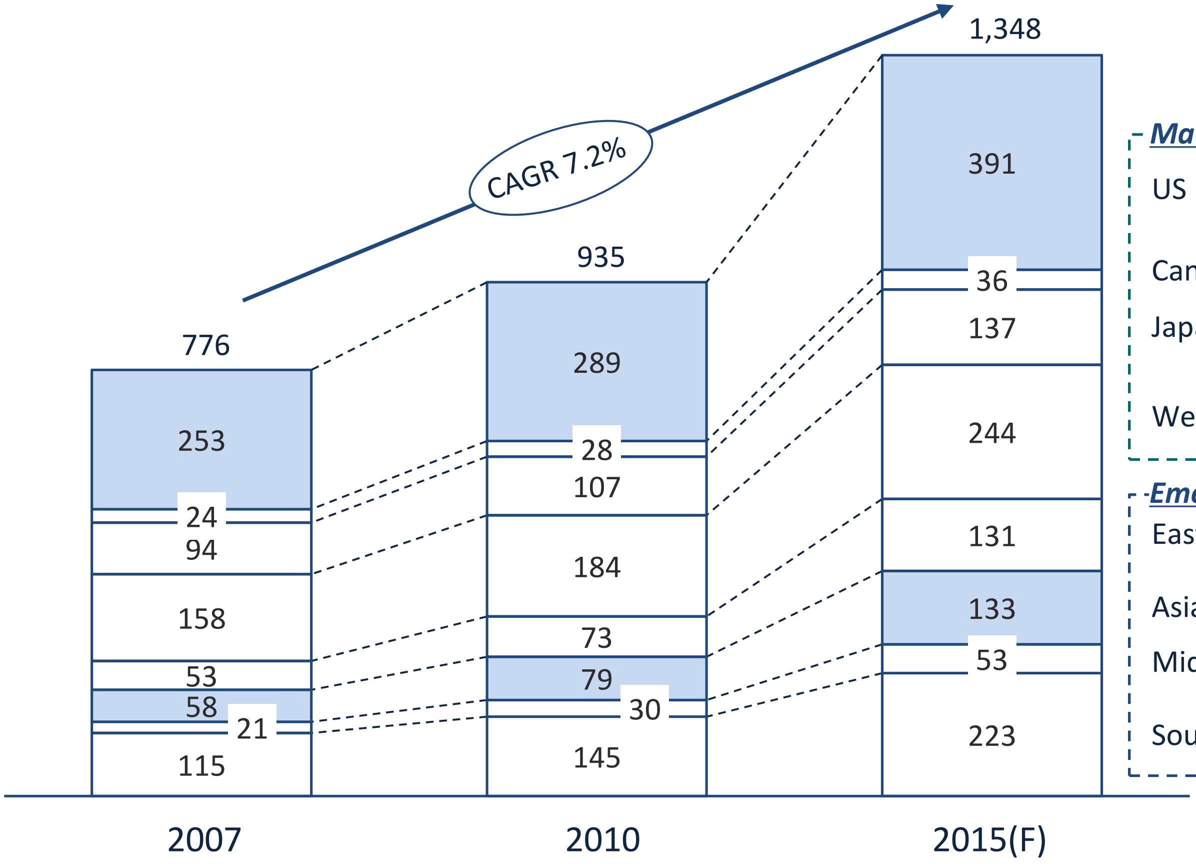
Global automotive aftermarket is expected to grow healthily over the next several years, driven by strong performance in emerging markets

Global automotive aftermarket industry value (2007-15)

Unit: USD billion



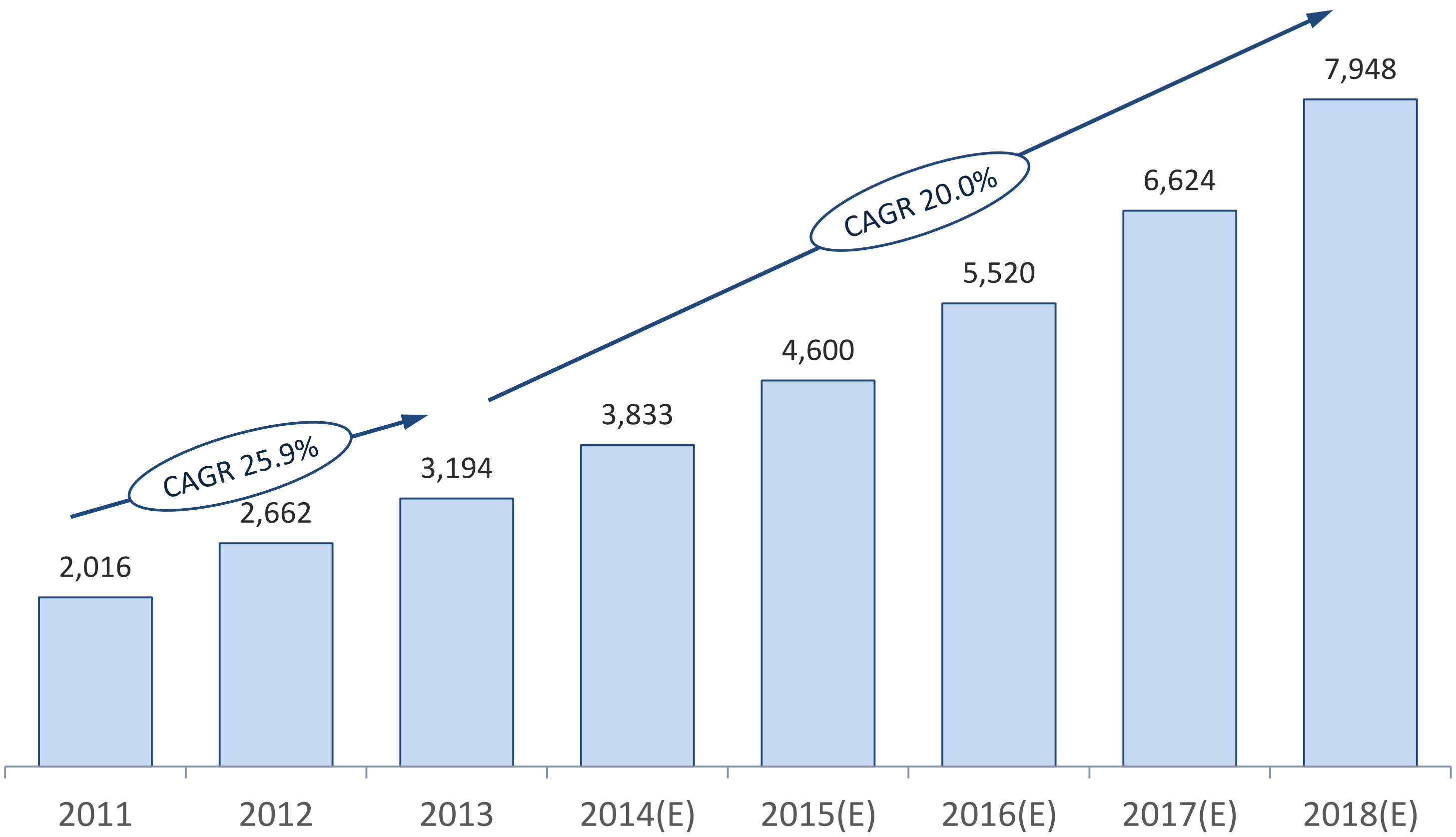
	CAGR 2007-15
Mature markets	
US	5.5%
Canada	4.8%
Japan	4.8%
West Europe	5.6%
Emerging markets	
East Europe	12.1%
Asia Pacific excl. Japan	10.9%
Mid East	12.4%
South America	8.7%

Source: Industry reports, Ipsos Business Consulting analysis

China will continue to be a key driver of the global automotive parts industry even though growth is expected to slow slightly

Total auto parts industrial output in China (2011-18)

