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Opportunities for Automotive Suppliers in Turkey

How to take the Turkish automotive industry to the next level

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Executive Summary

Current position of Turkey's automotive industry has limited potential

- Turkey is very exposed to European markets, which are expected to show low growth over the coming years.
- Very strong competition for production (in Eastern Europe).
- Strong competition in an often highly fragmented supplier industry makes it difficult for new entrants. Future relocation of production facilities made difficult by the already low utilization ratios at European OEMs

Repositioning the automotive industry according to the current shifts in technologies will offer significant opportunities

- As OEMs need to meet CO2 emission targets, the industry is expected to offer a broad spectrum of electric vehicles and mobility services. This will have severe effects on the value chain.
- Turkey could attain significant first-mover advantages by repositioning its suppliers industry accordingly – and gain sustainable long-term competitive advantage by moving up the value-chain instead of focusing on low-wage jobs.
- Furthermore, the country should take advantage of its geographical position and exploit opportunities with nearby regions.

Attracting necessary resources will be possible but a challenge

- Repositioning the supplier industry will require significant resources – attracting foreign investments will be necessary.
- The competition for foreign direct investment (FDI) is tough – a highly competitive environment.
- A highly effective and well executed marketing strategy is essential.

1. Current Position of the Supplier Industry

- 1.1 Export Markets
- 1.2 Production – Geographical Competition and Utilization
- 1.3 Supplier Situation – Competitive Environment

2. Repositioning the Supplier Industry

- 2.1 Growth Potential for Electric Vehicles
- 2.2 Changing the Competitive Factors
 - Technological Changes
 - Component Positioning (differentiation vs. costs)
 - Mobility Services
 - OEMs
- 2.3 Identifying New Export Markets
 - The Turkic Countries
 - Current Wealth and Outlook

3. Attracting the Necessary Resources

- 3.1 Foreign Direct Investment
- 3.3 Outlook

4. Appendix

- 4.1 Production Platforms for Electric Vehicles
- 4.2 Current EV-Project in Turkey (example)

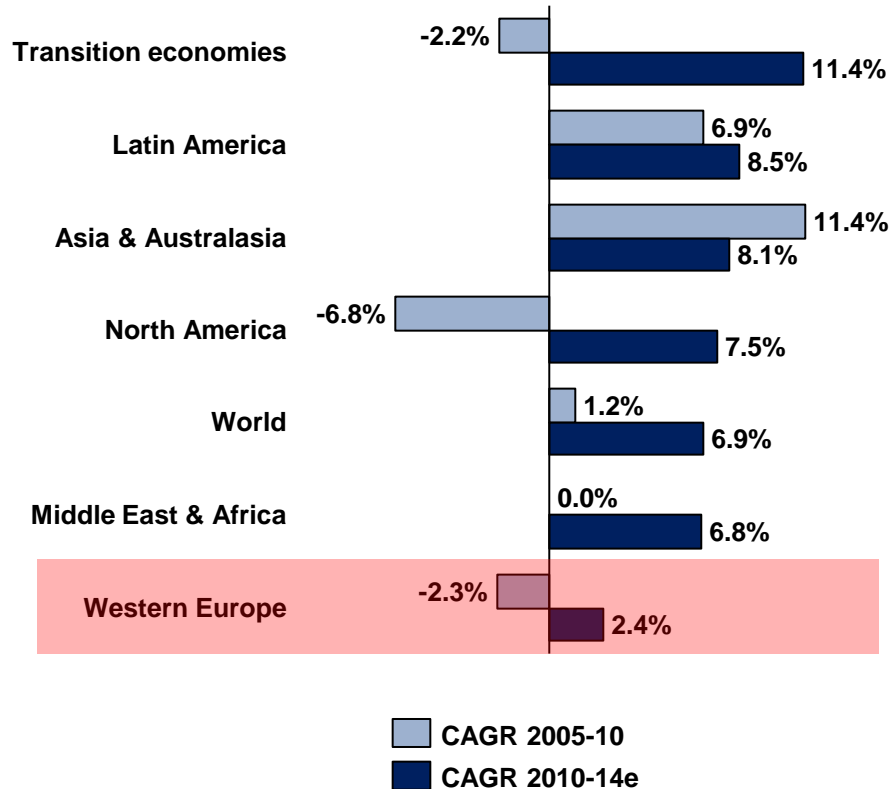
1.0 Current Position of the Supplier Industry

Geographical competition, production growth, and export markets

Current Position of the Supplier Industry

1.1 Export Markets – Passenger Cars

Passenger car registrations (m)



Low growth on current export markets

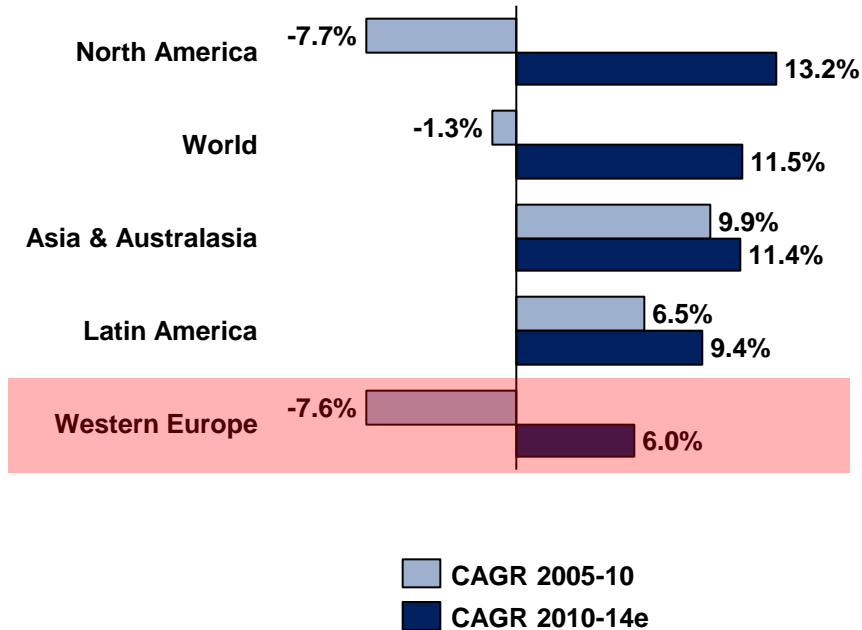
Turkey's current export market is Western Europe, which is expected to show low growth over the coming years.

