

Truck and trailer components – Success factors for suppliers in specialized markets

Market study



Management summary (1/2)

The truck and trailer component market has shown cyclical movements in the past fostered mainly by short-term business climate change, industrial production and market regulations (e.g. fuel economy standards and technological requirements)

We consider articulated and rigid trucks in the medium/heavy duty segment as well as semitrailers and drawbar trailers when analyzing the truck and trailer market development respectively:

- > Global production of medium/heavy duty trucks is expected to grow at c.3% p.a. from 2017 to 2021 with articulated truck production outgrowing at c.5% p.a.
- > Key regional markets are dominated by local truck OEMs; market shares of the top-5 players sum up to >70%
- > With regard to the global trailer market, we forecast a moderate increase in production units at c.3% growth p.a. from 2017 to 2021
- > While semitrailers growing at c.2% p.a. still represent the predominant type of trailers in all markets (share of c.91% at a global level), we expect drawbar trailer production to outgrow at c.10% p.a., particularly driven by the Chinese market

With regard to the global truck/trailer component first-fit market, we mainly focus on the production of fifth wheels, landing gears, hydraulic cylinders, disk & drum brakes and trailer axles¹⁾ to derive trends for market development until 2021:

- > The global truck/trailer component production is expected to grow at c.4% p.a. from 2017 to 2021
- > While the production of trailer axles, which accounts for c.76% of the component market, shows average growth, the production of fifth wheels and disk & drum brakes is forecasted to outperform market growth at c.5% p.a.

1) All CKD fitted components are considered in country of assembly. Aftermarket revenues are not included.

Management summary (2/2)

- The global fifth wheels and landing gear markets are dominated by Jost and SAF Holland who reach a combined market share of c.70% – Fuwa as strong local player in Asia-Pacific
- Within the commercial vehicle (CV) supplier industry, market players need to manage a broad variety of short and long term challenges, setting high barriers for new market entrants. To meet these challenges, we identified internal and external key success factors for CV suppliers:
 - > Internal factors: Strong distribution network, powerful customer management, unique portfolio of branded products and services, global presence, globally integrated sourcing, lean and efficient production and value chain management
 - > External factors: Strong brand and reputation, strong customer relationship, competitive prices, high technical capabilities, innovation power, high delivery performance, high quality, geographic proximity and local content
- For further details, please find an extract of our broad study on the following pages



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C. Component market development

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D. Key success factors for component suppliers

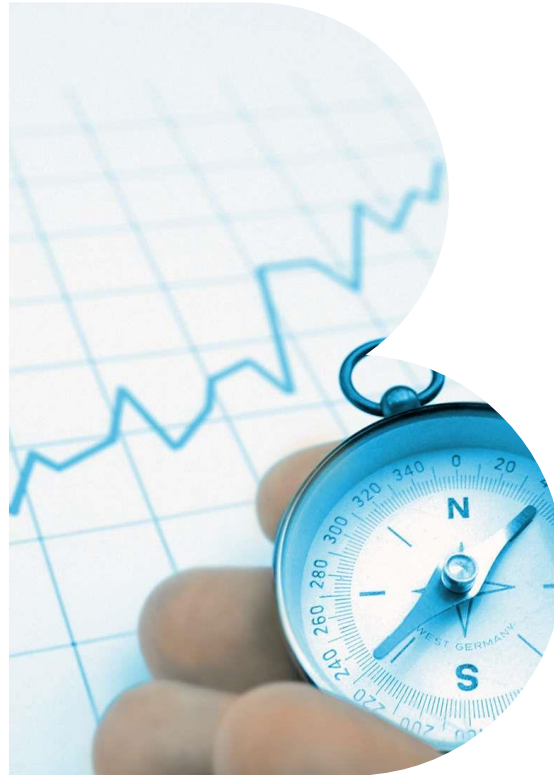
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E. Roland Berger

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A. Market trends and drivers



The global truck and trailer demand is affected by various drivers – Highest short/mid-term influence by macroeconomic factors

Key trends and drivers for the truck and trailer market

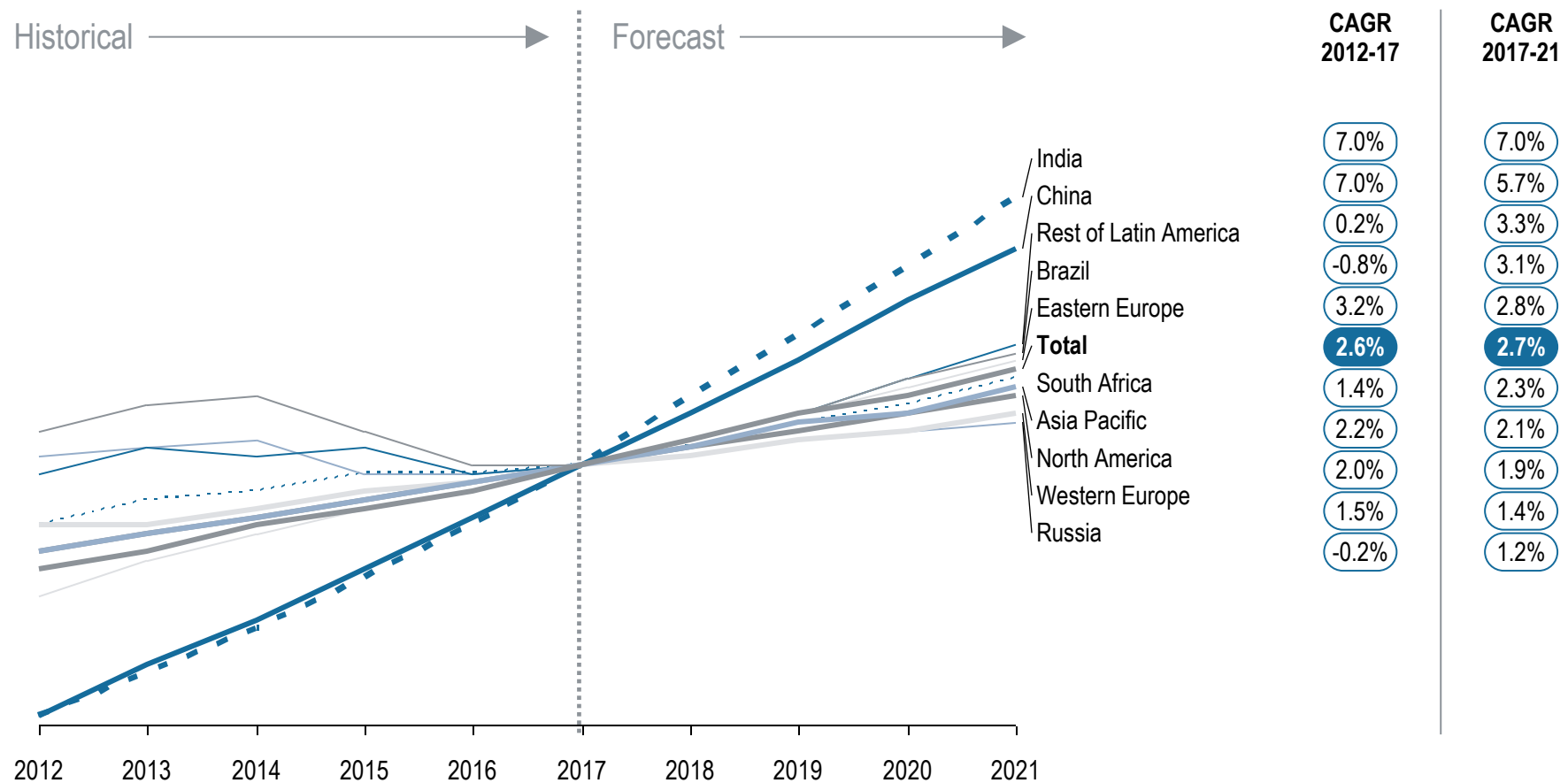
Market trends/ drivers		Rele- vance	Direction of influence	Description
Factors	Macroeconomic	GDP development ¹⁾		Short/mid-term GDP growth mainly in India and China, drives global truck and trailer demand. Rebound of Brazilian and Russian markets
		Business climate change		Short-term indicator with high impact on volatility of truck/trailer business, currently showing no direct source of crisis, pos. trend esp. in North America, China and Brazil
		Construction sector		Growth of construction sector with positive impact on truck and trailer demand – Chinese and Indian construction sectors are clearly outgrowing other markets
	Transport	Development of transport tonnage km		Long-term factor of overall transport volume is the rapidly increasing transportation demand driving truck/trailer industry in China and India particularly
		Development of modal split: Road vs. other transport		Road transport vs. other modes of transport (e.g. rail, waterways) is overall expected to be stable
		Fuel prices		Fuel prices are expected to remain in the medium-term on low levels helping freight forwarders significantly which also positively impacts truck/trailer demand
	Socioeconomic	Emission regulations		Emission regulations are putting pressure on truck industry – High predictability for OEMs from long-term emission standard cycles
		Regulatory environment changes		Positive impact expected on truck and trailer demand from implemented/proposed regulatory changes in the US and China
		Population		Population is expected to increase slightly in most regions – Marginal positive impact on truck and trailer demand
	Overall			Overall favorable trends

High relevance
 Low relevance
 Positive influence
 Negative influence

1) Including development of raw material prices in particular in Brazil

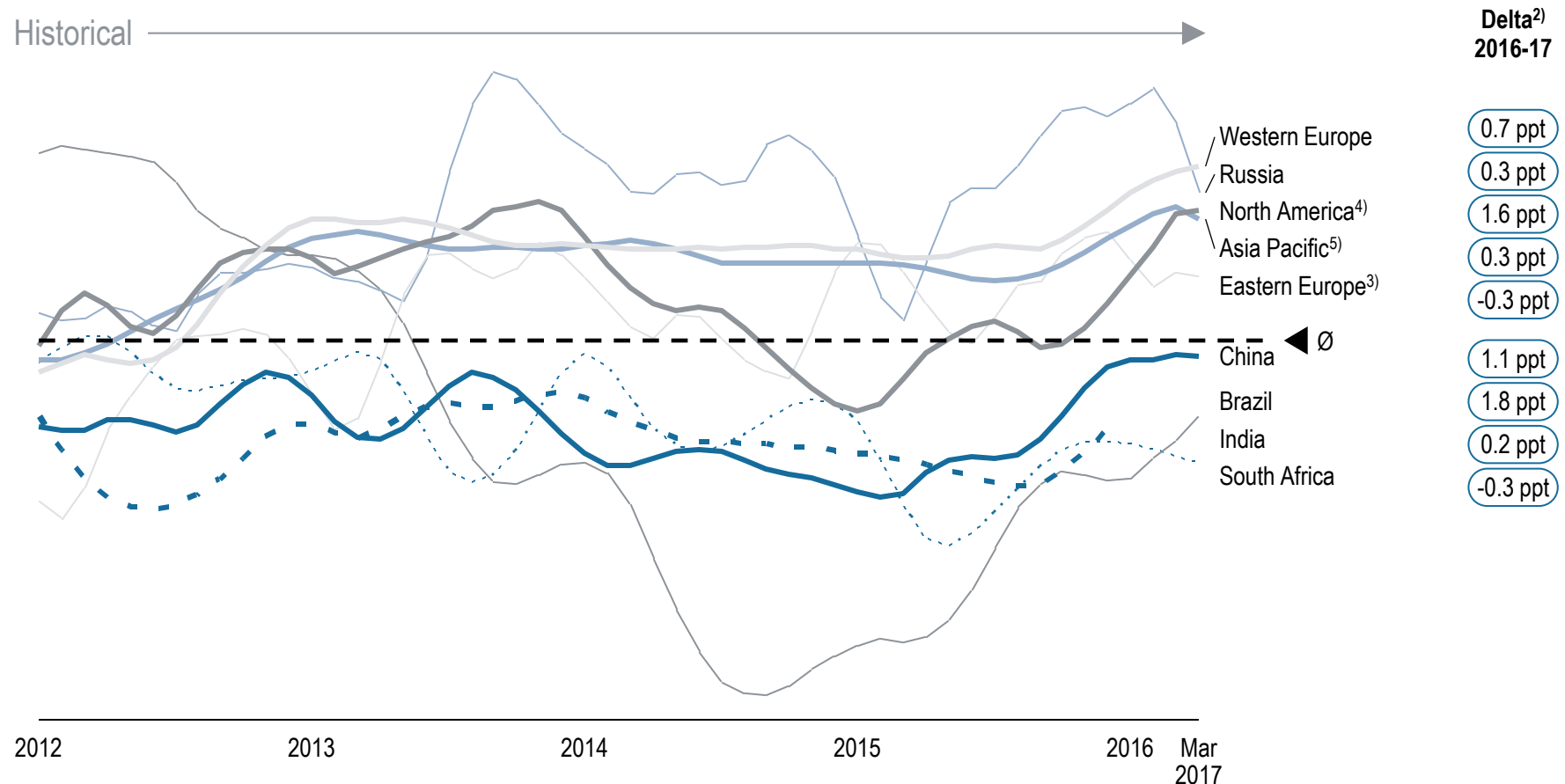
Strong GDP growth both historically and forecasted for India/China – Rebound of Brazilian market directly reflected in truck/trailer demand

Macroeconomic factors: Real GDP development, 2012-21 [% indexed]



The business climate index currently indicates a positive trend especially for North America, China and Brazil

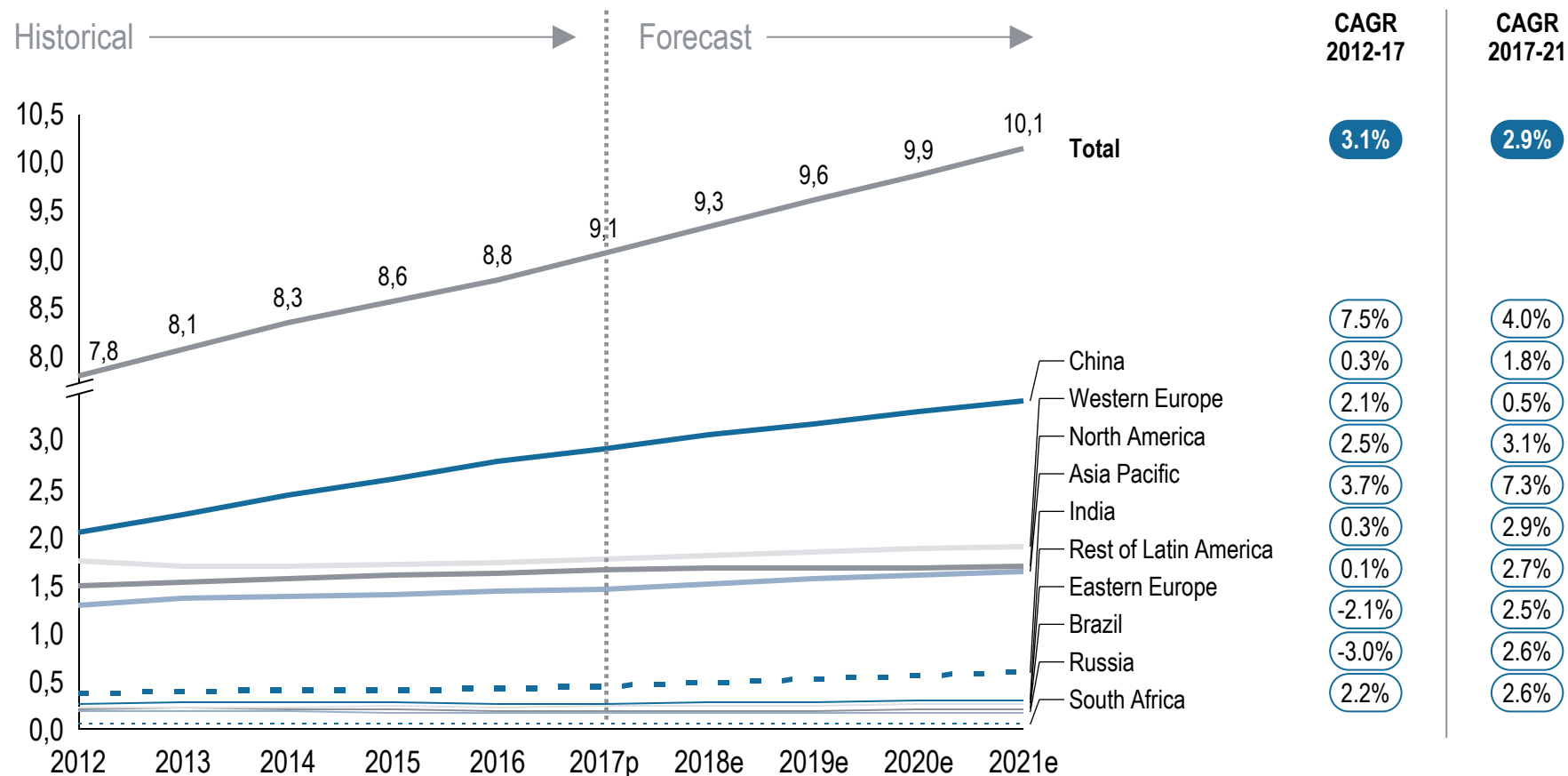
Macroeconomic factors: Business climate change¹⁾⁶⁾, 2012-17 [indexed]