Unit: CNY Billion



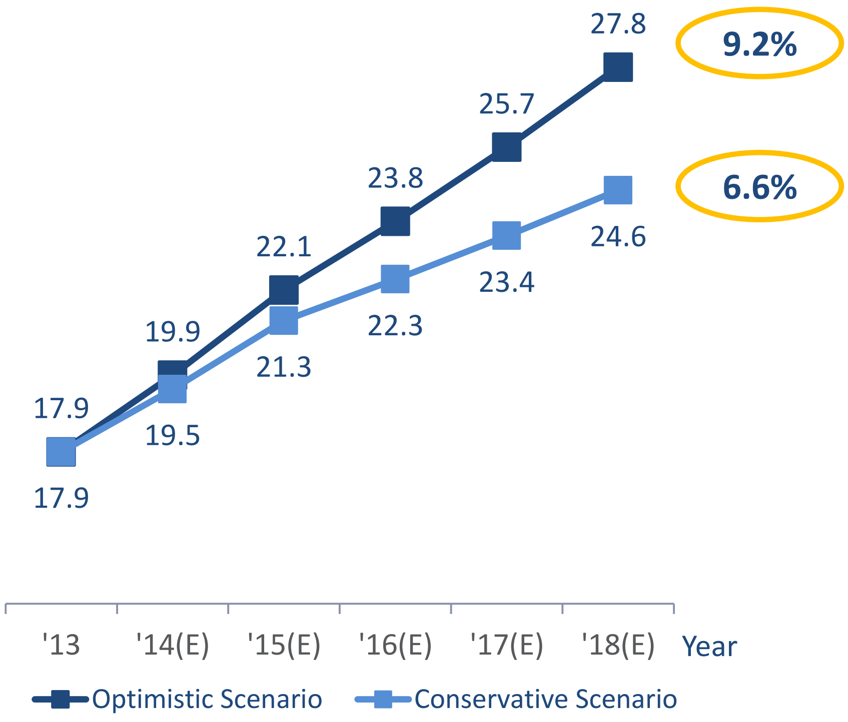
Source: CAAM; Gasgoo; National Bureau of Statistics; Ipsos Business Consulting analysis

Note:*Excludes whole OEM engines

While demand for new cars will continue to drive sales of passenger vehicles, the aftermarket will become the new growth engine for components

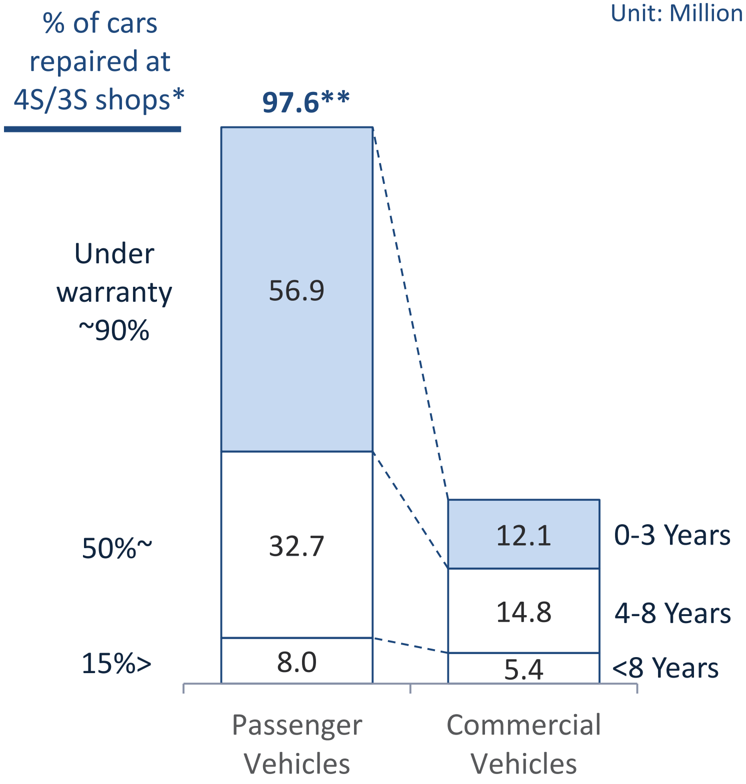
New passenger vehicle (PV) sales forecast **CAGR 2013-18**

Unit: Million



Car age by vehicle type (2002-13)

Unit: Million



Note*: 4s refers to automotive repair shops with sales, spareparts, service and survey functions
Note**: The estimation of 2013 population already takes car scrappage into consideration

Source: CAAM, Gasgoo survey, Ipsos Business Consulting analysis

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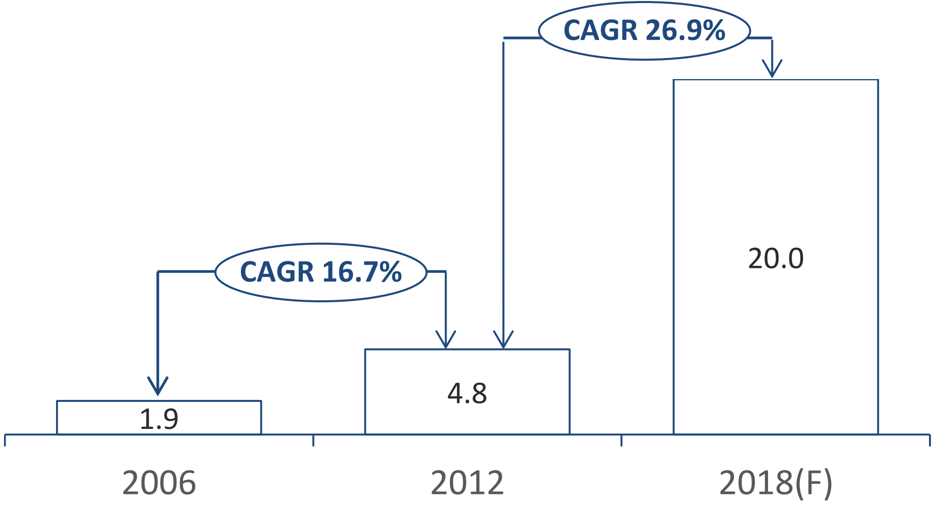
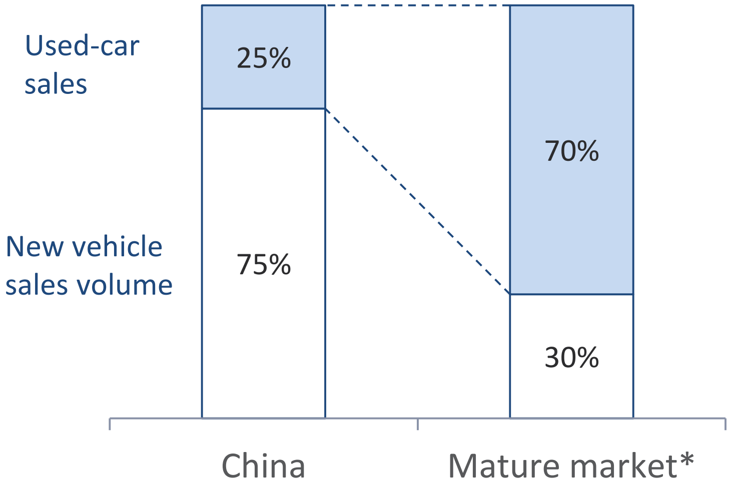
As China's used-car market develops, demand for components from the independent aftermarket is expected to increase

Annual used-car sales (2006–18)

