### Global Automotive Supplier Study

Record profits versus increasing volatility

LAZARD



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**Contacts** – Roland Berger and Lazard Automotive teams





A. The current status – Supplier profitability at an all-time high





### After an excellent 2013, 2014 is expected to be yet another record year for automotive suppliers globally

Key supplier performance indicators, 2005-2014e (n=~600 suppliers)



1) EBIT after restructuring items 2) EBIT after restructuring items/capital employed

Source: Company information; analyst forecasts; Roland Berger/Lazard



### Key drivers of these results are nicely growing vehicle production volumes in the main markets

Global light vehicle production volume<sup>1)</sup> by region, 2010-2014e [m units]



1) Incl. light commercial vehicles 2) Excluding CIS and Turkey

Source: IHS; Roland Berger/Lazard



### Major decline in Brazil and Russia – Chinese manufacturers and premium OEMs are fueling this year's growth

Top 20 by country and by OEM group, light vehicle production<sup>1)</sup>



1) Incl. light commercial vehicles 2) Year-on-year growth rate

Source: IHS; Roland Berger/Lazard



### Recent supplier performance adds up to a 5-year plateau of record margins – Gap between suppliers and OEMs remains constant

OEM and supplier profitability (EBIT margin), 2001-2014e [%]



1) Aggregated data for 14 European, North American and Asian OEMs (incl. results from financial services business)

Source: IHS; Factset; company information; Roland Berger/Lazard





## Financial performance of suppliers varies greatly depending on region, company size, product focus and business model

Profitability trends in the global automotive supplier industry - 2014e vs. 2007

R	egion	Company size	Product focus	Business model
		2	3	
>	NAFTA suppliers significantly improved their performance since the auto crisis to almost 8% EBIT Performance of Europe- based suppliers partly impact by weak home market in 2013 (but positive trend in 2014)	<ul> <li>Suppliers with &gt;EUR 10 bn revenues maintained their strong profitability level of above 7% EBIT</li> <li>Lower midsized suppliers ed (EUR 0.5 to 2.5 bn revenues) remained above average</li> </ul>	<ul> <li>Tire-focused suppliers maintained their strong margins</li> <li>Also powertrain suppliers remained above average</li> </ul>	"Product innovators" had stable above-average margins of ~8%, further positive trend in 2014
>	<b>Chinese</b> suppliers still very strong, but with gradually decreasing margin levels <b>Japanese</b> suppliers on average remain at a weaker profitability level	<ul> <li>&gt; Upper midsized suppliers (EUR 2.5 to 10 bn revenues) remained below average</li> <li>&gt; Small suppliers (below EUR 0.5 bn revenues had the lowest profitability (~5%)</li> </ul>	Interior-focused suppliers saw margins decline and had the lowest profitability level overall of around 5%	Margin of "process specialists" stayed stable, below average since 2007



### NAFTA-based suppliers are currently more profitable than their European peers – China-based suppliers recently on the decline

Key supplier performance indicators by region, 2013/2014 [%]



Europe-based suppliers in principle benefit from leading technology positions in many segments and favorable customer mix – some large suppliers with weaker performance in 2013 vs. 2012 (and 2014) impacted the regional average

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- > NAFTA-based suppliers still benefit from substantial restructuring of their business during the 2008/2009 auto crisis
- > China-based suppliers are still leading edge, but margin levels are gradually decreasing due to intensified competition
- > Japan-based suppliers trapped by dependency on their home market and respective OEMs



### Very small and midsize suppliers lag behind in terms of EBIT margin – Large globally operating suppliers are top of the class

Key supplier performance indicators by company size (sales in EUR bn), 2013/2014 [%]



> Leveraging scale on the cost side clearly paid off in recent years

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- > Large multinational suppliers continued to benefit from the ongoing globalization
- Midsize suppliers (EUR 2.5-10 bn revenues) "stuck in the middle" – performance remaining below average
- Many very small suppliers suffered from the growing cost of going global in recent years



# Powertrain and tire-focused suppliers currently achieve the highest profitability – Interior suppliers remain significantly below average

Key supplier performance indicators by product focus, 2013/2014 [%]



Powertrain margins reduced by intensified competition in this growing business – still on a high level

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- > Exterior suppliers improved in recent years, partly due to growing lightweight focus
- > Chassis suppliers developed around the industry average for quite some time – future development increasingly driven by active safety
- > Tire suppliers clearly benefited from their strong aftermarket business in recent years
- Interior suppliers continue to struggle with high commoditization pressure

1) Business model based on innovative products with differentiation potential 2) Business model based on process expertise (while product differentiation potential is limited)

# Product innovators clearly outpace process specialists in terms of profitability

Key supplier performance indicators by business model, 2013/2014 [%]



- Innovative products feature higher differentiation potential and greater OEM willingness to pay
- > High entry barriers through intellectual property in many innovation-driven segments
- > Competitive structure more consolidated in innovation-driven segments
- > Higher fragmentation in many process-driven segments drives price competition





### Five key success factors have been applied by most of these players

Top 5 key success factors of top performers

Strong efforts to maintain/increase USP and technological differentiation

2 Focus on product segments with above-average **growth rates and margin potential** 

Anti-cyclical **efficiency improvement** efforts (overheads, plant locations, ...)