1) Based on OECD Business confidence index; long-term average = 100; GDP weighted 2) Difference in percentage points within indicated time period 3) Czech Republic, Estonia, Hungary, Latvia, Poland, Slovakia, Slovenia, Turkey 4) USA, Canada, Mexico 5) South Korea, Japan, Australia, Indonesia 6) No data available for Rest of Latin America
Source: OECD; Roland Berger

Positive impact from industrial production growth – Chinese and Indian construction sectors are clearly outgrowing other markets

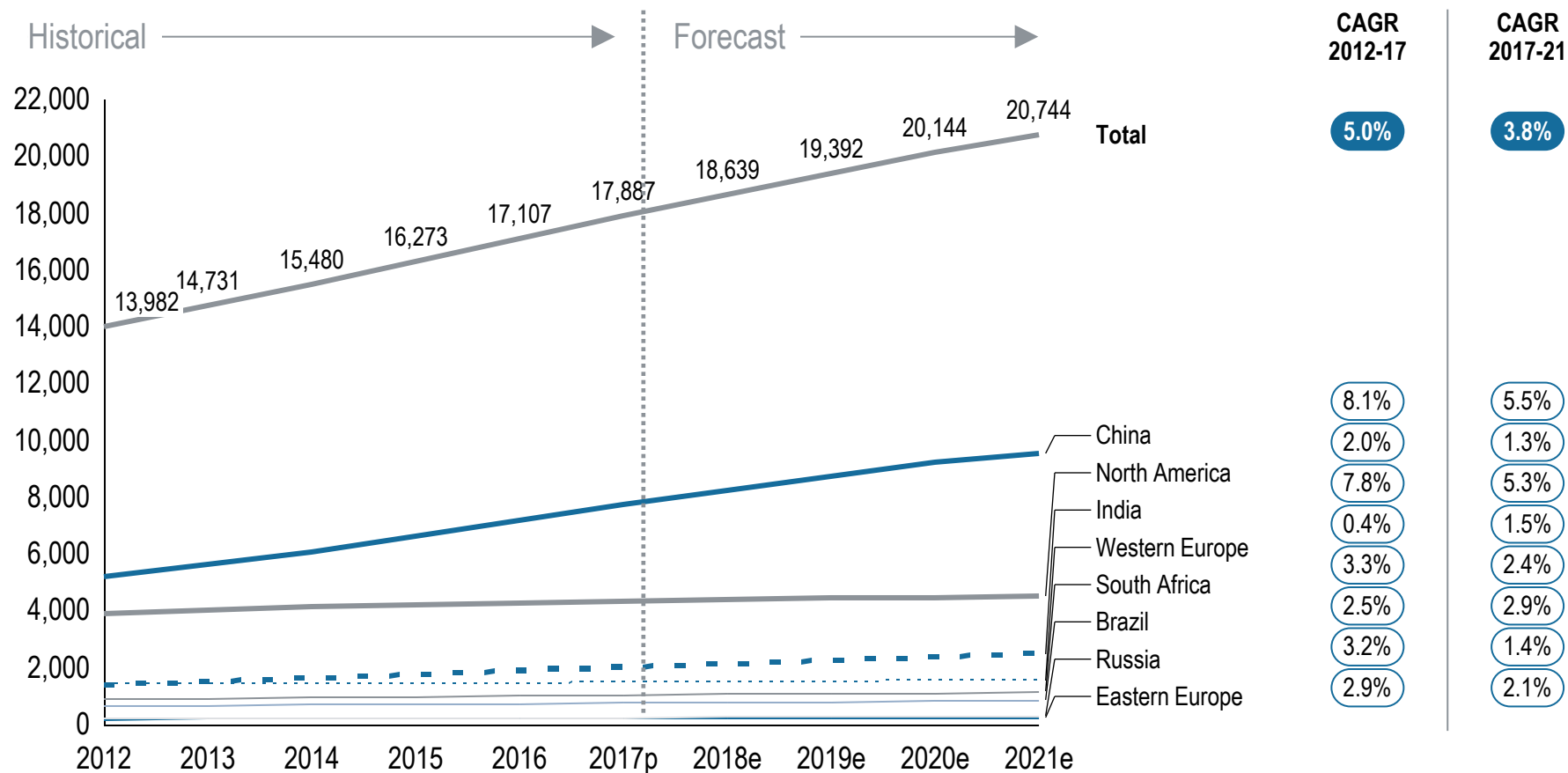
Macroeconomic factors: Construction sector¹⁾, 2012-21 [EUR trillion]



1) Gross output (real)

Road transport is expected to grow by c.4% p.a. until 2021 – In China in particular this drives fleet utilization and production demand

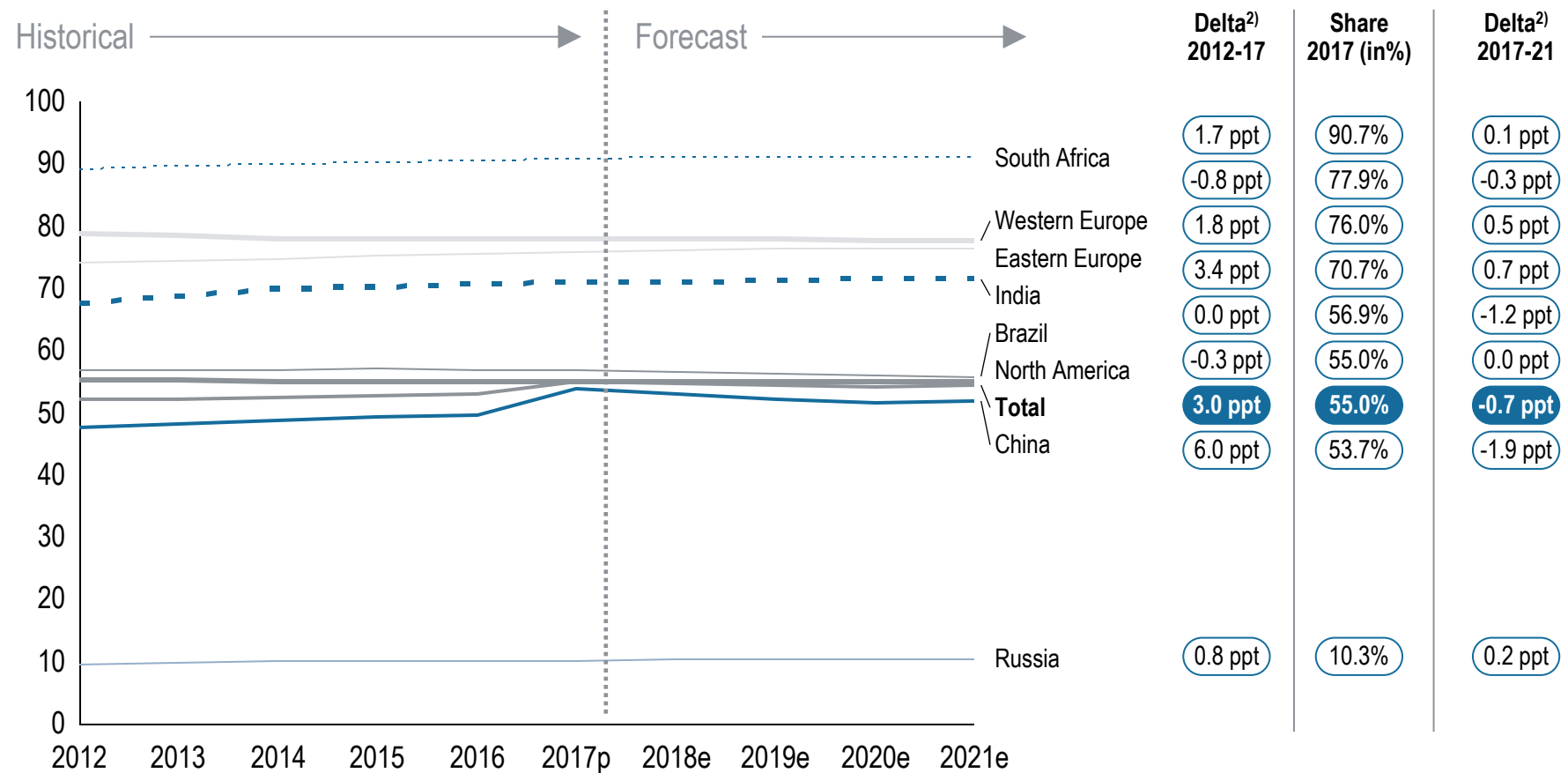
Transportation factors: Road transport tonnage km¹⁾, 2012-21 [bn tkm]



1) Based on countries for which data was available

In comparison to other transport modes (e.g. rail, waterways etc.)
global road transport is expected to remain relatively stable

Transportation factors: Modal split road¹⁾, 2012-21 [% share of transport volume]

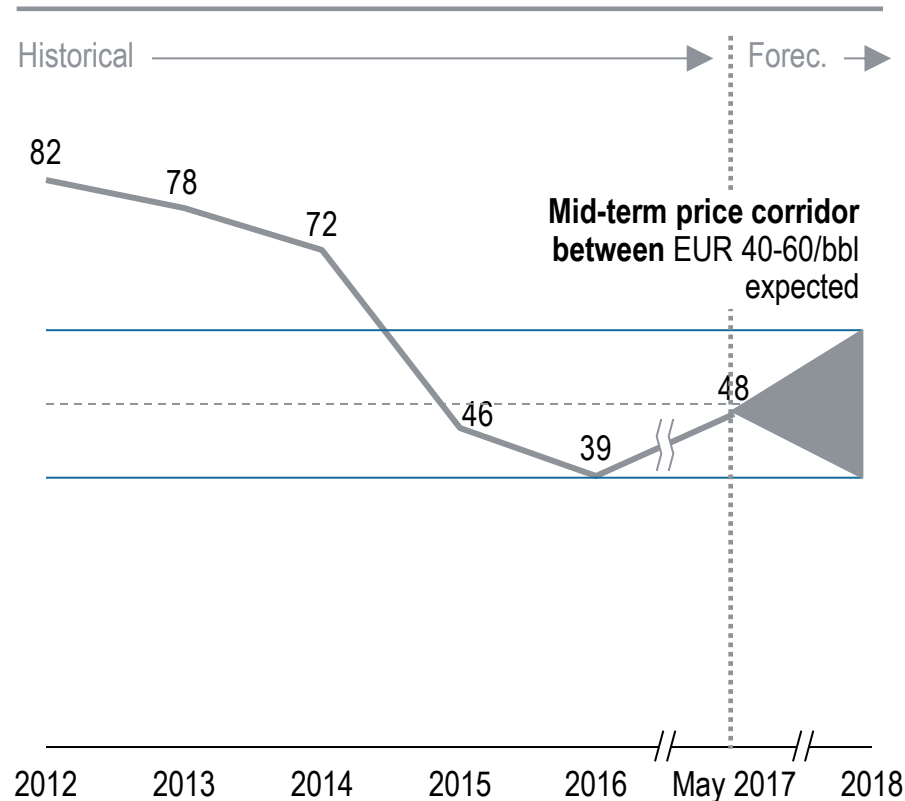


1) Based on countries for which data was available 2) Difference in percentage points within indicated time period

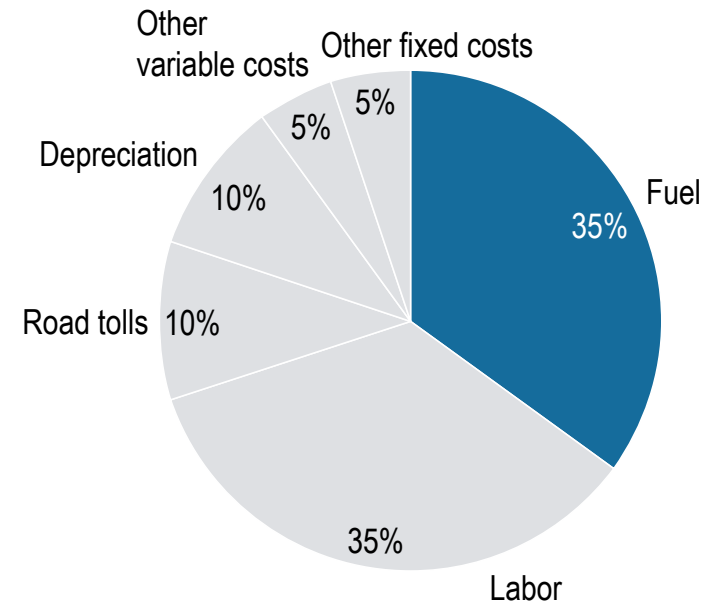
Fuel prices are expected to remain on historic low levels in the mid-term benefiting freight forwarders and driving truck/trailer demand

Transportation factors: Fuel price development and cost structure freight forwarders

Fuel prices (spot crude¹⁾) [EUR/barrel]



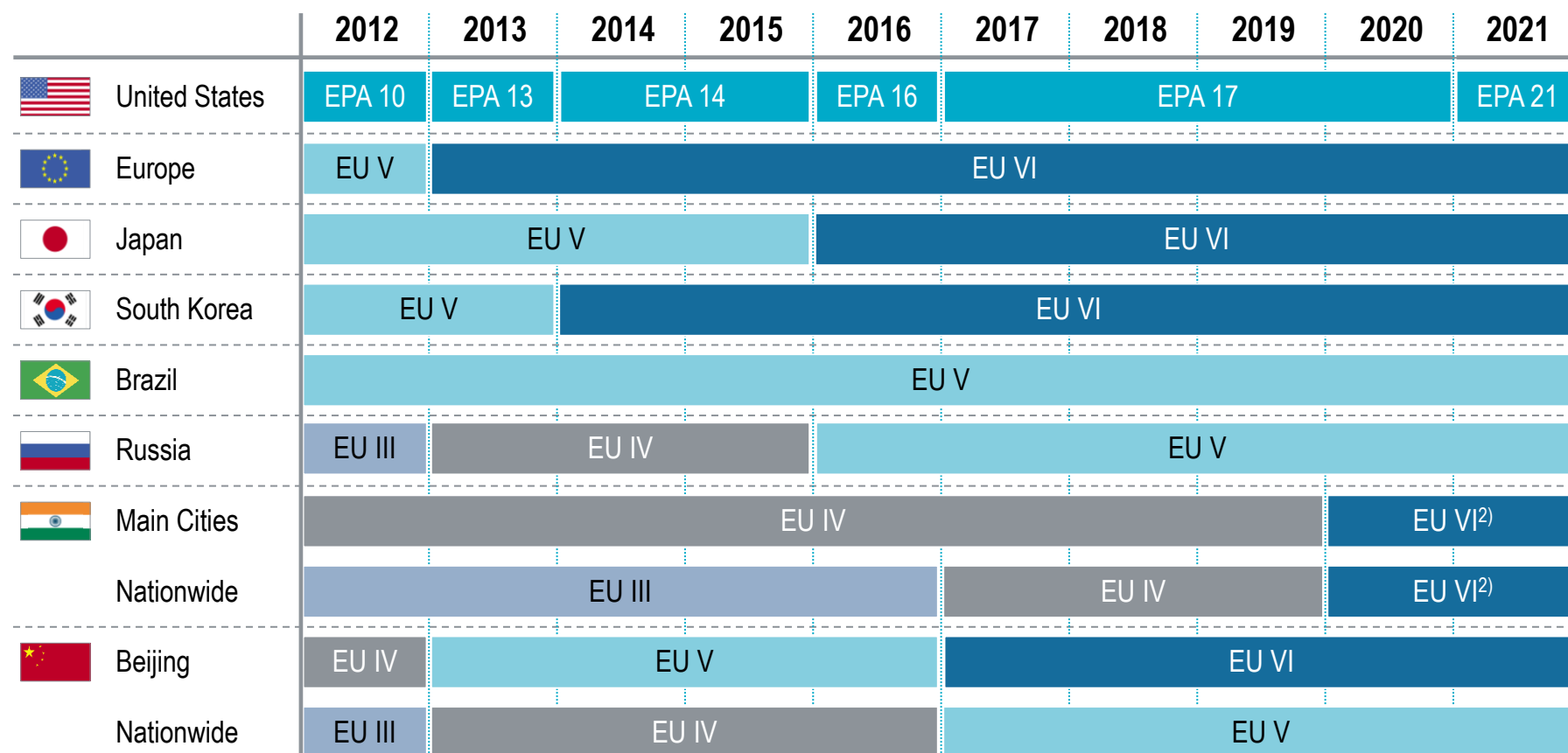
Cost structure freight forwarders [%]



1) Petroleum price as average of spot prices for U.K. Brent, Dubai and West Texas Intermediate/world market price

Emission regulations are putting pressure on truck industry – However, regulation cycles with high predictability for OEMs