Source: The Economics Intelligence Unit, 2010

Current Position of the Supplier Industry

1.1 Export Markets – Commercial Vehicles

Commercial vehicle registrations (thousands)



Low growth on current export markets

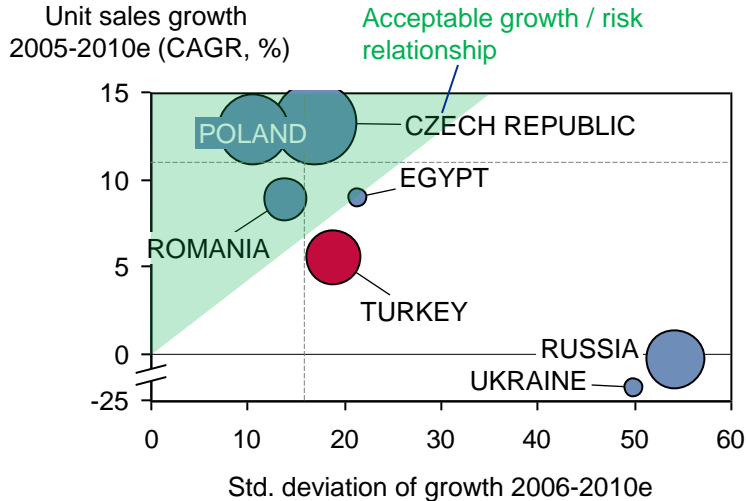
Turkey's current export market is Western Europe, which is expected to show low growth over the coming years.

Source: The Economics Intelligence Unit, 2010

Current Position of the Supplier Industry

1.2 Production – Geographical Competition and Utilization

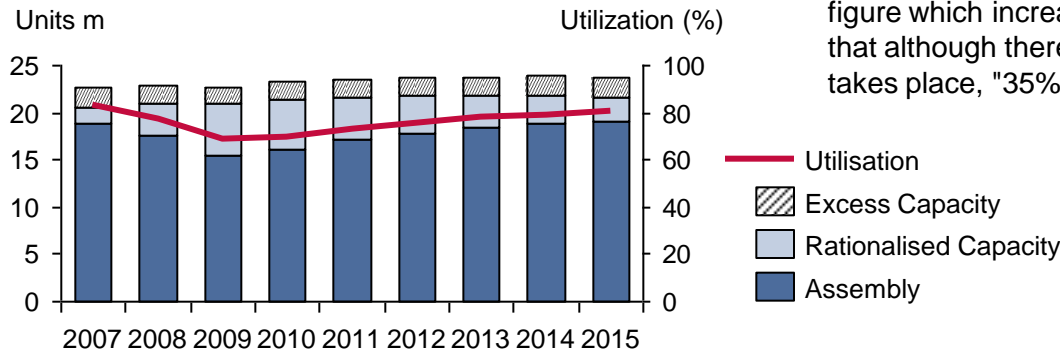
Production Growth and Cyclicity



Tough competition in Eastern Europe

- Compared to Poland, the Czech Republic, Romania and Egypt, Turkey has shown a lower growth rate and higher standard deviation of growth over the past years.
- Competition with other established Eastern European production sites is tough.
- Competition increased by low utilisation rates in Europe. Some OEMs mention current over-capacity of 35% (Ford).
- Generally, low-costs production sites are extremely sensitive to economic cycles, since companies tend to adjust production abroad before doing so at home.
- Recently, Ford of Europe's chief executive said that the company (Ford Europe) had an estimated overcapacity level of 35%, a figure which increased during the downturn. He furthermore added that although there was a need for extra capacity when an upswing takes place, "35% just seems too much."