Strong increase of **production and engineering footprint** outside Triad markets

**Good organization** of processes and structures in globalized setups



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The short-term challenge – Uncertainty rises as record profitability is expected to come to an end



## Short term, we expect slower growth with profit margins still remaining at a high level – Downside risks outweighing opportunities

Supplier global revenue and margin outlook, 2015/2016





### Uncertainty about the market development in 2015 stays at the top of the supplier CEO agenda

Supplier CEO radar screen for 2015 and beyond



Note: Excluding product segment specific technology and operational issues

Source: Roland Berger/Lazard





## Global light vehicle production is expected to continue its growth over the next two years – But at a much slower pace than before

Light vehicles production volume by region, 2011-2016 [m units]



Annual growth by region [CAGR, %]					
	2011 → 2014	2014 <del>→</del> 2016			
Europe	<0	0 to +2			
	+9	+2			
Japan	+6	-7 to -8			
China	+10	+6 to +8			
Brazil	-2 <sup>1)</sup> to <0	0 to +7			
	0	+4 to >10			
Russia	-2 <sup>1)</sup> to 0	0 to +2 <sup>2)</sup>			

nual growth by region [CAGP %]

Conservative estimate (reduction)

Note: Total bar size reflecting IHS volume forecast

1) Conservative estimate assumes lower actual level in 2014 compared to IHS forecast 2014 (but still assuming stable macroeconomic environment)

2) Assuming a still stable political environment

Source: IHS; Roland Berger/Lazard

## Import embargos would negatively impact all sides – Introduction currently not likely but still possible

Russia crisis: Summary of impacts and conclusions of potential sanctions

	Scenario 1: Increase of import duties	Scenario 2: Embargo on CBU imports (< EUR 30 k)	Scenario 3: Embargo on all CBU imports	
Budget impact for Russia	<b>EUR +55</b> m	EUR <b>-465</b> m	EUR <b>-1,420</b> m	
Profit loss for EU/US OEMs	EUR -100 m	EUR <b>-175</b> m	EUR -550 m	
Conclusions	<ul> <li>Limited impact of an increase in duties for EU/US OEMs only – most likely not worth the effort</li> <li>Greater short-term and long-term self-damage to Russia through import embargos:</li> <li>Short-term: budget revenue shortages higher than "punishment" effect</li> <li>Long-term: strengthening of Chinese/Asian brands as direct competitors to Russian brands</li> </ul>			



### OEMs are facing higher margin pressure – Impact of pricing and warranty cost increasing

Key drivers of increasing OEM margin pressure

- Growing difficulties to maintain end customer price levels – especially in Europe and China
- > Increasing cost of product proliferation and shortening replacement cycles
- > Rising warranty cost driven by a growing number of high-volume recalls
- > Increasing complexity and variety of new automotive technologies



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# Over recent years, actual retail prices have been continuously deteriorating in many major markets – Even in China

Snapshot of regional price discount patterns [% of retail price]



Source: CAR Institute; iFind; CNW Marketing Research; Roland Berger/Lazard

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#### 2 OEMs – Price pressure

## Particularly European OEMs have kicked off additional cost reduction efforts, creating friction in their supplier relations