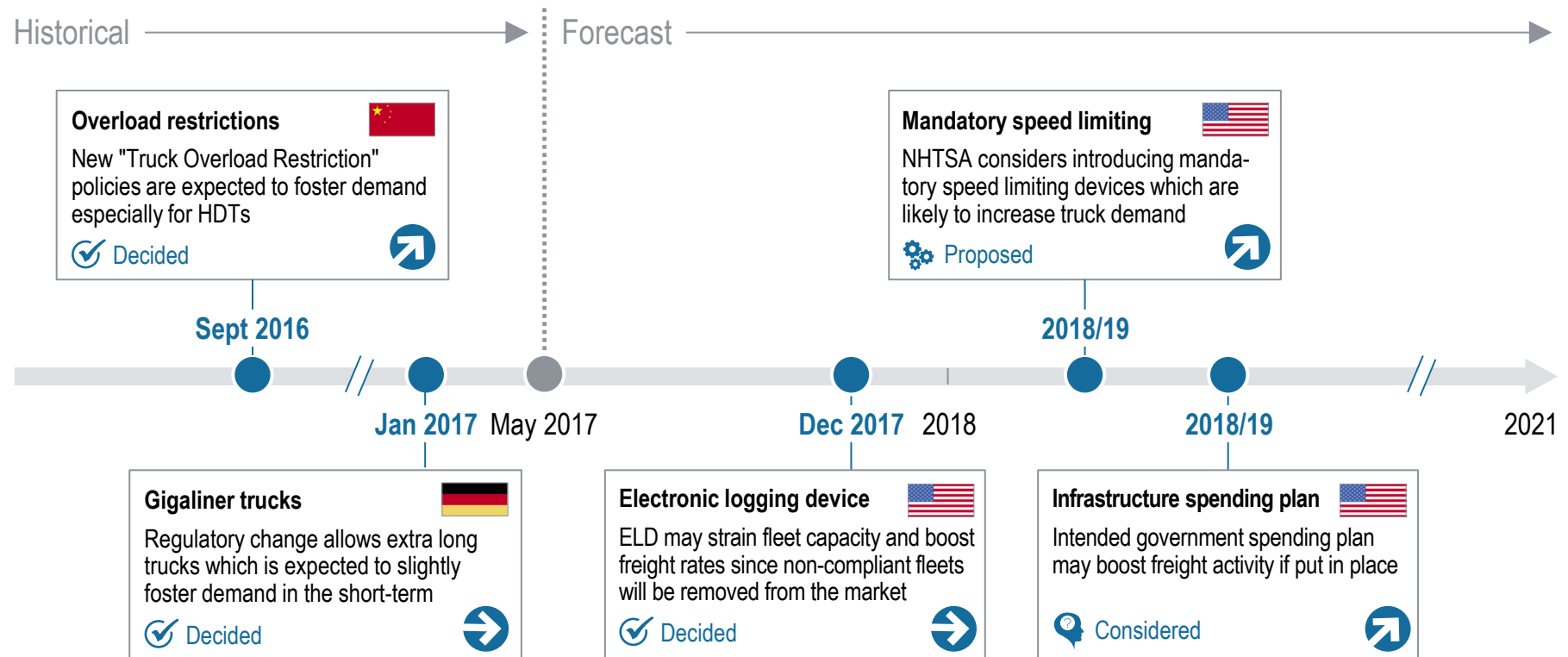
Socio-economic factors: Emission regulations¹⁾, 2012-21



1) Equivalent EU standards shown where appropriate 2) Equivalent EU V standard initially proposed in 11/2015 but removed from a 02/2016 proposal

Regulatory changes in China and the US are expected to have a positive effect on the truck and trailer demand

Socio-economic factors: Regulatory environment changes (selective)



Regulatory action has been decided Regulatory action has been proposed Considered regulatory action that has not been proposed yet

Positive influence Negative influence

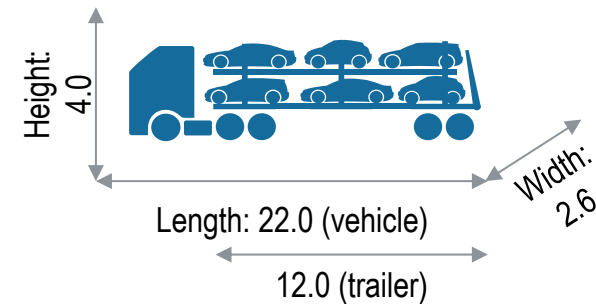
Newly implemented truck overload restrictions in China, e.g. for car carriers, positively impacts the local truck and trailer demand

Socio-economic factors: Regulatory environment changes – Example: Chinese TOR

Truck overload restrictions

- > No nationwide standard historically in place – "Unofficial standard" of car-carriers of c.30 mtr length with double trailers and two rows on top or on both decks
- > Implementation of new regulation on truck overload restrictions (GB1589) in China in September 2016 – No transition phase permitted
- > Restrictions on truck and trailer dimensions:
 - Length of maximum 22.0 meter (mtr) of truck and trailer combination; trailer with a maximum of 12.0 mtr
 - Width of maximum 2.6 mtr
 - Height of maximum 4.0 mtr
- > Car carriage capacity significantly drops from c.22 cars per vehicle to 6/10 cars per vehicle depending on trailer type¹⁾

Dimension specifications [mtr]



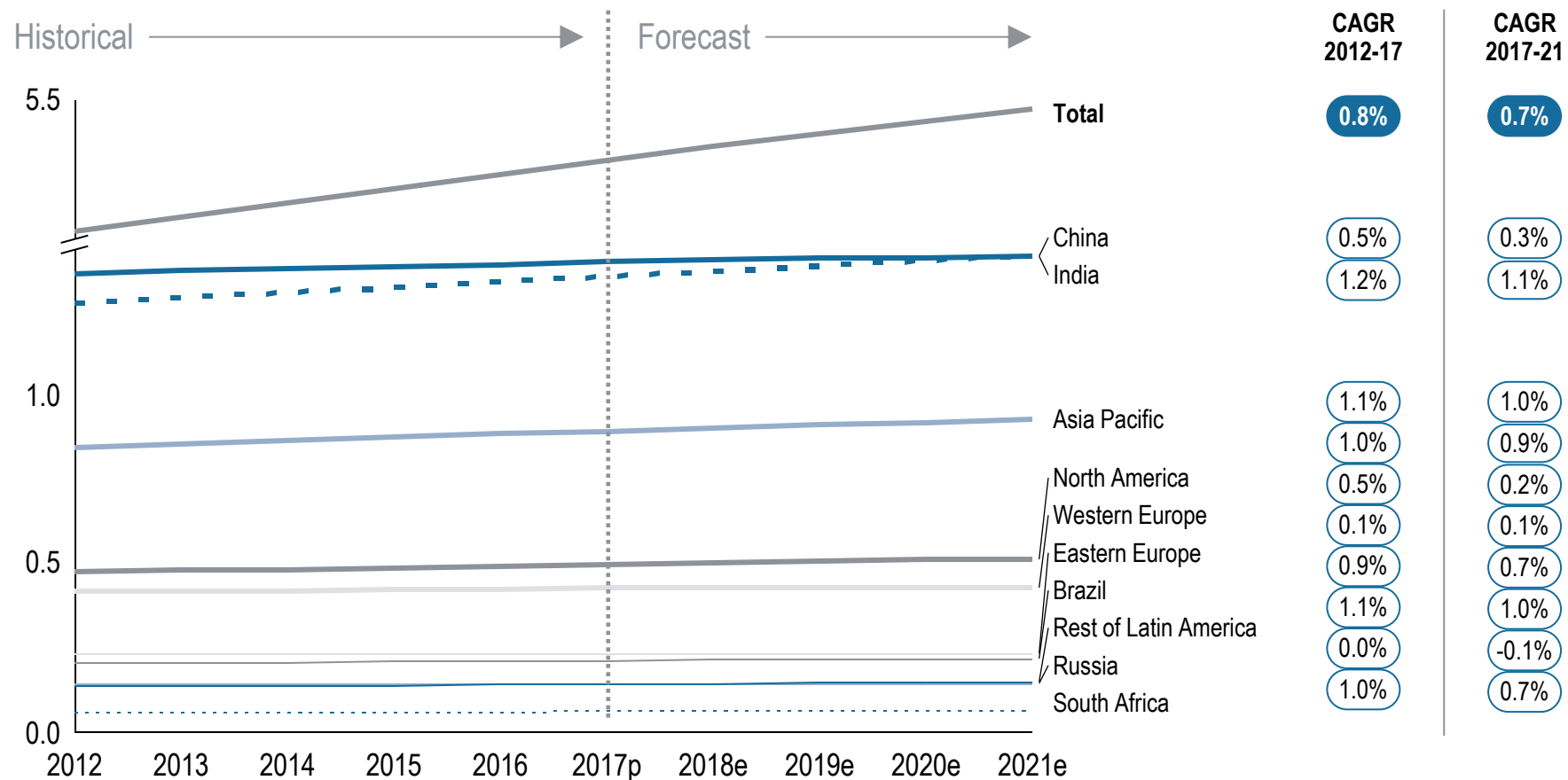
Car carriage capacity [# vehicles]



TOR = Truck overload restrictions 1) Semitrailer with a capacity of 6 cars; drawbar trailer with a capacity of 10 cars

Population is expected to increase slightly in most regions – Marginal positive impact on truck and trailer demand

Socio-economic factors: Population¹⁾, 2012-21 [bn people]



1) Does not represent entire world population; includes only relevant regions/countries

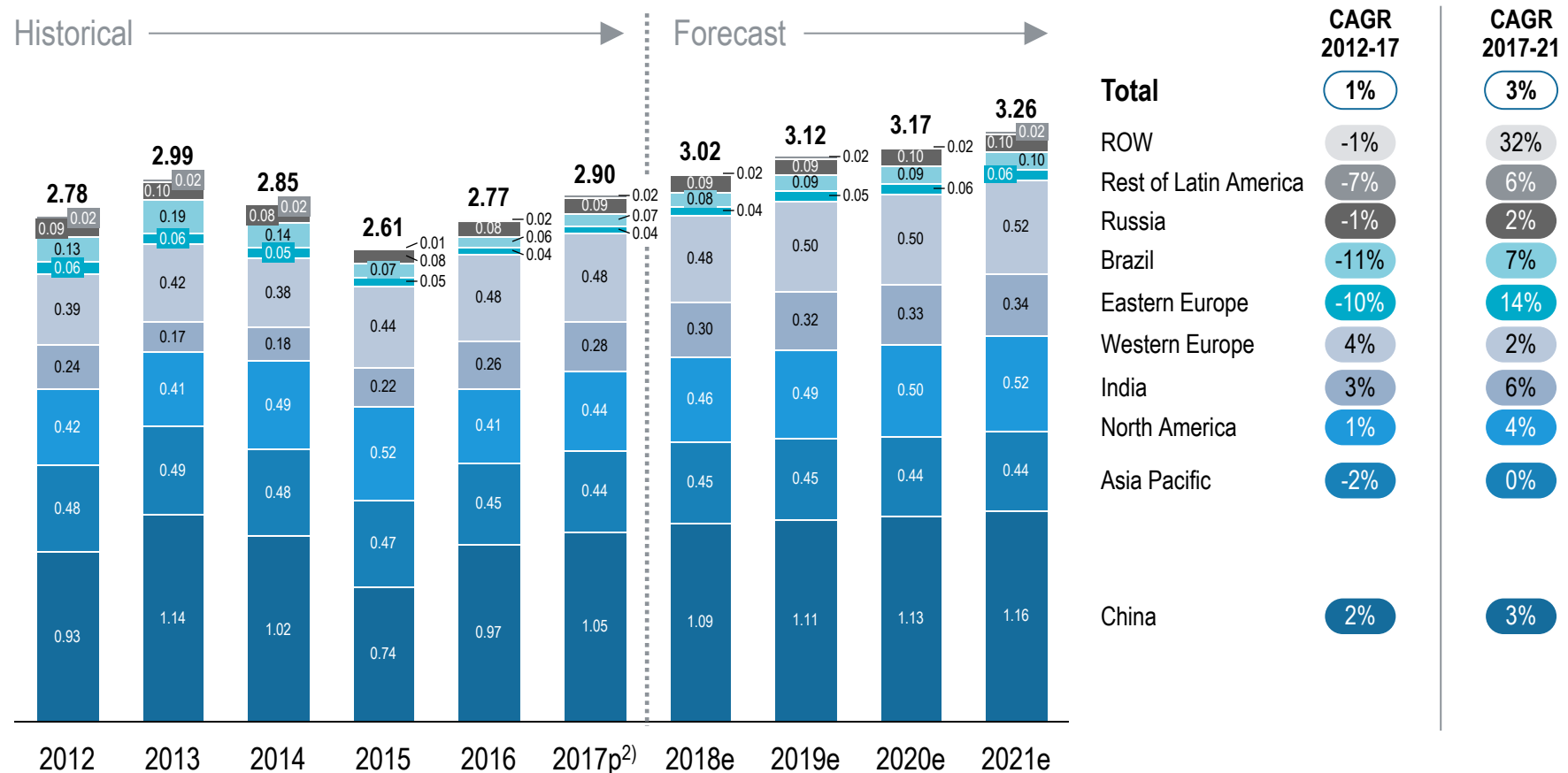
Source: Oxford Economics; Roland Berger; CAGR of "Total" is excluding "other countries"

B. Truck and trailer market development



Overall, the global production of medium/heavy duty trucks is expected to grow at c.3% p.a. from 2017 to 2021

Global medium/heavy duty truck¹⁾ production by region, 2012-21 [m units]

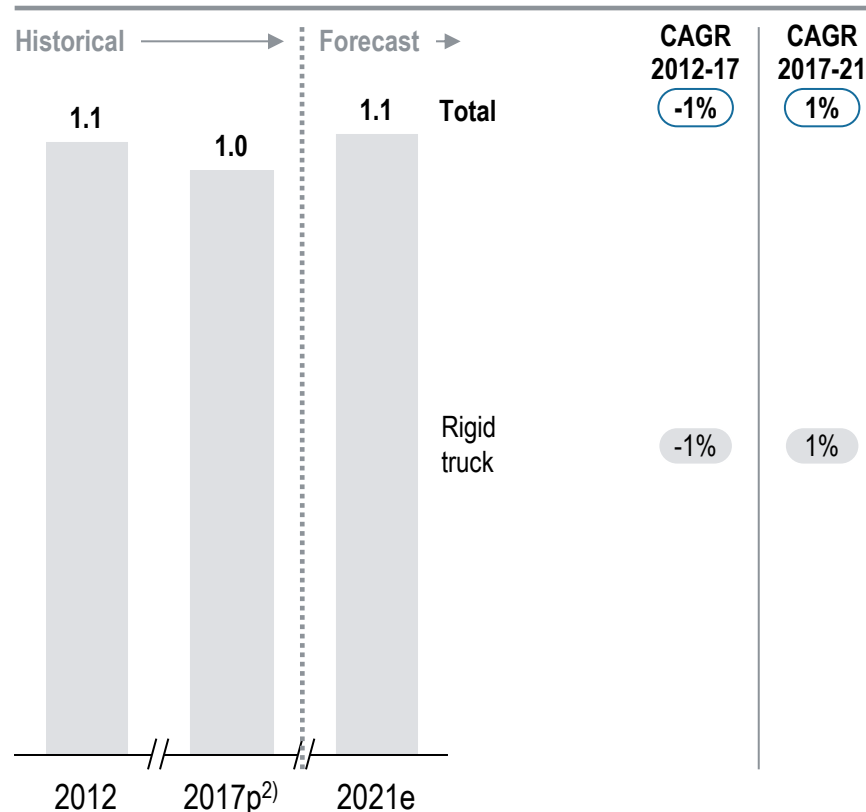


1) Incl. medium duty trucks (6-15 to) and heavy duty trucks (>15 to); 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses

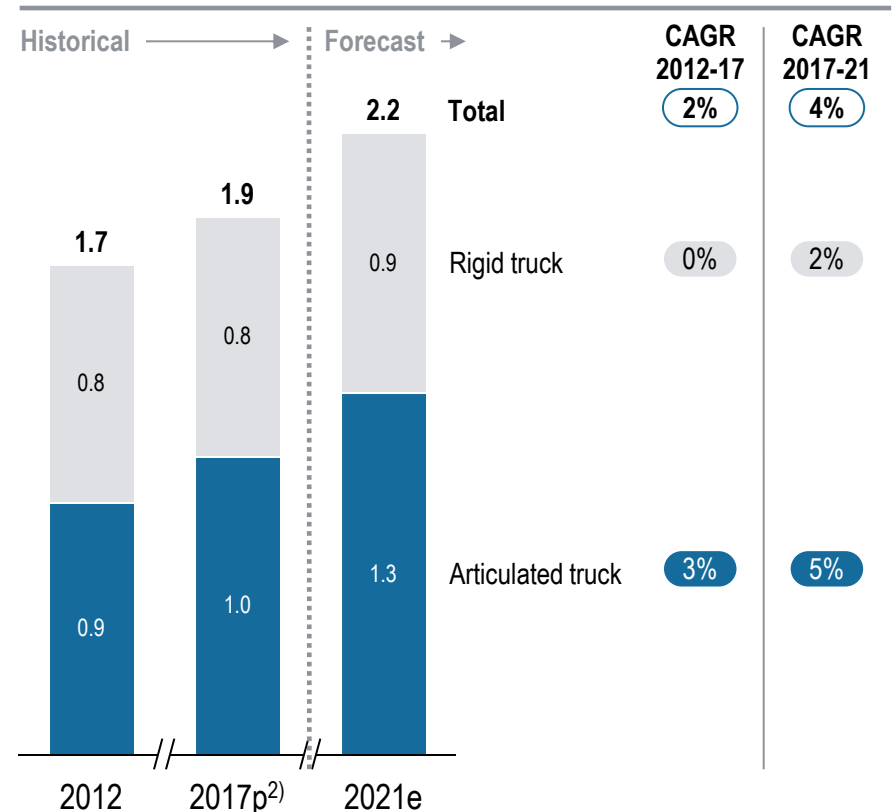
In the heavy duty segment, articulated trucks are growing slightly stronger than rigid trucks – Overall positive outlook