Utilization rates

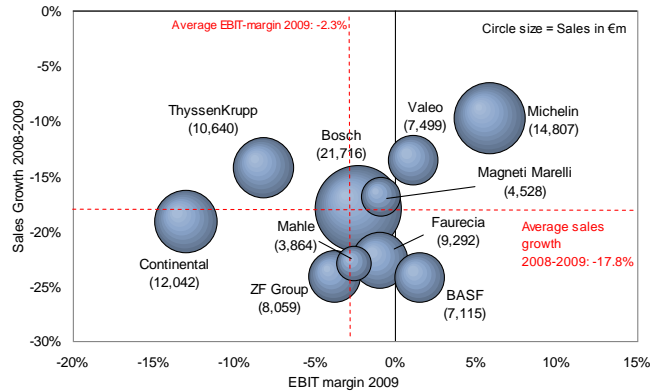


Source: Global Insight, 2010; KPMG, 2010

Current Position of the Supplier Industry

1.3 Supplier Situation – Competitive Environment

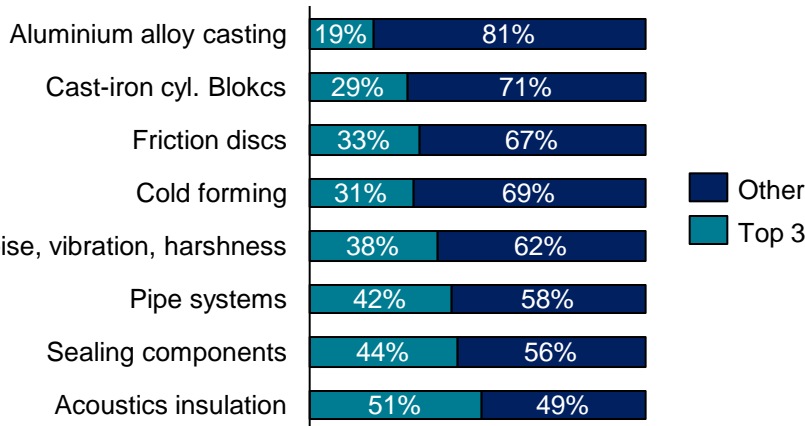
Supplier EBIT vs. Growth 2009



Tough competition in Eastern Europe

- Highly competitive supplier environment, that to a great extent compete on costs.
- This is especially pronounced in certain process-focused segments, where high fragmentation keeps negotiation power limited.
- Over-capacity is still an issue, but shutting down plants does not seem to be an option.
- OEMs are reluctant to support suppliers financially.

Industry Structure in the Supplier Segments



Source: Company Information, 2010

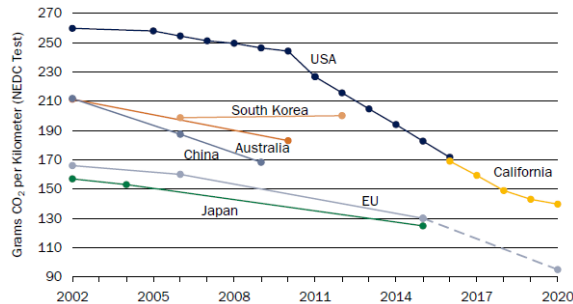
2.0 Repositioning the Supplier Industry

Identifying high-growth segments, taking advantage of the new value-chain, and regional development

Repositioning the Supplier Industry

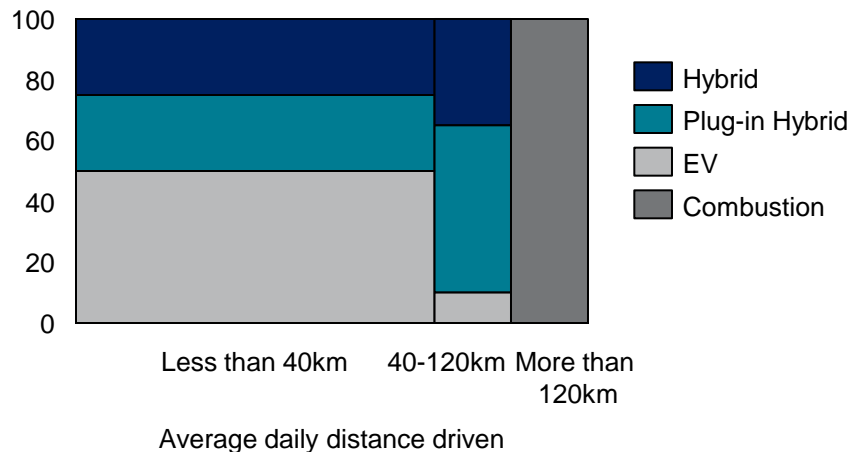
2.1 Growth Potential for Electric Vehicles

CO2 emissions – regulative framework



Pure electric and hybrid electric vehicles seem to be the way to go

Usage of engine technology (%)



Regulation and daily usage patterns both favor the usage of electric vehicles

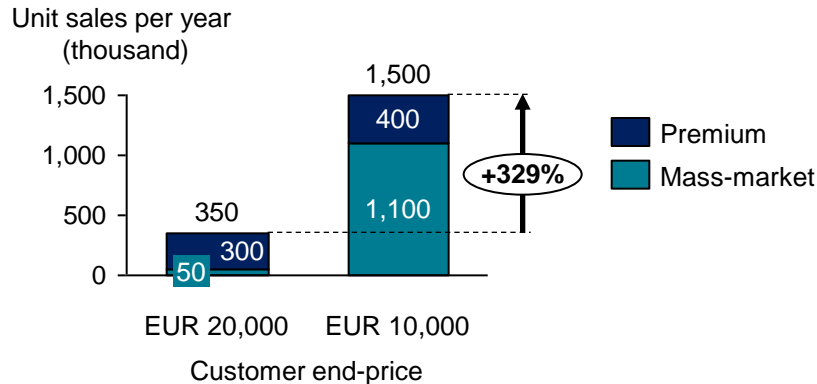
- OEMs need to bring down CO2 emissions significantly over the next ten years. It is the consensus that this can only be done by introducing electric vehicles on a larger scale.
- Europe, in a sense, is the ideal territory for the development of EV markets. Commuting distances are relatively short (70% of the population drive less than 40km per day), while national and international highways are relatively busy, thus helping to reduce the payback period for the costs involved in establishing remote charging infrastructures and developing smart grid technologies.
- After a sluggish start, Europe is positioning itself to become the electric car dynamo of the western world.