Unit: CNY Million



Proportion of total vehicle sales: new vs. used



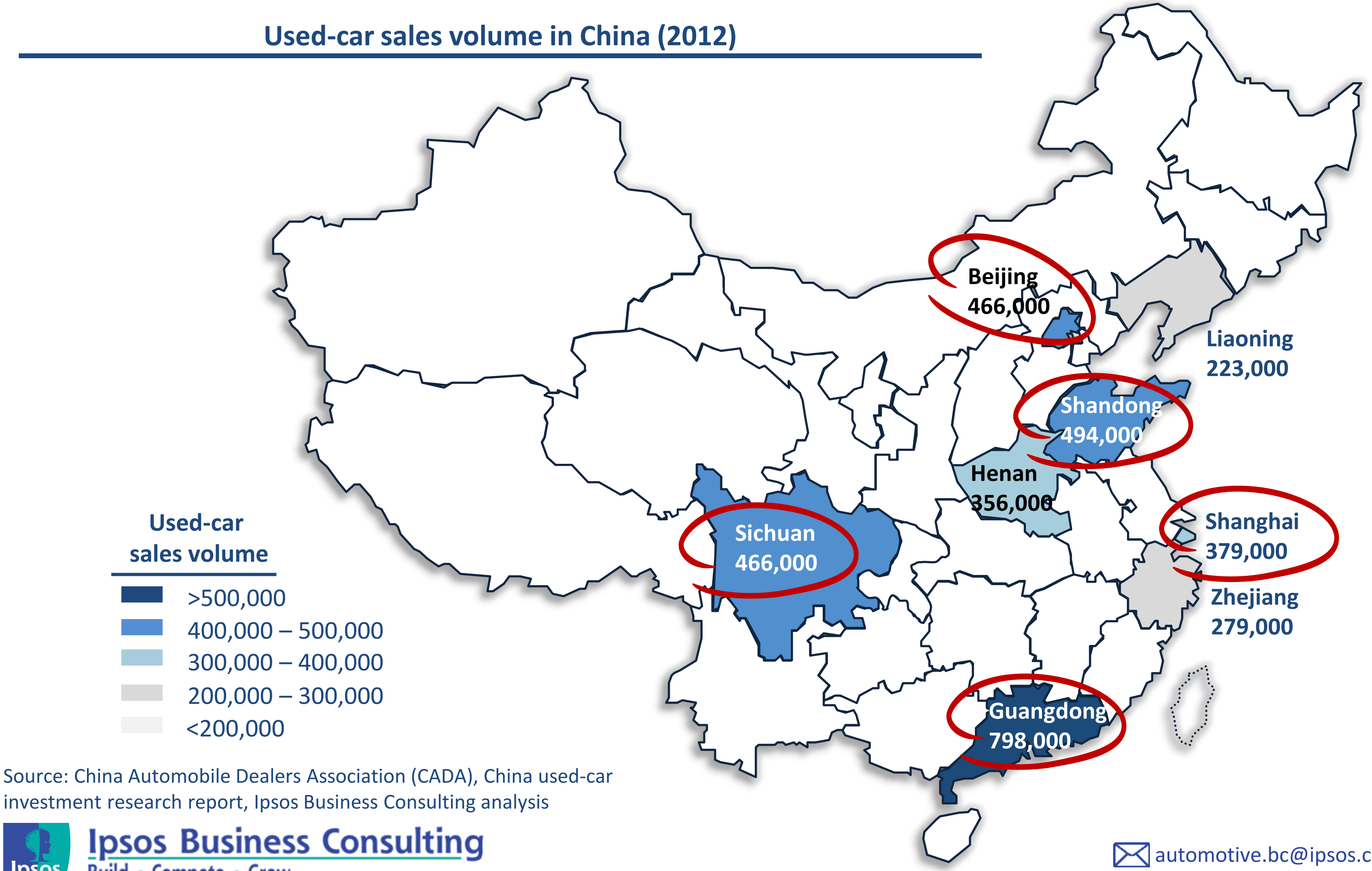
- Chinese consumers typically replace their vehicles 4 to 6 years after the initial purchase. Rapid growth in new vehicle sales in China from 2008 to 2012 will significantly increase supply in the used-car market over the next few years.
- China's current car population has exceeded 100 million vehicles and is expected to rise to 300 million when the market matures, demonstrating the industry's significant growth potential.
- Compared with already mature markets, China is at an early stage of development with ample space for developing the parts industry based on the current mix of new vs used cars in the country.

Note*: Mature market refers to USA, Canada, Japan Western Europe

Source: China Automobile Dealers Association(CADA), China used-car investment research report, Ipsos Business Consulting analysis

Regional development of the used-car market is not balanced, with five provinces accounting for 54.3% of used-car sales nationwide

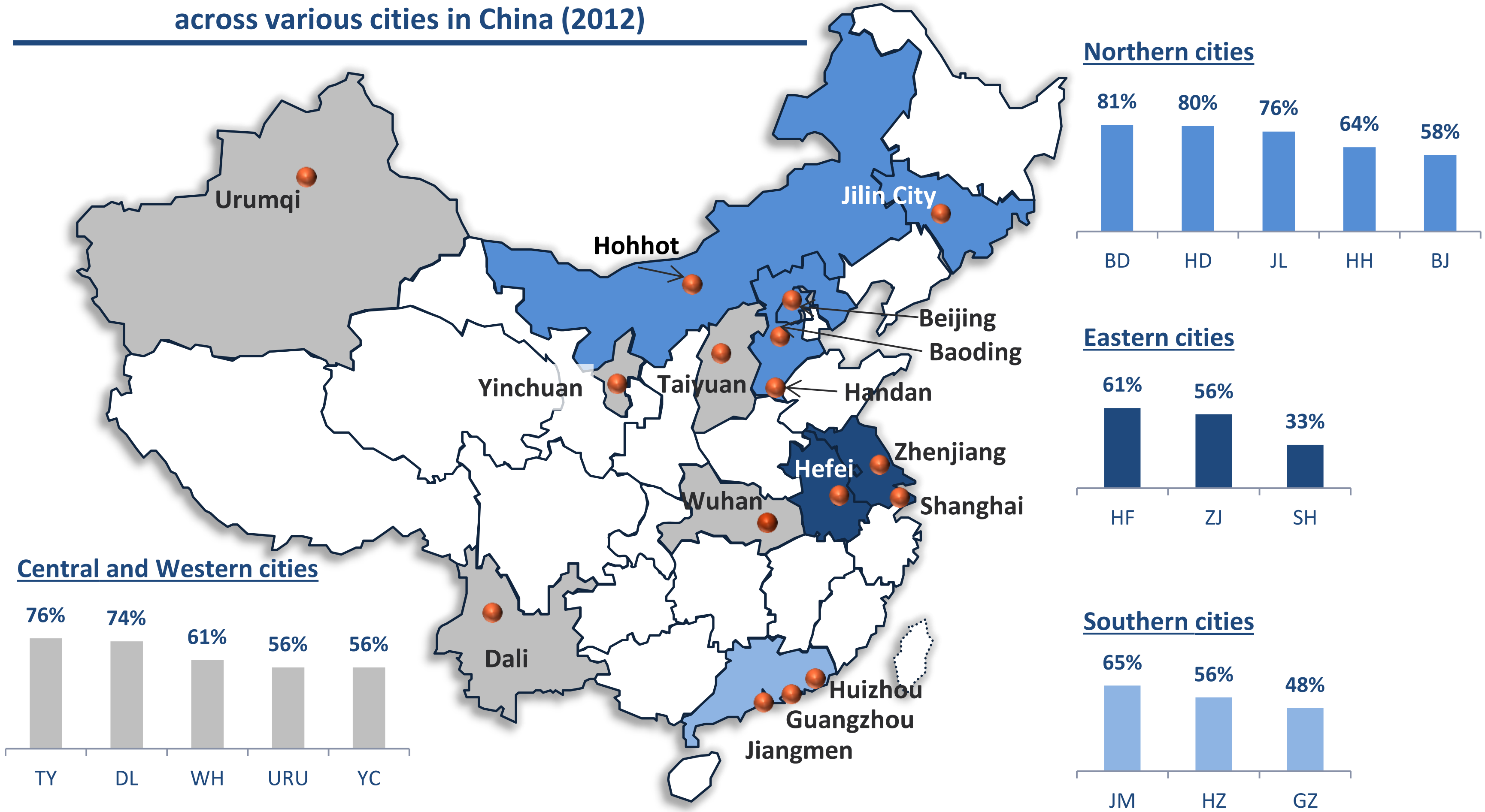
Used-car sales volume in China (2012)



Source: China Automobile Dealers Association (CADA), China used-car investment research report, Ipsos Business Consulting analysis

Wide variation in PV penetration across China provides both national and regional opportunities for automotive component manufacturers

Penetration of PVs with a maximum engine size of 1.5L across various cities in China (2012)