Recent OEM cost reduction efforts and impact on supplier relations

#### **Recent OEM cost reduction efforts**

OEM	Scope and impact
VW	<ul> <li>Reduce cost by ~EUR 7 bn, of which 5 bn in Volkswagen brand until 2018</li> <li>1/3 by fixed cost reduction, 1/4 by sales and ~1/4 by R&amp;D, and others</li> <li>Fewer models and additional product offers</li> </ul>
BMW	<ul> <li>Reduce costs by several hundred million euros annually until 2020</li> <li>Reduce R&amp;D budgets, flexibilize production</li> <li>Particular focus on Mini and 1 series</li> </ul>
Daimler	<ul> <li>Realign global production to reduce operating costs by 5-6% annually (in addition to already existing cost saving programs)</li> <li>Increased standardization, job shifts, reduced vertical integration and investment</li> </ul>
PSA	<ul> <li>"Back in the race" turnaround plan, targeting lower production cost by EUR 1,100 per vehicle by 2018 – additional measures already announced</li> <li>Comprehensive set of measures, including reduced number of models, upgraded auto plants, boosted market share in growing markets, reduced jobs and lowered labor costs</li> </ul>
Renault- Nissan	<ul> <li>Raised the goal for combined alliance savings by 7.5 percent, accelerating cooperation efforts (save "at least" USD 5.8 bn by 2016)</li> <li>Stepped up joint projects in development, manufacturing, purchasing and human resources</li> </ul>

 Deterioration of quality of OEM-supplier relationships

- > Ambitious annual price reduction targets
- > More aggressive ways to capitalize on their negotiation leverage with suppliers (reinforced "pay-toplay"; "pay-to-quote")







C. The long-term challenge – An industry structure fundamentally changing





### Automotive suppliers need to mange a broad variety of long-term challenges

Supplier CEO radar screen for 2015 and beyond



Note: Excluding product segment specific technology and operational issues

Source: Roland Berger/Lazard

# RoW markets do not have the momentum of BRIC, but growth is stable and selected RoW markets outperform in a global context

Light vehicle (LV) sales and production, 2002-2020 [m units, %]



Production



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1) Argentina, Indonesia, Iran, Malaysia, Mexico, Poland, Slovakia, South Africa, Thailand, Turkey

Sales

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### Of all markets beyond Triad/BRIC, Mexico, Indonesia, Thailand, Iran and Poland make up ~85% of incremental volume

Top 10 LV production markets beyond Triad/BRIC by incremental volume [m units]



2013MexicoPolandIndonesia ThailandIranTurkeyArgentina SlovakiaSouthMalaysiaRest2020eAfricapositivenegative

Economice-driven

### Most recent M&A deals were driven by technology and customer/ market access – Economics-driven consolidation still not picking up

#### Major types of M&A motivation

	Technology access	Market/customer access	consolidation		
Rationale	> Achieving access to new or strengthening already existing technology/material or process capabilities to secure/establish USP	<ul> <li>Achieving access to regions or customers not served to date – via existing business or asset deals (e.g. capacity of production locations)</li> </ul>	<ul> <li>&gt; Optimization of highly fragmented and inefficient market structures, featuring a large set of market participants, of which many are rather struggling to survive based on achievable revenues, capacity utilization and margins</li> <li>&gt; Typically occurring in process- focused segments</li> </ul>		
	<ul> <li>Completion of existing portfolio to offer "one-stop shopping" from a</li> <li>horizontal (e.g. steel or aluminum and related process competencies) or</li> <li>vertical perspective (e.g. increased value add)</li> </ul>	In the past, typically driven by established market players, today, primarily led by emerging market players			
Empirical evidence in recent deals	<ul> <li>Rationale of many of the recent deals – easiest to communicate sustainable "value add" to investors</li> <li>Driver of many Chinese transactions</li> <li>Typically go have</li> </ul>	<ul> <li>&gt; Pure "expansion" deals without technology focus rather rare</li> <li>&gt; Driver of many cross-border transactions, e.g. from Japan</li> <li>and in hand</li> </ul>	<ul> <li>Relatively low share of transactions</li> <li>Not favored by the OEMs</li> <li>Buyers often cautious about restructuring activities required</li> </ul>		

Source: Roland Berger/Lazard

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### Emerging market investors play a major role in supplier M&A nowadays – Most of the recent transactions technology driven