Source: International Council on Clean Transportation, Innovation; Center for Energy and Transportation, 2009; KPMG, 2010

Repositioning the Supplier Industry

2.1 Growth Potential for Electric Vehicles

Already a Strong Potential Demand for Electric Vehicles



The market for electric vehicles is promising

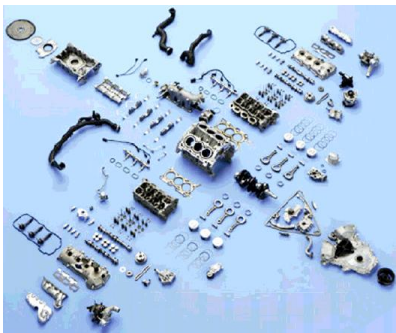
- Demand for electric vehicles is already there, it is mainly a matter of bringing the price down. As electric vehicles prices are still quite high, most customers are expected to be in the premium segments. However, as the market grows, scale effects will kick in and production costs will come down. This will eventually lead to price drops, and make the vehicles available for the mass-markets.
- The key selling point for electric vehicles, however, is their extremely low running cost and payback periods can be very short. Furthermore, most countries offer incentives for consumers as well as manufacturers in order to stimulate the market among early adopters and encourage manufacturers to continue investment and development.
- European premium manufacturers should have a strong market position, however new players from the electronics and utilities industries might also be potential players.
- Over the coming year major manufacturers including Renault-Nissan and Mitsubishi will release affordable highway-capable vehicles, while at the top end of the market Tesla and Venturi are already addressing demand for green performance vehicles. From 2012 onwards the European market is forecast to take off as releases are slated to follow from both global automotive manufacturers and specialist developers aiming to gain a foothold in this growing market.

Repositioning the Supplier Industry

2.2 Changing the Competitive Factors – Technological Changes

What will disappear?	What will change?	What will be added?
<ul style="list-style-type: none"> • Combustion engine parts including the engine block, pistons, gaskets, valves, camshaft, oilsump, oil filter, injection systems • Exhaust system • Tank system • Clutch • Peripheral systems such as oil pumps, turbochargers, alternators 	<ul style="list-style-type: none"> • Gearbox • Wheel suspension • Power transmission • Air condition systems • Cooling water pump • Thermal insulation • Chassis 	<ul style="list-style-type: none"> • Electric engine and related powertrain systems • Battery systems – including power electronics, battery management, charging devices (Plug-in), DC/AC-converter

Combustion engine (6 cylinders):
Powertrain with ca. 1,400 individual parts
and 140 mechanical parts



Reduction in
complexity

- Less complexity could mean that supplier fragmentation will decrease (less need for a high number of specialists). This could increase profit margins overall.

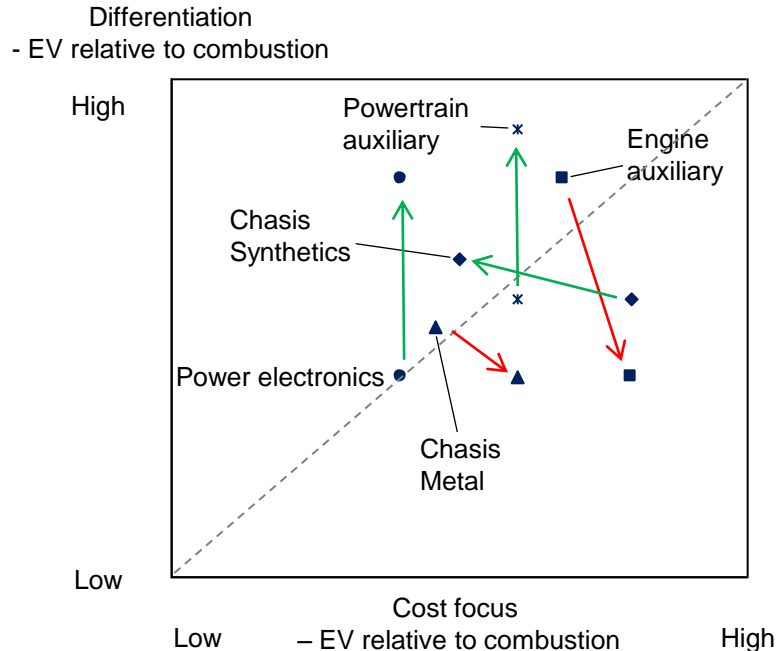
Electrical engine: Powertrain with ca. 210
individual parts and 14 mechanical parts



Repositioning the Supplier Industry

2.2 Changing the Competitive Factors – Component Positioning

Product differentiation vs. costs for electric vehicle components



Electric vehicles lead to higher opportunities for product differentiation in selected areas

- Parts used for metal chassis structures and engines are expected to increasingly compete on costs – especially as electric engines will have much less moving parts than a combustion engine.
- On the other side, synthetic light-weight materials, power electronics and powertrain technologies will be key factors for product differentiation. Suppliers successfully focusing on those areas will be able to significantly add value to any particular vehicle.

Repositioning the Supplier Industry

2.2 Changing the Competitive Factors – Mobility Services

Mobility

- Globally growing mobility requirement
- Customers have less means available for mobility of shifted priorities
- Ongoing demand for individualised mobility solutions.

Car Ownership

- Growing demand for flexible ownership models to reduce investment costs, fixed costs and running costs.
- Decreasing significance of the car as a status symbol. Use increasingly more important than ownership.

Services

- Demand for comprehensive service and support offerings for the vehicle and beyond.
- Increasing demand for services that appropriately bundle mobility and related areas such as media integration, connectivity, etc.