Global medium/heavy duty truck¹⁾ production by vehicle segment, 2012-21 [m units]

Medium duty trucks (6-15 to GVW)



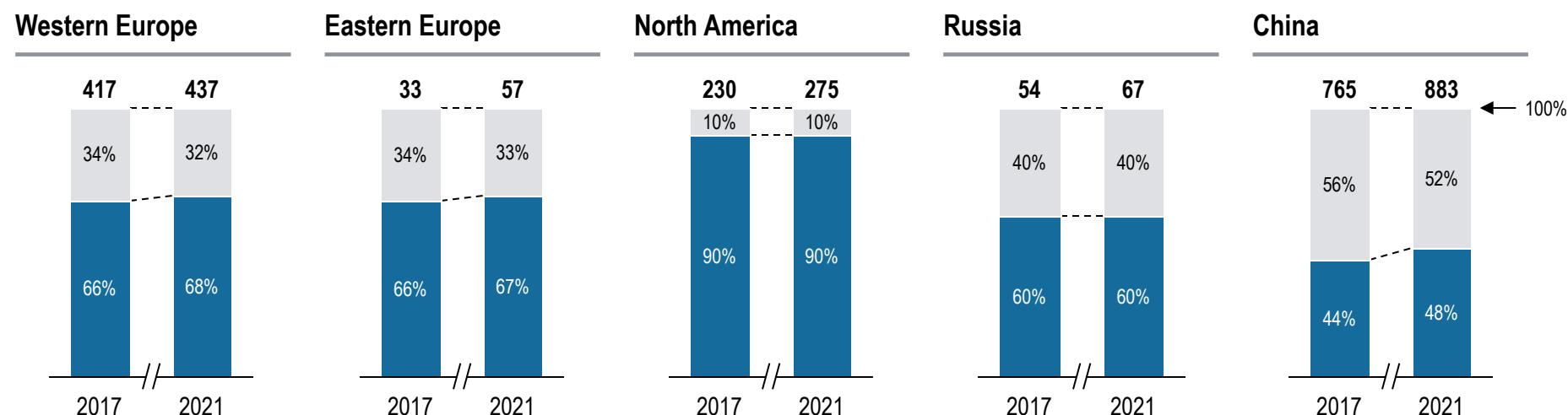
Heavy duty trucks (>15 to GVW)



1) Incl. medium duty trucks (6-15 to) and heavy duty trucks (>15 to); 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses

The growth of articulated trucks varies by regions and is driven by efficiency needs in Europe and an increasing road network in China

Share of articulated trucks in HDT¹⁾ segment by region, 2017/2021 [%, k units] (1/2)



- > The increase of articulated truck share is driven by an overall trend towards higher efficiency
 - Changing logistic fleet structures increasingly relying on large articulated trucks, e.g. in Italy
 - Favorable regulation, e.g. vehicle length in Italy and vehicle tonnage in France
 - Expected city regulation for medium duty trucks
 - Continuing pressure on long-haul transport efficiency

- > Penetration of articulated trucks in North America is already at high levels due to a large share of long-distance transport
- > Share expected to remain stable

- > Articulated trucks have a medium and stable share of the Russian truck market
- > No further increase in articulated trucks expected until 2021

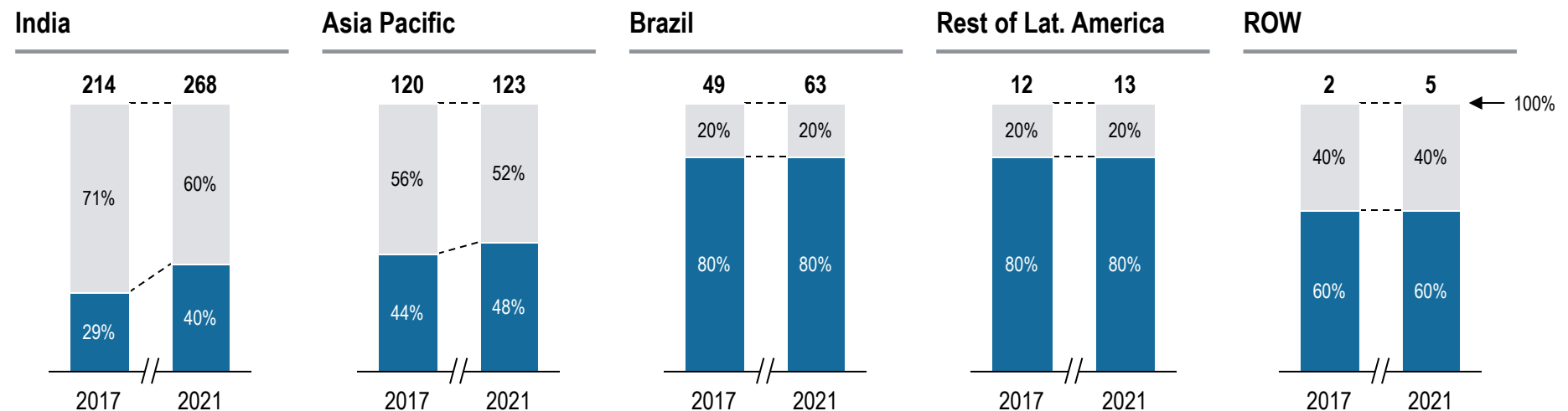
- > Rapid development of the Chinese road network and professionalization of freight forwarders drives articulated trucks
- > Increase of articulated trucks is also driven by regulation change

■ Rigid truck ■ Articulated truck

1) Incl. heavy duty trucks (>15 to)

The share of articulated trucks in India is expected to increase due to professionalization and road network development

Share of articulated trucks in HDT¹⁾ segment by region, 2017/2021 [% , k units] (2/2)



- > Articulated trucks are gaining share in India as freight forwarders are professionalizing and road networks are improving
- > Increase of articulated trucks is also driven by regulation change

- > A further shift towards articulated trucks is expected until 2021

- > Articulated trucks are already dominating the Brazilian market – Share is expected to stay constant

- > In Latin America, articulated trucks are expected to keep their very high share

- > Moderate share of articulated trucks is expected to stay constant for ROW

■ Rigid truck ■ Articulated truck

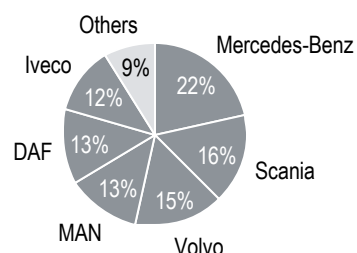
1) Incl. heavy duty trucks (>15 to)

Key regional markets are dominated by local manufacturers – Top-5 players typically account for >70% of the market

Medium/heavy duty truck production by region and by OEM, 2017 [% , k units]

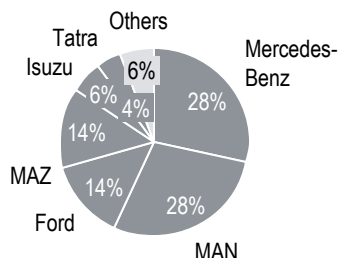
Western Europe

$\Sigma = 485$



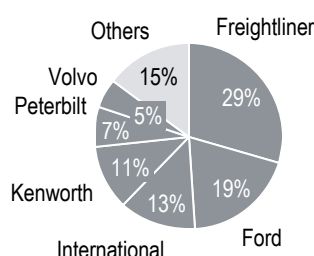
Eastern Europe

$\Sigma = 38$



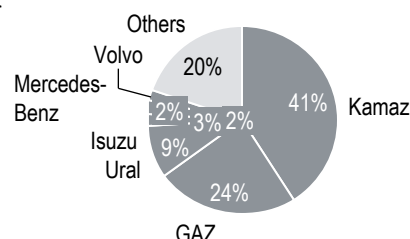
North America

$\Sigma = 439$



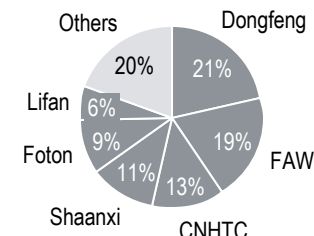
Russia

$\Sigma = 88$



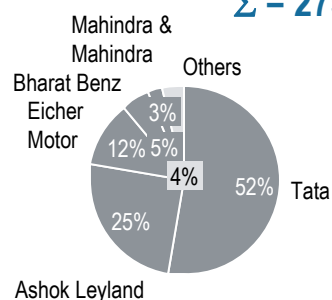
China

$\Sigma = 1,045$



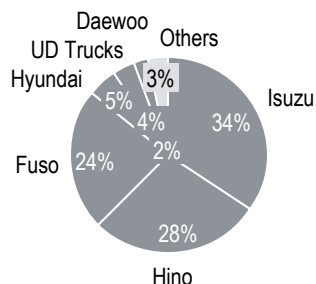
India

$\Sigma = 275$



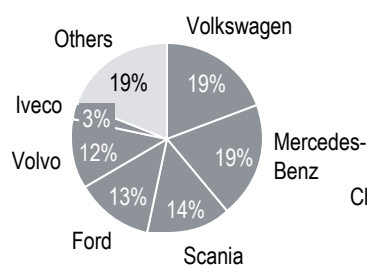
Asia Pacific

$\Sigma = 441$



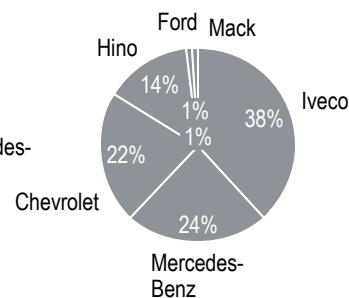
Brazil

$\Sigma = 74$



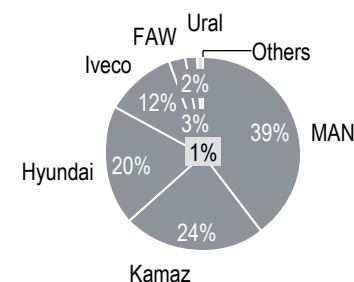
Rest of Lat. America

$\Sigma = 16$



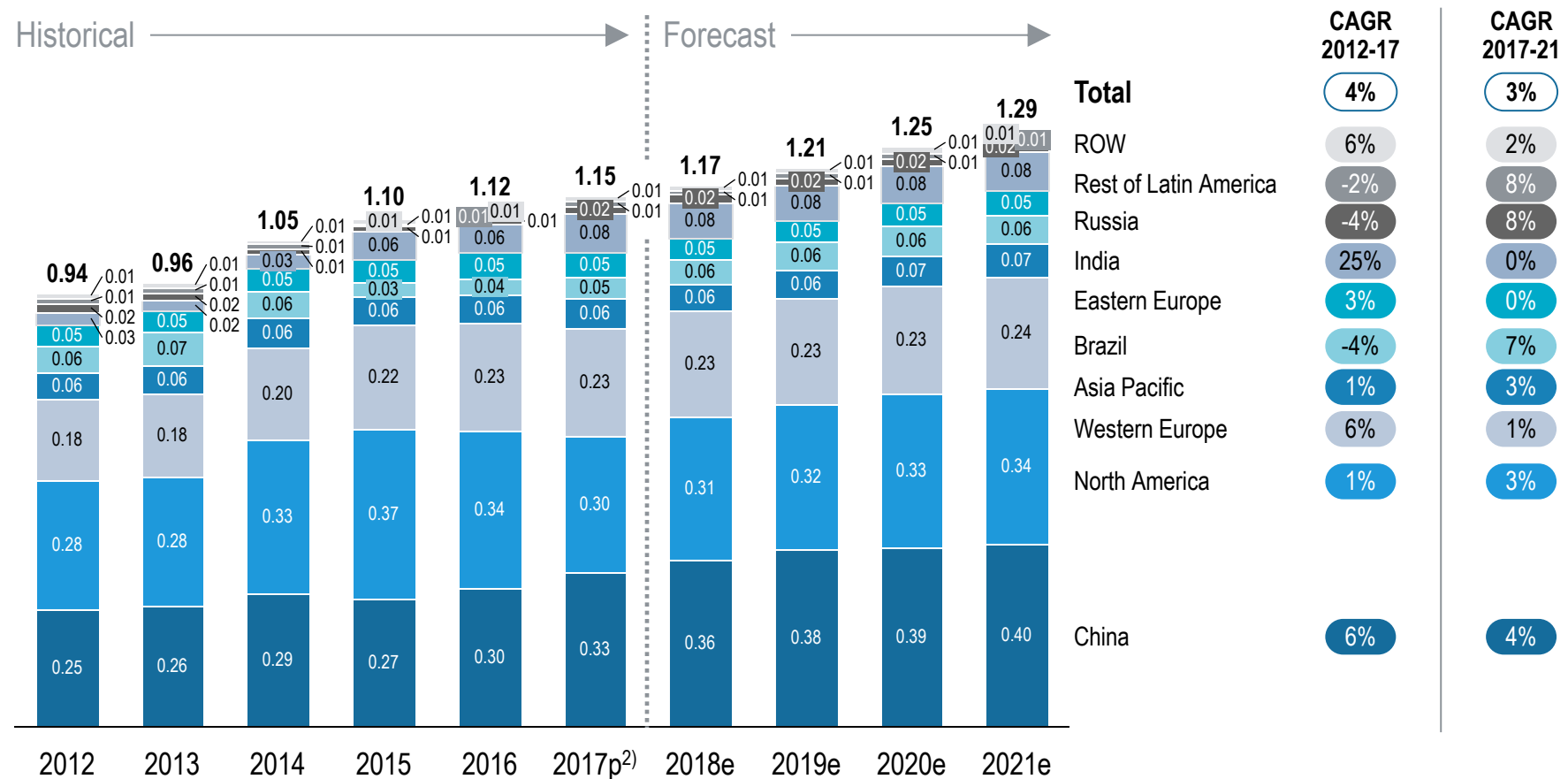
ROW

$\Sigma = 2$



The trailer market is driven by China, North America & Western Europe and shows continuous growth from 2018-2021

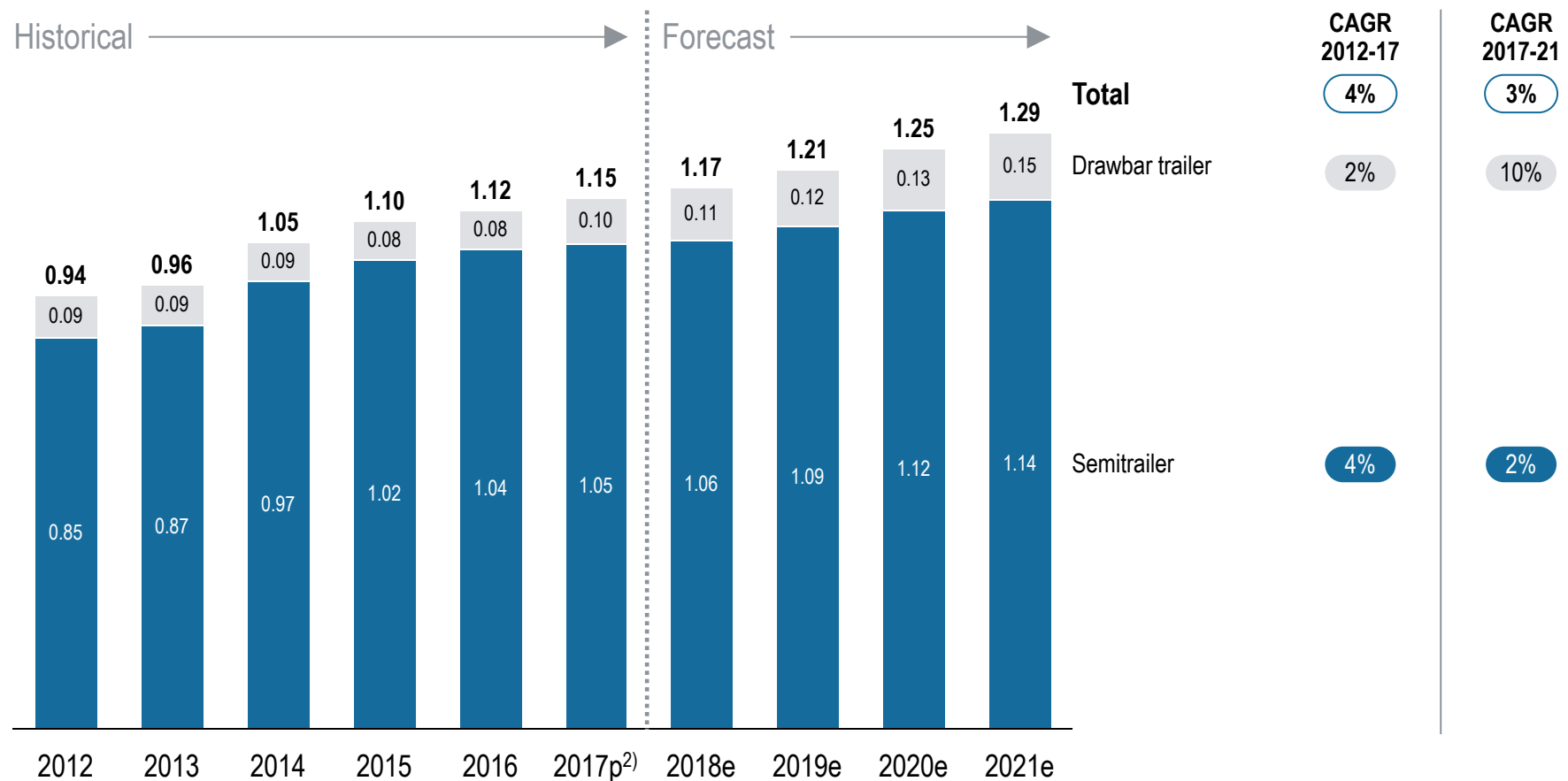
Global trailer¹⁾ production by region, 2012-21 [m units]