Source: Ipsos Business Consulting analysis

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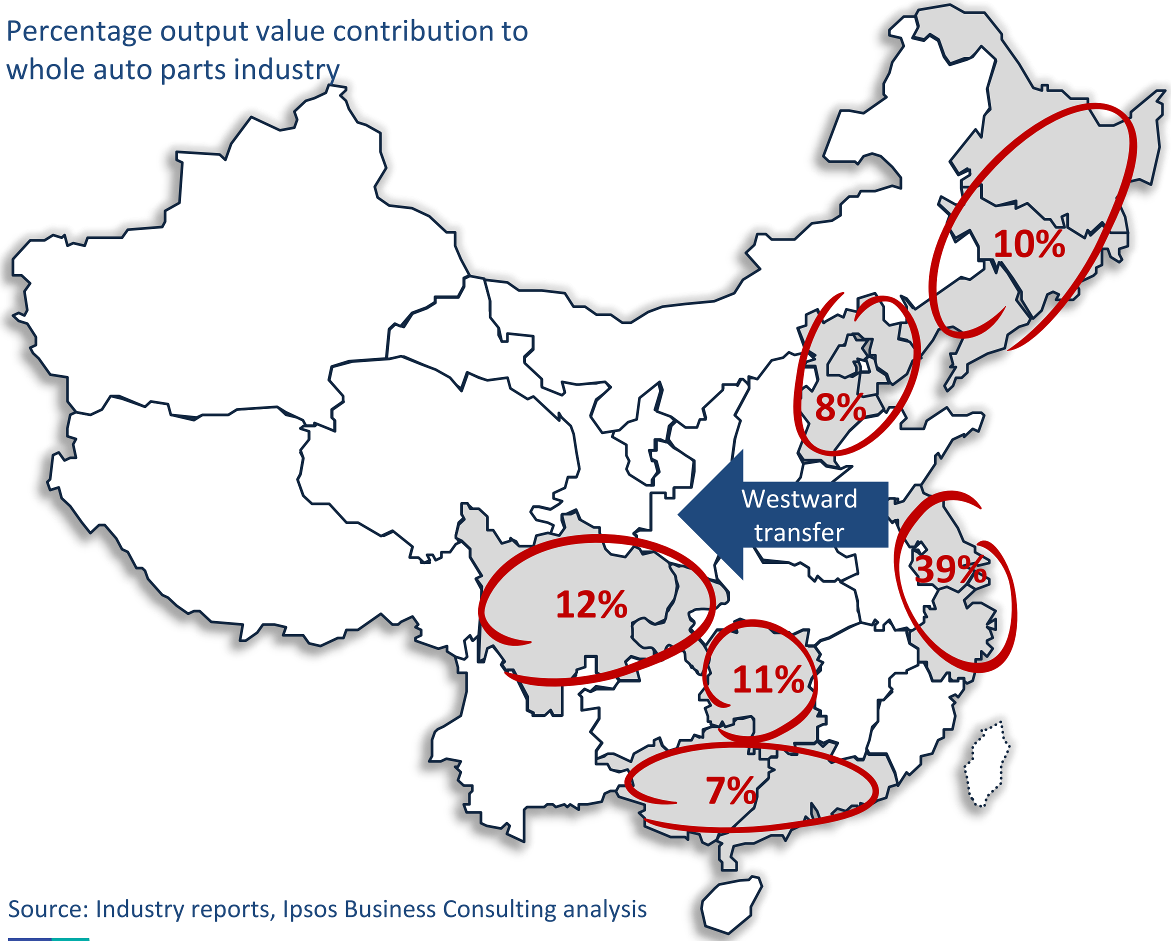
China's auto parts industry is concentrated in 6 main clusters with most component suppliers located near to their key markets

Industrial clusters and competitive landscape

Percentage output value contribution to whole auto parts industry



Source: Industry reports, Ipsos Business Consulting analysis

Highlights

- In terms of geographical concentration, the location of the auto parts industry is in close proximity to the auto OEM industry
- China's auto parts industry is concentrated within the same 6 regional clusters as most auto OEMs
- Eastern China is the largest cluster for both auto parts (market share of 39%) and the auto OEM industry (market share of 37%)
- Auto parts companies are experiencing the same trends as auto OEMs which are expanding production and sales in western regions

Foreign-invested enterprises enjoy a much higher average industrial output than domestic enterprises

Automotive components industry overview (2012)

	Number of enterprises	Industrial output (CNY Billion)		Average industrial output (CNY Billion)
Foreign-invested enterprises	1,941	903	34%	0.47
Private enterprises	2,794	604	23%	0.22
Other domestic enterprises	5,318	1,154	43%	0.22
Total	10,053	2,662	100%	0.26

Note: Other domestic enterprises includes state-owned enterprises, collectively-owned enterprises, joint-stock cooperative enterprises, joint-stock enterprises and others

Source: China Automotive Statistics Yearbook 2013, Industrial Report, Ipsos Business Consulting analysis

Metal processing is the auto parts industry's major segment in terms of output

Industry segment				Production value	Main players
Auto parts industry	Metal parts	Chassis system	Transmission	49%	ZF Shanghai Steering Dicastal 湖北三环离合器有限公司 Hubei Tri-Ring Clutch Co., Ltd. MANDO
			Steering		
			Driving		
			Brake		
		Auto body components (metal)		9%	ATGL 安庆帝伯格茨缸套有限公司 www.atgl.com.cn FEDERAL MOGUL
		Engine system*		18%	KSPG Automotive ATBP Fleetguard 上海弗列加
	Non-metal	Interior		12%	LEAR CORPORATION Visteon 延锋伟世通 Yanfeng Visteon 方科企业 FANGLE ENTERPRISES 三岭汽车座椅
		Exterior			
	Electronics & electrical systems			12%	UAES 联合汽车电子有限公司 United Automotive Electronic Systems Co., Ltd. 湖北三环汽车电器有限公司 Hubei Tri-ring Auto-electric Appliance Co.,LTD Valeo 法雷奥

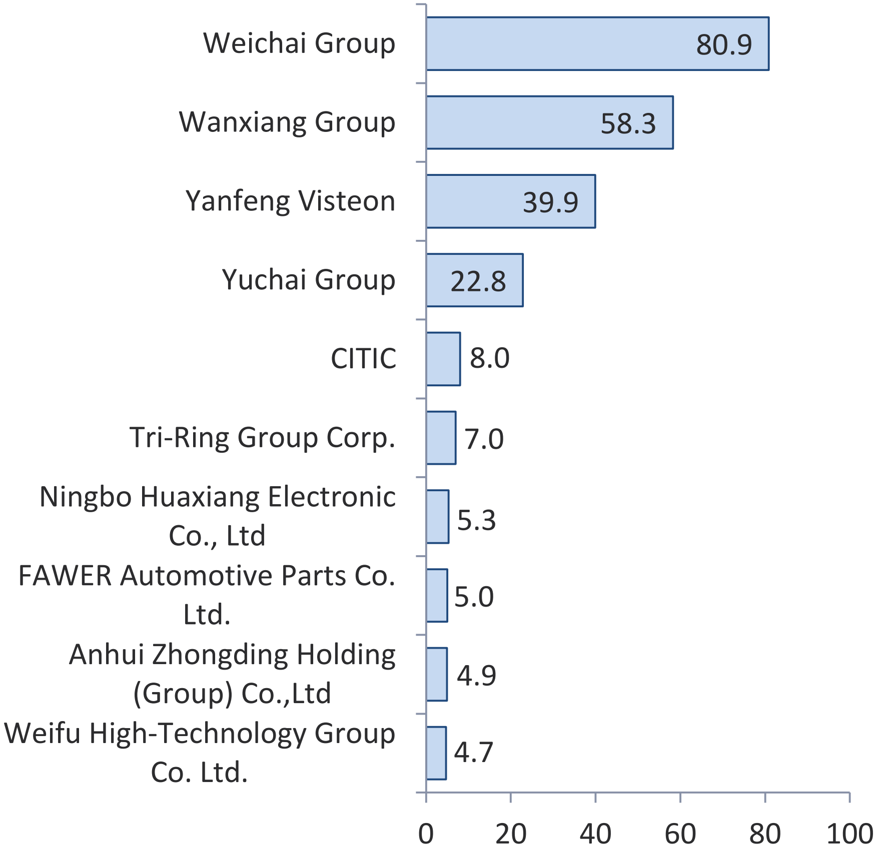
Note: *Only includes independent engine parts manufacturer, excluding engine OEM companies.