#### Overview of main acquisitions, 2011-2014

2011		2012		2013		2014	
<b>Bayraktarlar /</b> Odelo	<b>C</b> *	<b>Bohong /</b> Wescast Industries	*]:	<b>Amtek /</b> Neumayer Tekfor	۲	<b>Amtek /</b> Kaiser	۲
BHAP/ Inalfa	*)	Bosch / SPX		BorgWarner / Wahler		Amtek / Kuepper Group	۲
Citic / KSM Castings	*)	<b>Continental /</b> Freudenberg molded brake parts		Gentex / JCI HomeLink		AUNDE / Fehrer	
CQLT / Saargummi	*]	Continental / Parker Hannifin MCS		Gentherm / W.E.T. Automotive		AVIC / Hilite	*}
Gestamp / ThyssenKrupp Metal Forming	*	<b>Delphi /</b> FCI MVL		Grammer / Nectec		AVIC / KOKI Technik	*}
GKN / Getrag driveline business		Faurecia / ACH Interiors		Halla / Visteon Climate business		Bosch / ZF Lenksysteme	
Inteva / Arvin Meritor Body System bus.		<b>Grupo Antolin</b> / CML	*	Huayu Automotive Systems / Yanfeng Visteon JV	*]	Delphi / Unwired Technology	
lochpe-Maxion / Hayes Lemmerz		<b>Hebei Lingyun Industrial</b> / Kiekert	*]	<b>Mahle /</b> Behr		ElringKlinger / Polytetra	
Martinrea / Honsel	¥	<b>Lear /</b> Guilford Mills		<b>Nidec /</b> Honda Elesys		Federal-Mogul / TRW valves business	
Ningbo Huaxiang / Sellner	*2	<b>Magna /</b> Ixetic	*	Ningbo Huaxiang / HIB Trim Parts	*)	<b>Lear /</b> Eagle Ottawa	
Ningbo Joyson Electronic / Preh	*2	Metalsa / ISE Automotive	\$	TMT / ZF Boge	*)	MAHLE / Letrika	
Nisshinbo / TMD Friction		Nemak / JL French Automotive	\$	<b>Tokai Rubber /</b> Anvis		<b>Sensata /</b> Schrader	
Samvardhana Motherson Group / Peguform	۲	<b>Tupy /</b> Cifunsa		<b>Wangfeng /</b> Meridian Lightweight	*)	Shanghai Prime Machinery / Nedschroef	*]
<b>Toyota Boshoku /</b> Polytec Automotive Interior bus.		Wuhan Iron & Steel Group / ThyssenKrupp Tailored Blanks	*}	Wanxiang Group / A123	*)	Visteon / JCI Automotive Electronics bus.	
Valeo / Niles				Group of Chinese investors /	*)	ZF / TRW	

Key: Acquiror / Target

Source: Thomson; Merger Market; press research; Roland Berger/Lazard



### In selected areas, traditional suppliers will face new competition

#### Overview of new entrants into the automotive industry – Connectivity example



Answer client demand for services/connectivity,

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# The ongoing technology shift is expected to generate new revenue and profit opportunities – But requires heavy upfront investments

Technology/legislation – Future developments

- Full-scale vehicle connectivity with consumer devices emerging as a must-have feature in the near future – Innovation potential for the human machine interface, but also risk for established automotive suppliers to lose revenue and margin potential to non-automotive competitors
- > Advanced driver assistance systems further grows in importance as main innovation area in the vehicle (alongside powertrain electrification and lightweight construction) – New (software) applications/solutions largely based on existing hardware
- In the long term, fully autonomous driving capability emerges on the horizon Still various technological and legal obstacles to overcome
- > Ongoing electrification of the powertrain Focus on combustion engine optimization (in conjunction with further hybridization) through 2020, breakthrough of fully electric vehicles thereafter (driven by even tighter CO<sub>2</sub> emissions regulations)
- > Rising cost pressure on less-innovative (process-driven) segments Resources to be freed up to fund innovations

1) Harvey ball indicating "confidence level" on the hypotheses; empty = low, full = high

Source: Roland Berger/Lazard





## To support the reduction of road fatalities, the regulatory framework related to safety applications will become even stricter

Increasing safety regulations in Europe – Selected examples



> Within the last decade, the focus of regulations has shifted toward pedestrian protection – introduction within two phases:

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- Phase 1 contains impact on adult head and lower leg form
- Phase 2 adds impact on child head and hips
- > Shift toward active safety systems
- Further mandatory implementation of driver assistance systems currently under discussion

1) November 2012 for new models; January 2014 for all new vehicles 2) November 2013 for commercial vehicles with >3.5t GMV; November 2015 for all newly registered vehicles





### The evolution of ADAS systems will ultimately result in the introduction of full autonomous driving functionality

### ADAS – Innovation roadmap



1) Highway pilot = Highway chauffeur + higher degree of automation 2) Tested – date of series production not available

Source: Press research, conference proceedings, Roland Berger/Lazard



### Autonomous cars will become reality in the next 10 years – All major OEMs have launched their own initiatives

### Autonomous driving – Development and outlook



 1) Project to investigate autonomous cars, cars drove 1,000 km autonomously in Paris
 2) Mercedes test vehicle autonomously covered the approximately 100-kilometer stretch between

 Mannheim and Pforzheim, while negotiating dense traffic and complex traffic situations
 3) According to Google's self-driving car project director, Chris Urmson
 4) Study: "Autonomous vehicles" (Q3 2013) by Navigant Research (global research institute)
 5) Study: "Emerging Technologies: Autonomous Cars – Not If, But When" (2014) by IHS Automotive