1) Medium/heavy duty commercial vehicle trailers 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses

Semitrailers constitute the majority of trailer production – Production share of drawbar trailers growing strongly driven by China

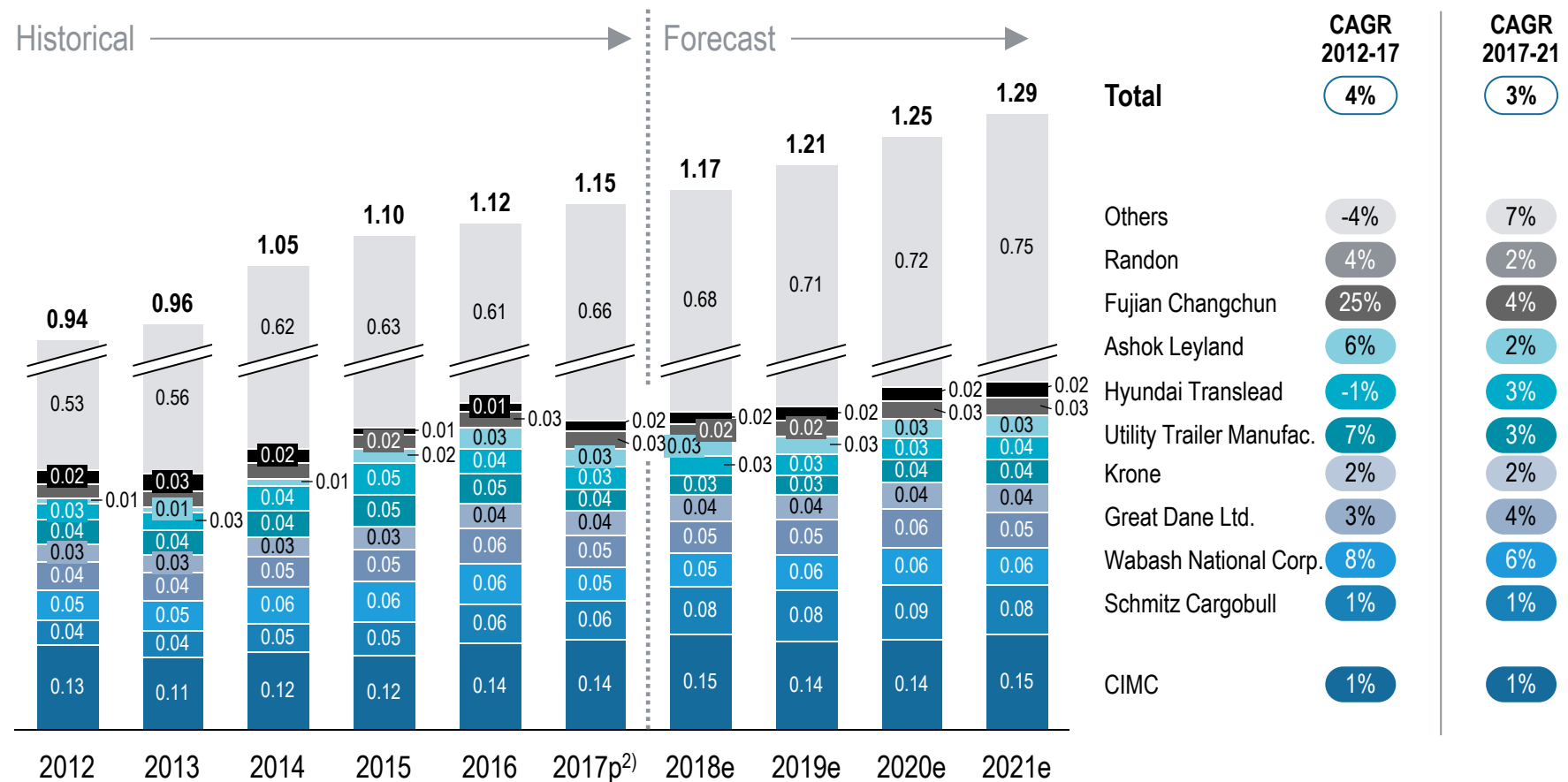
Global trailer¹⁾ production by vehicle segment, 2012-21 [m units]



1) Medium/heavy duty commercial vehicle trailers, 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses

The global trailer production is fragmented – Top-10 manufacturers covering less than 50% of the entire volume

Global trailer¹⁾ production by trailer manufacturer, 2012-21 [m units]

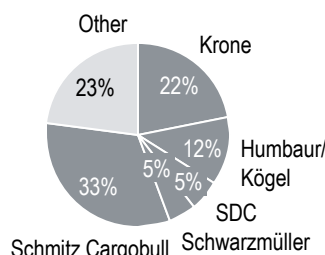


The trailer production market is still fragmented with a multitude of smaller specialized OEMs in most regions

Trailer¹⁾ production by region and by trailer manufacturer, 2017 [% , k units]

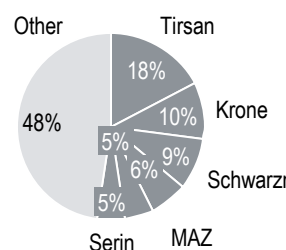
Western Europe

$\Sigma = 234$



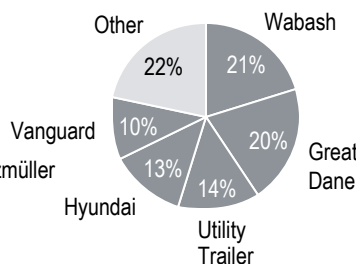
Eastern Europe

$\Sigma = 54$



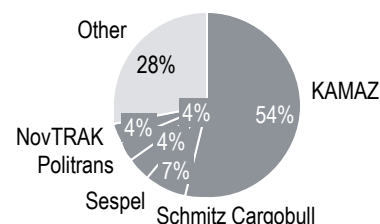
North America

$\Sigma = 295$



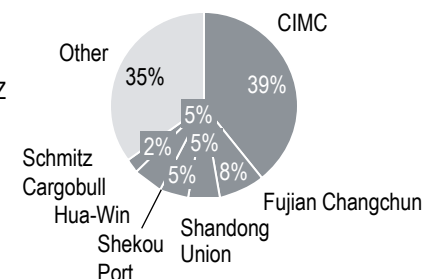
Russia

$\Sigma = 15$



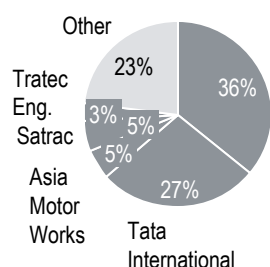
China

$\Sigma = 332$



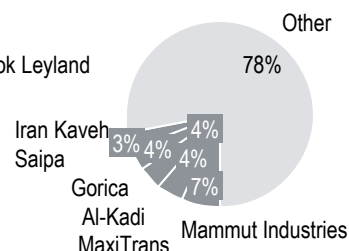
India

$\Sigma = 83$



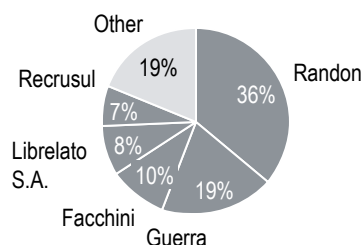
Asia Pacific

$\Sigma = 63$



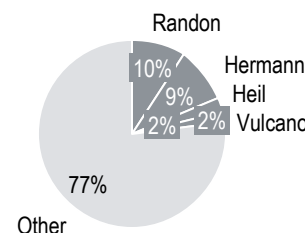
Brazil

$\Sigma = 48$



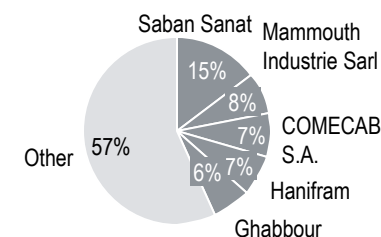
Rest of Lat. America

$\Sigma = 9$



ROW

$\Sigma = 13$



1) Medium/heavy duty commercial vehicle trailers

Market feedback from suppliers, OEMs and associations shows a positive outlook on the truck and trailer market

Selected market feedback

Europe



> "In the trailer business, semitrailers account for approximately 80% of the market and we expect this share to be constant over the next 5 years across Europe."

CV supplier

> "Overall, I expect moderate growth of the European market for medium and heavy duty vehicles. Growth will be mainly driven from Eastern European countries."

Trailer OEM

> "We are confident to set-off possible price reductions of customers with high bargaining power by new products that incorporate innovative technologies on a regular basis."

CV supplier

> "What differentiates the European market from others in terms of trailer OEMs is the relatively high share of insourcing, particularly with regard to axles."

CV supplier

> "In terms of regulation, tightening emission standards are taken seriously but they are not a major concern as long as they stay highly predictable."

CV supplier

United States



> "I expect truck demand to increase gradually over the next 5 years with annual growth rates of about 3-5%."

Association

> "Governmental infrastructure plans will primarily have a positive impact on the demand for rigid trucks in the building and construction industry."

Truck OEM

> "Within the next two years, electronic logging devices will be required for newly sold and existing vehicles. While this might help fleets improve operations, I do not expect that truck sales will be affected by this standard."

Association

> "The currently low gas prices have a positive impact on transport volume via trucks – In the short to mid-term I expect the positive impact from less elevated gas prices to continue."

Fleet customer OEM

China



> "The market of trucks in China was slowing down after 2013 but there was a rebound in 2016 with the changes in regulations and Euro 5 emission standards. The segment of medium and heavy trucks is expected to show stability and moderate growth opportunities over the next years."

Truck OEM

> "Overall, the future truck and trailer business will built upon stable and moderate growing demand from China that is driven by population and GDP growth."

Association

> "We expect moderate but steady growth of trailer production in China that is fostered by regulations such as the new standard allowing drawbar trailers."

Trailer OEM

> "The increasing export orientation of truck and trailer manufacturers in China leads to a convergence with Western standards regarding product characteristics such as quality."

CV supplier

> "Truck and trailer manufacturers in China primarily buy on price which is still very different from the markets in Europe and the US."

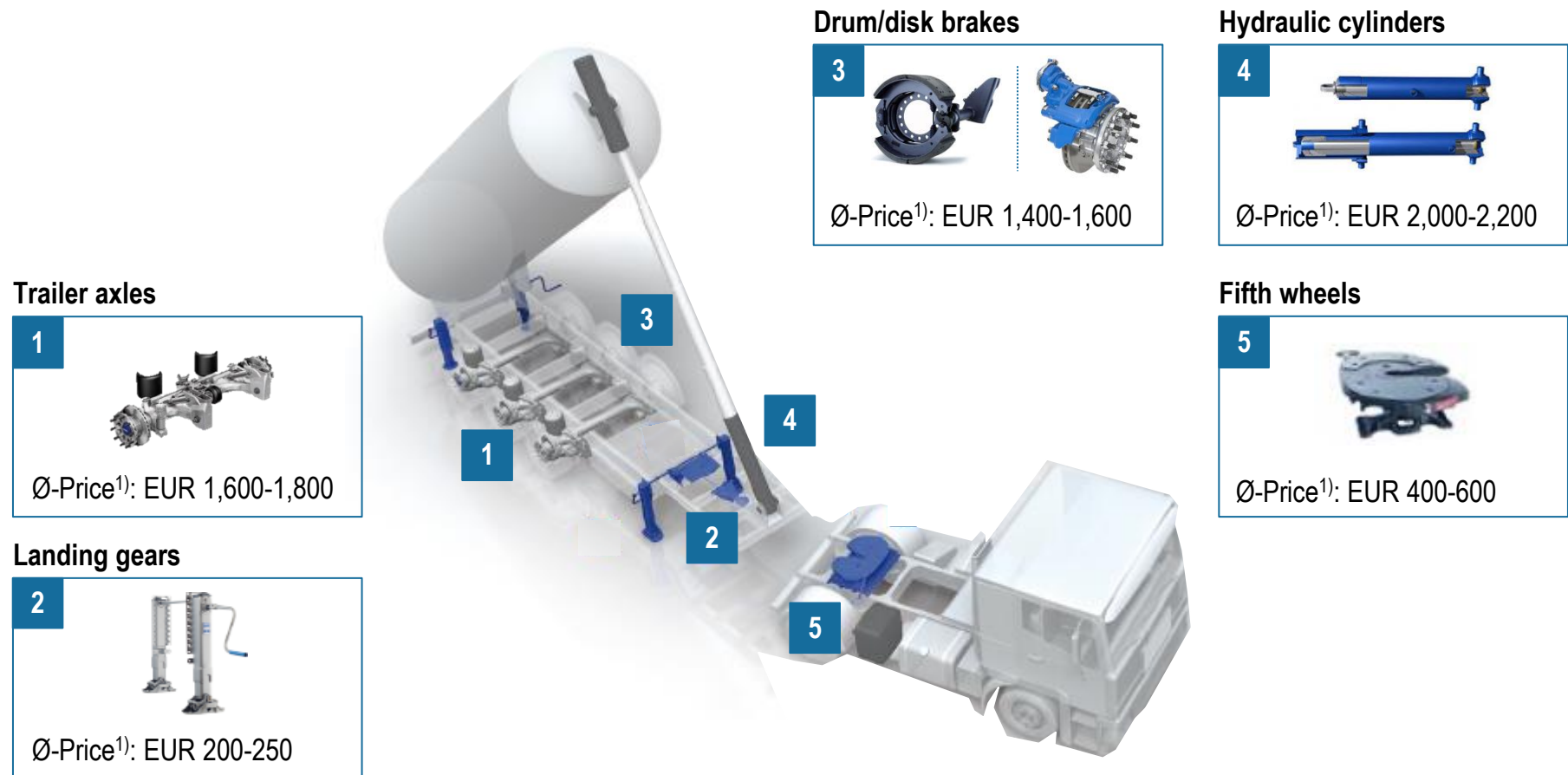
CV supplier

C. Component market development



Roland Berger's truck and trailer components study focuses on landing gears, fifth wheels, hydraulic cylinders, trailer axles & brakes

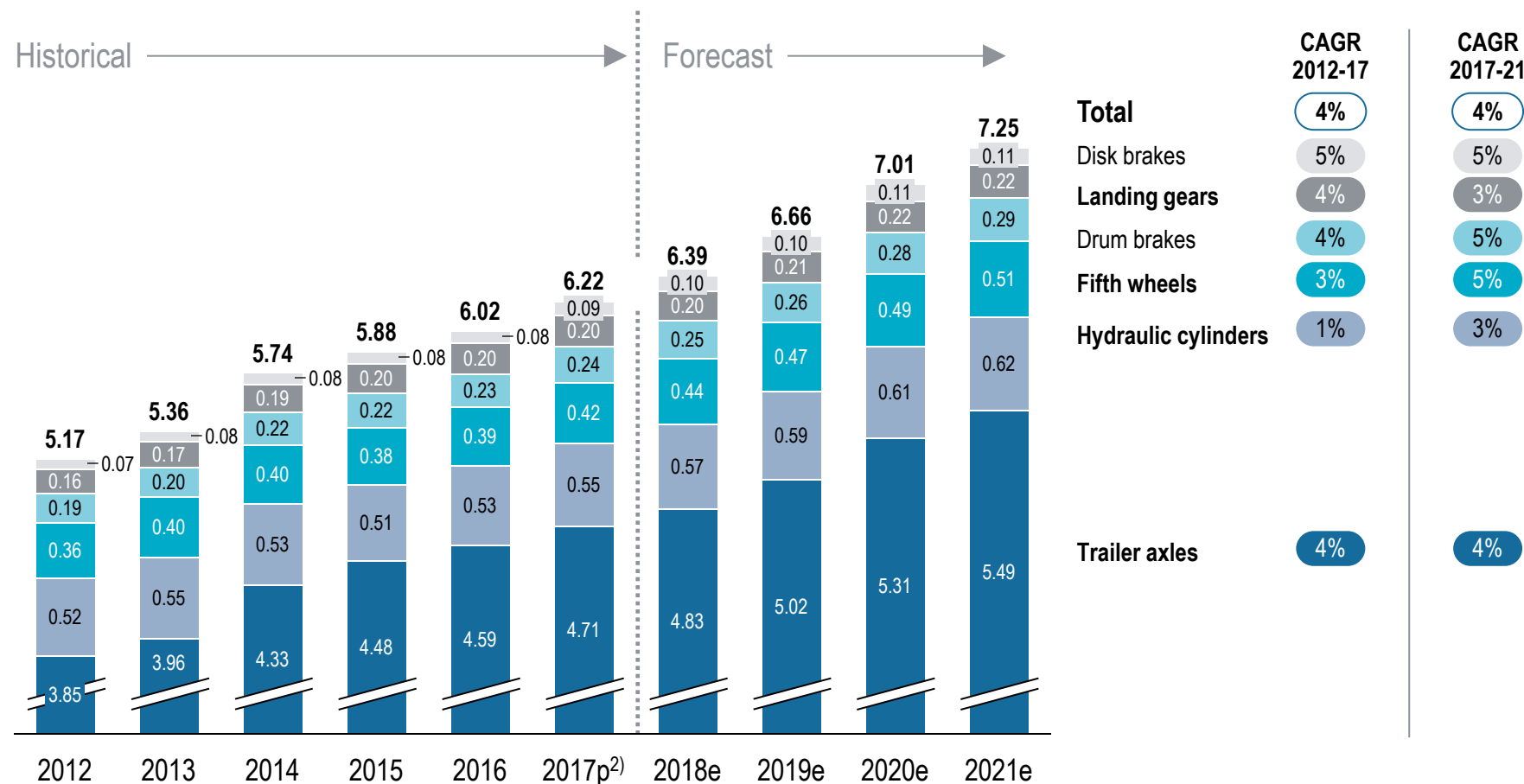
Truck/trailer component market – Study focus



1) European and North American price level depending on quality/equipment level; APAC with lower prices

The global truck/trailer first-fit component market amounted to c.EUR 6.2 bn in 2017 and is expected to grow at c.4% p.a.