Source: Ipsos Business Consulting analysis

While a few national champions have emerged, international component manufacturers enjoy significant market share in China

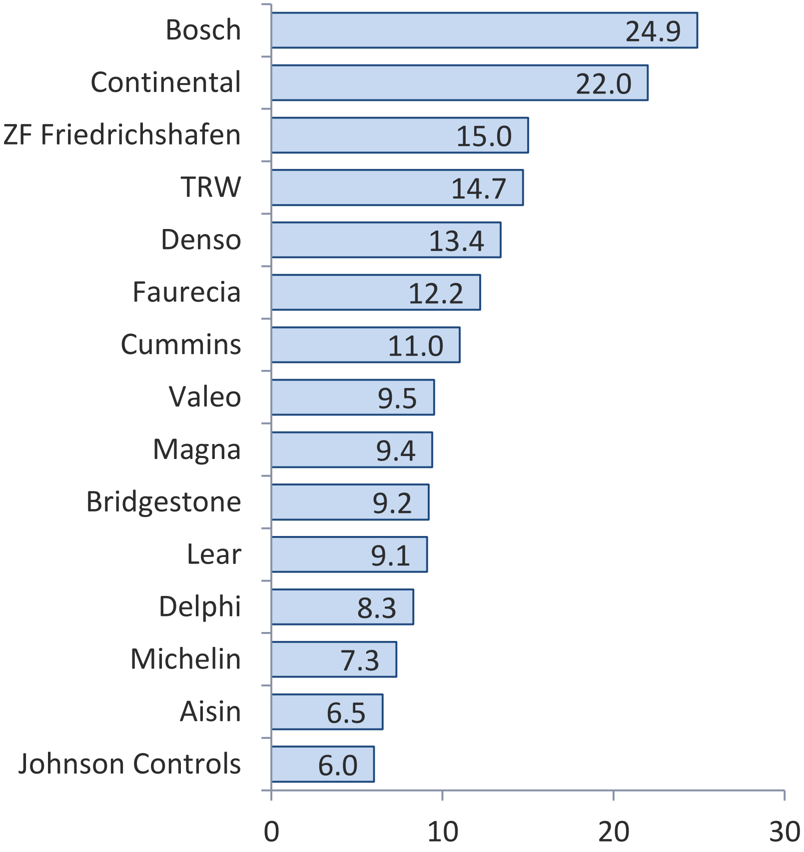
Top 10 domestic component manufacturers in China by revenue (2012)

Unit: CNY Billion



Top 15 foreign component manufacturers in China by Revenue (2012)

Unit: CNY Billion



Source: Ipsos Business Consulting analysis

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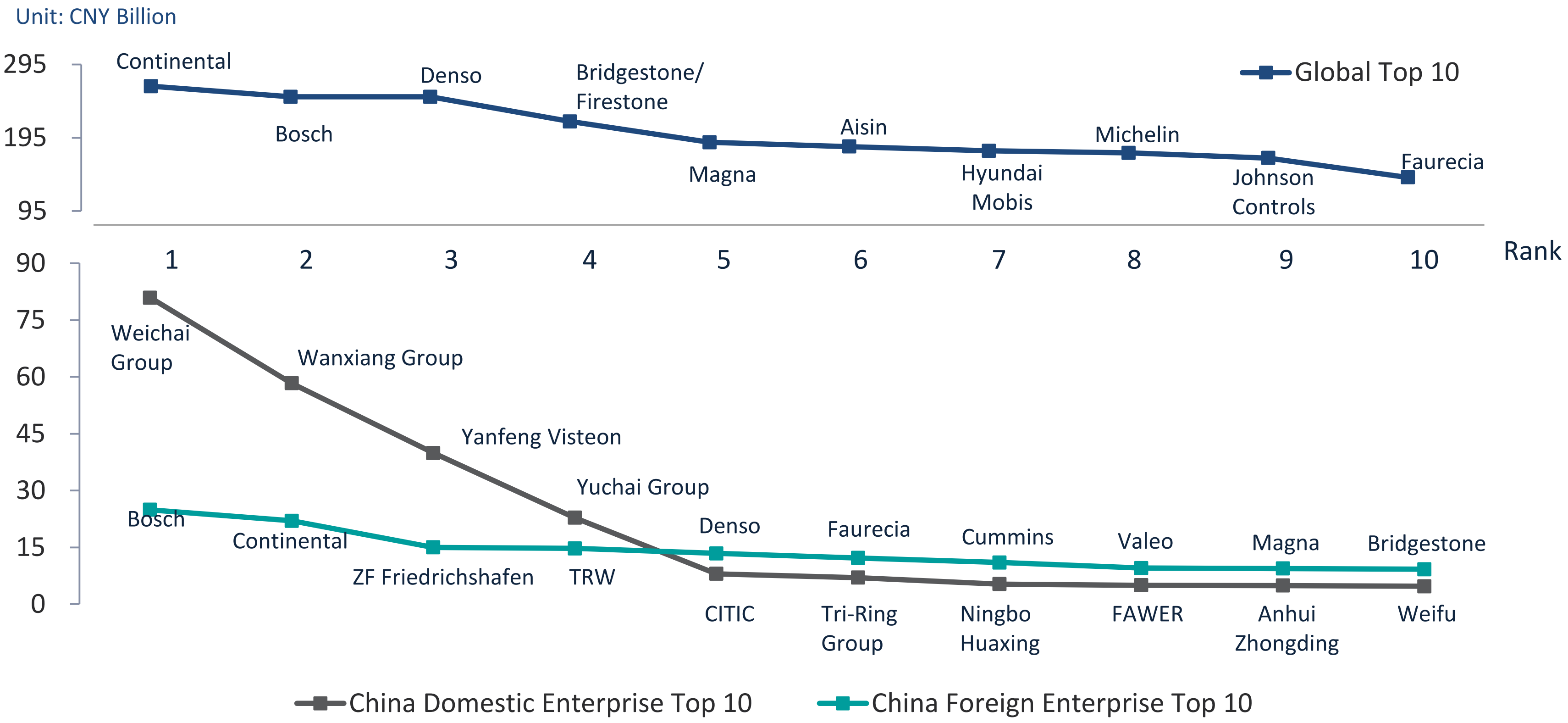
China’s domestic component manufacturers must continue to develop their capabilities to effectively compete globally

Ranking comparison of Chinese and global component manufacturers



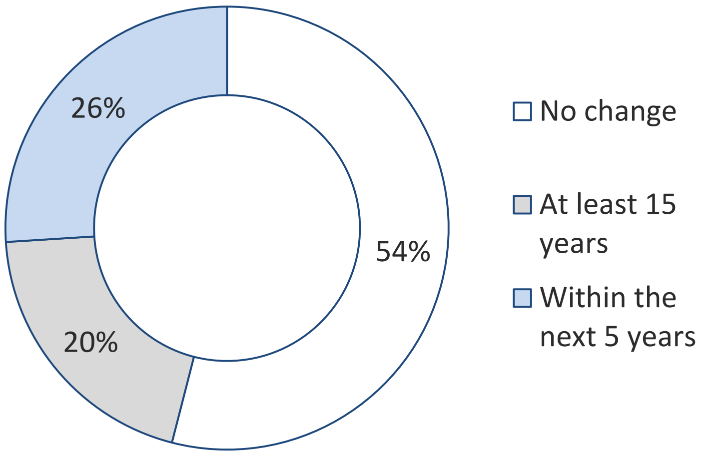
Note:

- Comparison to the Global Top 10 Ranking is not precise as data collection and evaluation methodologies vary. The aim is to illustrate the significance of the Chinese and global markets for both foreign and domestic manufacturers.
- Revenues of the Global Top 10 have been converted into CNY based on the 2012 average EUR/CNY exchange rate

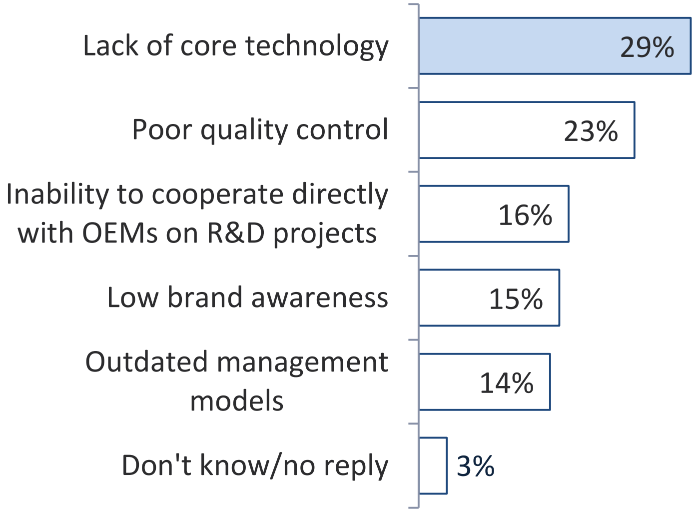
Source: Global Top 10 Ranking from Berylls Strategy Advisors, Ipsos Business Consulting analysis