Product

- Downsizing
- Customization
- Purchase and running costs
- Product innovation
- „Environmental correctness“

Mobility services will have a severe effect on vehicle design

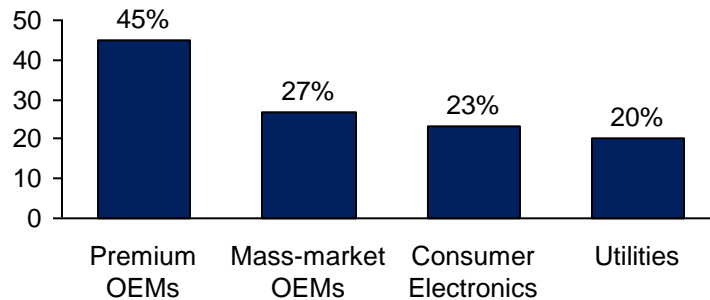
- As people might move towards buying a mobility service instead of owning a vehicle, this will also affect the types of vehicle in demand.
- Generally, there will be less demand for all-round vehicles that can serve multiple purposes.
- It is expected that the trend towards mobility services will lead to an increased demand for more specialized vehicles. This increases the need for innovative vehicle design and first of all for flexible production platforms and components that can support several different models.
- Higher customization also leads to higher interaction between players in the value-chain, which means that players will benefit from proximity

Repositioning the Supplier Industry

2.2 Changing the Competitive Factors – OEMs

Potential Future OEMs

Would you buy an electric vehicle from these firms today?



Changes in the OEM Landscape will affect Suppliers

- More fragmented OEM landscape, as new players enter the field – which have not previously been operating in the automotive industry (such as consumer electronic companies and utilities). Negotiation power should therefore shift in favour of suppliers.
- Higher degree of outsourcing. OEMs will increasingly take on the role of system suppliers, focusing on design and project management. As well as on mobility services.

Suppliers

- Stronger position for suppliers which have successfully managed to follow the transition to EVs.
- New opportunities for collaboration with OEMs – which will be based on niche supplier offering.
- Commodity suppliers 'pooled' to minimise risk, and could face increasing financial pressure

Repositioning the Supplier Industry

2.3 Identifying New Export Markets – The Turkic Countries

Turkic Countries



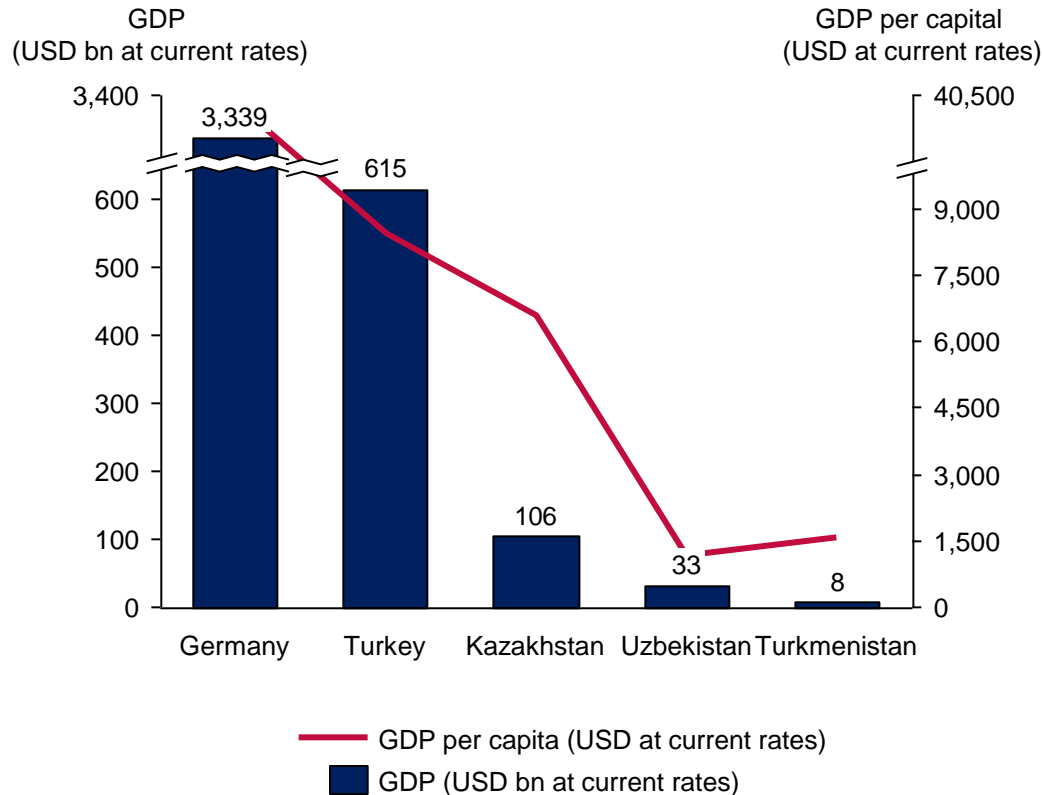
The Turkic countries make up a very large potential market for the Turkish automotive industry

- The Turks (or Turkics) are peoples residing in northern, central and western Asia, Mongolia, southern Siberia and northwestern China and parts of eastern Europe. They speak languages belonging to the Turkic language family. They share, to varying degrees, certain cultural traits and historical backgrounds.
- The distribution of people of Turkic cultural background ranges from Siberia, across Central Asia, to Eastern Europe. Presently, the largest groups of Turkic people live throughout Central Asia—Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, and Azerbaijan, in addition to Turkey and Iran. Additionally, Turkic people are found within Crimea, East Turkistan region of western China, northern Iraq, Pakistan, Israel, Russia, Afghanistan, and the Balkans: Moldova, Bulgaria, Romania, and former Yugoslavia.
- Due to the cultural heritage, it could be assumed that Turkish companies would easily attain a relatively strong position in those countries.

Repositioning the Supplier Industry

2.3 Identifying New Export Markets – Current Wealth

Current Wealth in the Turkic Countries



Currently low demand in the Turkic Countries

- The current market is relatively poor compared to the main export markets in Western Europe.
- Demand will to a great extent be focused on low-cost vehicles without too many additional features.
- Commons might be in basic chassis structure and engine parts.
- It is important for suppliers to identify which parts can be used for all markets and which will only be in demand in certain regions.