Global truck/trailer first-fit component market by product, 2012-21 [EUR bn]



Notes: All CKD fitted components are considered in country of assembly. First-fit market (excl. aftermarket), 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses, in bold: Focus of study

Generally, there is a very high line installation rate for fifth wheels, China with strong increase of installation rates to c.90%

Line installation rate fifth wheels

Line installation rate fifth wheels¹⁾, 2017 [%]

Line installation rate fifth wheels ¹⁾ , 2017 [%]		Trend	
Western Europe	90% 100%	➔	<ul style="list-style-type: none"> > The line equipment rate in Europe is nearly 100% > Due to large fleets in North America equipping their own vehicles, line equipment rates are at about 80-90%, sourcing their parts through the trading channels
Eastern Europe	90% 100%	➔	
North America	80% 90%	➔	
China	85% 95%	↗	<ul style="list-style-type: none"> > China has recently developed more strongly towards European markets with line installation rates up to c.90%
India	90% 100%	➔	
Russia	90% 100%	➔	<ul style="list-style-type: none"> > Assumption of installation rates in line with established markets
Asia Pacific	90% 100%	➔	
Brazil	90% 100%	➔	<ul style="list-style-type: none"> > Assumption of installation rates in line with established markets
Rest of Latin America	90% 100%	➔	
ROW	90% 100%	➔	<ul style="list-style-type: none"> > Assumption of installation rates in line with established markets

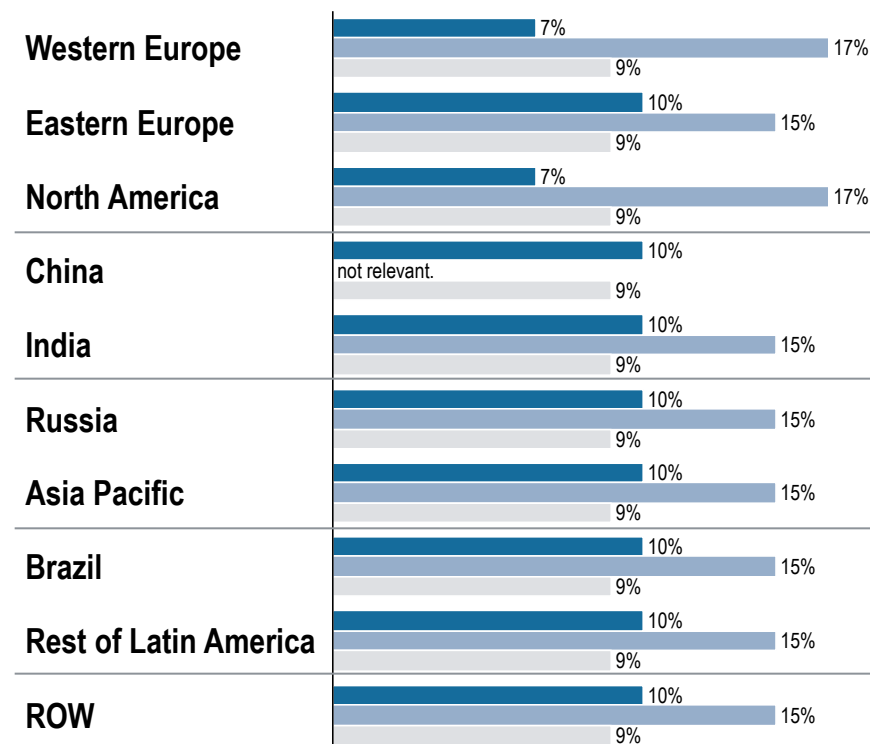
1) Rate of fifth wheels equipped directly by the OEM, as opposed to aftermarket/first-fit installation

Drawbar trailers have a relatively high share of hydraulic cylinders used for construction applications

Installation rate hydraulic cylinders per vehicle type

Installation rate hydraulic cylinders, 2017 [%]

Trend



> Number of tipper trucks and trailers in Western Europe and North America higher compared to Eastern Europe due to complexity of the vehicles

> China and India assumed on level of Eastern Europe

> Russia and Asia Pacific assumed on level of Eastern Europe

> Brazil and Latin America assumed on level of Eastern Europe

> ROW assumed on level of Eastern Europe

■ Semitrailer ■ Drawbar trailer ■ Rigid truck

Note: Derived from share of tippers (based on sales data)

Source: Interviews with market participants; Roland Berger

Installation rates of trailer axles range from 2 to 3 per trailer depending on the region – North America catching up to EU levels

Installation rate trailer axles

Installation rate trailer axles, 2017 [number of axles per trailer]

Trend

Western Europe	2.9
Eastern Europe	2.6
North America	2.5
China	2.8
India	2.2
Russia	2.8
Asia Pacific	2.5
Brazil	2.8
Rest of Latin America	2.8
ROW	2.5

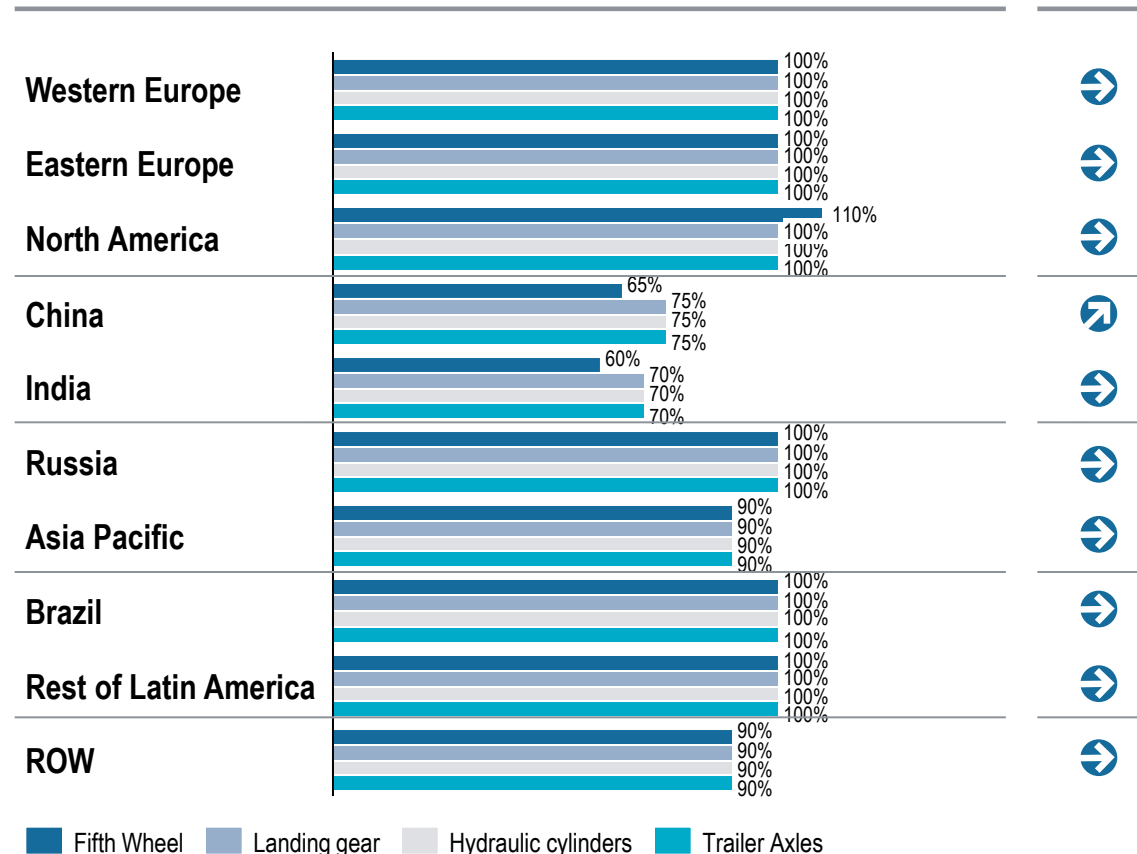


- > In Western Europe, most trailers have three axles with a strong trend in the past ten years, exceptions include e.g. Netherlands and Scandinavia. Eastern Europe is still catching up with this trend
- > In the US, trailers have between two and three axles and is expected to slightly increase
- > In Mexico most trailers have two axles and three axles are used only in off-highway applications
- > In China, trailers typically have three axles due to requirements for long distance transportation
- > In India, increasing share of semi-trailers leads to increasing number of axles, however from a low base
- > In Russia, most trailers are already equipped with three axles which is expected to further increase gradually to Western European levels
- > The number of axles per trailer in Brazil has not changed in the past and is expected to remain stable

Overall price stability expected as regular innovations mitigate potential price reductions – Price level in China is expected to rise

Price levels and price developments per region

Price levels and price developments per region, 2017 [%]

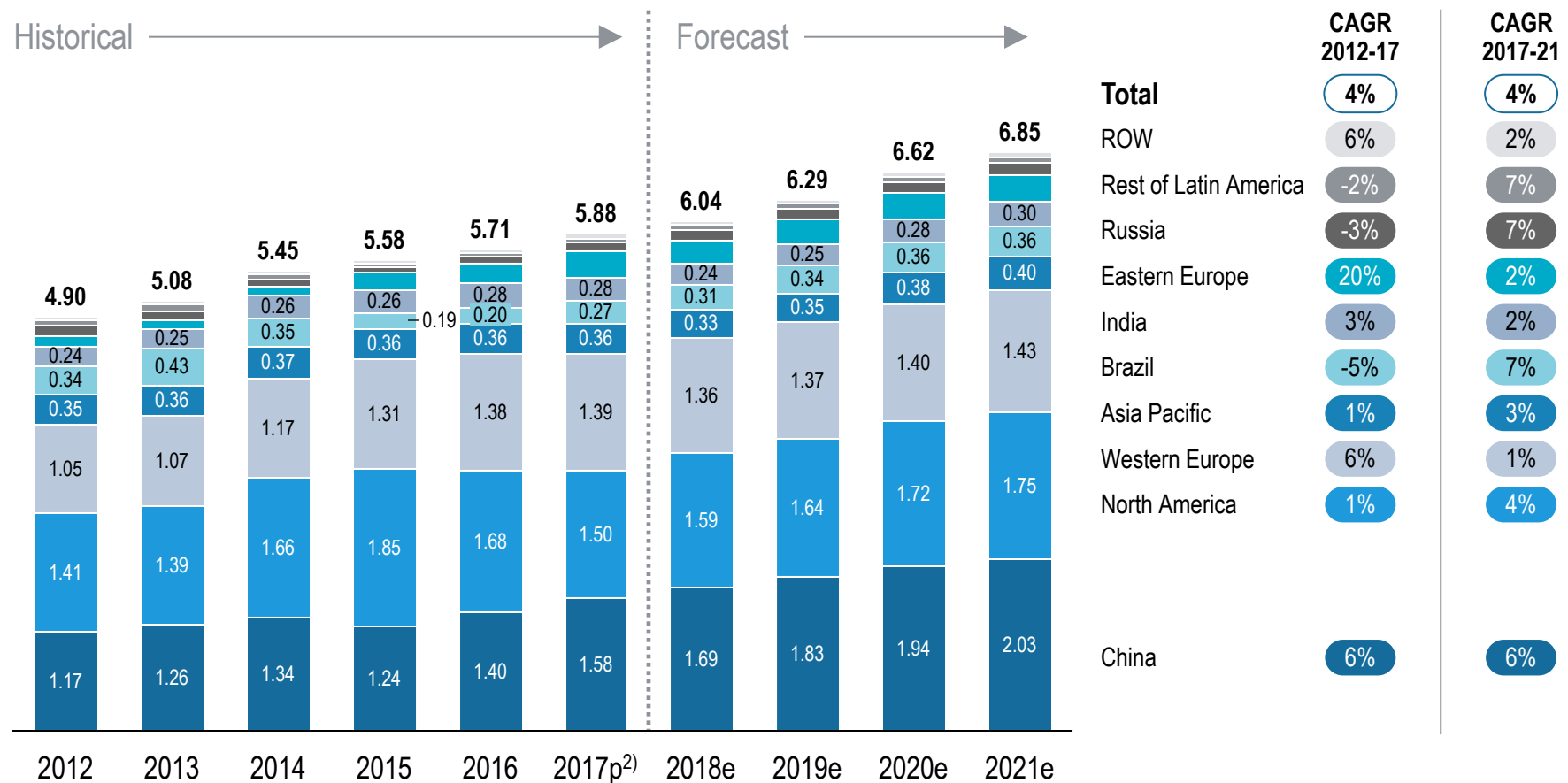


Trend

- > Overall, prices are expected to exhibit price stability as potential price reductions are mitigated by technological advancements
 - In line with automotive industry patterns, OE forced potential price reductions (e.g. approx. 1-2% p.a.) are expected going forward
 - Based on historic experience, regular technology advancements and product innovations lead to price jumps in regular intervals, usually forcing the prices back to higher levels
- > Some regional differences in price levels exist, e.g. China with lower / North America with higher price levels compared to Europe
- > In addition to the pricing itself, a shift in the value segments towards higher value products was considered for China
- > Additionally, an increasing number of Chinese players exporting globally is expected to lead to an adaptation of a more European price levels in China

Geographically, Brazil and Russia are expected to recover – Overall China is expected to drive market growth with c.6% p.a.