Industry experts believe the majority of domestic manufacturers will continue to struggle to increase their competitiveness in the near term

Time required for domestic component manufacturers to move up the value chain



Main reasons for domestic component manufacturers' lack of competitiveness

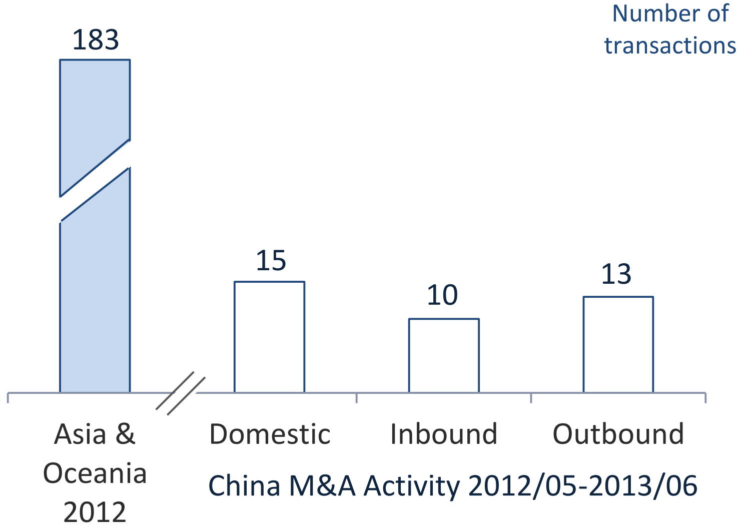


- Many smaller domestic component manufacturers focus on the after sales market which is becoming increasingly competitive
- Export of low-value components will remain strong. Continued appreciation of the Chinese yuan will make exporting to price sensitive regions increasingly challenging

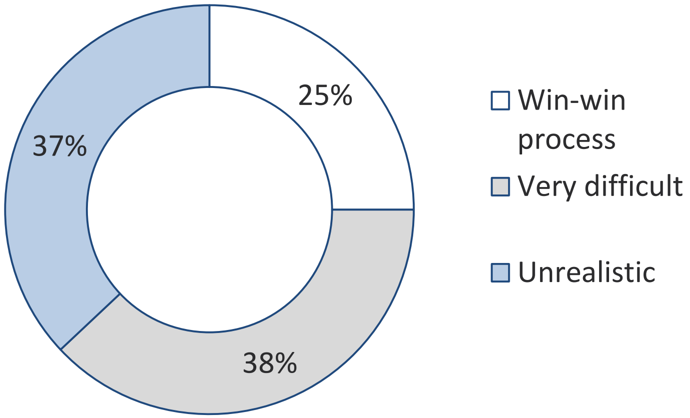
Source: Gasgoo.com (Chinese) & China Business News survey of 2,980 industry analysts and experts in 2012

M&A strategies remain a hot topic, however, managing an acquisition and subsequent integration is a daunting task for most domestic firms

Overview of recent automotive M&A activity in China*



Ability to increase competitiveness through M&A with foreign companies**



- Overall M&A activity in China is expected to remain at current levels. However, only a few large-scale private domestic and state-owned enterprises will be actively pursuing M&A strategies
- Foreign companies are expected to continue looking for M&A opportunities to expand their capabilities within the Chinese market
- For many small-scale domestic component manufacturers, M&A is considered at best a very difficult if not unrealistic process to develop core technologies and become more competitive

Source*: Asia & Oceania M&A Activity Thomson Reuters, PWC, Ipsos Business Consulting analysis
Source**: Gasgoo.com (Chinese) & China Business News survey of 2,980 industry analysts and experts in 2012

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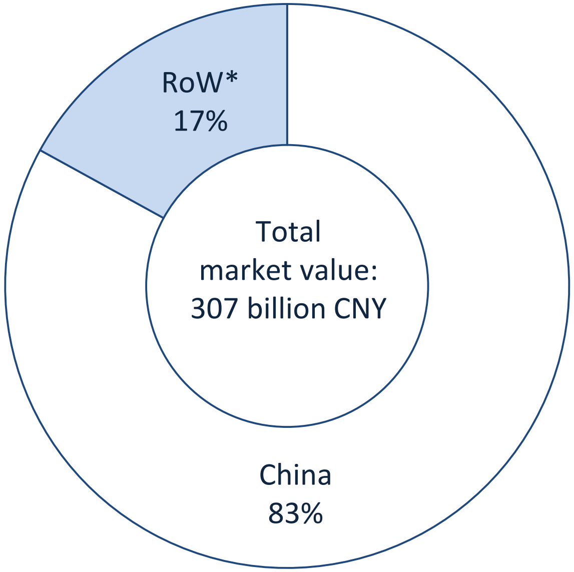
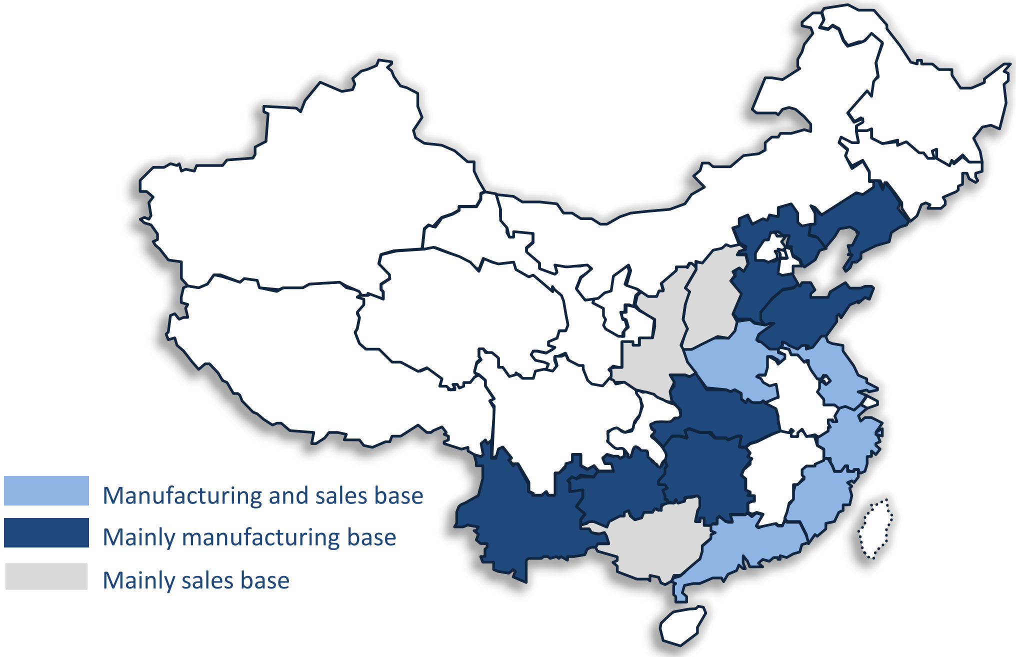
China is the largest counterfeit auto parts market in the world, with an estimated value of CNY 255 billion in 2011

China's counterfeit auto parts market relative value



Manufacturing and sales bases for counterfeit components in China



- Guangdong, Henan, Zhejiang, Jiangsu and Fujian provinces are considered to be the largest auto parts counterfeiting regions in China

Note*: RoW refers to rest of the world

The central government has improved intellectual property laws, though enforcement of trademark and anti-counterfeiting requires improvement

Government	• **Relatively weaker enforcement system** Relative to producers of fake medicine or food, manufacturers of counterfeit auto parts (which may also cause fatal accidents) have not received serious punishments
End-user	• **Limited product knowledge** It is estimated that around 90% of ordinary end-users are not able to identify counterfeit parts, while only 30% of professional end-users are able to identify counterfeits • **High price sensitivity** Many end-users do not choose 4S shops or authorised distributors to purchase genuine parts due to their relatively higher prices
Unregistered manufacturers	• **Counterfeit component production** Currently, a large number of small unregistered component manufacturers are flooding the market with counterfeit products
Installation channels (end-user channel)	• **Independent installers** Aftermarket products are often installed in small independent workshops that either unknowingly sell counterfeit products to end-users (car owners) or are directly involved in offering low cost alternatives to well known brands