 Source: Navigant Research; IHS Automotive; Volvo; Roland Berger/Lazard
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# Connected vehicles business models are based on vehicle and journey data – Market players already positioning themselves

Connected vehicles – Development and outlook



1) Introduction of "M1" by Siemens makes wireless machine-to-machine communication possible

Source: Roland Berger/Lazard

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### Regulatory requirements push improvements in most regions – In Europe, the US and Japan, there is also a strong customer pull

Assessment CO<sub>2</sub> emission/fuel consumption regulation and customer pull



Source: FAW; EPA, EU; Inovar; Roland Berger/Lazard

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# In Europe, all OEMs focus on ICE optimization and road load reduction to comply with 95 g target – Minor xEV also required

### CO<sub>2</sub> emissions reduction [g/km] – European example



 Assessment is based on potential CO<sub>2</sub> emissions reduction in each car model of an OEM

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- ICE optimization is the most cost-efficient lever for CO<sub>2</sub> emissions reduction, followed by road load reduction, xEV least efficient cost/benefit ratio
- > Assumed changes in fleet structure
  - Limited shift toward smaller vehicle segments
  - No change in average vehicle power
  - No active shift in fuel shares in a model line
- > Credits for low CO<sub>2</sub> emitting vehicle are not considered
- > Potential of ICE almost 100% leveraged – Further reductions need to come from xEVs

1) Full hybrids; PHEVs/REEVs; EVs

ICE = Engine and other powertrain improvement, RL = Road load reduction (weight reduction, tires, aero), Fleet – Change in vehicle segment shares

Source: Roland Berger simulation

## To meet long-term regulation and customer pull, "new powertrain solutions" will be required – Electrification will likely be a main lever

Propulsion share 2020 and 2025<sup>1)</sup> [% of sales]



1) Optimistic scenario: globally strict CO2 emissions/fuel consumption regulation; high energy cost; high cost reduction HV batteries; high investments in recharging infrastructure

Source: Roland Berger simulation

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D. The conclusion – Key actions for automotive suppliers



### Suppliers need to ride the next wave of efficiency gains, while getting prepared to benefit from the industry shift

Key actions for automotive suppliers

#### Short term

- 1 Drive smart **efficiency improvements** (indirect production, overheads,...)
- 2 Increase/maintain **flexibility** across the entire value chain (production, R&D, purchasing,...)
- 3 Keep **key resources** motivated and "available" for potential task forces
- 4 Closely manage investment decisions and one-time costs
- 5 Cautiously **monitor market** developments and **signals** for a possible **downturn**

#### Long term

1 Maintain/sharpen unique selling proposition with clear **technological** or **process differentiation** 

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- Pocus on product segments with aboveaverage growth rates and margin potential – actively leverage M&A opportunities
- 3 Balance **regional** and **customer share** from a revenue but also value creation perspective (production, R&D, sourcing,...)
- 4 Establish best-in-class processes and structures to remain efficient and flexible in more complex globalized setups
- 5 Apply scenario techniques and regularly review/adapt defined strategy





### E. Contacts







### Roland Berger Automotive: A strong global team with more than 300 consultants dedicated to clients in the automotive industry

Roland Berger Automotive: More than 300 dedicated consultants globally



### Lazard Automotive Practice: Unparalleled coverage of the global automotive sector

Lazard Automotive: ~70 bankers with strong senior expertise in the automotive sector



**Selected Lazard transactions** 

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- > ZF Friedrichshafen: Acquisition of TRW Automotive
- > Wahler: Sale to BorgWarner
- > Fiat: Acquisition of remaining equity in Chrysler

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- > Dongfeng: Acquisition of a minority stake in PSA
- > Anvis: Sale to Tokai Rubber Industries
- > A123: Sale to Wanxiang (out of Ch. 11)
- > KPS Capital: Acquisition of Bosch's foundation brakes business
- > Delphi: IPO of the company
- > Honsel: Sale to Martinrea / Anchorage
- > Hilite: Sale to 3i
- > US Treasury: Sale of Chrysler stake to Fiat
- > US Treasury: IPO of GM
- > Cooper Standard: Restructuring
- > Continental: EUR 1.1 bn capital increase
- > UAW: Restructuring of OPEB liabilities of GM, Ford and Chrysler
- > Volkswagen: Acquisition of a 49.9% stake in Porsche
- > Opel: Advising the German Ministry of Economics on the Opel situation
- > Metaldyne: Merger with AsahiTec

Note: Strategic alliances for Central/Eastern Europe, Russia, Mexico and Korea



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