Global truck/trailer first-fit component market by region, 2012-21 [EUR bn]



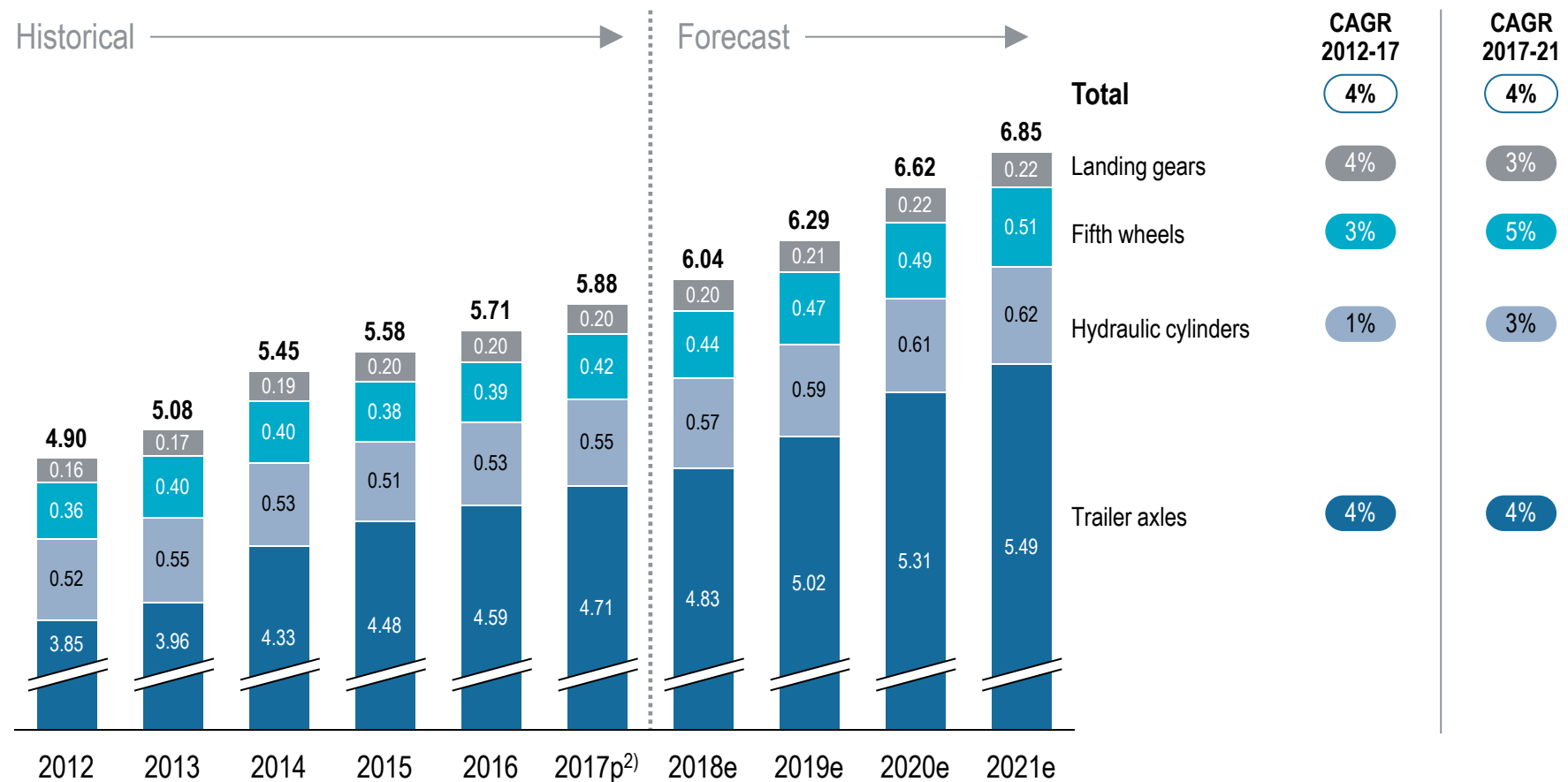
Notes: All CKD fitted components are considered in country of assembly. Market size does not include drum & disk brakes.

China sales outgrowing volume increase due to expected price increases; 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses

Source: IHS Automotive (May 2017); Clear International; Interviews with market participants; Roland Berger

The first-fit component market is expected to grow at c.4% p.a. until 2021 – Fifth wheels growing fastest with c.5% p.a.

Global truck/trailer first-fit component market by product, 2012-21 [EUR bn]

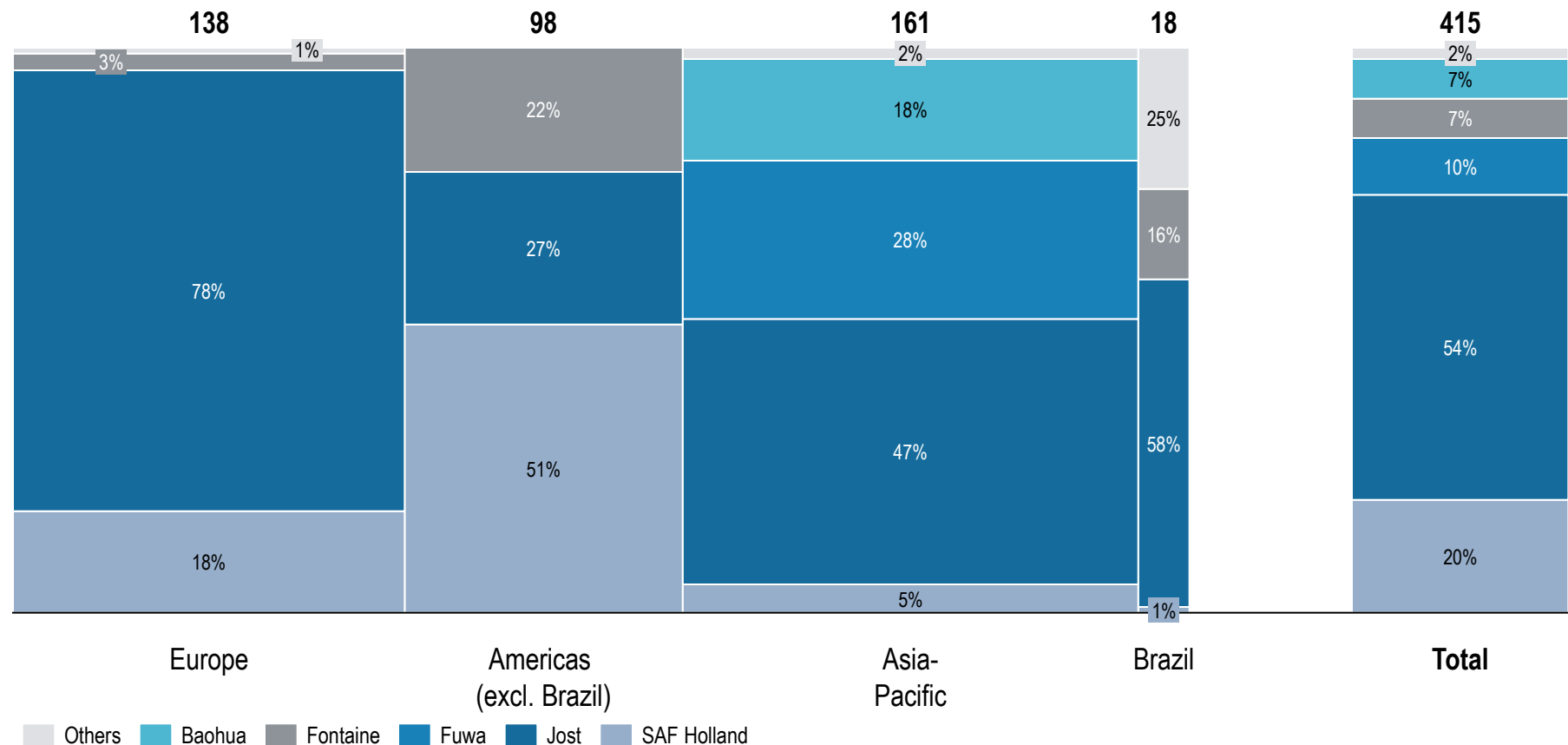


Notes: All CKD fitted components are considered in country of assembly. Revenues of brakes not included, 2) Prognose, Q1 2017 analyzed and data forecasted till end of 2017 based on market interviews/data analyses

Source: IHS Automotive (May 2017); Clear International; interviews with market participants

The global fifth wheels market is dominated by Jost and SAF Holland – Fuwa with c.30% market share in Asia-Pacific region

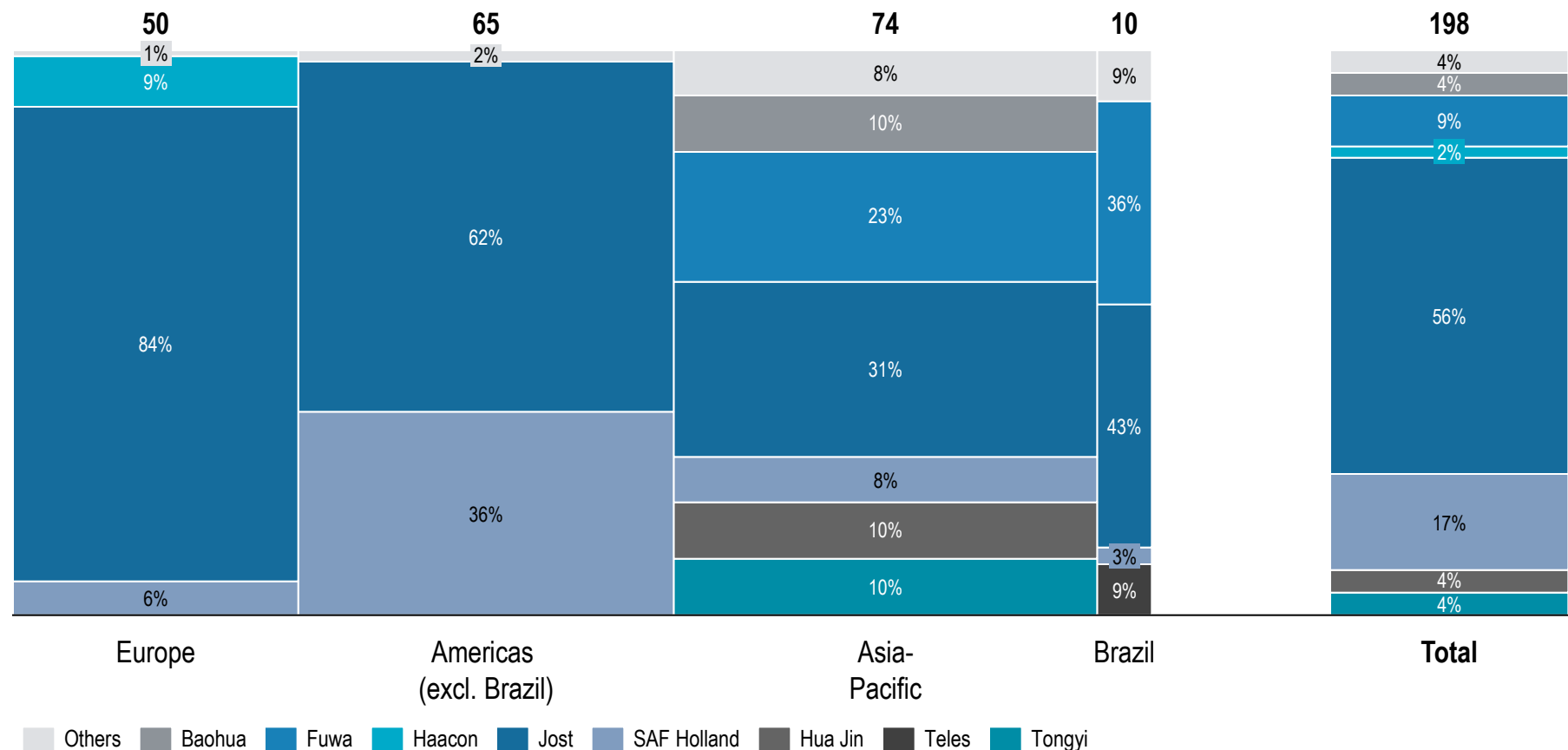
Market shares in fifth wheels OE business¹⁾ by region, 2016 [EUR m; %]



1) Does not represent entire world market; includes only relevant regions/countries

The three large players in the landing gear segment are Jost, SAF Holland and Fuwa reaching a combined market share of over 80%

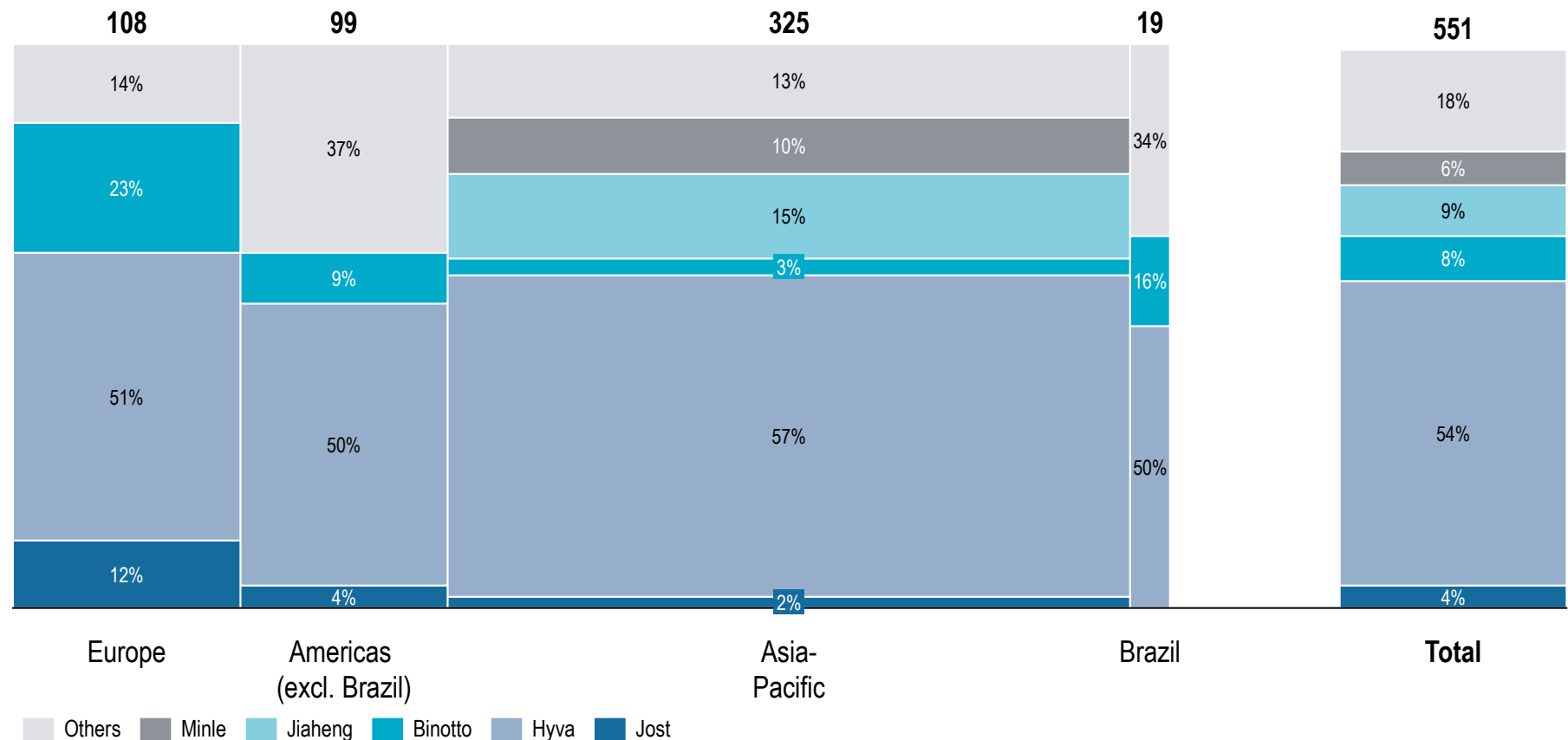
Market shares in landing gears OE business¹⁾ by region, 2016 [EUR m; %]



1) Does not represent entire world market; includes only relevant regions/countries

Hyva is dominating the global hydraulic cylinder market with over 50% market share – Jiaheng as strong local player in Asia-Pacific

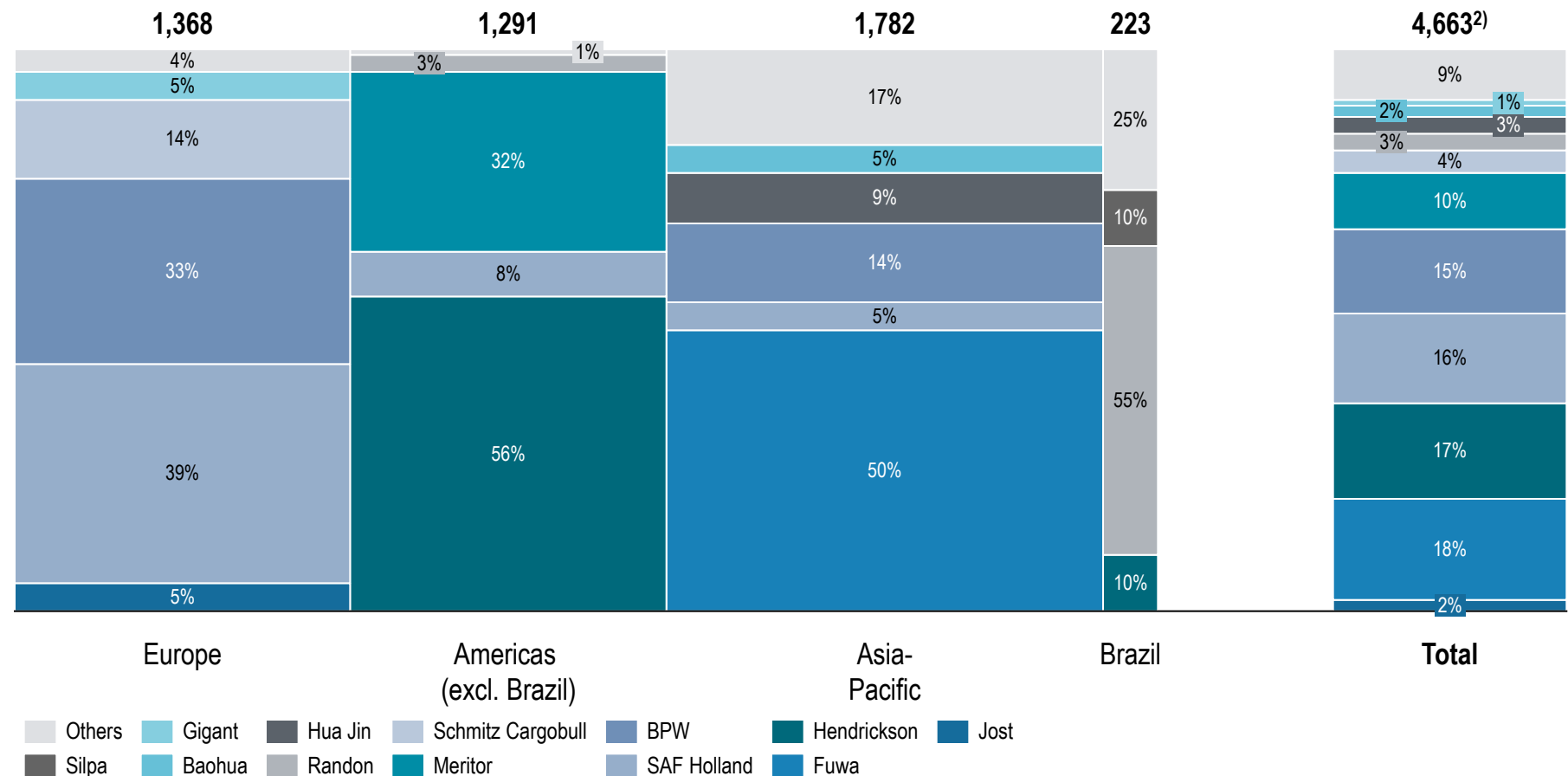
Market shares in hydraulic cylinders OE business¹⁾ by region, 2016 [EUR m; %]