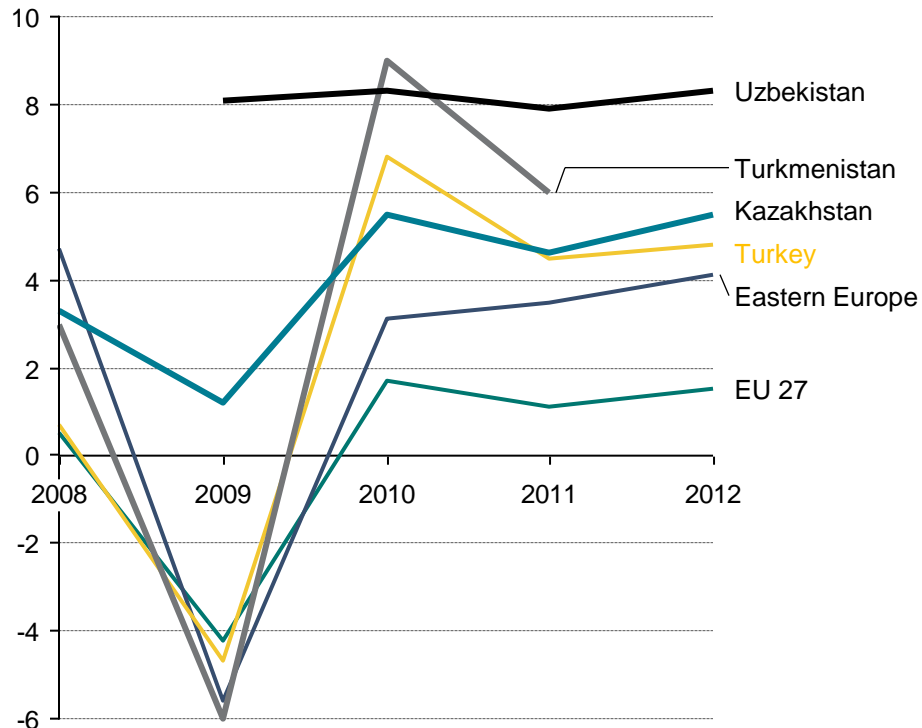
Source: The Economist Intelligence Unit, 2010

Repositioning the Supplier Industry

2.3 Identifying New Export Markets – Outlook

Economic Outlook for Selected Turkic Countries

Real Growth of GDP (%)



Generally a strong economic outlook for the Turkic countries

- There are signs, that the Turkic Countries will develop at a significantly faster pace than the markets in Eastern Europe.
- However, the developments for those markets also tend to be highly cyclical, and the estimates are fairly uncertain. It is important for the industry to take this into account.