Source: Ipsos Business Consulting analysis

Local government officials often sell confiscated counterfeit parts back to the manufacturer, or auction them to the public

4 methods of disposal

1

Auctioned by the government (after removing trademark)

- Worse situation for the branded component manufacturer
- Counterfeit parts re-enter the distribution channel and steal market share of genuine parts

2

Destroyed by government

- Most desirable situation for the brand
- Brand or third-party agency has to build a strong relationship with relevant government departments
- Brand or third-party agency must supervise government destruction of counterfeits

3

Purchased by the company

- If the government refuses to destroy the counterfeit components and the brand would like to avoid the harmful effects from the auction process, the brand must purchase counterfeit parts directly from the government

4

Donated by government

- Rarely occurs in the auto parts market

Source: Ipsos Business Consulting analysis

Anti-counterfeiting systems are considered the most effective internal strategy for reducing counterfeits and can be supplemented by secondary actions

Possible methods to strengthen a company's internal strategy

1. **Update anti-counterfeiting system -** upgrade to a 2-dimensional barcode (double layer design), the most advanced anti-counterfeiting technology available
2. **Strengthen channel management -** integrate brand protection performance into the distributor evaluation system
3. **Limit authorised activity scope of supplier-** design, manufacture, label and operating anti-counterfeiting system should be controlled by the brand itself
4. **Improve end-user education -** promote product identification knowledge through commercial advertisements
5. **Increase end-user brand loyalty -** offer superior products and complementary services to end-users to motivate them to use genuine parts

Source: Ipsos Business Consulting analysis

Five levels of anti-counterfeiting label technology are currently being implemented in China

Types of anti-counterfeiting label by level of sophistication

Wireless anti-counterfeiting: Double-layer design; offers the product traceability via Wi-Fi monitoring

Security-line: A security-line embedded into the label

Grained label: Cross-grained to serve as a distinction mark; query via telephone call, text message or internet

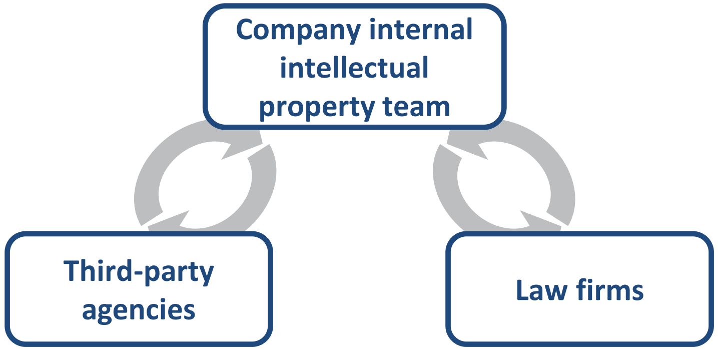
Query code label: Must verify the randomly generated code on each label via telephone, text message or internet

Laser label, thermo-label (温变标签): Appears differently when viewed from different angles or in different temperatures

Source: Ipsos Business Consulting analysis

Cooperating with third-party agencies is the usual model for conducting brand protection work

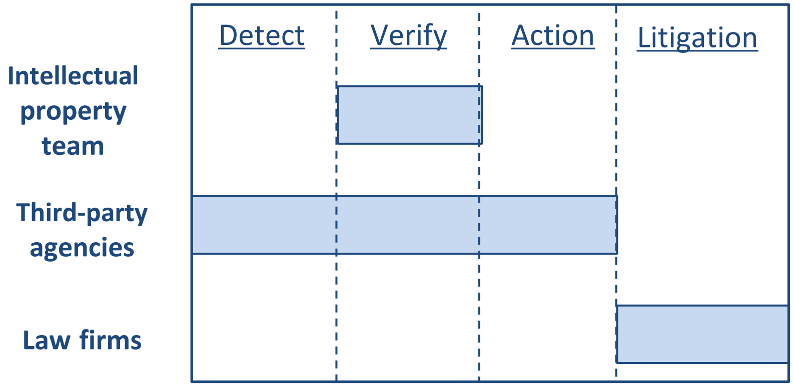
Cooperation model


Company internal intellectual property team

Third-party agencies

Law firms

Involvement



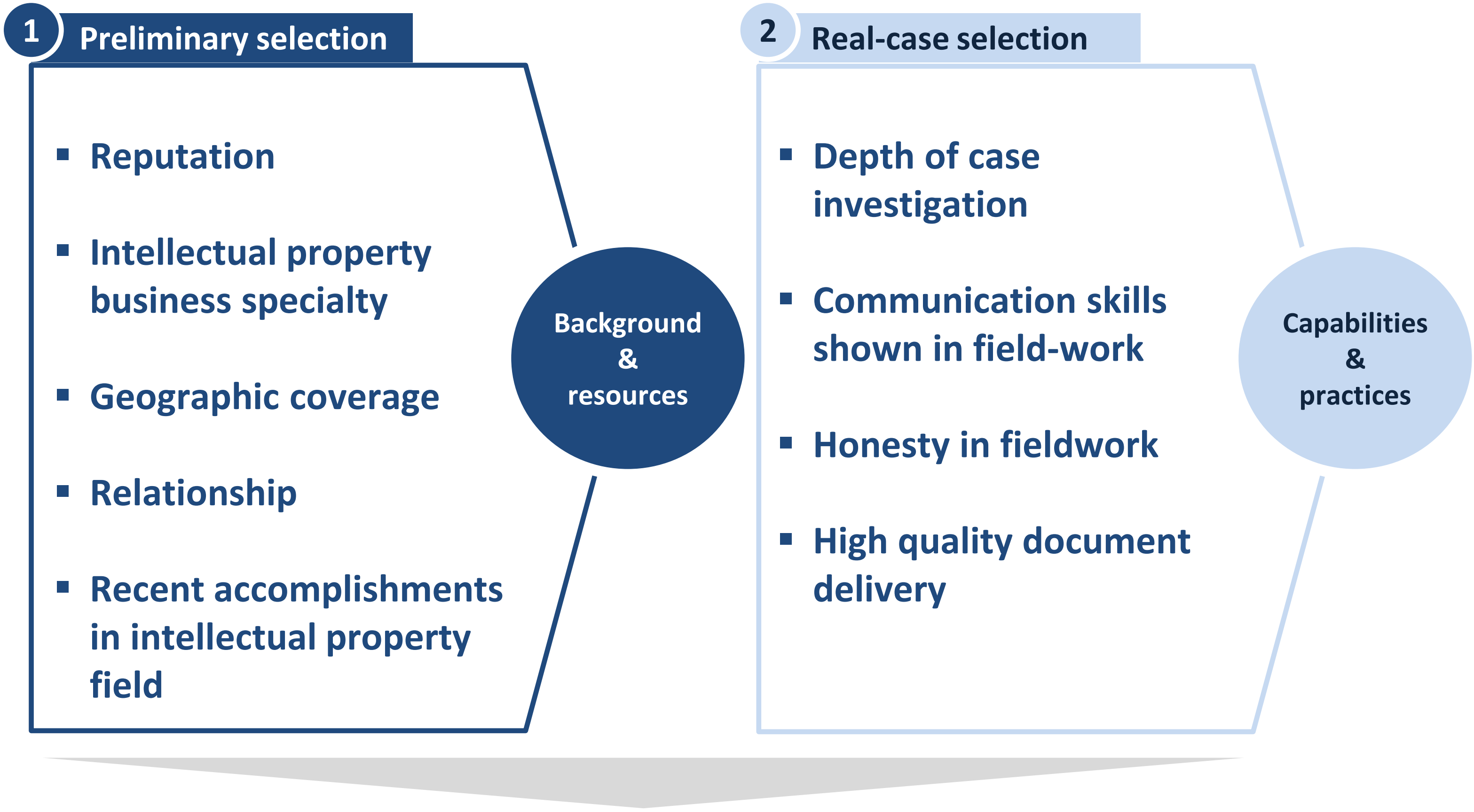
	Description
Intellectual property team	• Overall management and case evaluation • Team usually consists of 1-2 full-time staff members for overall IP protection work
Third-party agencies	• Investigation and on-site action • Specialised agencies are hired to cover different aspects of IP work. Each agency has its own business specialty and focuses on specific regions
Law firms	• After-case litigation