1) Does not represent entire world market; includes only relevant regions/countries

The European trailer axles market is characterized by relatively high insourcing – Main players globally are Fuwa and Hendrickson

Market shares in trailer axles OE business¹⁾ by region, 2016 [EUR m; %]



1) E.g. very heavy transport, sea/rail applications, steering axles etc.; Does not represent entire world market; includes only relevant regions/countries 2) Difference in sum due to rounding

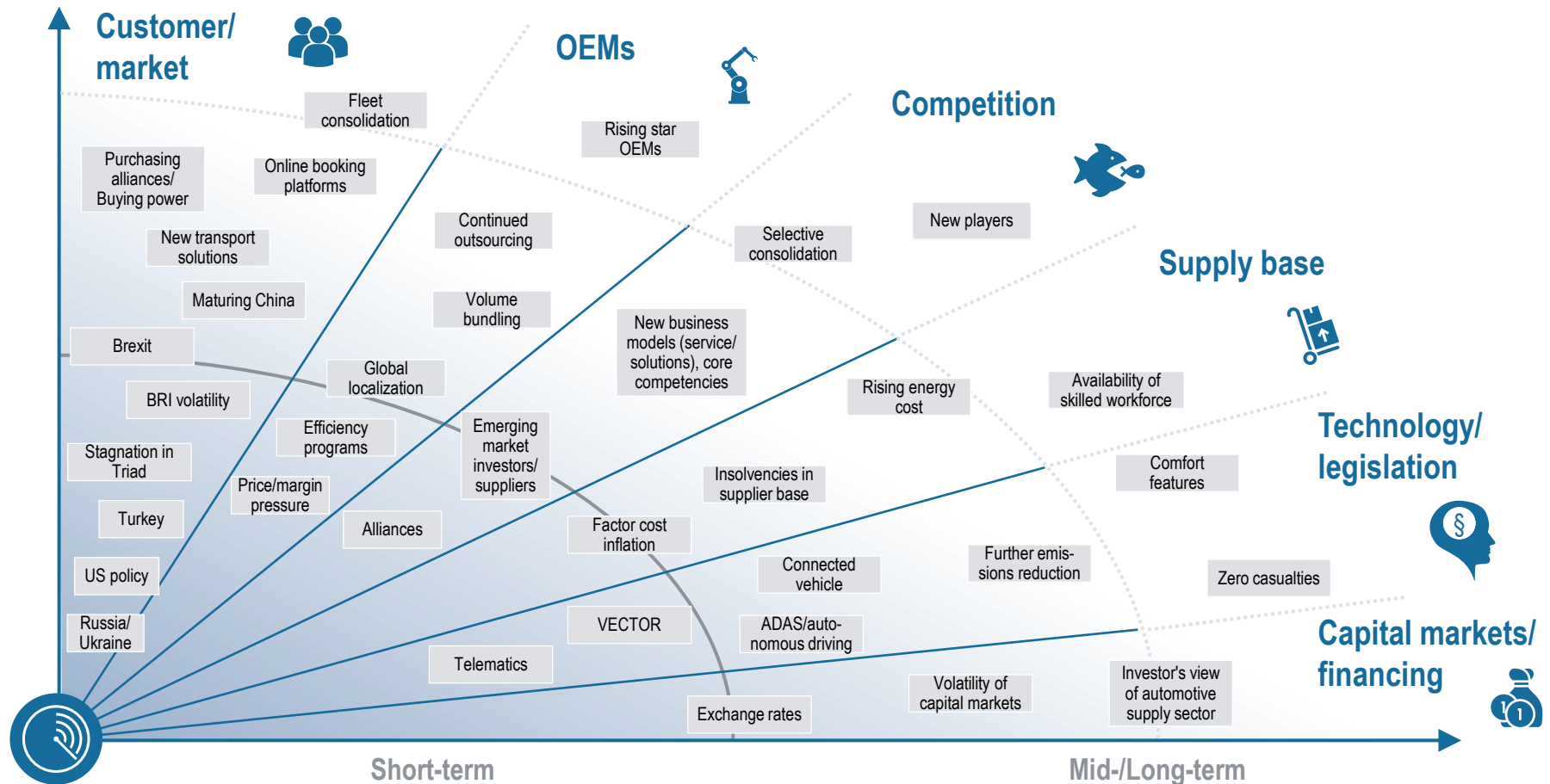
Source: Annual reports; Interviews with market participants; Roland Berger

D. Key success factors for component suppliers



Commercial vehicle suppliers need to manage a broad variety of short- and long-term challenges

RB Commercial Vehicle supplier CEO radar screen for 2017 and beyond



Note: Excluding product segment specific technology and operational issues

Source: Roland Berger

In addition, high entry barriers in the truck/trailer component market exists for new players

Overview of key entry barriers in the market for truck/trailer components

Entry barrier

Longstanding customer relationships/customer loyalty

- > High customer loyalty and longstanding customer relationships as well as high penetration in the current vehicle park can prevent switching of truck/trailer suppliers
- > Due to low percentage of overall truck/trailer costs (especially fifth wheels, landing gears), motivation to switch suppliers expected to be rather low

High brand awareness

- > Strong brand positioning as a key asset, which creates a pull effect and prevents market entrants
- > Branded components serve as a status symbol and proof high quality standards

R&D know-how/innovation

- > Differentiation through technologically advanced products and constant product upgrades
- > High number of variants to be offered, requiring efficient internal setup

Certifications and regulatory approval











- > Especially safety-critical parts need to pass several regulatory certifications/approvals as well as fulfill OEM-specific approval processes – This approval processes represent barriers for potential new entrants

Integration of logistics into customers' operations

- > Truck/trailer component suppliers are often very tightly integrated into the supply chain of OEMs, often delivering parts JIT/JIS to OEMs production facility – Being located in proximity to OEMs and being able to flexibly react to customers demands can represent an effective entry barrier

From an internal perspective, we identified several key success factors

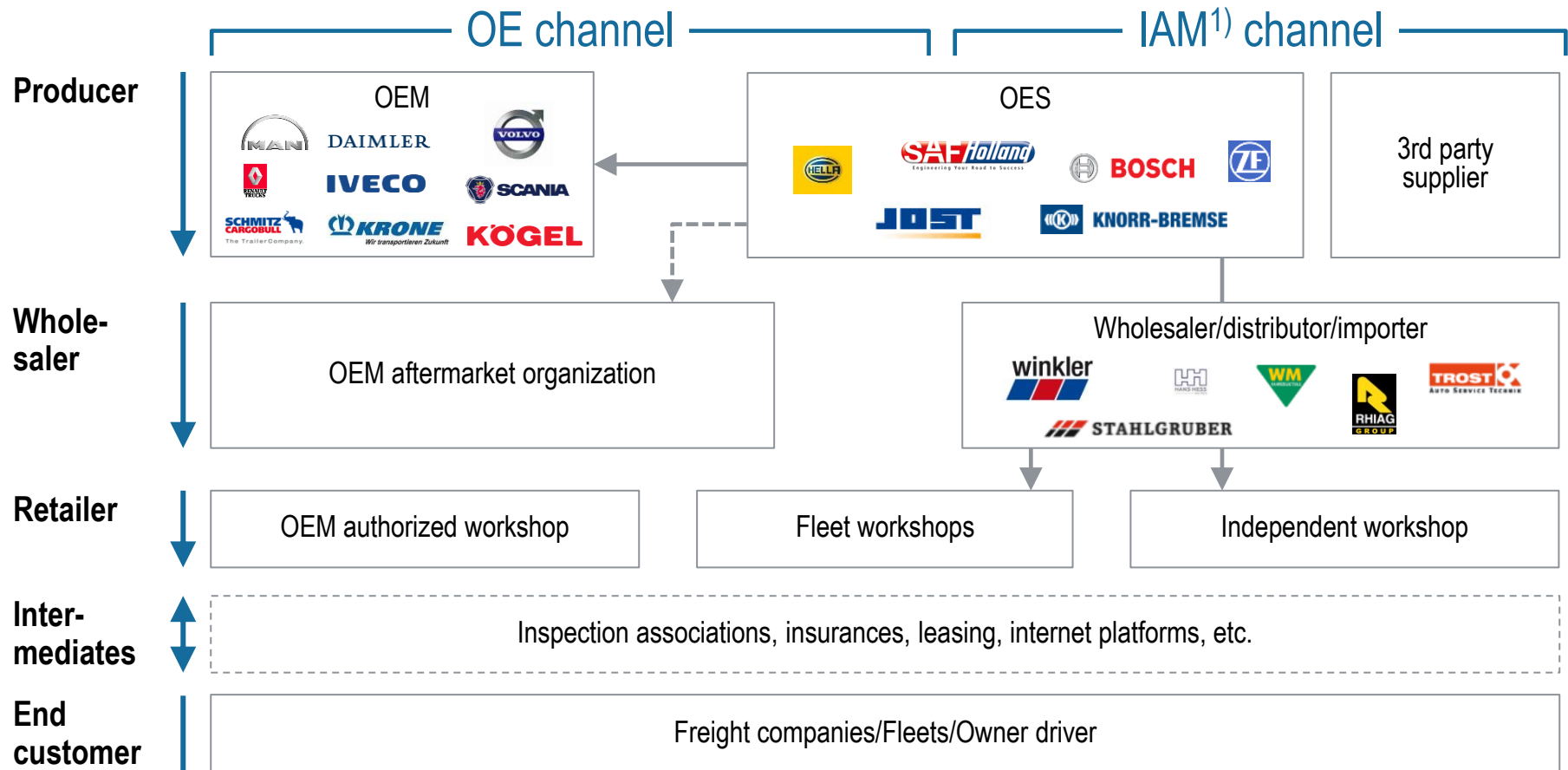
Key success factors – Internal perspective

Success factors	Importance	
 Unique portfolio of branded products and services		<ul style="list-style-type: none"> > Well-known branded products with image for high-quality and safety standards to allow price premium > IP-protected and broad product portfolio of truck and trailer components and systems that allow for product bundling > High number of product variants allowing differentiated solutions
 Efficient production management		<ul style="list-style-type: none"> > Modular production set-up, enabling a large number of customer-specific variants in a cost-efficient manner > Customer specific variations are introduced at a relatively late stage in the production/assembly
 Lean value-chain management		<ul style="list-style-type: none"> > Lean, asset-light production/assembly that focuses on key inhouse capabilities > Local for local production in all key truck and trailer markets
 Globally integrated sourcing		<ul style="list-style-type: none"> > Global procurement network with low ability for low cost sourcing > Strict supplier quality assurance and satisfaction of global OE standards, enable full flexibility for the OE, the aftermarket and between regions
 Global presence and strong distribution platform		<ul style="list-style-type: none"> > Global presence in all major truck/trailer markets > Global sales network with customer access in all relevant markets and channels (OE, IAM channel)

 High
  Low

One success factor is the development of a strong distribution platform – OEM and aftermarket business needs to be addressed

















Example: Strong distribution platform





1) Independent Aftermarket

From an external perspective, we identified brand and reputation as well as strong customer relationship as key success factors

Key success factors – External perspective

Success factors	Importance	
 Strong brand and reputation		<ul style="list-style-type: none"> > Strong brand and reputation as one of the strongest key success factors > Based on strong brand and reputation price premium can be achieved
 Strong customer relationship		<ul style="list-style-type: none"> > Strong customer relationships (fleets) and broad customer portfolio serving both truck and trailer OEMs > Powerful customer approach based on a combined push and pull strategy for OE and aftermarket clients
 Competitive prices		<ul style="list-style-type: none"> > Prices remain as one of the key criteria – Customer are highly price sensitive > Commercial Vehicle (CV) suppliers need to offer competitive prices
 High technical capabilities		<ul style="list-style-type: none"> > Advanced product features help to secure volume in the market > Technical capabilities as one potential USP for many market players
 Innovation power		<ul style="list-style-type: none"> > Innovation power and capabilities for new variants and products is necessary to differentiate > Innovation through cooperation and disruptive thinking with increasing importance
 High delivery performance		<ul style="list-style-type: none"> > Basic delivery performance is considered as order qualifier, however Just in Time (JIT)/ Just in Sequence (JIS) performance and short term delivery can also be used as a differentiator vs. competition
 High quality		<ul style="list-style-type: none"> > Basic requirement as order qualifier incl. meeting technical product specifications as well as OEM defined ppm ratios – Due to fixed industry standards single differentiation via quality is not possible
 Geographic proximity and local content		<ul style="list-style-type: none"> > Local content depends on regulation and market specifics and is very important for many markets with specific requirements > Homologation and local production adjustments required for certain markets

 High
  Low

E. Roland Berger



Roland Berger is the only leading global consultancy of German heritage and European origin

Roland Berger at a glance



Within our Automotive Competence Center we have special global teams for automotive suppliers and commercial vehicles

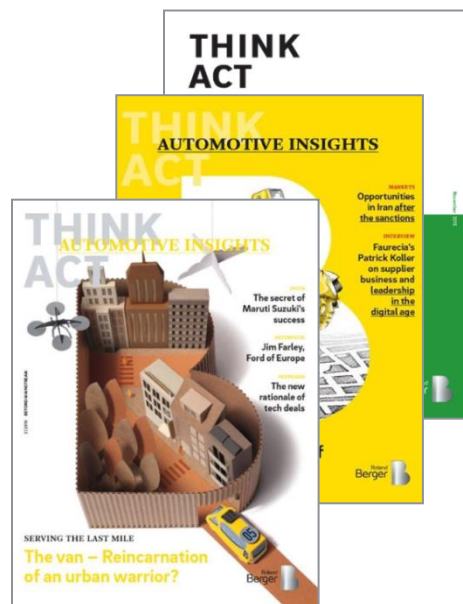
Our competence matrix

Function	Industry	Automotive Special focus Suppliers/ Commercial Vehicles	Chemicals	Construction	Cons. Goods & Retail	Energy	Eng. Products	Financial Services	Pharma	Public Admin. Infrastructure	Technology, Media & Telecom.	Transportation	Utilities
Corporate Finance		●	●	●	●	●	●	●	●	●	●	●	●
Digitization		●	●	●	●	●	●	●	●	●	●	●	●
Information Management		●	●	●	●	●	●	●	●	●	●	●	●
Operations		●	●	●	●	●	●	●	●	●	●	●	●
Restructuring & Corporate Performance		●	●	●	●	●	●	●	●	●	●	●	●
Strategy		●	●	●	●	●	●	●	●	●	●	●	●

Experts in the Roland Berger Automotive Competence Center are thought leader and regularly publish landmark studies in the field

Publications and studies

ACC Insights



- > The Automotive Competence Center's **client magazine**
- > Going out to **top-match decision makers** in the automotive business globally
- > **Three to four** publications per year
- > Circulation of around **3,500 copies** per issue

Recent studies and articles (selection)



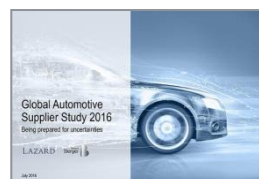
Connected car – App based dongle solution as shortcut to connectivity

- > Assessment of in-car integrated solutions and impact on volume segment
- > Identification of new providers from outside the industry
- > Recommended actions for OEMs



Automated vehicles Index Q3/2016

- > Presentation of competitive positions of world's leading automotive nations
- > Customer survey on the interest in automated driving and the use of robot taxis



Global Automotive Supplier Study 2016

- > Assessment of current state, trends and challenges in the industry
- > Recommended actions for suppliers



Automated Trucks – The next big disruptor in the automotive industry?

- > Identification of success factors in the trucking industry
- > Examination of disruption within the trucking industry
- > Recommended actions for the trucking industry

Our expertise is sought after by the international press and media



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navigating
complexity