Source: The Economist Intelligence Unit, 2010

3.0

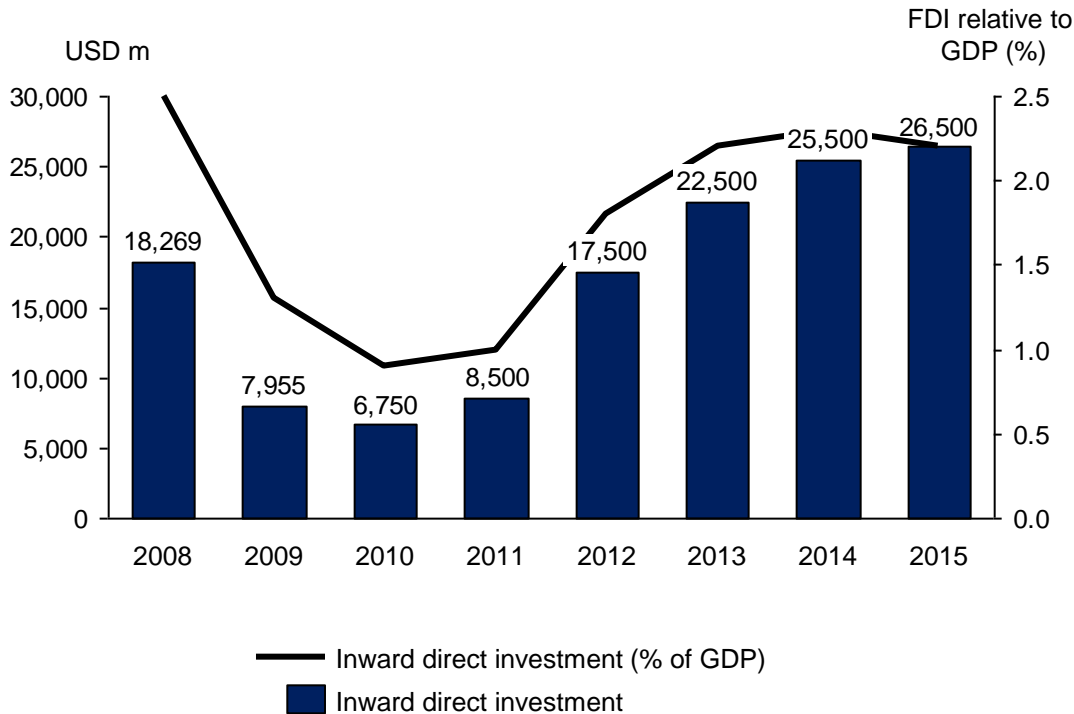
Attracting the Necessary Resources

Foreign direct investment
and chances and risks of investing in Turkey

Attracting the Necessary Resources

3.1 Foreign Direct Investment

Turkey – Foreign Direct Investment 2008-2015e



Foreign direct investment – Current developments

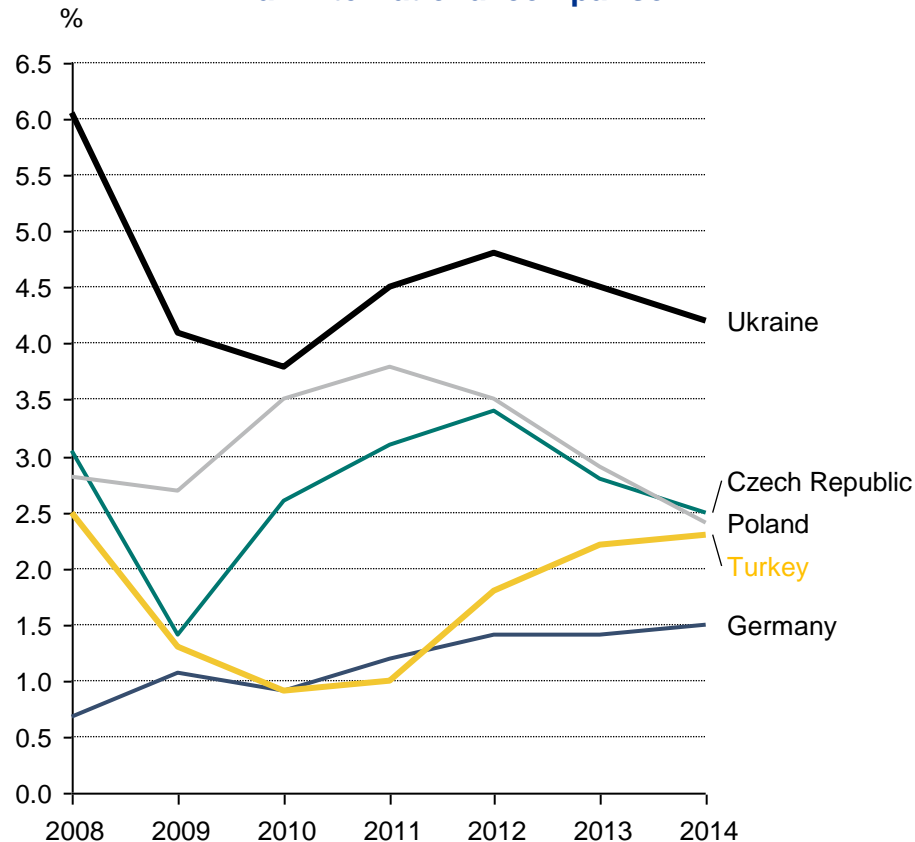
- Turkey's global business environment ranking rises four places to 52nd out of 82 countries in the forecast period.
- Turkey will move above Greece but continue to lag all other west European economies, as well as all of its main rivals for foreign direct investment (FDI) in central and south-eastern Europe.
- In the global ranking Turkey will trail China and some Arab and Latin American states, but will be above countries such as South Africa, Egypt, India and Russia.

Source: The Economics Intelligence Unit, 2010

Attracting the Necessary Resources

3.1 Foreign Direct Investment

Foreign Direct Investment to GDP 2008-2014e
- an international comparison



Source: The Economics Intelligence Unit, 2010

Foreign direct investment – Outlook

- Domestic political tensions will remain an obstacle to improvements in the administrative and legal systems throughout the forecast period.
- The slow progress of the EU accession negotiations and lower availability of international finance as a result of the global credit crisis may limit incentives for additional liberalisation in sensitive areas. A risk of macroeconomic volatility persists, especially given the continuing dependence on external finance for growth.
- The size of the potential market will remain one of Turkey's key attractions. Other positive factors include the customs union with the EU, free foreign-exchange and capital flows, a large and dynamic private sector and a low risk of expropriation.
- The financial system is strong and likely to improve further. Improvements in taxation are also possible, but this may take time. We expect the labour market to remain a weak spot. Although labour costs may be moderating, the low education level of the workforce and labour market rigidities may persist. The EIU expects improvements in the quality of infrastructure, although this will be gradual owing to budgetary constraints.

4.0 Appendix

Appendix

3.1 Production Platforms for Electric Vehicles

Brand	Model	Segment	Platform	Production Location
Aptera	2 Series	City	Aptera 2 Series	Vista, California (USA)
Audi	A2 e-tron	Small	TBA	TBA
Audi	R4 e-tron	Sports	TBA	TBA
Audi	R8 e-tron	Sports	LA2	TBA
BMW	Z10 ActiveE	Sports	TBA	TBA
TBA (BMW Group)	Megacity	City	TBA	Leipzig (Germany)
BYD	F6 HD	Upper Medium	Honda Accord 6/7	Shenzen (China)
Chevrolet	e-Spark or e-Beat	Small	Gamma 2	Talegaon, Maharashtra (India)
Chevrolet	New Sail EV	Small	S 4200	Dongyue, Shandong (China)
Chevrolet	Orlando E-REV	Compact Minivan	GCV	TBA
Detroit Electric	e46	Lower Medium	MMC-VCC X40	Tanjong Malim (Malaysia)
Detroit Electric	e63	Lower Medium	MMC-VCC X40	Tanjong Malim (Malaysia)
Emgrand	Tiger/GT Plug-In Hybrid	Sports	Geely FD	Ningbo, Zhejiang (China)
Fiat	500EV	Small	New Small	Toluca (Mexico)
Fisker	Project Nina	Executive	TBA	Wilmington, Delaware (USA)
Fisker	Sunset	Executive	Fisker-Quantum Karma	Valmet, Uusikaupunki-Nystand (Finland)
Ford	C-MAX PHEV	Compact Minivan	C2/C-Car	Valencia (Spain)
Ford	Focus BEV	Lower Medium	C2/C-Car	Michigan Assembly, Wayne (USA)
Hyundai	i10 Electric	City	SA	Chennai, Tamil Nadu (India)
Hyundai	Chevrolet Volt rival	Lower Medium	TBA	TBA
Infiniti	EV	Lower Medium	R-N P3/EV	TBA
Kia	Venga EV	Small	MC	HMMC, Nosovice (Czech Republic)
Land Rover	Range Rover EV	SUV	TBA	TBA
Lifan	520EV	Lower Medium	PSA ZX	Chongqing (China)
Lifan	620EV	Lower Medium	TMC NCV	Chongqing (China)
Mercedes-Benz	A-Class E-Cell	Lower Medium	MFA	Rastatt (Germany) or Kecskemét (Hungary)
Mercedes-Benz	B-Class E-Cell	Lower Medium	MFA	Rastatt (Germany) or Kecskemét (Hungary)
Mercedes-Benz	S 500 Plug-In Hybrid	Executive	W222	Sindelfingen (Germany)
Mercedes-Benz	SLS AMG E-Cell	Sports	W212	Mercedes-Benz, Graz (Austria); Affalterbach (Germany)
Miles	Coda	Lower Medium	MMC-VCC X40	Harbin, Heilongjiang (China) then Los Angeles County (USA)