Examples of some external agencies* include: Sinofaith, Wan Hui Da, Unitalen, CTMO, MIZIP and Genuineways

Note*: IP stands for Intellectual Property
Ipsos Business Consulting is not affiliated with nor recommending any of the agencies listed above

Source: Ipsos Business Consulting analysis

A comprehensive selection process is crucial to assess resources and capabilities when choosing a third-party agency



1 Preliminary selection

- Reputation
- Intellectual property business specialty
- Geographic coverage
- Relationship
- Recent accomplishments in intellectual property field

Background & resources

2 Real-case selection

- Depth of case investigation
- Communication skills shown in field-work
- Honesty in fieldwork
- High quality document delivery

Capabilities & practices

Third-party agencies should be authorised for case-based cooperation through a two-phase selection process

Source: Ipsos Business Consulting analysis

Manufacturers also work with third-party agencies on a yearly contractual basis if they are able to meet specific requirements

	Case-based third-party agency	Yearly-based third-party agency
Key focus & responsibilities	**Responsibilities** • Only focus on 1-2 specific case type(s) such as manufacture, warehouse or distribution • Market monitoring	**Responsibilities** • Conduct all types of investigations including counterfeit manufacturers, logistics and warehousing, distribution • Respond to brand's key concerns and clues for further investigation

Specific requirements focus around measurement of success the agencies have in helping the manufacturer protect its intellectual property

- Case success rate
- Percentage of high-value cases
- Depth of investigation

Source: Ipsos Business Consulting analysis

Clear incentives and evaluation structures can be designed to ensure third-party agencies remain highly motivated

Incentives

“Floating-rate” payment method

- Payment for third-party agencies is based on the total value of counterfeit parts captured per case
- The third-party agencies can obtain an average 20-30% of the total case value, and a maximum payment of CNY 100,000 per case

Sole long-term partnership

- Willing to offer sole long-term partnership to agency which fulfills brand protection assignments

Evaluation

Strict elimination system

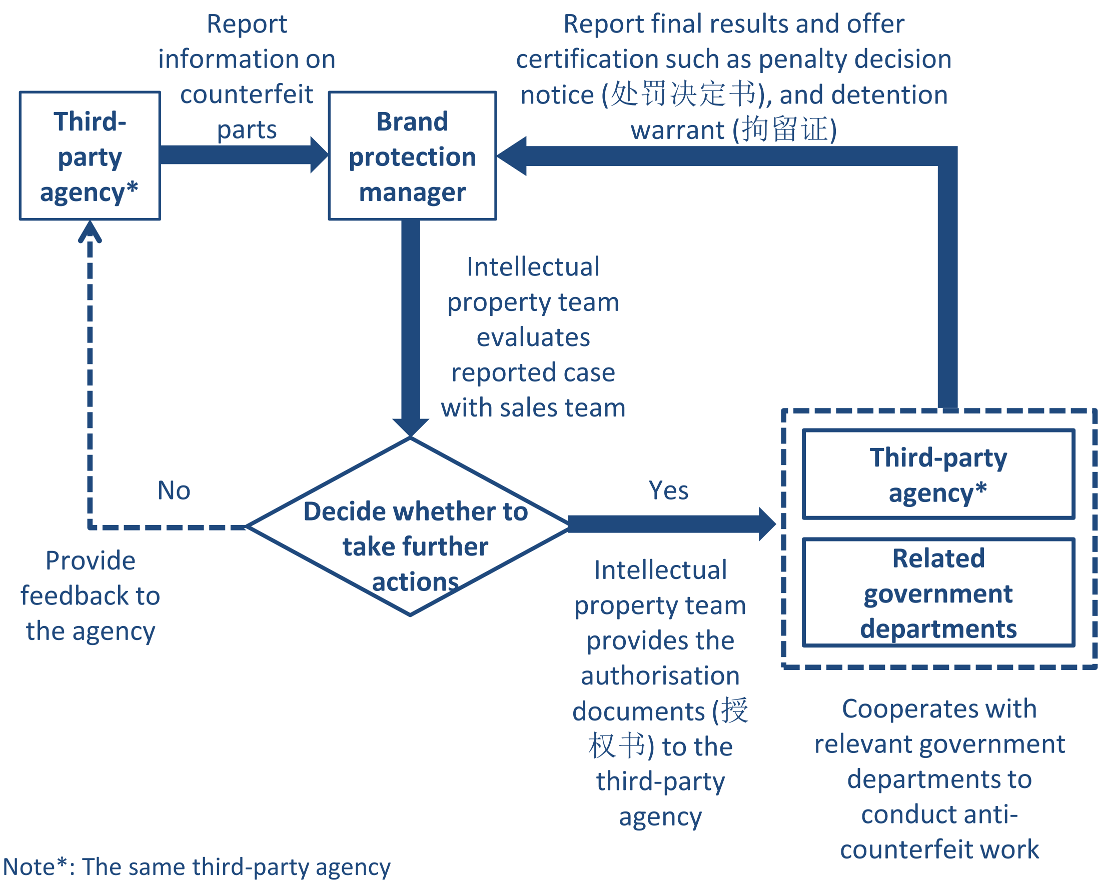
- Agencies that cannot pass the evaluation will be excluded without hesitation

- Depth of investigation is a key indicator in evaluating an agency. For example, the manufacturer should end cooperation with an agency if the firm only focuses on taking down counterfeit sales sites and warehouses instead of following clues and further investigating the original manufacturing sites

Source: Ipsos Business Consulting analysis

Typical brand protection workflow and IP committee organisation for successful and efficient IP management

Example of brand protection workflow



Report information on counterfeit parts

Report final results and offer certification such as penalty decision notice (处罚决定书), and detention warrant (拘留证)

Third-party agency*

Brand protection manager

Intellectual property team evaluates reported case with sales team

Decide whether to take further actions

No

Provide feedback to the agency

Yes

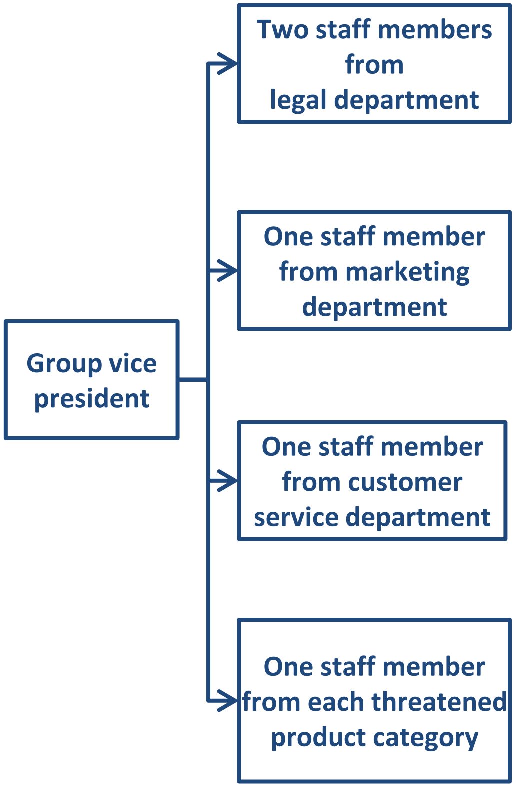
Intellectual property team provides the authorisation documents (授权书) to the third-party agency

Third-party agency*

Related government departments

Cooperates with relevant government departments to conduct anti-counterfeit work

Group intellectual property committee



Group vice president

Two staff members from legal department

One staff member from marketing department

One staff member from customer service department

One staff member from each threatened product category

Note*: The same third-party agency

Source: Ipsos Business Consulting analysis

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Our service range in automotive related industries

Automotive Related

		Product coverage	Clients
Auto OEM		Various types of vehicles: • Commercial vehicles • Passenger vehicles	GM Das Auto. NISSAN HONDA The Power of Dreams TOYOTA
Construction Vehicle OEM		Various types of construction vehicles: • Excavator • Bulldozer • Forklift • Dump truck • Other construction vehicles	CAT DOOSAN VOLVO
Vehicle Parts		Various types of parts & components for vehicles: • Engine and engine parts • Filters • Tires • Other parts	BOSCH MICHELIN COOPERTIRES VOLVO PENTA Cummins
Other Vehicle Related		Other auto-related products: • Automotive lubricant • Automotive painting • Other products	CALTEX ExxonMobil bp Chevron

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