Source: just-auto, 2010

Appendix

3.1 Production Platforms for Electric Vehicles

Brand	Model	Segment	Platform	Production Location
Mitsubishi	i-Colt	Small	TBA	TBA (Thailand)
Mitsubishi	Outlander PHEV	SUV	TBA	TBA
Nissan	Cube EV	Small	Alliance A	Oppama, Yokosuka (Japan)
Nissan	Land Glider	Small	TBA	TBA
Opel/Vauxhall	Junior EV/TRIXX EV	City	Gamma 2	Eisenach (Germany)
Peugeot	BB1	City	TBA	TBA
Pinfarina	Bluecar	Small	Be Zero	San Giorgio Canavese (Italy)
Porsche	918 Spyder	Sports	TBA	Zuffenhausen (Germany)
Renault	Fluence Z.E.	Lower Medium	R-N P3/EV	OYAK-Renault, Bursa (Turkey)
Renault	Twingo Z.E.	Small	Renault-Daimler TBA	Revoz, Novo Mesto (Slovenia)
Renault	Zoé Z.E.	City	Alliance A	Flins (France)
REVA	NXG	City	NX	Bangalore, Karnataka (India)
REVA	NXR	City	NX	Bangalore, Karnataka (India)
Riich	M1 EV	City	TBA	Wuhu, Anhui (China)
Riich	G5 EV	Upper Medium	Daewoo V100/150	Wuhu, Anhui (China)
Saab	9-3 EV	Upper Medium	GM Epsilon	Trollhättan (Sweden)
Samsung	EV	Lower Medium	R-N P3/EV	Pusan (South Korea)
smart	fortwo electric drive	City	Renault-Daimler TBA	Hambach (France)
smart	forfour electric drive	Small	Renault-Daimler TBA	Revoz, Novo Mesto (Slovenia)
Suzuki	Swift EV	Small	S-2	Kosai (Japan)
Tata Motors	Nano EV	City	X3	TBA
Tesla	BlueStar	Upper Medium	BlueStar	Fremont, California (USA)
Tesla	WhiteStar (Model S)	Executive	BlueStar	Fremont, California (USA)
Toyota	iQ Electric	City	NWC	Takaoka (Japan)
Toyota	RAV4 EV	SUV	Camry 7/8	TBA
Volkswagen	Golf blue-e-motion	Lower Medium	MQB	TBA
Volkswagen	Jetta blue-e-motion	Lower Medium	NCS	Puebla (Mexico)
Volkswagen	LaVida blue-e-motion	Lower Medium	NCS	Shanghai (China)
Volkswagen	Up! Blue-e-motion	City	MHB	TBA
	C30 PEV	Lower Medium	Ford C1	TBA
Volvo	S100 Plug-In Hybrid	Executive	TBA	Torslanda, Gothenburg (Sweden)
Zotye	5008 EV	Crossover	TMC Terios	Zhejiang (China)

Source: just-auto, 2010

Appendix

3.1 Current EV-Projecs in Turkey (example)

Renault to Start Exports of Fluence EV to Europe in 2011

- Renault's Turkish joint venture (JV) Oyak Renault is to begin exports of the electric Fluence from next year, reports Asia Pulse. Renault Mais director-general Ibrahim Aybar has said that the vehicle would be sold on the French market first. However, he added that the company expected to see the sale of 30,000 electric vehicles (EVs) in Turkey within the next five years, although it would require investment in the necessary charging infrastructure. He added that the company was also proposing that such vehicles should also be supported by a zero tax rate for the next five years.
- Production of this vehicle is already being ramped up – the first ones have been approved for shipping to Israel to be tested as part of the Project Better Place initiative. This model is one of four EVs being launched by Renault over the next couple of years, and will be joined by the electric Kangoo and the B-segment Zoe built in France, and the Twizy city car that will be built in Spain. While most sales of this vehicle are expected to take place outside Turkey initially, there are already efforts being made to give the technology a foothold in the market, supported by Renault (see Turkey: 20 July 2010: Renault Signs EV MoU with Turkish Energy Supplier and Turkey: 15 October 2010: Renault Signs EV Promotional Deal in Second Turkish City). However, it remains to be seen what incentives the Turkish government can offer before we know what impact that EVs will have.

Thank you

Ergün Kış



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